Bay Area Air Quality Management District

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San Francisco, CA 94109
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Permit Evaluation
and
Statement of Basis
for
Significant Revisions, Minor Revisions of and Reopening of

MAJOR FACILITY REVIEW PERMIT

for

ConocoPhillips – San Francisco Refinery
Facility #A0016

Facility Address:
1380 San Pablo Avenue
Rodeo, CA 94572

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April, 2009

Application Engineer: Brenda Cabral
Site Engineer: Sanjeev Kamboj

Applications: 13427, 16941, 18744, 18747

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Title V Statement of Basis

A. Background

This facility is subject to the Operating Permit requirements of Title V of the federal Clean Air Act, Part 70 of Title 40 of the Code of Federal Regulations (CFR), and BAAQMD Regulation 2, Rule 6, Major Facility Review because it is a major facility as defined by BAAQMD Regulation 2-6-212. It is a major facility because it has the "potential to emit," as defined by BAAQMD Regulation 2-6-218, of more than 100 tons per year of a regulated air pollutant.

Major Facility Operating permits (Title V permits) must meet specifications contained in 40 CFR Part 70 as contained in BAAQMD Regulation 2, Rule 6. The permits must contain all applicable requirements (as defined in BAAQMD Regulation 2-6-202), monitoring requirements, recordkeeping requirements, and reporting requirements. The permit holders must submit reports of all monitoring at least every six months and compliance certifications at least every year.

In the Bay Area, state and District requirements are also applicable requirements and are included in the permit. These requirements can be federally enforceable or non-federally enforceable. All applicable requirements are contained in Sections I through VI of the permit.

Each facility in the Bay Area is assigned a facility identifier that consists of a letter and a 4-digit number. This identifier is also considered to be the identifier for the permit. The identifier for this facility is A0016.

This facility received its initial Title V permit on December 1, 2003. The permit was reopened and re-issued on December 16, 2004, April 12, 2005, and November 20, 2006. Minor revisions were issued on April 12, 2005, January 5, 2006, March 2, 2006, and October 15, 2007. Significant revisions were issued on January 5, 2006 and January 18, 2007. Section X of the permit, Revision History, has a list of these revisions in chronological order.

This application is for a significant revision to the permit. This statement of basis will include all proposed changes to the permit in strikeout/underline format. This statement of basis addresses only the proposed changes to the permit. The statements of basis for the permits issued on December 1, 2003, and December 16, 2004 contain the basis for most of the rest of the permit. Additional issues were addressed in the documents for the revisions listed above.

The purpose of this revision is to incorporate the sources and modification that went through pre-construction review under Application 13424 (the Clean Fuels Expansion Project or CFEP). The detail of the changes is in the engineering evaluation for Application 13424, which is in Appendix B and which hereby is incorporated into this statement of basis.

This application is related to Applications 14637 and 17331, which were submitted by Air Liquide, Facility 17419, and ConocoPhillips Carbon Plant on June 6, 2006 and January 15, 2008, respectively.

In turn, Application 14637 is related to pre-construction review Application 13678 and Application 17331 is related to pre-construction review Application 15328.

Air Liquide is building a hydrogen plant that will receive raw materials from the refinery and produce hydrogen, steam, and electricity for the refinery. The District has determined that the hydrogen plant and associated equipment is part of the refinery. However, the District is issuing a separate permit to the hydrogen plant and compliance will be certified by a separate responsible official because different personnel will be in charge of operation. The hydrogen plant is considered to be under ConocoPhillips' control because the refinery will direct how much hydrogen the plant will make at any time and the hydrogen plant is on refinery property, completely surrounded by the refinery. Moreover, for the purposes of the Prevention of Significant Deterioration program, the refinery's project and construction of the hydrogen plant are considered to be one project.

When the application was declared complete on September 15, 2006, the project as described was subject to the Prevention of Significant Deterioration program because the proposed increase in PM10 was greater than 15 tons per year and the facility had pre-existing of more than 100 tons per year. The participants in the project decided to lower the PM10 emissions so that the project would not be subject to PSD. The facility will either demonstrate compliance with the PM10 limit through initial source tests or through reduced utilization if compliance cannot be demonstrated through the source tests.

Although the project is not subject to PSD, the facility did submit modeling that showed that the NO2 and the PM10 ambient air quality standards would not be exceeded.

Following is the total change in emissions due to Application 13424.

Pollutant	Amount, tons/year
POC	-25.0
NOx	-25.1
SO2	35.6
CO	-2.5
PM10	0.7
NH3	6.35
H2SO4	6.3
H2S	1.0

Following is the total change in emissions due to Application 13678.

Pollutant	Amount, tons/year
POC	13.9
NOx	30.9
SO2	5.0
CO	46.2
PM10	13.8
NH3	26.9
H2S04	0.4

Following is the total change in emissions due to Application 15328.

Pollutant	Amount, tons/year
SO2	-42
PM10	-8

(Note: the decrease in PM10 emissions is not considered to be valid for the purpose of obtaining offsets pursuant to BAAQMD Regulation 2-2-201, but is valid for California CEQA purposes.)

Following is the total change in emissions for the whole project:

Pollutant	Amount, tons/year
POC	-11.1
NOx	5.8
SO2	-1.4
CO	43.7
PM10	14.5
NH3	33.3
H2SO4	6.7
H2S	1.0

The emissions are shown for the pollutants that the facilities will emit in quantities over one ton per year. The detail for other hazardous air pollutants is included in Applications 13424 and 13678, which form part of this statement of basis, and are included in Appendices B and C.

This statement of basis also includes Application 16941. The purpose of this application is to replace S158 (Tank 258) with a new tank S506 (Tank 257). The old tank was replaced because it was riveted. The new tank is welded. The applicable requirements for the new tank will be the same as for the old one. Application 16940 evaluated this change, is part of this statement of basis, and is included in Appendix D.

This statement of basis also includes Application 18744, which is associated with BAAQMD Application 18743. The purpose of this application was to incorporate a change of permit conditions for S98, Tank No. 101. The tank will have two vapor pressure limits: 11 psia during

October through March and 8.5 psia during April through September, and will have separate throughput limits for each period. There will no change in annual emissions. The evaluation report for Application 18743 forms part of this statement of basis and is contained in Appendix H.

This statement of basis also includes Application 18747, which is associated with BAAQMD Application 18746. The purpose of this application was to S174, Tank, to be switched for S175, Tank. The evaluation report for Application 18746 forms part of this statement of basis and is contained in Appendix H.

The facility has also asked the District to remove four tanks because they are out of service. These are sources S117 (Tank 162), S121 (Tank 166), S238 (Tank 211), and S193 (Tank 305). This is an administrative amendment pursuant to District Regulation 2-6-201.

The permit is also being reopened to resolve a long-standing appeal of the permit submitted on June 8, 2004, attached in Appendix F. The facility had stated that 40 CFR 60, Subpart QQQ, did not apply to the following sources: S195, S196, S388, S433, Tank 235, Tank 236, and Tank 237. The District concurs. Applicability of Subpart QQQ to these sources will be discussed in Section C.IV of this statement of basis.

B. Facility Description

This facility is an oil refinery. For a complete description, see the Statement of Basis for Application 9296.

C. Permit Content

The legal and factual basis for the permit revision follows. The permit sections are described in the order presented in the permit.

I. Standard Conditions

This section contains administrative requirements and conditions that apply to all facilities.

Changes to permit

There are no changes to Section I in this action.

II. Equipment

This section of the permit lists all permitted or significant sources. Each source is identified by an S and a number (e.g., S24).

Permitted sources are those sources that require a BAAQMD operating permit pursuant to BAAQMD Rule 2-1-302.

Significant sources are those sources that have a potential to emit of more than 2 tons of a "regulated air pollutant," as defined in BAAQMD Rule 2-6-222, per year or 400 pounds of a "hazardous air pollutant," as defined in BAAQMD Rule 2-6-210, per year.

All abatement (control) devices that control permitted or significant sources are listed. Each abatement device whose primary function is to reduce emissions is identified by an A and a number (e.g., A24). .

The equipment section is considered to be part of the facility description. It contains information that is necessary for applicability determinations, such as fuel types, contents or sizes of tanks, etc. This information is part of the factual basis of the permit.

Each of the permitted sources has previously been issued an authority to construct or a permit to operate pursuant to the requirements of BAAQMD Regulation 2, Permits. These authorities to construct and permits are issued in accordance with state law and the District's regulations. The capacities in the permitted sources table are the maximum allowable capacities for each source, pursuant to Standard Condition I.J and Regulation 2-1-403.

Changes to permit:
The sources below are the subject of this application.

S139 does not store distillate oil, so that liquid has been deleted from its description.

S1010, Sulfur Recovery Unit, was given the designation of "S1004" in Application 13424. The designation has been changed to S1010 because S1004 had been used for another source.

Table II A - Permitted Sources

Each of the following sources has been issued an authority to construct or a permit to operate pursuant to the requirements of BAAQMD Regulation 2, Permits. The capacities in this table are the maximum allowable capacities for each source, pursuant to Standard Condition I.J and Regulation 2-1-301.

S-#	Description	Make or Type	Model	Capacity
8	U240, B-1 Boiler (natural gas, refinery fuel gas)	Combustion Engineering	process heater	256 MMbtu/hr
S8 will be deleted when it is taken out of service for the purpose of providing offsets for the CFEP project (Application 13424).				
45	U246 B-801 A/B Heater (refinery fuel gas, natural gas)			85 MMbtu/hr
S45 does not have a final permit to operate as of the date of issuance of the significant revision. This note will be removed using administrative amendment procedures when the District permit is issued.				
-	Tank 101	external floating roof	Petroleum liquids	170 thousand barrels
S98 does not have a final permit to operate as of the date of issuance of the significant revision. This note will be removed using administrative amendment procedures when the District permits are issued.				
118	Tank 163	fixed roof	lube oil	5300 gal
122	Tank 167	external floating roof	naphtha	3.1 million gal

Table II A - Permitted Sources

Each of the following sources has been issued an authority to construct or a permit to operate pursuant to the requirements of BAAQMD Regulation 2, Permits. The capacities in this table are the maximum allowable capacities for each source, pursuant to Standard Condition I.J and Regulation 2-1-301.

S-#	Description	Make or Type	Model	Capacity
123	Tank 168	external floating roof	~~Naphtha~~ water, petroleum liquids	75 thousand bbl
124	Tank 169	external floating roof	water, petroleum liquids ~~naphtha~~	75 thousand bbl
128	Tank 174	external floating roof	crude oil, naphtha	76 thousand bbl
135	Tank 200	Fixed roof	Petroleum liquids to 11 psia	79 thousand bbl
137	Tank 202	Fixed roof	Petroleum liquids to 11 psia	88 thousand bbl
139	Tank 204 (also oil-water separator)	Fixed roof	Sour water~~, distillate oil~~	81 thousand bbl
140	Tank 205 (also oil-water separator)	Fixed roof	Sour water, naphtha	54 thousand bbl
168	Tank 269	Fixed roof	Non-phenolic water	39 thousand bbl
173	Tank 280	Fixed roof	Gas oil	134 thousand bbl
174	Tank 281	Fixed roof	Gas oil	134 thousand bbl
175	Tank 284	Fixed rood	Gas oil	134 thousand bbl
S168, S173, S174, S175 do not have a final permit to operate as of the date of issuance of the significant revision. This note will be removed using administrative amendment procedures when the District permits are issued.				
182	Tank 294	fixed roof	Sour water, sour naphtha	40 thousand bbl
195	Water Treatment Sludge Tank T-501	fixed-roof	sludge	2,500 bbl
196	Water Treatment Sludge Tank T-502	fixed-roof	sludge	2,500 bbl
~~238~~	~~Used Caustic Tank T-211~~	~~fixed roof~~	~~caustic waste~~	~~10,000 bbl~~
301	Molten Sulfur Pit 234	NA	NA	271 long ton/day for S301, S302 , S303
302	Molten Sulfur Pit 236	NA	NA	271 long ton/day for S301, S302 , S303
303	Molten Sulfur Pit 238	NA	NA	271 long ton/day for S301, S302 , S303
307	U240 Unicracking Unit	NA	NA	65~~42~~,000 bbl/day
308	U244 Reforming Unit	NA	NA	~~16087~~18,500 bbl/day
309	U248 UNISAR Unit	NA	NA	16,740 bbl/day

Table II A - Permitted Sources

Each of the following sources has been issued an authority to construct or a permit to operate pursuant to the requirements of BAAQMD Regulation 2, Permits. The capacities in this table are the maximum allowable capacities for each source, pursuant to Standard Condition I.J and Regulation 2-1-301.

S-#	Description	Make or Type	Model	Capacity
318	U76 Gasoline/Mid Barrel Blending Unit	NA	NA	113,150 bbl/day petroleum fluids except diesel, No daily limit for diesel
339	U80 Refined Oil Shipping Unit	gasoline shipping		~~294 thousand gal/hr~~ 52,600,000 bbl/yr
352	Combustion Turbine (natural gas, refinery fuel gas)	Westinghouse	191	291 MMbtu/hr continuously 16.6 MW
353	Combustion Turbine (natural gas, refinery fuel gas)	Westinghouse	191	291 MMbtu/hr continuously 16.6 MW
354	Combustion Turbine (natural gas, refinery fuel gas)	Westinghouse	191	291 MMbtu/hr continuously 16.6 MW
355	Supplemental Firing Duct Burners (natural gas, refinery fuel gas)	Coen		175 MMbtu/hr
356	Supplemental Firing Duct Burners (natural gas, refinery fuel gas)	Coen		175 MMbtu/hr
357	Supplemental Firing Duct Burners (natural gas, refinery fuel gas)	Coen		175 MMbtu/hr
360	Mid-Barrel Tank 223	fixed roof	distillate oil	110 thousand bbl
388	Water Treatment Sludge Tanks (T276, F205)	30 ft dia by 24 ft 12 ft dia by 24 ft		3,500 bbl
432	U215 Deisobutanizer			10,200~~7600~~ bbl/day
433	MOSC Storage Tank	fixed roof		30,000 gal
434	U246 High Pressure Reactor Train (Cracking)			23,000 bbl/day
S434 does not have a final permit to operate as of the date of issuance of the significant revision. This note will be removed using administrative amendment procedures when the District permit is issued.				
445	Tank 271 (Cracked Naphtha)	underground tank	naphtha	189 thousand bbl
449	Tank 285 (Cracked Naphtha)	fixed roof	naphtha	189 thousand bbl
464	U-240 Hydrogen Plant			70 MMscf/day
S464 is not a new source. It was originally permitted as part of S307. It is being given its own source number.				
465	Molten Sulfur Pit	NA	NA	200 long ton/day
503	Sulfur Storage Tank			950 long tons sulfur
504	Sulfur Degassing			400 long tons/day sulfur
505	Sulfur Truck Loading Rack			200 gpm sulfur
S465, S503, S504, and S505 do not have a final permit to operate as of the date of issuance of the significant revision. This note will be removed using administrative amendment procedures when the District permits are issued.				
506	Tank 257	Fixed roof	Naphtha	80,000 barrels

Table II A - Permitted Sources

Each of the following sources has been issued an authority to construct or a permit to operate pursuant to the requirements of BAAQMD Regulation 2, Permits. The capacities in this table are the maximum allowable capacities for each source, pursuant to Standard Condition I.J and Regulation 2-1-301.

S-#	Description	Make or Type	Model	Capacity
1001	Sulfur Plant Unit 234 (including aux. burner)		Claus	271 long ton/day for S1001, S1002 and S1003
1002	Sulfur Plant Unit 236 (including aux. burner, water stripper)		Claus	271 long ton/day for S1001, S1002 and S1003
1003	Sulfur Plant Unit 238 (including aux. burner)		Claus	271 long ton/day for S1001, S1002 and S1003
1007	U100 Dissolved Air Flotation Unit (with fixed roof)			7,500 gpm during media filter backwash and 7,000 gpm during all other times
1010	Sulfur Plant Unit 235 (including aux. burner)		Claus	200 long ton/day
S1010 does not have a final permit to operate as of the date of issuance of the significant revision. This note will be removed using administrative amendment procedures when the District permit is issued.				

Table II B – Abatement Devices

A#	Description	Source(s) Controlled	Applicable Requirement	Operating Parameters	Limit or Efficiency
7	Vapor Recovery System (~~3~~4 electrically driven compressors)	Tanks S135, S137. S139, S140, S168, S173, S174, S175, S182, S388, S433, S445, S446, S447, S506 (Sources S168, S173, S174, and S506 to be controlled by A7 in future)	BAAQMD 7-301, 7-302, 7-303	none	nuisance odors

Table II B – Abatement Devices

A#	Description	Source(s) Controlled	Applicable Requirement	Operating Parameters	Limit or Efficiency
7	Vapor Recovery System (4 electrically driven compressors)	S135, S137, S139, S140, S168, S173, S174, S175, S182, S360, S449, S506 (Sources S168, S173, S174, and S506 to be controlled by A7 in future)	BAAQMD 8-5-306	None	95% overall control of emissions
7	Vapor Recovery System (~~3~~4 electrically driven compressors)	S182	BAAQMD Condition 13184	None	vent emissions to the refinery fuel gas system
~~7~~	~~Vapor Recovery System (3 electrically driven compressors)~~ (This citation moved up 2 lines.)	~~S135, S137, S139, S140, S182~~	~~BAAQMD 8-5-306~~	~~None~~	~~95% overall control of emissions~~
~~7~~	~~Vapor Recovery System (3 electrically driven compressors)~~ (This citation moved down 5 lines.)	~~S449~~	~~BAAQMD Condition 11219~~	~~None~~	~~vent emissions to the refinery fuel gas system~~
7	Vapor Recovery System (~~3~~4 electrically driven compressors)	S433	BAAQMD Condition 7353	None	vent emissions to the refinery fuel gas system
7	Vapor Recovery System (~~3~~4 electrically driven compressors)	S445	BAAQMD Condition 12130	None	vent emissions to the refinery fuel gas system

Table II B – Abatement Devices

A#	Description	Source(s) Controlled	Applicable Requirement	Operating Parameters	Limit or Efficiency
7	Vapor Recovery System (~~3~~4 electrically driven compressors)	S446	BAAQMD Condition 12131	None	vent emissions to the refinery fuel gas system
7	Vapor Recovery System (~~3~~4 electrically driven compressors)	S447	BAAQMD Condition 12132	None	vent emissions to the refinery fuel gas system
7	Vapor Recovery System (4 electrically driven compressors)	S449	BAAQMD Condition 11219	None	vent emissions to the refinery fuel gas system
7	Vapor Recovery System (4 electrically driven compressors)	S135, S137, S139, S140, S148, S168, S173, S174, S175, S182, S360, S445, S449, S506, Tank 235, Tank 236 (Sources S168, S173, S174, and S506 to be controlled by A7 in future)	BAAQMD Condition 23724	Pressure	Various pressure settings between 1.5 and 2.2 inches of water

Table II B – Abatement Devices

A#	Description	Source(s) Controlled	Applicable Requirement	Operating Parameters	Limit or Efficiency
13	SCR System	S352, S355	BAAQMD Condition 12122, Part 9a	NOx CEM	66 lb/hr NOx (3 hr average), 167 ton/yr NOx at S352-S357; 528 lb/day NOx per turbine/duct burner set
13	SCR System	S352, S355	BAAQMD Condition 12122, Part 9b (effective when offsets are required pursuant to Application 13424	NOx CEM	66 lb/hr NOx (3 hr average), 79.8 ton/yr NOx at S352-S357; 528 lb/day NOx per turbine/duct burner set
13	SCR System	S352, S355	BAAQMD Condition 12122, Part 7 and 10a	CO, O2 CEMs	39 ppmv @ 15% O2 (30-day average) per turbine/duct burner set; 200 ton/yr CO at S352-S357
13	SCR System	S352	BAAQMD 9-9-301	NOx, ~~CO, and~~ O2 (or CO2) CEM (CO removed from this list because referenced limit is NOx limit.)	9 ppmv NOx at 15% O2

Table II B – Abatement Devices

A#	Description	Source(s) Controlled	Applicable Requirement	Operating Parameters	Limit or Efficiency
14	SCR System	S353, S356	BAAQMD Condition 12122, Part 9a	NOx CEM	66 lb/hr NOx (3 hr average), 167 ton/yr NOx at S352-S357; 528 lb/day NOx per turbine/duct burner set
13	SCR System	S352, S355	BAAQMD Condition 12122, Part 9b (effective when offsets are required pursuant to Application 13424	NOx CEM	66 lb/hr NOx (3 hr average), 79.8 ton/yr NOx at S352-S357; 528 lb/day NOx per turbine/duct burner set
14	SCR System	S353, S356	BAAQMD Condition 12122, Part 7 and 10a	CO, O2 CEMs	39 ppmv @ 15% O2 (30-day average) per turbine/duct burner set; 200 ton/yr CO at S352-S357
14	SCR System	S353	BAAQMD 9-9-301	NOx~~, CO,~~ and O2 or CO2 CEM (CO removed from this list because referenced limit is NOx limit.)	9 ppmv NOx at 15% O2

Table II B – Abatement Devices

A#	Description	Source(s) Controlled	Applicable Requirement	Operating Parameters	Limit or Efficiency
15	SCR System	S354, S357	BAAQMD Condition 12122, Part 9a	NOx CEM	66 lb/hr NOx (3 hr average), 167 ton/yr NOx at S352-S357; 528 lb/day NOx per turbine/duct burner set
13	SCR System	S352, S355	BAAQMD Condition 12122, Part 9b (effective when offsets are required pursuant to Application 13424	NOx CEM	66 lb/hr NOx (3 hr average), 79.8 ton/yr NOx at S352-S357; 528 lb/day NOx per turbine/duct burner set
15	SCR System	S354, S357	BAAQMD Condition 12122, Part 7 and 10a	CO, O2 CEMs	39 ppmv @ 15% O2 (30-day average) per turbine/duct burner set; 200 ton/yr CO at S352-S357
15	SCR System	S354	BAAQMD 9-9-301	NOx~~, CO,~~ and O2 (or CO2) CEM (CO removed from this list because referenced limit is NOx limit.)	9 ppmv NOx at 15% O2
47	SCR System	S45	BAAQMD Condition 22962, part 4a	CEM	5 ppmv NOx at 3% O2 (1-hr average)
			BAAQMD Condition 22962, part 4a	CEM	2.3 tons/yr

Table II B – Abatement Devices

A#	Description	Source(s) Controlled	Applicable Requirement	Operating Parameters	Limit or Efficiency
48	Tail gas treatment unit	S1010	BAAQMD 9-1-313.2 and SIP 9-1-313.2	None	95% of H2S in refinery fuel gas is removed and recovered on a refinery-wide basis
48	Tail gas treatment unit	S1010	BAAQMD 6-1-330	None	0.08 grain/dscf exhaust concentration of SO3 and H2SO4, expressed as 100% H2SO4
48	Tail gas treatment unit	S1010	40 CFR 60.104(a)(2)(i)	None	SO2 < 250 ppm at 0% O2
48	Tail gas treatment unit	S1010	40 CFR 63.1568(a)(1)(i)	None	SO2 < 250 ppm at 0% O2
48	Tail gas treatment unit	S1010	BAAQMD Condition 23125, part 7a	None	SO2 < 50 ppmv @ 0% O2
48	Tail gas treatment unit	S1010	BAAQMD Condition 23125, part 11a	None	SO2 < 29.7 tons per year
49	DAF (S1007) Thernal Oxidizer (440,000 btu/hr, natural gas and approximately 200,000 btu/hr in organic vapors)	S1007	BAAQMD Condition 1440, part 7a	Temperature to be determined	44 tons per year VOC reduction
51	DAF (S1007) Carbon Bed	S1007	BAAQMD Condition 1440, part 7c	FID	10 ppm VOC or 98% reduction of VOC
424	Tail-Gas Incinerator (18 MMbtu/hr, natural gas)	A48	6-1-301	none	Ringelmann 1 for < 3 min/hr
424	Tail-Gas Incinerator (18 MMbtu/hr, natural gas)	A48	6-1-310	none	0.15 gr/dscf

Table II B – Abatement Devices

A#	Description	Source(s) Controlled	Applicable Requirement	Operating Parameters	Limit or Efficiency
424	Tail-Gas Incinerator (18 MMbtu/hr, natural gas)	A48	6-1-311	none	40 lb/hr
424	Tail-Gas Incinerator (19.5 MMbtu/hr, natural gas)	A48	6-1-330	none	0.08 grain/dscf exhaust concentration of SO3 and H2SO4, expressed as 100% H2SO4
424	Tail-Gas Incinerator (19.5 MMbtu/hr, natural gas)	A48	40 CFR 60.104(a)(2)(i)	CEM	SO2 < 250 ppm at 0% O2
424	Tail-Gas Incinerator (19.5 MMbtu/hr, natural gas)	A48	40 CFR 63.1568(a)(1)(i)	CEM	SO2 < 250 ppm at 0% O2
424	Tail-Gas Incinerator (19.5 MMbtu/hr, natural gas)	A48	BAAQMD Condition 23125, part 7a	CEM	SO2 < 50 ppmv @ 0% O2
424	Tail-Gas Incinerator (19.5 MMbtu/hr, natural gas)	A48	BAAQMD Condition 23125, part 11a	CEM	SO2 < 29.7 tons per year
424	Tail-Gas Incinerator (19.5 MMbtu/hr, natural gas)	A48	BAAQMD Condition 23125, part 7a	CEM	CO < 75 ppmvd @ 7% O2
424	Tail-Gas Incinerator (19.5 MMbtu/hr, natural gas)	A48	BAAQMD Condition 23125, part 11c	CEM	CO < 37.9 ton per year
424	Tail-Gas Incinerator (19.5 MMbtu/hr, natural gas)	A48	BAAQMD Condition 23125, part 8b	Temperature to be determined	H2S < 2.5 ppmv @ 0% O2
424	Tail-Gas Incinerator (19.5 MMbtu/hr, natural gas)	A48	BAAQMD Condition 23125, part 9b	Temperature to be determined	H2S < 0.23 lb/hr
424	Tail-Gas Incinerator (19.5 MMbtu/hr, natural gas)	A48	BAAQMD Condition 23125, part 11h	Temperature to be determined	H2S < 0.975 tons per year

Table II B – Abatement Devices

A#	Description	Source(s) Controlled	Applicable Requirement	Operating Parameters	Limit or Efficiency
424	Tail-Gas Incinerator (19.5 MMbtu/hr, natural gas)	A48	BAAQMD Condition 23125, part 11i	Temperature to be determined	Total Reduced Sulfur < 10 tons per year
424	Tail-Gas Incinerator (19.5 MMbtu/hr, natural gas)	A48	BAAQMD Condition 23125, part 11j	Temperature to be determined	Reduced Sulfur Compounds ≤ 10 tons per year
S1003	Sulfur Plant Unit 238	S503, S504, S505	BAAQMD Condition 23125, part 4	None	
S1010	Sulfur Plant Unit 235	S503, S504, S505	BAAQMD Condition 23125, part 4	None	
S1010	Sulfur Plant Unit 235	Steam strippers at SRUs	BAAQMD Condition 23125, part 8a	None	NH3 < 12.5 ppmv @ 7% O2, 24-hr basis
S1010	Sulfur Plant Unit 235	Steam strippers at SRUs	BAAQMD Condition 23125, part 9c	None	NH3 < 0.88 lb/hr
S1010	Sulfur Plant Unit 235	Steam strippers at SRUs	BAAQMD Condition 23125, part 9c	None	NH3 < 3.85 tons per year

The following sources are no longer exempt from District permits so they have been removed from Table II D and inserted into Table II A, Permitted Sources.

S158 is being replaced by S506. This change was approved in District Application 16940.

Tank 235 and Tank 236 are exempt sources that are subject to various requirements but do not require permits.

Table II D – Sources Exempt from Permit Requirements

S#	Description	Basis for Exemption
~~98~~	~~Tank 101~~	~~BAAQMD 2-1-123.3.2, BAAQMD 2-1-123..3.3~~
~~158~~	~~Tank 258~~	~~BAAQMD 2-1-123.3.2~~

Table II D – Sources Exempt from Permit Requirements

S#	Description	Basis for Exemption
~~168~~	~~Tank 269~~	~~BAAQMD 2-1-123.3.2~~
~~173~~	~~Tank 280~~	~~BAAQMD 2-1-123.3.2~~
~~174~~	~~Tank 281~~	~~BAAQMD 2-1-123.3.3~~
~~175~~	~~Tank 284~~	~~BAAQMD 2-1-123.3.2~~
Tank 235	Stripped Water Tank	BAAQMD 2-1-123.2
Tank 236	Stripped Water Tank	BAAQMD 2-1-123.2

The basis for the above changes is set out in the engineering evaluation for Application 13424, which is attached in Appendix B.

III. Generally Applicable Requirements

This section of the permit lists requirements that generally apply to all sources at a facility including insignificant sources and portable equipment that may not require a District permit. If a generally applicable requirement applies specifically to a source that is permitted or significant, the standard will also appear in Section IV and the monitoring for that requirement will appear in Sections IV and VII of the permit. Parts of this section apply to all facilities (e.g., particulate, architectural coating, odorous substance, and sandblasting standards). In addition, standards that apply to insignificant or unpermitted sources at a facility (e.g., refrigeration units that use more than 50 pounds of an ozone-depleting compound) are placed in this section.

Unpermitted sources are exempt from normal District permits pursuant to an exemption in BAAQMD Regulation 2, Rule 1. They may, however, be specifically described in a Title V permit if they are considered significant sources pursuant to the definition in BAAQMD Rule 2-6-239.

Changes to permit

There are no changes to Section III in this action.

IV. Source-Specific Applicable Requirements

This section of the permit lists the applicable requirements that apply to permitted or significant sources. These applicable requirements are contained in tables that pertain to one or more sources that have the same requirements. The order of the requirements is:

- District Rules
- SIP Rules (if any) are listed following the corresponding District rules. SIP rules are District rules that have been approved by EPA for inclusion in the California State Implementation Plan. SIP rules are "federally enforceable" and a "Y" (yes) indication will appear in the

"Federally Enforceable" column. If the SIP rule is the current District rule, separate citation of the SIP rule is not necessary and the "Federally Enforceable" column will have a "Y" for "yes". If the SIP rule is not the current District rule, the SIP rule or the necessary portion of the SIP rule is cited separately after the District rule. The SIP portion will be federally enforceable; the non-SIP version will not be federally enforceable, unless EPA has approved it through another program.

- Other District requirements, such as the Manual of Procedures, as appropriate.
- Federal requirements (other than SIP provisions)
- BAAQMD permit conditions. The text of BAAQMD permit conditions is found in Section VI of the permit.
- Federal permit conditions. The text of Federal permit conditions, if any, is found in Section VI of the permit.

Section IV of the permit contains citations to all of the applicable requirements. The text of the requirements is found in the regulations, which are readily available on the District's or EPA's websites, or in the permit conditions, which are found in Section VI of the permit. All monitoring requirements are cited in Section IV. Section VII is a cross-reference between the limits and monitoring requirements. A discussion of monitoring is included in Section C.VII of this permit evaluation/statement of basis.

The applicability of many requirements is discussed in the Engineering Evaluation for Application 13424. This statement of basis will only address items that are not addressed in the Engineering Evaluation.

Changes to permit:
General Changes:
Regulation 6, Particulate Matter and Visible Emissions, was renumbered as Regulation 6, Rule 1, and renamed as Particulate Matter, General Requirements on December 5, 2007. The equivalent rule in the State Implementation Plan (SIP) is Regulation 6, Particulate Matter and Visible Emissions, which was approved in a Federal Register notice of September 4, 1998. This change will be made for all sources affected by this significant revision.

The changes to Section IV will be presented in the following order.

- Citations for S45, Heater
- Citations for S434, U246 High Pressure Reactor Train, and associated sources: S307, S308, S309, S318, S339, S464, S432, S437
- Citations for S1010, Sulfur Recovery Unit and associated sources: S465, Molten Sulfur Pit, S503, Sulfur Storage Tank, S504, Sulfur Degassing, S505, Sulfur Truck Loading Rack. S1001-S1003, Sulfur Recovery Units, S301-S303, Sulfur Pits
- Citations for S1007, Dissolved Air Flotation Unit
- Citations for S352-S357, Turbines and Duct Burners
- Citations for Fugitive Components
- Citations for Tanks
- S8, Heater, which will be removed to provide offsets for the project

Following are the proposed additions in Section IV for S45, Heater:
The heater is subject to the CEM provisions in BAAQMD Regulation 1, Regulation 2, Rule 1, and the Manual of Procedures, Volume V, because it will have a NOx CEM. If the heater exceeds the CO concentration limit during source tests more than once in any 3 year period, part 9 of Condition 22962 will require the facility to install a CO CEM. The heater is not subject to the SO2 limit in BAAQMD Regulation 9-1-302 because it is exempted by the area monitoring requirement in Regulation 9-1-110. The requirement is found in the Major Facility Review permit in Section IV, Table IV-All Sources.

Per 40 CFR 64.2(a), the heater is subject to 40 CFR 64, Compliance Assurance Monitoring, if the unit is subject to a federally enforceable requirement for a pollutant, the pollutant is controlled by an abatement device, and the emissions of the pollutant before abatement are more than 100% of the major source thresholds.

The heater has a control device for NOx and is subject to federally enforceable NOx limits but will not subject to the standard because the emissions of NOx before abatement are less than 100 tons per year. The applicant is using low-NOx burners that have an emission factor of 0.035 lb/MMbtu. Based on the annual throughput limit of 744,600 MMbtu/yr, the annual potential to emit for NOx is 13 tons per year.

Regulation 6, Particulate Matter and Visible Emissions, was renumbered as Regulation 6, Rule 1, and renamed as Particulate Matter, General Requirements on December 5, 2007. The equivalent rule in the State Implementation Plan (SIP) is Regulation 6, Particulate Matter and Visible Emissions, which was approved in a Federal Register notice of September 4, 1998. This change will be made for all sources affected by this significant revision.

S45 would have been subject to 40 CFR 63, Subpart DDDDD, National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters. The DC Circuit Court vacated the standard on June 8, 2007. Where there is no MACT for a new source and the deadline for promulgation of a standard by EPA is past, local agencies must determine case-by-case MACT for the new source, in accordance with 40 CFR 63.52(a). The emission limit for S45 in the standard was 400 ppm CO. There were no other limits for gaseous-fueled boilers. A CO CEM was not required for units under 100 MMbtu/hr.

The reason that the court gave for vacating the MACT was that EPA had inappropriately classified solid waste incineration units that were subject to Section 129 of the Clean Air Act as solid fuel units that were subject to the MACT. This classification greatly increased the number of units subject to the MACT and therefore skewed the determination of the MACT floor. The court stated that the "universe of units … will be far smaller and more homogenous [sic]" after the solid waste units were taken out of the group of units affected. The court expects that the rule will change substantially when EPA considers the smaller pool of units.

One possible outcome is that the standards may become more stringent because the HAP emissions from the solid waste incineration units are expected to be higher. The MACT "floor" is based on the performance of the top 12 percent of the units in a category.

EPA had determined that CO was an appropriate surrogate for organic HAPs. The argument was that high CO was indicative of poor combustion and therefore, poor destruction of organic HAPs. This is a reasonable assumption.

Following are the CO limits proposed by EPA for gaseous-fueled units:

New, large and limited use gaseous fuel units:	400 PPM @ 3% O2
Small gaseous fuel units:	None
Existing units	None

Small units were defined as units with a capacity less than 10 MMbtu/hr.

Gaseous-fueled units are not expected to be sources of metallic or inorganic HAP.

The MACT limit for S45, therefore, would have been 400 PPM @ 3% O2, which is equivalent to the BAAQMD Regulation 9, Rule 10, Nitrogen Oxides and Carbon Monoxide from Boilers, Steam Generators, and Process Heaters in Petroleum Refineries, which was adopted in 1994.

The District does not have the resources to survey all industrial, commercial, and institutional boilers and process heaters in the United States and determine the MACT "floor." However, the District notes that the CO BACT limit in the District's BACT workbook for boilers over 50 MMbtu/hr has been 50 ppmv since 2005. For refinery process heaters over 50 MMbtu/hr, the BACT limit has been 50 ppmv since 1994. The South Coast AQMD has had BACT limits for CO of 50 ppm for boilers since 2000.

On page 1680, column 3, second paragraph, of the MACT proposal published on January 13, 2003, EPA states:

> "The approach that we use to calculate the MACT floors for new sources is somewhat different from the approach that we use to calculate the MACT floors for existing sources. While the MACT floors for existing units are intended to reflect the average performance achieved by a representative group of sources, the MACT floors for new units are meant to reflect the emission control that is achieved in practice by the best controlled source. Thus, for existing units, we are concerned about estimating the central tendency of a set of multiple units, while for new units, we are concerned about estimating the level of control that is representative of that achieved by a single best controlled source."

If we agree with EPA that low CO levels indicate low levels of organic HAPs, then lower CO levels are better than higher CO levels. Considering that the "best controlled sources" have CO levels that are 50 ppm or lower, 400 ppm cannot be considered to be the proper MACT limit for a new gaseous-fueled source. The source is subject to the following BACT CO limits: 10 ppm CO when operating above 30 MMbtu/hr and 28 ppm CO when operating below 30 MMbtu/hr. The limits do not apply during startups shutdowns, and heater dryout/warmup periods. The

heater is also subject to a stringent annual CO limit of 2.8 tons/yr including startups, shutdowns, and malfunctions. These levels will be considered to be presumptive MACT levels for this source until EPA re-proposes and re-promulgates MACT. Since it is not expected that EPA will propose limits that are lower than these limits, the source incurs no risk from this determination.

The alternative monitoring plan for compliance with 40 CFR 60.104(a)(1) in part 13 has been deleted because EPA has not delegated approval of alternative monitoring plans to the District.

EPA promulgated changes to 40 CFR 60, Subpart J, Standards of Performance for Petroleum Refineries and also promulgated a new refinery NSPS, 40 CFR 60, Subpart Ja, Standards of Performance for Petroleum Refineries for Which Construction, Reconstruction, or Modification Commenced After May 14, 2007, on June 30, 2008.

ConocoPhillips has demonstrated that the date of construction for the purposes of the NSPS in accordance with 40 CFR 60.5 and EPA guidance was prior to May 14, 2007, so S45 is subject to Subpart J, not Subpart Ja. This determination was made on the basis that ConocoPhillips entered into an agreement to purchase the heater before May 14, 2007.

Table IV – A.36
Source-specific Applicable Requirements
S45 – UNIT 246 B-801A/B, HEATER

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
BAAQMD Regulation 1	**General Provisions and Definitions (7/9/08)**		startup date
1-520	Continuous Emission Monitoring	Y	startup date
1-520.8	Monitors pursuant to Regulation 2-1-403	Y	startup date
1-521	Monitoring May Be Required	Y	startup date
1-522	Continuous Emission Monitoring and Recordkeeping Procedures		startup date
1-522.1	approval of plans and specifications	Y	startup date
1-522.2	scheduling requirements	Y	startup date
1-522.3	CEM performance testing	Y	startup date
1-522.4	reporting of inoperative CEMs	Y	startup date
1-522.5	CEM calibration requirements	Y	startup date
1-522.6	CEM accuracy requirements	Y	startup date
1-522.7	emission limit exceedance reporting requirements	N	startup date
1-522.8	monitoring data submittal requirements	Y	startup date
1-522.9	recordkeeping requirements	Y	startup date
1-522.10	Regulation 1-521 monitors shall meet requirements specified by District	Y	startup date
1-602	Area and Continuous Monitoring Requirements	N	startup date
SIP Regulation 1	**PROVISIONS NO LONGER IN CURRENT RULE General Provisions and Definitions (6/28/99)**		startup date
1-522	Continuous Emission Monitoring and Recordkeeping Procedures	Y – note 1	startup date
1-522.7	emission limit exceedance reporting requirements	Y - note 1	startup date
BAAQMD Regulation 2, Rule 1	**Regulation 2, Rule 1 - Permits, General Requirements (11/19/08; SIP approved 1/26/99 {adopted 11/01/89})**		startup date
2-1-403	Permit conditions requiring measurement of emissions	N	startup date
2-1-501	Monitors shall comply with Volume V of the Manual of Procedures	Y	startup date
SIP Regulation 2, Rule 1	**PROVISIONS NO LONGER IN CURRENT RULE Permits, General Requirements (1/26/99 {adopted 11/01/89})**		startup date
2-1-403	Permit conditions requiring measurement of emissions	Y – note 1	startup date
BAAQMD Regulation 6, Rule 1	**Particulate Matter, General Requirements ~~Particulate Matter and Visible Emissions~~ (12/5/07)**		startup date
6-1-301	Ringelmann #1 Limitation	N	startup date
6-1-305	Visible Particles	N	startup date

Table IV – A.36
Source-specific Applicable Requirements
S45 – UNIT 246 B-801A/B, HEATER

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
6-1-310	Particulate Weight Limitation	N	startup date
6-1-310.3	Particulate Weight Limitation	N	startup date
SIP Regulation 6	**Particulate Matter and Visible Emissions (9/4/98)**		startup date
6-301	Ringelmann #1 Limitation	Y	startup date
6-305	Visible Particles	Y	startup date
6-310	Particulate Weight Limitation	Y	startup date
6-310.3	Particulate Weight Limitation	Y	startup date
BAAQMD Manual of Procedures, Volume V	**Continuous Emission Monitoring Policy and Procedures (1/20/82)**	Y	startup date
40 CFR 60 Subpart A	**General Provisions (2/12/98)**		startup date
60.7	Notification and record keeping	Y	
60.7(a)	Various notifications	Y	
60.7(a)(1)	Notification of date of construction	Y	
60.7(a)(3)	Notification of startup date	Y	
60.7(a)(4)	Notification of any physical or operational change to an existing facility	Y	
60.7(a)(5)	Notification of date of beginning of CEM performance demonstration	Y	
60.7(b)	Records of any startup, shutdown, or malfunction, malfunction of control equipment; or periods when a CEM is inoperative	Y	
60.7(c)	Excess emissions and monitoring systems performance reports	Y	
60.7(d)	Summary reports	Y	
60.7(e)	Reduction of frequency of reports	Y	
60.7(f)	Records of monitoring	Y	
60.7(g)	Notification substantially similar to 40 CFR 60.7	Y	
60.13	Monitoring requirements	Y	startup date
60.13(a)	Continuous monitoring systems subject to Appendix B, and Appendix F, (if used to demonstrate compliance with continuous emission limits), of Part 60	Y	startup date
60.13(b)	Continuous monitoring systems and devices operational prior to performance tests required by 60.8	Y	startup date
60.13(d)(1)	Continuous monitoring system zero and span calibration requirements	Y	startup date
60.13(e)	Continuous monitoring system minimum frequency of operation	Y	startup date
60.13(e)(2)	Continuous monitoring system minimum frequency of operation for	Y	startup date

Table IV – A.36
Source-specific Applicable Requirements
S45 – UNIT 246 B-801A/B, HEATER

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
	non-opacity-measuring devices		
60.13(f)	Continuous monitoring system installation location requirement	Y	startup date
NSPS 40 CFR 60, Subpart J	**Standards of Performance for Petroleum Refineries (7/1/00)**		startup date
60.100	Applicability	Y	startup date
60.104	Standards for Sulfur Oxides: Compliance Schedule	Y	startup date
60.104(a)(1)	fuel gas H2S concentration limited to 230 mg/dscm (0.10 gr/dscf) except for gas burned as a result of process upset or gas burned at flares from relief valve leaks or other emergency malfunctions	Y	startup date
60.105	Monitoring of Emissions and Operations	Y	startup date
60.105(a)(4)	monitoring requirement for H2S (dry basis) in fuel gas prior to combustion (in lieu of separate combustion device exhaust SO2 monitors as required by 60.105(a)(3))	Y	startup date
60.105(e)(3)(ii)	Excess H2S emission definitions for 60.7(c)	Y	startup date
60.106(a)	Test methods and procedures	Y	startup date
60.106(e)(1)	Method 11 shall be used to verify compliance with 60.104(a)(1)	Y	startup date
NSPS 40 CFR 60, Appendix A	**Appendix A to Part 60 – Test Methods**	Y	startup date
NSPS 40 CFR 60 Appendix B	**Performance Specifications**		startup date
Performance Specification 7	H2S continuous emission monitoring systems	Y	startup date
40 CFR 60 Appendix B	**Performance Specifications**		startup date
Performance Specification 2	Specifications and Test Procedures for SO2 and NOx Continuous Emission Monitoring Systems in Stationary Sources	Y	startup date
Performance Specification 7	–H2S continuous emission monitoring systems	Y	startup date
40 CFR 60 Appendix F	**Quality Assurance Procedures**		startup date
Procedure 1	QA requirements for gas continuous emission monitoring systems	Y	startup date
40 CFR 63, Subpart B	**Requirements for Control Technology Determinations for Major Sources in Accordance With Clean Air Act Sections, Sections 112(g) and 112(j)**	Y	

Table IV – A.36
Source-specific Applicable Requirements
S45 – UNIT 246 B-801A/B, HEATER

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
63.50	Applicability	Y	
63.51	Definitions	Y	
63.52	Approval process for new and existing affected sources	Y	
63.53	Application content for case-by-case MACT determinations	Y	
63.54	Preconstruction review procedures for new affected sources	Y	
63.55	Maximum achievable control technology (MACT) determinations for affected sources subject to case-by-case determination of equivalent emission limitations	Y	
63.56	Requirements for case-by-case determination of equivalent emission limitations after promulgation of subsequent MACT standard	Y	
BAAQMD Condition 22962			
Part 1	Usage of refinery fuel gas or natural gas [BACT, Cumulative Increase]	Y	
Part 2	Throughput Limits [Cumulative Increase]	Y	
Part 3	Abatement with SCR [BACT, Cumulative Increase]	Y	
Part 4a	NOx concentration limit [BACT, Cumulative Increase]	Y	
Part 4b	CO concentration limit when operating under 30 MMbtu/hr [BACT, Cumulative Increase, 40 CFR 63.52(a)]	Y	
Part 4c	POC mass emission limit [Cumulative Increase]	Y	
Part 4d	PM10 mass emission limit [BACT, Cumulative Increase]	Y	
Part 4e	CO concentration limit when operating above 30 MMbtu/hr [BACT, Cumulative Increase, 40 CFR 63.52(a)]	Y	
Part 5	Ammonia concentration limit [BAAQMD Regulation 2, Rule 5]	N	
Part 6a	Annual emission limit for NOX [BACT, Cumulative Increase]	Y	
Part 6b	Annual emission limit for CO [BACT, Cumulative Increase]	Y	
Part 6c	Annual emission limit for POC [BACT, Cumulative Increase]	Y	
Part 6d	Annual emission limit for PM10 [BACT, Cumulative Increase]	Y	
Part 6e	Annual emission limit for SO2 [BACT, Cumulative Increase]	Y	
Part 7	Fuel flow monitors and recorders [Cumulative Increase]	Y	
Part 8	NOx and O2 monitors [BACT, Cumulative Increase]	Y	
Part 9	CO source tests [BACT, Cumulative Increase]	Y	
Part 10	Sulfur content in fuel [BACT, Cumulative Increase]	Y	
Part 11	Monitoring for sulfur content in fuel [BACT, Cumulative Increase]	Y	
Part 12	Records of sulfur content [BACT, Cumulative Increase]	Y	
~~Part 13~~	~~Alternative monitoring plan for 40 CFR 60.104(a)(1) [40 CFR 60.13i]~~	~~Y~~	

Table IV – A.36
Source-specific Applicable Requirements
S45 – UNIT 246 B-801A/B, HEATER

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
Part 14	Records of startups, shutdowns, and heater dryout/warmup periods [2-6-503]	Y	
Part 15	Approval of the design and location of the source test ports [1-501]	Y	
Part 16	Source tests for NOx, CO, POC, PM10 ~~and~~ ammonia, and sulfuric acid mist [BACT, Cumulative Increase, Regulation 2, Rule 5]	Y	
Part 17	Source test and continuous emission monitoring requirements [BACT, Cumulative Increase]	Y	
BAAQMD Condition 22970			
Part A.1	Applicability of Condition 22970 [Cumulative increase, PSD]		
Part A.2a	Annual NOx limit for S45, Heater, S434, U246 High Pressure Reactor Train; and S1010, Sulfur Recovery Unit [Cumulative increase]		
Part A.2b	Annual SO2 limit for S45, Heater, S434, U246 High Pressure Reactor Train; and S1010, Sulfur Recovery Unit [Cumulative increase]		
Part A.2c	Annual PM10 limit for S45, Heater, S434, U246 High Pressure Reactor Train; and S1010, Sulfur Recovery Unit [Cumulative increase, PSD]		
Part A.2d	Annual POC limit for S45, Heater, S434, U246 High Pressure Reactor Train; and S1010, Sulfur Recovery Unit [Cumulative increase]		
Part A.2e	Annual CO limit for S45, Heater, S434, U246 High Pressure Reactor Train; and S1010, Sulfur Recovery Unit [Cumulative increase]		
Part A.2f	Annual sulfuric acid mist limit for S45, Heater, S434, U246 High Pressure Reactor Train; and S1010, Sulfur Recovery Unit [PSD]		
Part A.2g	Annual ammonia limit for S45, Heater, S434, U246 High Pressure Reactor Train; and S1010, Sulfur Recovery Unit [BAAQMD Regulation 2, Rule 5]		
Part A.3	Daily sulfuric acid mist limit for S45, Heater, S434, U246 High Pressure Reactor Train; and S1010, Sulfur Recovery Unit at Facility A0016 and S2 at B7419. [PSD]		
Part A.4	Determination of compliance with Part A.2 [Cumulative increase, PSD, BAAQMD Regulation 2, Rule 5]		
Part A.5	Additional offsets and PSD analysis, if necessary [Offsets, PSD]		
Part A.6	Annual PM10 limit for S45, S434, and S1010 at Facility A0016, and S2 and S3 at Facility B7419 [1-104, 2-2-304]		

Table IV – A.36
Source-specific Applicable Requirements
S45 – UNIT 246 B-801A/B, HEATER

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
Part B	Offset Report [2-1-403, 2-2-410]		

Following are the proposed changes in Section IV for S434, U246 High Pressure Reactor Train, and associated sources: S307, S308, S309, S318, S339, S464, S432, S437.

Condition 6671 places limits on a hydrogen plant that is associated with S307, Unicracker. This source has been designated as S464, Hydrogen Plant. Since only S437 and S464 are subject to BAAQMD Regulation 8, Rule 2, Miscellaneous Operations, they have been moved to a new table: IV-Nc. The rule and permit condition 6671 have been deleted from this table. Table IV-N mistakenly omitted the applicability of this rule to S437.

The hydrogen plants are not subject to 40 CFR 63, Subpart CC, National Emission Standards for Hazardous Air Pollutants From Petroleum Refineries, because section 63.641 states that the following is not a misc. process vent, and therefore not subject to the standard.

> (14) Hydrogen production plant vents through which carbon dioxide is removed from process streams or through which steam condensate produced or treated within the hydrogen plant is degassed or deaerated

S434, U246 High Pressure Reactor Train (Cracking) and S1010, Sulfur recovery Unit, will have new individual drain systems that drain water from the units to the wastewater system. These systems are subject to 40 CFR 60, Subpart QQQ, Standards of Performance for VOC Emissions from Petroleum Refinery Wastewater Systems. The requirements of this standard have been included in a new table, Table IV-I.1, which will be located in the wastewater section of the permit. In this statement of basis, the table follows Table IV-Na, which also contains a reference to Table IV-I.1 and vice versa.

The change in the wording for the citation of Condition 22549, part 3, is proposed in this action, not in Application 13424.

The date of adoption of Regulation 8, Rule 10, into the SIP by EPA was corrected.

S339, U80 Refined Oil Shipping Unit, has been added to Table IV-N. Up to now, S339 has only been mentioned in Table IIA, Permitted Sources, and in Permit Condition 20989.

Table IV – Na
Source-specific Applicable Requirements – Process Vessels
S304 –U-229 LIGHT NAPHTHA HYDROTREATER;
S305 – U-230 PREFRACTIONATOR / NAPHTHA HYDROTREATER;
S307 – U-240 UNICRACKING UNIT; S309 – U-248 UNISAR UNIT;
S318 – U-76 GASOLINE / MID-BARREL BLENDING UNIT;
S319 – U-215 GASOLINE FRACTIONATING UNIT;
S322 – U-40 RAW MATERIALS RECEIVING; S339-U80 REFINED OIL SHIPPING UNIT;
S434, U246 HIGH PRESSURE REACTOR TRAIN (CRACKING);
S435 – REFORMATE SPLITTER; S436 – DEISOPENTANIZER;
~~S437 – HYDROGEN PLANT;~~ S460 – U-250 ULSD HYDROTREATER

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
	For additional requirements for S434, see Table IV-I.1		
~~**BAAQMD Regulation 8, Rule 2**~~	~~**Organic Compounds – Miscellaneous Operations (6/15/94)**~~ ~~**APPLICABLE TO S307 ONLY**~~		
~~8-2-301~~	~~Miscellaneous Operations: emissions shall not exceed 15 lb/day and 300 ppm carbon on a dry basis~~	~~Y~~	
BAAQMD Regulation 8, Rule 10	**Organic Compounds – Process Vessel Depressurization (1/21/2004)**		
8-10-301	Depressurization Control Options	N	
8-10-302	Opening of Process Vessels	N	
8-10-302.1	organic compounds cannot exceed 10,000 ppm (methane) prior to release to atmosphere	N	
8-10-302.2	Organic compound concentration of a refinery process vessel may exceed 10,000 ppm prior to release to atmosphere provided total number of such vessels during 5-year period does not exceed 10%	N	
8-10-401	Turnaround Records. Annual report due February 1 of each year with initial report of process vessels due 4/1/2004.	N	
8-10-501	Monitoring prior to and during process vessel opening	Y	
8-10-502	Concentration measurement using EPA Method 21	Y	
8-10-503	Recordkeeping	N	
8-10-601	Monitoring Procedures	N	
SIP Regulation 8, Rule 10	**Organic Compounds – Process Vessel Depressurization (~~7/20/83~~10/3/84)**		
8-10-301	Process Vessel Depressurizing. POC emissions shall be vented through a knock-out pot and then abated in one of the following ways, to as low a vessel pressure as possible, but at least until pressure is reduced to less than 1000 mm Hg:	Y	
8-10-301.1	recovery to the fuel gas system	Y	

Table IV – Na
Source-specific Applicable Requirements – Process Vessels
S304 –U-229 LIGHT NAPHTHA HYDROTREATER;
S305 – U-230 PREFRACTIONATOR / NAPHTHA HYDROTREATER;
S307 – U-240 UNICRACKING UNIT; S309 – U-248 UNISAR UNIT;
S318 – U-76 GASOLINE / MID-BARREL BLENDING UNIT;
S319 – U-215 GASOLINE FRACTIONATING UNIT;
S322 – U-40 RAW MATERIALS RECEIVING; S339-U80 REFINED OIL SHIPPING UNIT;
S434, U246 HIGH PRESSURE REACTOR TRAIN (CRACKING);
S435 – REFORMATE SPLITTER; S436 – DEISOPENTANIZER;
~~S437 – HYDROGEN PLANT;~~ S460 – U-250 ULSD HYDROTREATER

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
8-10-301.2	combustion at a firebox or incinerator	Y	
8-10-301.3	combustion at a flare	Y	
8-10-301.4	containment such that emissions to atmosphere do not occur	Y	
8-10-401	Turnaround Records. The following records shall be kept for each process unit turnaround, and retained for at least 2 years and made available to the District on demand during inspections:	Y	
8-10-401.1	date of depressurization event	Y	
8-10-401.2	approximate vessel hydrocarbon concentration when emissions to atmosphere begin	Y	
8-10-401.3	approximate quantity of POC emissions to atmosphere	Y	
40 CFR 60 Subpart QQQ	**Standards of Performance for VOC Emissions from Petroleum Refinery Wastewater Systems (8/18/95) APPLIES TO S434 ONLY. See Table IV-I.1**	Y	
~~**BAAQMD Condition 6671**~~	~~**APPLICABLE TO S307 ONLY**~~		
~~Part 1~~	~~Abatement requirement for E-421 condenser vent at A50 scrubber [Basis: Regulation 8-2-301]~~	~~Y~~	
~~Part 2~~	~~Efficiency requirement for A50 scrubber raw material throughput [Basis: Regulation 8-2-301]~~	~~Y~~	
~~Part 3~~	~~Requirement to treat A50 blowdown at wastewater treatment plant [Basis: Cumulative Increase]~~	~~Y~~	
~~Part 4~~	~~Daily A50 monitoring requirement [Basis: Cumulative Increase]~~	~~Y~~	
~~Part 5~~	~~Monitoring record requirement [Basis: Cumulative Increase]~~	~~Y~~	
~~Part 6~~	~~Annual source test requirement [Basis: Regulation 2-6-409.2]~~		
BAAQMD Condition 20989, Part A	Throughput limits for S305, ~~S306, S307,~~ S435, S436~~, S437~~ [Basis: 2-1-234.3]	Y	
BAAQMD	Throughput limits for ~~S308, S309, S318,~~ S319 [Basis: 2-1-234.3]	N	

Table IV – Na
Source-specific Applicable Requirements – Process Vessels
S304 –U-229 LIGHT NAPHTHA HYDROTREATER;
S305 – U-230 PREFRACTIONATOR / NAPHTHA HYDROTREATER;
S307 – U-240 UNICRACKING UNIT; S309 – U-248 UNISAR UNIT;
S318 – U-76 GASOLINE / MID-BARREL BLENDING UNIT;
S319 – U-215 GASOLINE FRACTIONATING UNIT;
S322 – U-40 RAW MATERIALS RECEIVING; S339-U80 REFINED OIL SHIPPING UNIT;
S434, U246 HIGH PRESSURE REACTOR TRAIN (CRACKING);
S435 – REFORMATE SPLITTER; S436 – DEISOPENTANIZER;
~~S437 – HYDROGEN PLANT;~~ S460 – U-250 ULSD HYDROTREATER

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
Condition 20989, Part A			
BAAQMD Condition 21094	**APPLIES~~CABLE~~ TO S460 ONLY**		
Part 1	Daily throughput limit [Basis: Regulation 2-1-234]	Y	
Part 2	Throughput records [Basis: Regulation 2-1-234]	Y	
BAAQMD Condition 21095	**APPLIES~~CABLE~~ TO S304 ONLY**		
Part 1	Daily throughput limit [Basis: 2-1-234]	Y	
Part 2	Daily throughput records [Basis: 2-1-234]	Y	
BAAQMD Condition 21099	**APPLIES~~CABLE~~ TO S304, S460 ONLY**		
Part 1	Light hydrocarbon control valve requirements [Basis: BACT]	Y	
Part 2	Light hydrocarbon flange/connector requirements [Basis: BACT]	Y	
Part 3	Centrifugal compressor requirements [Basis: BACT]	Y	
Part 4	Light hydrocarbon centrifugal pump requirements [Basis: BACT]	Y	
Part 5	Monitoring and repair program requirement [Basis: BACT]	Y	
Part 6	ULSD project component count report requirement [Basis: BACT, Cumulative Increase, Toxic Management Policy]	Y	
BAAQMD Condition 22549	**~~[~~APPLIES~~CABLE~~ TO S318 ONLY~~]~~**		
Part 1	Daily petroleum liquid throughput limit excluding diesel [Cumulative Increase]	Y	
Part 2	Annual throughput limit [Cumulative Increase]	Y	
Part 3~~2~~	Daily records of petroleum liquid throughput limit [Cumulative	Y	

Table IV – Na
Source-specific Applicable Requirements – Process Vessels
S304 –U-229 LIGHT NAPHTHA HYDROTREATER;
S305 – U-230 PREFRACTIONATOR / NAPHTHA HYDROTREATER;
S307 – U-240 UNICRACKING UNIT; S309 – U-248 UNISAR UNIT;
S318 – U-76 GASOLINE / MID-BARREL BLENDING UNIT;
S319 – U-215 GASOLINE FRACTIONATING UNIT;
S322 – U-40 RAW MATERIALS RECEIVING; S339-U80 REFINED OIL SHIPPING UNIT;
S434, U246 HIGH PRESSURE REACTOR TRAIN (CRACKING);
S435 – REFORMATE SPLITTER; S436 – DEISOPENTANIZER;
~~S437 – HYDROGEN PLANT;~~ S460 – U-250 ULSD HYDROTREATER

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
	Increase]		
Part 4	Pressure relief devices routed to fuel gas system, furnace or flare with 98% recovery efficiency [8-28-302, BACT]	Y	
BAAQMD Condition 22965	**APPLIES TO S307 ONLY**		
Part 1	Daily throughput limit [Cumulative Increase]	Y	
Part 2	Daily throughput records [Cumulative Increase]	Y	
Part 3	Pressure relief valves vented to fuel gas recovery system, furnace or flare [8-28-302, BACT]	Y	
BAAQMD Condition 22967	**APPLIES TO S309 ONLY**		
Part 1	Daily throughput limit [Cumulative Increase]	Y	
Part 2	Daily throughput records [Cumulative Increase]	Y	
BAAQMD Condition 22968	**APPLIES TO S339 ONLY**		
Part 1	Daily throughput limit [Cumulative Increase]	Y	
Part 2	Daily throughput records [Cumulative Increase]	Y	
BAAQMD Condition 22969	**APPLIES TO S434 ONLY**		
Part 1	Daily throughput limit [Cumulative Increase]	Y	
Part 2	Daily throughput records [Cumulative Increase]	Y	
Part 3	Pressure relief valves vented to fuel gas recovery system, furnace or flare [8-28-302, BACT]	Y	
BAAQMD Condition	**APPLIES TO S434 ONLY**		

Table IV – Na
Source-specific Applicable Requirements – Process Vessels
S304 –U-229 LIGHT NAPHTHA HYDROTREATER;
S305 – U-230 PREFRACTIONATOR / NAPHTHA HYDROTREATER;
S307 – U-240 UNICRACKING UNIT; S309 – U-248 UNISAR UNIT;
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S319 – U-215 GASOLINE FRACTIONATING UNIT;
S322 – U-40 RAW MATERIALS RECEIVING; S339-U80 REFINED OIL SHIPPING UNIT;
S434, U246 HIGH PRESSURE REACTOR TRAIN (CRACKING);
S435 – REFORMATE SPLITTER; S436 – DEISOPENTANIZER;
~~S437 – HYDROGEN PLANT;~~ S460 – U-250 ULSD HYDROTREATER

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
22970			
Part A.1	Applicability of Condition 22970 [Cumulative increase, PSD]		
Part A.2a	Annual NOx limit for S45, Heater, S434, U246 High Pressure Reactor Train; and S1010, Sulfur Recovery Unit [Cumulative increase]		
Part A.2b	Annual SO2 limit for S45, Heater, S434, U246 High Pressure Reactor Train; and S1010, Sulfur Recovery Unit [Cumulative increase]		
Part A.2c	Annual PM10 limit for S45, Heater, S434, U246 High Pressure Reactor Train; and S1010, Sulfur Recovery Unit [Cumulative increase, PSD]		
Part A.2d	Annual POC limit for S45, Heater, S434, U246 High Pressure Reactor Train; and S1010, Sulfur Recovery Unit [Cumulative increase]		
Part A.2e	Annual CO limit for S45, Heater, S434, U246 High Pressure Reactor Train; and S1010, Sulfur Recovery Unit [Cumulative increase]		
Part A.2f	Annual sulfuric acid mist limit for S45, Heater, S434, U246 High Pressure Reactor Train; and S1010, Sulfur Recovery Unit [PSD]		
Part A.2g	Annual ammonia limit for S45, Heater, S434, U246 High Pressure Reactor Train; and S1010, Sulfur Recovery Unit [BAAQMD Regulation 2, Rule 5]		
Part A.3	Daily sulfuric acid mist limit for S45, Heater, S434, U246 High Pressure Reactor Train; and S1010, Sulfur Recovery Unit at Facility A0016 and S2 at B7419. [PSD]		
Part A.4	Determination of compliance with Part A.2 [Cumulative increase, PSD, BAAQMD Regulation 2, Rule 5]		
Part A.5	Additional offsets and PSD analysis, if necessary [Offsets, PSD]		
Part A.6	Annual PM10 limit for S45, S434, and S1010 at Facility A0016, and S2 and S3 at Facility B7419 [1-104, 2-2-304]		

Table IV – Na
Source-specific Applicable Requirements – Process Vessels
S304 –U-229 LIGHT NAPHTHA HYDROTREATER;
S305 – U-230 PREFRACTIONATOR / NAPHTHA HYDROTREATER;
S307 – U-240 UNICRACKING UNIT; S309 – U-248 UNISAR UNIT;
S318 – U-76 GASOLINE / MID-BARREL BLENDING UNIT;
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S322 – U-40 RAW MATERIALS RECEIVING; S339-U80 REFINED OIL SHIPPING UNIT;
S434, U246 HIGH PRESSURE REACTOR TRAIN (CRACKING);
S435 – REFORMATE SPLITTER; S436 – DEISOPENTANIZER;
~~S437 – HYDROGEN PLANT;~~ S460 – U-250 ULSD HYDROTREATER

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
Part B	Offset Report [2-1-403, 2-2-410]		

Table IV – I.1
Source-specific Applicable Requirements – Process Vessels
WASTEWATER-INDIVIDUAL DRAIN SYSTEMS
APPLIES TO S434, CRACKING AND S1010, SULFUR RECOVERY UNIT

Applicable Requirement	Regulation Title or Description of Requirements	Federally Enforceable (Y/N)	Future Effective Date
	For additional requirements for S434, see Table IV-Na.		
	For additional requirements for S1010, see Table IV-Ub.		
40 CFR 60 Subpart QQQ	**Standards of Performance for VOC Emissions from Petroleum Refinery Wastewater Systems (8/18/95) APPLIES TO S434 ONLY**		
60.690(a)(1)	Applicability: Subpart QQQ applies to affected facilities constructed, modified, or reconstructed after May 4, 1987	Y	
60.690(a)(2)	An individual drain system is a separate affected facility	Y	
60.692-1(a)	The provisions of Subpart QQQ apply except during periods of startup, shutdown, or malfunction	Y	
60.692-1(b)	Determine compliance through review of records and reports, performance test results, and inspections	Y	
60.692-2(a)(1)	Drain water seal control.	Y	
60.692-2(a)(2)	Monthly inspections. Drains in active service.	Y	
60.692-2(a)(3)	Weekly inspection. Drains out of active service.	Y	
60.692-	Alternative compliance to (a)(3), drains out of active service.	Y	

Table IV – I.1
Source-specific Applicable Requirements – Process Vessels
WASTEWATER-INDIVIDUAL DRAIN SYSTEMS
APPLIES TO S434, CRACKING AND S1010, SULFUR RECOVERY UNIT

Applicable Requirement	Regulation Title or Description of Requirements	Federally Enforceable (Y/N)	Future Effective Date
2(a)(4)	Semiannual inspection of caps or plugs.		
60.692-2(a)(5)	Low water level and/or missing plug or cap repair requirements.	Y	
60.692-2(b)(1)	Junction box cover requirement.	Y	
60.692-2(b)(2)	Junction box cover tight seal requirement.	Y	
60.692-2(b)(3)	Junction box semiannual visual inspections.	Y	
60.692-2(b)(4)	Broken seal or gap repair requirements.	Y	
60.692-2(c)(1)	Sewer lines covered and not open to atmosphere.	Y	
60.692-2(c)(2)	Semiannual visual inspection. Unburied sewer lines.	Y	
60.692-2(c)(3)	Sewer line repair requirements.	Y	
60.692-2(e)	Wastewater routed through new process drains can not be routed through a downstream catch basin.	Y	
60.692-6(a)	Delays of repairs are allowed if the repair is technically impossible without a complete or partial refinery or process unit shutdown.	Y	
60.692-6(b)	Delayed repairs shall be completed before the end of the next refinery or process unit shutdown.	Y	
60.696(a)	Initial equipment inspection.	Y	
60.697(a)	Each owner or operator shall comply with the recordkeeping provisions of Subpart QQQ.	Y	
60.697(b)(1)	Corrective action recordkeeping: Individual drain systems.	Y	
60.697(b)(2)	Corrective action recordkeeping: Junction boxes.	Y	
60.697(b)(3)	Corrective action recordkeeping: Sewer lines.	Y	
60.697(e)(1)	If an emission point cannot be repaired or corrected without a process unit shutdown, record the expected date of a successful repair.	Y	
60.697(e)(2)	The reason for the delay as specified in 60.692-6 shall be recorded if an emission point or equipment problem is not repaired or corrected in the specified amount of time.	Y	
60.697(e)(3)	The signature of the owner or operator whose decision it was that	Y	

Table IV – I.1
Source-specific Applicable Requirements – Process Vessels
WASTEWATER-INDIVIDUAL DRAIN SYSTEMS
APPLIES TO S434, CRACKING AND S1010, SULFUR RECOVERY UNIT

Applicable Requirement	Regulation Title or Description of Requirements	Federally Enforceable (Y/N)	Future Effective Date
	repair could not be effected without refinery or process shutdown shall be recorded.		
60.697(e)(4)	The date of successful repair or corrective action shall be recorded.	Y	
60.697(f)(1)	A copy of the design specifications for all equipment used to comply with the provisions of this subpart shall be kept for the life of the source in a readily accessible location.	Y	
60.697(f)(2)	Detailed information pertaining to the design specifications shall be kept.	Y	
60.697(g)	Location of capped or plugged drains that are out of active service.	Y	
60.698(b)(1)	Submit semiannually to the Administrator a certification that all of the required inspection have been carried out in accordance with Subpart QQQ standards.	Y	
60.698(c)	Submit semiannually to the Administrator a report that summarizes all inspections when cracks, gaps, or other problems that could result in VOC emissions are identified, including information about the repairs or corrective actions taken	Y	

Table IV – Nb
Source-specific Applicable Requirements – Process Vessels
S306 – U-231 PLATFORMING UNIT; S308 – U-244 REFORMING UNIT

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
BAAQMD Regulation 8, Rule 10	**Organic Compounds – Process Vessel Depressurization (1/21/2004)**		
8-10-301	Depressurization Control Options	N	
8-10-302	Opening of Process Vessels	N	
8-10-302.1	organic compounds cannot exceed 10,000 ppm (methane) prior to release to atmosphere	N	
8-10-302.2	Organic compound concentration of a refinery process vessel may exceed 10,000 ppm prior to release to atmosphere provided total number of such vessels during 5-year period does not exceed 10%	N	
8-10-401	Turnaround Records. Annual report due February 1 of each year	N	

Table IV – Nb
Source-specific Applicable Requirements – Process Vessels
S306 – U-231 PLATFORMING UNIT; S308 – U-244 REFORMING UNIT

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
	with initial report of process vessels due 4/1/2004.		
8-10-501	Monitoring prior to and during process vessel opening	Y	
8-10-502	Concentration measurement using EPA Method 21	Y	
8-10-503	Recordkeeping	N	
8-10-601	Monitoring Procedures	N	
SIP Regulation 8, Rule 10	**Organic Compounds – Process Vessel Depressurization (~~7/20/83~~10/3/84)**		
8-10-301	Process Vessel Depressurizing. POC emissions shall be vented through a knock-out pot and then abated in one of the following ways, to as low a vessel pressure as possible, but at least until pressure is reduced to less than 1000 mm Hg (4.6 psig)	Y	
8-10-301.1	recovery to the fuel gas system	Y	
8-10-301.2	combustion at a firebox or incinerator	Y	
8-10-301.3	combustion at a flare	Y	
8-10-301.4	containment such that emissions to atmosphere do not occur	Y	
8-10-401	Turnaround Records. The following records shall be kept for each process unit turnaround, and retained for at least 2 years and made available to the District on demand during inspections:	Y	
8-10-401.1	date of depressurization event	Y	
8-10-401.2	approximate vessel hydrocarbon concentration when emissions to atmosphere begin	Y	
8-10-401.3	approximate quantity of POC emissions to atmosphere	Y	
40 CFR 63, Subpart A	**General Provisions (3/16/94)**		
63.1	Applicability (except that Subpart UUU specifies calendar or operating day)	Y	
63.2	Definitions	Y	
63.3	Units and Abbreviations	Y	
63.4	Prohibited Activities	Y	
63.5	Construction and Reconstruction	Y	
63.5(a)	Applicability	Y	
63.5(b)	Requirements for existing, newly constructed, and reconstructed sources (replace reference to Section 63.9 with Sections 63.9(b)(4) and (5))	Y	
63.5(c)	[reserved]	Y	
63.5(d)	Application for approval of construction or reconstruction	Y	

Table IV – Nb
Source-specific Applicable Requirements – Process Vessels
S306 – U-231 PLATFORMING UNIT; S308 – U-244 REFORMING UNIT

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
63.5(d)(1)	General application requirements	Y	
63.5(d)(1)(i)	Application for approval (except that Subpart UUU specifies the application is submitted as soon as practicable before startup but not later than 90 days (rather then 60) after the promulgation date where construction or reconstruction had commenced and initial startup had not occurred before promulgation.)	Y	
63.5(d)(1)(ii)	Separate application for each construction or deconstruction (Except that emission estimates specified in §63.5(d)(1)(ii)(H) are not required.)	Y	
63.5(d)(3)	Application for approval of reconstruction (Except that §63.5(d)(3)(ii) does not apply.)	Y	
63.5(d)(3)(i)	A brief description of the affected source, etc.	Y	
63.5(d)(3)(iii)	An estimate of the fixed capital cost of the replacements and of constructing a comparable entirely new source	Y	
63.5(d)(3)(iv)	The estimated life of the affected source after the replacements	Y	
63.5(d)(3)(v)	A discussion of any economic or technical limitations	Y	
63.5(d)(3)(vi)	Designation of reconstructed source	Y	
63.5(d)(4)	Additional information	Y	
63.5(e)	Approval of construction or reconstruction	Y	
63.5(f)	Approval of construction or reconstruction based on prior State preconstruction review	Y	
63.5(f)(1)	Preconstruction review procedures that a State utilizes for other purposes, etc.	Y	
63.5(f)(2)	Deadline for request of approval of construction or reconstruction (Except that 60 days is changed to 90 days and cross-reference to 53.9(B)(2) does not apply.)	Y	
63.6	Compliance with standards and maintenance requirements	Y	
63.6(a)	Applicability	Y	
63.6(b)	Compliance dates for new and reconstructed sources	Y	
63.6(b)(1)	Compliance at standard's effective date	Y	
63.6(b)(2)	Compliance upon startup	Y	
63.6(b)(3)	Compliance within 3 years of effective date	Y	
63.6(b)(4)	Compliance within 10 years of effective date	Y	
63.6(b)(5)	Notification to administrator of later compliance date (Except that subpart UUU specifies different compliance dates for sources)	Y	
63.6(c)	Compliance dates for existing sources	Y	
63.6(c)(1)	Compliance with standards by the compliance date established by	Y	

Table IV – Nb
Source-specific Applicable Requirements – Process Vessels
S306 – U-231 PLATFORMING UNIT; S308 – U-244 REFORMING UNIT

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
	the Administrator		
63.6(c)(2)	Compliance with standards by date established by Section 112(f) of the act	Y	
63.6(e)	Operation and maintenance requirements	Y	
63.6(e)(1)	Operation in a manner consistent with safety and good air pollution control practices	Y	
63.6(e)(2)	Reserved	Y	
63.6(e)(3)	Startup, shutdown, and malfunction plan	Y	
63.6(e)(3)(i)	Development and implementation of a written startup, shutdown, and malfunction plan	Y	
63.6(e)(3)(ii)	Periods of startup, shutdown, and malfunction	Y	
63.6(e)(3)(iii)	Operation consistent with procedures	Y	
63.6(e)(3)(iv)	Operation not consistent with procedures (Except that reports of actions not consistent with plan are not required within 2 and 7 days of action but rather must be included in next periodic report)	Y	
63.6(e)(3)(v)	Maintenance of the plan at the affected source (The owner or operator is only required to keep the latest version of the plan)	Y	
63.6(e)(3)(vi)	Alternative plans	Y	
63.6(e)(3)(vii)	Administrator may require changes to plan	Y	
63.6(e)(3)(viii)	The owner or operator may periodically revise the startup, shutdown, and malfunction plan	Y	
63.6(f)	Compliance with non-opacity emission standards	Y	
63.6(f)(1)	Applicability (standards apply at all times except startup, shutdown, and malfunction)	Y	
63.6(f)(2)	Methods for determining compliance	Y	
63.6(f)(2)(i)	Based on performance tests	Y	
63.6(f)(2)(ii)	Evaluation of an owner or operator's conformance with operation and maintenance requirements	Y	
63.6(f)(2)(iii)	Conditions under which performance testing for state requirements shows compliance	Y	
63.6(f)(2)(iii)(A)	Performance test conducted within a reasonable amount of time	Y	
63.6(f)(2)(iii)(B)	Performance test conducted under representative operating conditions	Y	
63.6(f)(2)(iii)(c)	EPA-approved test methods and procedures	Y	

Table IV – Nb
Source-specific Applicable Requirements – Process Vessels
S306 – U-231 PLATFORMING UNIT; S308 – U-244 REFORMING UNIT

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
63.6(f)(2)(iv)	Determination of compliance	Y	
63.6(f)(2)(v)	Conformance with operation and maintenance requirements	Y	
63.6(f)(3)	Finding of compliance	Y	
63.6(g)	Use of an alternative non-opacity emission standard	Y	
63.6(i)	Extension of compliance with emission standards (Parts 1-14 and part 16. Part 15 is reserved.	Y	
63.7	Performance testing requirements	Y	
63.7(a)	Applicability and performance test dates	Y	
63.7(a)(1)	Performance test requirements Applicability (Except that subpart UUU specifies the applicable test and demonstration procedures.)	Y	
63.7(a)(3)	The Administrator may require performance tests at any time when action is authorized by section 114 of the Act (Except that subpart UUU specifies notification at least 30 days prior to the scheduled test date rather than 60 days.)	Y	
63.7(b)	Notification of performance test	Y	
63.7(c)	Quality assurance program	Y	
63.7(d)	Performance testing facilities	Y	
63.7(e)	Conduct of performance tests	Y	
63.7(f)	Use of an alternative test method	Y	
63.7(g)	Data analysis, recordkeeping, and reporting (Except performance test reports must be submitted with notification of compliance status due 150 days after the compliance date.)	Y	
63.7(h)	Waiver of performance tests	Y	
63.8	Monitoring requirements	Y	
63.8(a)	Applicability	Y	
63.8(a)(1)	Applicability	Y	
63.8(a)(2)	Performance Specifications	Y	
63.8(a)(4)	Additional monitoring requirements for control devices	Y	
63.8(b)	Conduct of monitoring	Y	
63.8(b)(1)	Conduct of monitoring	Y	
63.8(b)(2)	Combination of the emissions from two or more affected sources (Subpart UUU specifies the required monitoring locations.)	Y	
63.8(b)(3)	More than one CMS (Subpart UUU specifies the required monitoring locations.)	Y	
63.8(c)	Operation and maintenance of continuous monitoring systems	Y	
63.8(c)(1)	Good air pollution control practices	Y	
63.8(c)(1)(i)	Maintenance and operation of each CMS	Y	

Table IV – Nb
Source-specific Applicable Requirements – Process Vessels
S306 – U-231 PLATFORMING UNIT; S308 – U-244 REFORMING UNIT

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
63.8(c)(1)(ii)	Parts for routine repairs readily available (Except that subpart UUU specifies that reports are not required if actions are consistent with the SSM plan, unless requested by the permitting authority. If actions are not consistent, actions must be described in next compliance report.)	Y	
63.8(c)(1)(iii)	Compliance with Operation and Maintenance Requirements (Except that subpart UUU specifies that reports are not required if actions are consistent with the SSM plan, unless requested by the permitting authority. If actions are not consistent, actions must be described in next compliance report.)	Y	
63.8(c)(2)	Monitoring system installation	Y	
63.8(c)(3)	Monitoring system installation	Y	
63.8(c)(4)(ii)	One cycle of operation for each 15-minute period (	Y	
63.8(c)(6)	CMS Requirements	Y	
63.8(c)(7)	Out-of-control CMS	Y	
63.8(c)(8)	Submittal of all information concerning out-of-control periods	Y	
63.8(d)	Quality Control Program	Y	
63.8(e)	Performance evaluation of continuous monitoring systems (	Y	
63.8(f)	Use of an alternative monitoring method	Y	
63.8(g)	Reduction of monitoring data	Y	
63.8(g)(1)	Reduction of monitoring data	Y	
63.8(g)(2)	1-hour averages	Y	
63.8(g)(3)	Records in reduced or non-reduced form	Y	
63.8(g)(4)	Units of the relevant standard	Y	
63.9	Notification requirements	Y	
63.9(a)	Applicability and general information	Y	
63.9(b)	Initial notifications (Sections 1, 2, 4, and 5. Section 3 is reserved.) Notification of construction or reconstruction is to be submitted as soon as practicable before startup.)	Y	
63.9(c)	Request for extension of compliance	Y	
63.9(d)	Notification that source is subject to special compliance requirements	Y	
63.9(e)	Notification of performance test (Except that notification is required at least 30 days before test.)	Y	
63.9(g)	Additional notification requirements for sources with continuous monitoring systems (Applicable since facility has chosen to comply with NSPS SO2 standard)	Y	

Table IV – Nb
Source-specific Applicable Requirements – Process Vessels
S306 – U-231 PLATFORMING UNIT; S308 – U-244 REFORMING UNIT

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
63.9(h)	Notification of compliance status (Except that subpart UUU specifies the notification is due no later than 150 days after compliance date.)	Y	
63.9(i)	Adjustment to time periods or postmark deadlines	Y	
63.9(j)	Change in information already provided	Y	
63.10	Recordkeeping and reporting requirements	Y	
63.10(a)	Applicability and general information	Y	
63.10(b)	General recordkeeping requirements	Y	
63.10(c)	Additional recordkeeping requirements for sources with continuous monitoring systems	Y	
63.10(c)(1)	All required CMS measurements	Y	
63.10(c)(2)	[reserved]	Y	
63.10(c)(3)	[reserved]	Y	
63.10(c)(4)	[reserved]	Y	
63.10(c)(5)	Date and time when CMS was inoperative	Y	
63.10(c)(6)	Date and time when CMS was out-of-control	Y	
63.10(c)(9)	[reserved]	Y	
63.10(c)(10)	The nature and cause of any malfunction	Y	
63.10(c)(11)	Corrective action or preventive measures	Y	
63.10(c)(12)	Nature of repairs or adjustments	Y	
63.10(c)(13)	Process operating time	Y	
63.10(c)(14)	Procedures in quality control program	Y	
63.10(c)(15)	Use of startup, shutdown, and malfunction plan	Y	
63.10(d)	General reporting requirements	Y	
63.10(d)(1)	Reports to the Administrator	Y	
63.10(d)(4)	Progress reports	Y	
63.10(d)(5)(i)	Periodic startup, shutdown, and malfunction reports	Y	
63.10(d)(5)(ii)	Immediate startup, shutdown, and malfunction reports (reports not required if actions consistent with the SSM plan, unless requested by permitting authority)	Y	
63.10(e)	Additional reporting requirements for sources with continuous monitoring systems	Y	
63.10(e)(1)	General (Applicable since facility has chosen to comply with NSPS SO2 standard)	Y	
63.10(e)(2)	Reporting results of continuous monitoring system performance evaluations (Applicable since facility has chosen to comply with NSPS SO2 standard)	Y	

Table IV – Nb
Source-specific Applicable Requirements – Process Vessels
S306 – U-231 PLATFORMING UNIT; S308 – U-244 REFORMING UNIT

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
63.10(f)	Waiver of recordkeeping or reporting requirements	Y	
63.11	Control device requirements (Applicable to flares)	Y	
63.15	Availability of information and confidentiality	Y	
40 CFR 63 Subpart UUU	**National Emission Standards for Hazardous Pollutants for Petroleum Refineries: Catalytic Cracking Units, Catalytic Reforming Units, and Sulfur Recovery Units (4/11/02)**	Y	
63.1561	Am I subject to this subpart?	Y	
63.1562(a)	New, reconstructed, or existing affected sources	Y	
63.1562(b)(2)	Catalytic reforming units	Y	
63.1562(f)(5)			
63.1563	When do I have to comply with this subpart?	Y	
63.1563(b)	Deadline for existing sources-4/11/05	Y	
63.1563(e)	Notification requirements	Y	
63.1566	What are my requirements for organic HAP emissions from catalytic reforming units?	Y	
63.1566(a)	Emission Limitations and Work Practice Standards	Y	
63.1566(a)(1)	Meet each emission limitation in Table 15 that applies	Y	
63.1566(a)(1)(i)	Vent TOC emissions to flare or comply with 63.1566(a)(1)(ii)	Y	
63.1566(a)(1)(ii)	TOC or non-methane TOC percent reduction standard or concentration limit, whichever is less stringent or comply with 63.1566(a)(1)(i)	Y	
63.1566(a)(2)	Comply with option 1 in Table 16: flare pilot light must be on and flare must be operating at all times that emissions from S306 or S308 regeneration vented to flare	Y	150 days after 1st regeneration after 4/11/05
63.1566(a)(3)	Applicability of emission limitations-emissions from catalytic reforming unit process vents associated with initial catalyst depressuring and catalyst purging operations that occur prior to the coke burn-off cycle. The emission limitations in Tables 15 and 16 of this subpart do not apply to the coke burn-off, catalyst rejuvenation, reduction or activation vents, or to the control systems used for these vents.	Y	150 days after 1st regeneration after 4/11/05
63.1566(a)(4)	Emission limitations do not apply when the vessel is below 5 psig	Y	150 days after 1st regeneration after 4/11/05
63.1566(a)(5)	Prepare an Operation, Maintenance and Monitoring Plan and operate	Y	150 days

Table IV – Nb
Source-specific Applicable Requirements – Process Vessels
S306 – U-231 PLATFORMING UNIT; S308 – U-244 REFORMING UNIT

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
	in compliance with the plan		after 1st regeneration after 4/11/05
63.1566(b)	How do I demonstrate initial compliance with the emission limitations and work practice standard?	Y	
63.1566(b)(1)	Install, operate, and maintain a continuous monitoring system(s)	Y	
63.1566(b)(2)	Conduct each performance test required by Table 18: Option 1 or Option 2	Y	1st Regen after 4/11/2005
63.1566(b)(3)	Establish each site-specific operating limit in Table 16 that applies	Y	1st Regen after 4/11/05
63.1566(b)(4)	Determine initial compliance with emission limitations	Y	1st Regen after 4/11/2005
63.1566(b)(5)(i)	No requirement to perform TOC performance test if emissions are vented to a flare as provided in Option 1 of Table 15	Y	
63.1566(b)(6)	Demonstrate initial compliance with each emission limitation that applies according to Table 19	Y	1st Regen after 4/11/05
63.1566(b)(7)	Demonstrate Initial Compliance with Work Practice Standard by submitting Operation, Maintenance, and Monitoring Plan	Y	150 days after 1st Regen after 4/11/05
63.1566(b)(8)	Submit the Notification of Compliance Status per §63.1574	Y	150 days after 1st Regen after 4/11/05
63.1566(c)	How do I demonstrate continuous compliance with the emission limitations and work practice standards?	Y	150 days after 1st Regen after 4/11/05
63.1566(c)(1)	Demonstrate continuous compliance with emission limitations in Table 15 and Table 16	Y	150 days after 1st Regen after 4/11/05
63.1566(c)(2)	Demonstrate continuous compliance with work practice standards by complying with the procedures in the operation, maintenance, and monitoring plan	Y	150 days after 1st Regen after 4/11/05
63.1567	Requirements for Inorganic HAP Emissions from Catalytic	Y	

Table IV – Nb
Source-specific Applicable Requirements – Process Vessels
S306 – U-231 PLATFORMING UNIT; S308 – U-244 REFORMING UNIT

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
	Reforming Units		
63.1567(a)	Emission Limitations and Work Practice Standards	Y	
63.1567(a)(1)	Emission Limitations for Hydrogen Chloride (HCl) during coke burn-off and catalyst rejuvenation using internal scrubbing system: Reduce uncontrolled HCl emissions by 92% or to a concentration of 30 ppmvd corrected to 3%O2 (Table 22, Item 1)	Y	
63.1567(a)(2)	The HCl concentration in the catalyst regenerator exhaust gas must not exceed the limit established during the performance test. (Table 2, Item 1.b)	Y	150 days after 1st regeneration after 4/11/05
63.1567(a)(3)	Prepare Operation, Maintenance, and Monitoring Plan and operate in compliance with the plan	Y	150 days after 1st regeneration after 4/11/05
63.1567(b)	How do I demonstrate initial compliance with the emission limitations and work practice standard?	Y	
63.1567(b)(1)	Install, operate, and maintain a continuous monitoring system(s) according to the requirements in §63.1572 and Table 24 of this subpart.	~~Y~~	
63.1567(b)(2)	Performance Test: measure HCl concentration at the outlet (for the concentration standard) or at the inlet and outlet (for the percent reduction standard) of the scrubber (Table 25, Item 4.ii) Conduct each performance test for a catalytic reforming unit according to the requirements in §63.1571 and the conditions specified in Table 25 of this subpart.	Y	1st regeneration after 4/11/05
63.1567(b)(3)	Establish each site-specific operating limit in Table 23 of this subpart that applies to you according to the procedures in Table 25 of this subpart.	Y	
63.1567(b)(4)	Demonstrate Initial Compliance with Emission Limitations: reduce HCl concentration by 92% or to 30 ppmv (Table 26, Item 1) Use the equations in paragraphs (b)(4)(i) through (iv) of this section to determine initial compliance with the emission limitations.	Y	1st regeneration after 4/11/05
63.1567(b)(5)	Demonstrate Initial Compliance with Work Practice Standard by submitting Operation, Maintenance, and Monitoring Plan Demonstrate initial compliance with each emission limitation that applies to you according to Table 26 of this subpart.	Y	150 days after 1st regeneration
63.1567(b)(6)	Submit Notice of Initial Compliance Status Demonstrate initial compliance with the work practice standard in paragraph (a)(3) of this section by submitting the operation, maintenance, and monitoring plan to your permitting authority as part of your Notification of Compliance Status.	Y	150 days after 1st regeneration
63.1567(b)(7)	Submit the Notification of Compliance Status containing the results of the initial compliance demonstration according to the requirements in §63.1574.		
63.1567(c)	Continuous Compliance Demonstration How do I demonstrate continuous compliance with the emission limitations and work practice standard?	Y	
63.1567(c)(1)	Demonstrate Continuous Compliance with Emission Limitation:	Y	1st

Table IV – Nb
Source-specific Applicable Requirements – Process Vessels
S306 – U-231 PLATFORMING UNIT; S308 – U-244 REFORMING UNIT

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
	maintain 92% control efficiency or 30 ppmv HCl concentration Table 28, Item 1.c.		regeneration after 4/11/05
63.1567(c)(2)	Demonstrate Continuous Compliance with Work Practice Standard through maintaining records to document conformance with the Operation, Maintenance, and Monitoring Plan	Y	150 days after 1st regeneration after 4/11/2005
63.1570	What are my general requirements for complying with this subpart?	Y	
63.1570(a)	Operate in compliance with non-opacity standards at all times except during periods of startup, shutdown, and malfunction, as specified in 63.6(f)(1)	Y	
63.1570(c)	Operate and maintain source including pollution control and monitoring equipment in accordance with 63.6(e)(1). Between 4/11/05 and the date continuous monitoring systems are installed and validated and operating limits have been set, maintain a log detailing operation and maintenance of process and equipment.	Y	
63.1570(d)	Develop and implement startup, shutdown, and malfunction plan (SSMP) in accordance with 63.6(e)(3)	Y	
63.1570(e)	Operate in accordance with SSMP during periods of startup, shutdown, and malfunction	Y	
63.1570(f)	Report deviations from compliance with this subpart according to the requirements of 63.1575	Y	
63.1570(g)	Deviations that occur during startup, shutdown, or malfunction are not violations if operating in accordance with SSMP	Y	
63.1571	How and when do I conduct a performance test or other initial compliance demonstration?	Y	
63.1571(a)(1)	For emission limitation or work practice standard where compliance not demonstrated using performance test, opacity observation, or visible emission observation, conduct initial compliance demonstration within 30 days after compliance date	Y	
63.1571(b)	Requirements for Performance Tests	Y	
63.1571(b)(1)	Conduct performance tests in accordance with the requirements of 63.7(e)(1)	Y	
63.1571(b)(2)	Conduct three separate test runs of at least an hour for each performance test	Y	
63.1571(b)(3)	Conduct each performance evaluation in accordance with the requirements of 63.8(e)	Y	
63.1571(b)(4)	Performance tests not conducted during periods of startup, shutdown, or malfunction	Y	
63.1571(b)(5)	Arithmetic average of emission rates	Y	
63.1571(c)	What procedures must I use for an engineering assessment?		
63.1571(d)	Can I adjust the process or control device measured values when establishing an operating limit?		
63.1571(d)(4)	Adjust process or control device measured values when establishing operating limit (optional)	Y	
63.1571(e)	Changes to Operating limits	Y	

Table IV – Nb
Source-specific Applicable Requirements – Process Vessels
S306 – U-231 PLATFORMING UNIT; S308 – U-244 REFORMING UNIT

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
63.1572	What are my monitoring installation, operation, and maintenance requirements?	Y	
63.1572(c)(1)	Use a colormetric tube sampling system with a printed numerical scale in ppmv, a standard measurement range of 1 to 10 ppmv (or 1 to 30 ppmv if applicable), and a standard deviation for measured values of no more than +/- 15 percent. System must include a gas detection pump and hot air probe if needed for the measurement range. Table 41, Item 6.	Y	
63.1572(c)(2)	One cycle every 15 minutes	Y	
63.1572(c)(3)	Valid hourly average data from at least 75% of hours operated	Y	
63.1572(c)(4)	Hourly and daily averages	Y	
63.1572(c)(5)	Records of results of inspections, calibrations, and validation checks	Y	
63.1572(d)	Data monitoring and collection requirements	Y	
63.1572(d)(1)	Conduct monitoring at all times source is operating except for monitoring malfunctions, repairs, and QA/QC activities	Y	
63.1572(d)(2)	Not use data recorded during monitoring malfunctions, repairs, and QA/QC activities	Y	
63.1573	What are my monitoring alternatives?	Y	
63.1573(c)	Can I use another type of monitoring system? (Note: another type of monitoring system may not be used without prior approval)	Y	
63.1573(d)	Can I monitor other process or control device operating parameters? (Note: Facility may not other process or control device operating parameters without prior approval)	Y	
63.1573(e)	How do I request to monitor alternative parameters?	Y	
63.1574	What notifications must I submit and when?	Y	
63.1574(a)	Notifications Required by Subpart A	Y	
63.1574(a)(2)	Submit notification of intent to conduct performance test 30 days before scheduled (instead of 60 days)	Y	
63.1574(a)(3)	Notification of Compliance Status	Y	
63.1574(a)(3)(ii)	Submit Notification of Compliance Status for initial compliance demonstration that includes a performance test, no later than 150 days after source compliance date	Y	
63.1574(d)	Information to be Submitted in Notice of Compliance Status (Table 42): identification of affected sources and emission points (Item 1); initial compliance demonstration (Item 2); continuous compliance (Item 3)	Y	
63.1574(f)	Requirement to prepare Operation, Maintenance, and Monitoring Plan	Y	
63.1574(f)(1)	Submit plan to permitting authority for review and approval along with NOCS. Include duty to prepare and implement plan into Part 70 or 71 permit.	Y	
63.1574(f)(2)	Minimum contents of Operation, Maintenance, and Monitoring Plan	Y	
63.1575	What reports must I submit and when?	Y	
63.1575(a)	Required reports: Statement that there were no deviations or report including information in 1575(d) or (e) (Table 43, Item 1)	Y	
63.1575(b)	Specified semiannual report submittal dates	Y	

Table IV – Nb
Source-specific Applicable Requirements – Process Vessels
S306 – U-231 PLATFORMING UNIT; S308 – U-244 REFORMING UNIT

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
63.1575(c)	Information required in compliance report	Y	
63.1575(d)	Information required for deviations from emission limitations and work practice standards where CEMS or COMS is not used to comply with emission limitation or work practice standard	Y	
63.1575(f)	Additional information for compliance reports	Y	
63.1575(f)(1)	Requirement to submit performance test reports	Y	
63.1575(f)(2)	Submittal of requested change in the applicability of an emission standard	Y	
63.1575(g)	Submittal of reports required by other regulations in place of or as part of compliance report if they contain the required information	Y	
63.1575(h)	Reporting requirements for startups, shutdowns, and malfunctions	Y	
63.1576	What records must I keep, in what form, and for how long?	Y	
63.1576(a)	Required Records – General	Y	
63.1576(d)	Records required by Tables 20, 21, 27, and 28 of Subpart UUU	Y	
63.1576(e)	Maintain copy of Operation, Maintenance, and Monitoring Plan	Y	
63.1576(f)	Records of changes that affect emission control system performance	Y	
63.1576(g)	Records in a form suitable and readily available for review	Y	
63.1576(h)	Maintain records for 5 years	Y	
63.1576(i)	Records onsite for two years; may be maintained offsite for remaining 3 years	Y	
BAAQMD Condition 20989, Part A	Throughput limit for S306 [Basis: 2-1-234.3]	Y	
~~**BAAQMD Condition 20989, Part A**~~	~~Throughput limits for S308 [Basis: 2-1-234.3]~~	~~N~~	
BAAQMD Condition 22966	**APPLIES TO S308 ONLY**		
Part 1	Daily throughput limit [Cumulative Increase]	Y	
Part 2	Daily records of throughput [Cumulative Increase]	Y	
Part 3	Pressure relief devices routed to fuel gas system, furnace or flare with 98% recovery efficiency [8-28-302, BACT]	Y	

Table IV – Nc
Source-specific Applicable Requirements – Process Vessels
S437 – HYDROGEN PLANT; S464, HYDROGEN PLANT

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
BAAQMD Regulation 8, Rule 2	**Organic Compounds – Miscellaneous Operations (6/15/94)** **~~APPLICABLE TO S307 ONLY~~**		
8-2-301	Miscellaneous Operations: emissions shall not exceed 15 lb/day and 300 ppm carbon on a dry basis	Y	
BAAQMD Regulation 8, Rule 9	**Organic Compounds – Vacuum Producing Systems (7/20/83)**		
8-9-301	Vacuum Producing System POC emissions must be controlled by combustion or venting to fuel gas systems	Y	
8-9-601	Determination of Emissions	Y	
BAAQMD Regulation 8, Rule 10	**Organic Compounds – Process Vessel Depressurization (1/21/2004)**		
8-10-301	Depressurization Control Options	N	
8-10-302	Opening of Process Vessels	N	
8-10-302.1	organic compounds cannot exceed 10,000 ppm (methane) prior to release to atmosphere	N	
8-10-302.2	Organic compound concentration of a refinery process vessel may exceed 10,000 ppm prior to release to atmosphere provided total number of such vessels during 5-year period does not exceed 10%	N	
8-10-401	Turnaround Records. Annual report due February 1 of each year with initial report of process vessels due 4/1/2004.	N	
8-10-501	Monitoring prior to and during process vessel opening	Y	
8-10-502	Concentration measurement using EPA Method 21	Y	
8-10-503	Recordkeeping	N	
8-10-601	Monitoring Procedures	N	
SIP Regulation 8, Rule 10	**Organic Compounds – Process Vessel Depressurization (10/3/84~~7/20/83~~)**		
8-10-301	Process Vessel Depressurizing. POC emissions shall be vented through a knock-out pot and then abated in one of the following ways, to as low a vessel pressure as possible, but at least until pressure is reduced to less than 1000 mm Hg:	Y	
8-10-301.1	recovery to the fuel gas system	Y	
8-10-301.2	combustion at a firebox or incinerator	Y	
8-10-301.3	combustion at a flare	Y	

Table IV – Nc
Source-specific Applicable Requirements – Process Vessels
S437 – HYDROGEN PLANT; S464, HYDROGEN PLANT

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
8-10-301.4	containment such that emissions to atmosphere do not occur	Y	
8-10-401	Turnaround Records. The following records shall be kept for each process unit turnaround, and retained for at least 2 years and made available to the District on demand during inspections:	Y	
8-10-401.1	date of depressurization event	Y	
8-10-401.2	approximate vessel hydrocarbon concentration when emissions to atmosphere begin	Y	
8-10-401.3	approximate quantity of POC emissions to atmosphere	Y	
BAAQMD Condition 6671	**APPLIES TO S464 ONLY**		
Part 1	Abatement requirement for E-421 condenser vent at A50 scrubber [Basis: Regulation 8-2-301]	Y	
Part 2	Efficiency requirement for A50 scrubber raw material throughput [Basis: Regulation 8-2-301]	Y	
Part 3	Requirement to treat A50 blowdown at wastewater treatment plant [Basis: Cumulative Increase]	Y	
Part 4	Daily A50 monitoring requirement [Basis: Cumulative Increase]	Y	
Part 5	Monitoring record requirement [Basis: Cumulative Increase]	Y	
Part 6	Annual source test requirement [Basis: Regulation 2-6-409.2]	Y	
BAAQMD Condition 20989, Part A	Throughput limit for S437 [Basis: 2-1-234.3]	Y	
BAAQMD Condition 20989, Part A	Throughput limit for S464 [Basis: 2-1-234.3]	N	

Table IV - P
Source-specific Applicable Requirements
S432 – U-215 DEISOBUTANIZER

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
BAAQMD Regulation 8, Rule 10	**Organic Compounds – Process Vessel Depressurization (1/21/2004)**		
8-10-301	Depressurization Control Options	N	
8-10-302	Opening of Process Vessels	N	
8-10-302.1	organic compounds cannot exceed 10,000 ppm (methane) prior to release to atmosphere	N	
8-10-302.2	Organic compound concentration of a refinery process vessel may exceed 10,000 ppm prior to release to atmosphere provided total number of such vessels during 5-year period does not exceed 10%	N	
8-10-401	Turnaround Records. Annual report due February 1 of each year with initial report of process vessels due 4/1/2004.	N	
8-10-501	Monitoring prior to and during process vessel opening	Y	
8-10-502	Concentration measurement using EPA Method 21	Y	
8-10-503	Recordkeeping	N	
8-10-601	Monitoring Procedures	N	
SIP Regulation 8, Rule 10	**Organic Compounds – Process Vessel Depressurization (7/20/83)**		
8-10-301	Process Vessel Depressurizing. POC emissions shall be vented through a knock-out pot and then abated in one of the following ways, to as low a vessel pressure as possible, but at least until pressure is reduced to less than 1000 mm Hg:	Y	
8-10-301.1	recovery to the fuel gas system	Y	
8-10-301.2	combustion at a firebox or incinerator	Y	
8-10-301.3	combustion at a flare	Y	
8-10-301.4	containment such that emissions to atmosphere do not occur	Y	
8-10-401	Turnaround Records. The following records shall be kept for each process unit turnaround, and retained for at least 2 years and made available to the District on demand during inspections:	Y	
8-10-401.1	date of depressurization event	Y	
8-10-401.2	approximate vessel hydrocarbon concentration when emissions to atmosphere begin	Y	
8-10-401.3	approximate quantity of POC emissions to atmosphere	Y	
BAAQMD Condition 6725			

Table IV - P
Source-specific Applicable Requirements
S432 – U-215 DEISOBUTANIZER

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
Part 1	Flange, valve design requirements [Basis: Cumulative Increase]	Y	
Part 2	Vent collection requirement for relief valves [Basis: Cumulative Increase]	Y	
Part 3	Pump, compressor design requirements [Basis: Cumulative Increase]	Y	
Part 4	Daily throughput limit [Cumulative Increase]	Y	
Part 5	Pressure relief valves vented to fuel gas recovery system, furnace or flare [8-28-302, BACT]	Y	
Part 6	Daily records [Cumulative Increase]	Y	
~~**BAAQMD Condition 20989, Part A**~~	~~Throughput limits for S432 [Basis: 2-1-234.3]~~	~~Y~~	

Following are the proposed changes in Section IV for S1010, Sulfur Recovery Unit and associated sources: S465, Molten Sulfur Pit, S503, Sulfur Storage Tank, S504, Sulfur Degassing, S505, Sulfur Truck Loading Rack. S1001-S1003, Sulfur Recovery Units, and S301-S303, Sulfur Pits.

S1010, Sulfur Recovery Unit, was given the designation of "S1004" in Application 13424. The designation has been changed to S1010 because S1004 had been used for another source.

Unlike the existing sulfur recovery units, S1010 will be subject to BAAQMD Regulations 1-520.4, 9-1-307, and 9-1-502 because it will be permitted to emit more than 100 lb SO2 per day.

S1010, Sulfur recovery Unit, and S434, U246 High Pressure Reactor Train (Cracking), will have new individual drain systems that drain water from the units to the wastewater system. These systems are subject to 40 CFR 60, Subpart QQQ, Standards of Performance for VOC Emissions from Petroleum Refinery Wastewater Systems. The requirements of this standard have been included in a new table, Table IV-I.1, which will be located in the wastewater section of the permit. In this statement of basis, the table is on Page 36. It follows Table IV-Na for S434, U246 High Pressure Reactor Train (Cracking).

Per 40 CFR 64.2(a), S1010, Sulfur Plant, will be subject to 40 CFR 64, Compliance Assurance Monitoring, if the unit is subject to a federally enforceable requirement for a pollutant, the pollutant is controlled by an abatement device, and the emissions of the pollutant before abatement are more than 100% of the major source thresholds.

S1010 has two abatement devices. A424 is a thermal oxidizer that ensures that the emissions of hydrogen sulfide, total reduced sulfur, reduced sulfur compounds, ammonia, carbon monoxide, and POC do not exceed the limits in the permit. It is not an abatement device for SO2, which will actually be generated by the thermal oxidizer.

A48 is an amine gas treatment unit. It removes H2S from the stream that exits the 3-stage Claus plant and returns the H2S to the Claus plant. It is considered an abatement device for both H2S and SO2, since most of the SO2 will be derived from H2S. Since the emissions of SO2 are estimated at 29.7 tons per year, it is likely that the pre-abatement quantity of H2S would result in emissions of more than 100 tons per year of SO2 and therefore, the sulfur plant is subject to CAM for SO2.

The proposed annual emissions from the SRU stack are:

SO2:	29.7 tons
NH3:	3.85 tons
CO:	37.9 tons
NOx:	11.2 tons
POC:	0.43 tons
PM10:	0.59 tons
Sulfuric acid mist:	5.65 tons
H2S (for Regulation 2, Rule 5):	0.975 tons
H2S (for PSD):	10 tons
Total Reduced Sulfur:	10 tons
Reduced Sulfur Compounds	10 tons

Conoco has determined that the pre-abatement emissions of CO, H2S, Total Reduced Sulfur, and Reduced Sulfur Compounds are above 100 tons per year, but that the pre-abatement emissions of NH3 and POC are below 100 tons per year. Therefore, the sulfur recovery unit is subject to CAM for CO, H2S, Total Reduced Sulfur, and Reduced Sulfur Compounds. It is subject to CAM for SO2 because pre-abatement emissions of more than 100 tons of H2S and other sulfur compounds is equivalent to a potential of SO2 emissions over 100 tons per year.

CAM does not apply to limits in the NSPS or NESHAPS that were promulgated after November 15, 1990. Therefore, CAM applies to the following federally enforceable limits in BAAQMD Condition 23125:

SO2 and CO limits in part 7
SO2, CO, Total Reduced Sulfur, and Reduced Sulfur Compounds in part 11
H2S limit in part 11k

The annual H2S limit in BAAQMD Condition 23125, part 11k, is being proposed in this action to ensure compliance with PSD. The H2S concentration limit in part 8b, the hourly limit in part 9b, and the annual limit in part 11h were imposed pursuant to BAAQMD Regulation 2, Rule 5, New Source Review for Toxic Air Contaminants. The federally-enforceable limit has been imposed to ensure that the PSD threshold for H2S is not exceeded.

Continuous emission monitors will be used as CAM monitoring for SO2 and CO. Continuous temperature monitoring will be used for H2S, Total Reduced Sulfur, and Reduced Sulfur Compounds.

Part 13 of Condition 23125, as originally written in Application 13424, required that the facility determine a temperature level at which the outlet concentration of H2S was less than 2.5 ppmv @ 0% O2. The condition also required keeping the rate of reduced sulfur compounds, including H2S, at less than 2.2 lb/hr. In this action, the condition will be amended to require that the facility also determine the temperature at which the level of reduced sulfur compounds and total reduced sulfur is less than 2.2 lb/hr.

The end of Section 64.3(a) states that: "In addition, unless specifically stated otherwise by an applicable requirement, the owner or operator shall monitor indicators to detect any bypass of the control device (or capture system) to the atmosphere, if such bypass can occur based on the design of the pollutant-specific emissions unit." The facility has stated that the new sulfur recovery unit will have no bypass lines.

40 CFR 64.3(b) specifies various performance criteria for monitoring. 40 CFR 64.3(d) states that continuous emission monitors that comply with the requirements of the NSPS or the NESHAPS are presumed to comply with the monitoring design and performance criteria. The SO2 CEM is required by NSPS Subpart Ja and the NESHAPS Subpart UUU, so it is presumed to comply with 40 CFR 64.3, but the CO CEM and temperature monitor are not required by NSPS or NESHAPS and so must comply with the requirements of this section.

Section 64.3(b)(1) states that there must be specifications to ensure that the data are representative of the emissions or parameters. For the CO CEM, the specifications in the BAAQMD Manual of Procedures, Volume V, will ensure that the CO emission measurements will be representative. The facility will have to provide specifications to ensure that the data are representative for the temperature monitor.

The end of Section 64.3(a) states that: "In addition, unless specifically stated otherwise by an applicable requirement, the owner or operator shall monitor indicators to detect any bypass of the control device (or capture system) to the atmosphere, if such bypass can occur based on the design of the pollutant-specific emissions unit." The facility has stated that the new sulfur recovery unit will have no bypass lines.

Section 64.3(b)(2) states that the facility must have verification procedures to confirm the operational status of the monitors. The section allows the facility to use the manufacturer's recommendations.

Section 64.3(b)(3) states that the facility must have quality assurance and control practices. The NSPS Subpart Ja, the NESHAPS Subpart UUU, and the BAAQMD Manual of Procedures, Volume V, have quality assurance and control practices for the CEMs. The facility will have to develop quality assurance and control practices for the temperature monitor.

Section 64.3(b)(4) addresses the frequency of monitoring. 40 CFR 60.13(e)(2) requires one sample cycle every 15 minutes, which is considered adequate. The same frequency will be required for the CO CEM and the temperature monitor.

Section 64.4 contains the submittal requirements, which include the indicators to be monitored, the range, and the performance criteria. This section applies to the temperature monitor.

Section 64.4(b) states that the items in Section 64.4(a) are not required for "presumptively acceptable monitoring." One of the options is the use of a CEM. This section applies to the SO2 and CO CEMs.

Section 64.5 has deadlines for submittals.

Section 64.6 concerns approval of monitoring. Section 64.6(b) allows the permitting authority to require collection of additional data, such as in this case, determining the temperature at which the H2S, CO, Reduced Sulfur Compounds, and Total Reduced Sulfur limits will be met.

Section 64.6(c) requires permit terms that specify the required monitoring. Section 64.6(c)(1)(i) requires that the permit contain the indicators to be monitored. Part 21 of Condition 23125 states that the monitored indicator for SO2 is SO2. Part 22 states that the monitored indicator for CO is CO. Parts 13 and 14 state that the indicator for H2S, reduced sulfur compounds, and total reduced sulfur is temperature.

Section 64.6(c)(1)(ii) states that the permit must contain the devices used to measure the indicators. Parts 14, 21, and 22 of Condition 23125 contain the devices.

Section 64.6(c)(1)(iii) states that the permit must contain the performance requirements. Performance requirements for the SO2 CEM are contained in NSPS Subpart Ja, NESHAPS Subpart UUU, and the BAAQMD Manual of Procedures, Volume V. Performance requirements for the CO CEM are contained in the BAAQMD Manual of Procedures, Volume V. Parts 27 through 30 contain the requirement to develop performance requirements for the temperature monitor.

Section 64.6(c)(2) requires that the permit contain the method by which the owner/operator will define an exceedances or excursion. Part 31 of Condition 23125 states that for the temperature monitor, an exceedances occurs when the temperature drops below the limit set in accordance with part 13 of the condition. Standard District permit conditions, which are included as parts 16 through 18, are allowed without penalty. For the SO2 and CO CEMs, the limits and averaging times are in parts 7a, 7ab, 11a, and 11c.

Section 64.6(c)(3) states that the owner/operator must conduct the monitoring. This obligation is contained in Condition 23125.

Section 64.6(c)(4) states that data availability may be specified, if appropriate. The NSPS does not address data availability for the SO2 CEM. However, the BAAQMD Manual of Procedures, Volume V, does have requirements for reporting of an inoperative continuous emission monitor and states that they must be repaired as soon as possible after malfunction and that non-operation that last longer than 15 consecutive days will be considered a failure to monitor. The temperature monitor is subject to the provisions of BAAQMD and SIP Regulation 1-523, which address periods of non-operation for parametric monitors. These provisions will assure data availability. If long periods of non-operation are reported by the facility, the District may impose additional data availability requirements.

Section 64.6(d) requires a schedule for monitoring that requires installation, testing, or final verification. Parts 13, 21, and 22 will be amended to require installation of the monitors before startup. Part 12 already requires determination of the temperature limit within 90 days of startup.

Section 64.7 contains requirements for operation of monitoring.

Section 64.8 contains optional requirements for a Quality Improvement Plan. This plan would be required if there were problems with the existing monitoring strategy. Problems are not anticipated at the time of writing.

Sections 64.9, Reporting and recordkeeping requirements, and 64.10, Savings Provisions, do not need any additional permit terms beyond inclusion of the citation in the permit.

EPA promulgated changes to 40 CFR 60, Subpart J, Standards of Performance for Petroleum Refineries and also promulgated a new refinery NSPS, 40 CFR 60, Subpart Ja, Standards of Performance for Petroleum Refineries for Which Construction, Reconstruction, or Modification Commenced After May 14, 2007, on June 30, 2008.

Because construction will commence after May 14, 2007, S465 and S1010 will be subject to the new NSPS. The standards are very similar to the standards in Subpart J. There is a new requirement for root cause analysis in the case of emitting more than 500 lb/day of excess SO2 emissions, but this requirement is also in the consent decree between EPA and ConocoPhillips.

Table IV – Ub
Source-specific Applicable Requirements
S465, MOLTEN SULFUR PIT; S1010 – U235 SULFUR PLANT UNIT

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
	For additional requirements for S1010, see Table IV-I.1		
BAAQMD Regulation 1	**General Provisions and Definitions (7/9/08)**		
1-501	Sampling Facilities	Y	
1-520	Continuous Emission Monitoring	Y	
1-520.4	CEMS for SO2	Y	
1-522	Continuous Emission Monitoring and Recordkeeping Procedures		
1-522.1	approval of plans and specifications	Y	
1-522.2	scheduling requirements	Y	
1-522.3	CEM performance testing	Y	
1-522.4	reporting of inoperative CEMs	Y	
1-522.5	CEM calibration requirements	Y	
1-522.6	CEM accuracy requirements	Y	
1-522.7	emission limit exceedance reporting requirements	N	
1-522.8	monitoring data submittal requirements	Y	
1-522.9	recordkeeping requirements	Y	
1-522.10	Regulation 1-521 monitors shall meet requirements specified by District	Y	
1-523	Parametric Monitoring and Recordkeeping Procedures	N	
1-523.1	Parametric monitor periods of inoperation	Y	
1-523.2	Limits on periods of inoperation	Y	
1-523.3	Reports of Violations	N	
1-523.4	Records	Y	
1-523.5	Maintenance and calibration	N	
1-602	Area and Continuous Monitoring Requirements	N	
SIP Regulation 1	**General Provisions and Definitions (6/28/99)**		
1-522	Continuous Emission Monitoring and Recordkeeping Procedures	Y[1]	
1-522.7	emission limit exceedance reporting requirements	Y[1]	
1-523	Parametric Monitoring and Recordkeeping Procedures	Y[1]	
1-523.3	Reports of Violations	Y[1]	
BAAQMD Regulation 6, Rule 1	**Particulate Matter and Visible Emissions (12/5/07)**		
6-1-301	Ringelmann #1 Limitation	N	
6-1-305	Visible Particles	N	

Table IV – Ub
Source-specific Applicable Requirements
S465, MOLTEN SULFUR PIT; S1010 – U235 SULFUR PLANT UNIT

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
6-1-310.3	Particulate Weight Limitation	N	
6-1-311	General Operations	N	
6-1-330	Sulfur Recovery Units (SO3, H2SO4 emission limitations)	N	
6-1-401	Appearance of Emissions	N	
SIP Regulation 6	**Particulate Matter and Visible Emissions (9/4/98)**		
6-301	Ringelmann #1 Limitation	Y	
6-305	Visible Particles	Y	
6-310.3	Particulate Weight Limitation	Y	
6-311	General Operations	Y	
6-330	Sulfur Recovery Units (SO3, H2SO4 emission limitations)	Y	
6-401	Appearance of Emissions	Y	
BAAQMD Regulation 9, Rule 1	**Inorganic Gaseous Pollutants – Sulfur Dioxide (3/15/95)**		
9-1-307	Emission Limitations for Sulfur Recovery Plants	Y	
9-1-313	Sulfur Removal Operations at Petroleum Refineries (processing more than 20,000 bbl/day of crude oil)	N	
9-1-313.2	operation of a sulfur removal and recovery system that removes and recovers: 95% of H2S from refinery fuel gas, 95% of H2S and ammonia from process water streams (sulfur recovery is required when a facility removes 16.5 ton/day or more of elemental sulfur).	N	
9-1-502	Emission Monitoring Requirements	Y	
9-1-605	Emission Monitoring	Y	
SIP Regulation 9, Rule 1	**Inorganic Gaseous Pollutants – Sulfur Dioxide (6/8/99)**		
9-1-313	Sulfur Removal Operations at Petroleum Refineries (processing more than 20,000 bbl/day of crude oil)	Y	
9-1-313.2	operation of a sulfur removal and recovery system that removes and recovers: 95% of H2S from refinery fuel gas, 95% of H2S and ammonia from process water streams	Y – note 1	
BAAQMD Manual of Procedures, Volume IV	**Source Test Policy and Procedures (1/20/82)**	Y	
BAAQMD	**Continuous Emission Monitoring Policy and Procedures**	Y	

Table IV – Ub
Source-specific Applicable Requirements
S465, MOLTEN SULFUR PIT; S1010 – U235 SULFUR PLANT UNIT

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
Manual of Procedures, Volume V	**(1/20/82)**		
40 CFR 60 Subpart A	**General Provisions (03/16/1994)**		
60.7	Notification and record keeping	Y	
60.7(a)(5)	Notification of beginning of demonstration of continuous monitoring system	Y	
60.7(b)	Records of startup, shutdown, or malfunction, malfunction of control equipment; or periods when CEM is inoperative	Y	
60.7(c)	Excess emissions and monitoring systems reports	Y	
60.7(d)	Format of summary report forms	Y	
60.7(f)	Records	Y	
60.8	Performance tests	Y	
60.11	Compliance with standards and maintenance requirements	Y	
60.11(a)	Compliance determined by performance tests and CEM	Y	
60.11(d)	Good air pollution control practice	Y	
60.11(f)	applicable subpart shall supersede any conflicting provisions in paragraphs (a) through (e)	Y	
60.11(g)	Credible evidence	Y	
60.12	Circumvention	Y	
60.13	Monitoring requirements	Y	
60.13(a)	CEMs subject to Appendices B and F	Y	
60.13(b)	Installation of CEMs before performance tests	Y	
60.13(d)(1)	Zero and span calibration drifts	Y	
60.13(e)	Continuous operation; minimum frequency of operation	Y	
60.13(e)(2)	Monitoring cycle every 15 minutes	Y	
60.13(f)	Representative measurements	Y	
60.19	General notification and reporting requirements	Y	
NSPS 40 CFR 60 Subpart Ja	**Standards of Performance for Petroleum Refineries for which Construction, Reconstruction, or Modification Commenced After May 14, 2007 (6/24/08)**		
60.100a(b)	Applicability to sources built after 5/14/07	Y	
60.102a	Emissions limitations	Y	
60.102a(a)	Compliance within 60 days of achieving maximum production rate or 180 days after initial startup	Y	
60.102a(f)(1)	Standards for Sulfur Oxides	Y	

Table IV – Ub
Source-specific Applicable Requirements
S465, MOLTEN SULFUR PIT; S1010 – U235 SULFUR PLANT UNIT

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
60.102a(f)(3)	Periods of maintenance for the sulfur pits	Y	
60.103a	Work Practice Standards	Y	
60.103a(b)	Root cause analysis of any emission limit exceedance or process start-up, shutdown, upset, or malfunction that causes a discharge to the atmosphere in excess 500 lb per day of SO2.	Y	
60.104a	Performance tests	Y	
60.104a(a)	Initial performance test	Y	
60.104a(c)	Allowable performance tests	Y	
60.104a(h)	Performance tests for SRUs	Y	
60.104a(h)(1)	Method 1 for sample and velocity traverses	Y	
60.104a(h)(2)	Method 2 for velocity and volumetric flow rate	Y	
60.104a(h)(3)	Method 3, 3A, or 3B for gas analysis	Y	
60.104a(h)(4)	Method 6, 6A, or 6C for SO2 concentration	Y	
60.106a	Monitoring of emissions and operations for sulfur recovery units	Y	
60.106a(a)	Continuous monitoring systems	Y	
60.106a(a)(1)	Continuous SO2 and O2 Monitoring systems	Y	
60.106a(b)	Excess emissions		
60.108a	Recordkeeping and reporting requirements.	Y	
60.108a(a)	Compliance with notification, recordkeeping, and reporting requirements in §60.7 and other requirements as specified in this section.	Y	
60.108a(b)	Notification to Administrator of monitoring option	Y	
60.108a(c)(6)	Notification of discharges greater than 500 lb SO2/day and discharge to flare greater than 500,000 scfd	Y	
60.108a(d)	Excess emissions reports	Y	
40 CFR 60 Subpart QQQ	**Standards of Performance for VOC Emissions from Petroleum Refinery Wastewater Systems (8/18/95) APPLIES TO S1010 ONLY. See Table IV-I.1**	Y	
NSPS 40 CFR 60 Appendix B	**Performance Specifications**		
Performance Specification 2	Specifications and Test Procedures for SO2 and NOX Continuous Emission Monitoring Systems in Stationary Sources	Y	
NSPS 40 CFR 60 Appendix F	**Quality Assurance Procedures**		

Table IV – Ub
Source-specific Applicable Requirements
S465, MOLTEN SULFUR PIT; S1010 – U235 SULFUR PLANT UNIT

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
40 CFR 63, Subpart A	**General Provisions (3/16/94)**		
63.1	Applicability (except that Subpart UUU specifies calendar or operating day)	Y	
63.2	Definitions	Y	
63.3	Units and Abbreviations	Y	
63.4	Prohibited Activities	Y	
63.5	Construction and Reconstruction	Y	
63.5(a)	Applicability	Y	
63.5(b)	Requirements for existing, newly constructed, and reconstructed sources (replace reference to Section 63.9 with Sections 63.9(b)(4) and (5))	Y	
63.5(c)	[reserved]	Y	
63.5(d)	Application for approval of construction or reconstruction	Y	
63.5(d)(1)	General application requirements	Y	
63.5(d)(1)(i)	Application for approval (except that Subpart UUU specifies the application is submitted as soon as practicable before startup but not later than 90 days (rather then 60) after the promulgation date where construction or reconstruction had commenced and initial startup had not occurred before promulgation.)	Y	
63.5(d)(1)(ii)	Separate application for each construction or deconstruction (Except that emission estimates specified in §63.5(d)(1)(ii)(H) are not required.)	Y	
63.5(d)(3)	Application for approval of reconstruction (Except that §63.5(d)(3)(ii) does not apply.)	Y	
63.5(d)(3)(i)	A brief description of the affected source, etc.	Y	
63.5(d)(3)(iii)	An estimate of the fixed capital cost of the replacements and of constructing a comparable entirely new source	Y	
63.5(d)(3)(iv)	The estimated life of the affected source after the replacements	Y	
63.5(d)(3)(v)	A discussion of any economic or technical limitations	Y	
63.5(d)(3)(vi)	Designation of reconstructed source	Y	
63.5(d)(4)	Additional information	Y	
63.5(e)	Approval of construction or reconstruction	Y	
63.5(f)	Approval of construction or reconstruction based on prior State preconstruction review	Y	
63.5(f)(1)	Preconstruction review procedures that a State utilizes for other purposes, etc.	Y	

Table IV – Ub
Source-specific Applicable Requirements
S465, MOLTEN SULFUR PIT; S1010 – U235 SULFUR PLANT UNIT

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
63.5(f)(2)	Deadline for request of approval of construction or reconstruction (Except that 60 days is changed to 90 days and cross-reference to 53.9(B)(2) does not apply.)	Y	
63.6	Compliance with standards and maintenance requirements	Y	
63.6(a)	Applicability	Y	
63.6(b)	Compliance dates for new and reconstructed sources	Y	
63.6(b)(1)	Compliance at standard's effective date	Y	
63.6(b)(2)	Compliance upon startup	Y	
63.6(b)(3)	Compliance within 3 years of effective date	Y	
63.6(b)(4)	Compliance within 10 years of effective date	Y	
63.6(b)(5)	Notification to administrator of later compliance date (Except that subpart UUU specifies different compliance dates for sources)	Y	
63.6(c)	Compliance dates for existing sources	Y	
63.6(c)(1)	Compliance with standards by the compliance date established by the Administrator	Y	
63.6(c)(2)	Compliance with standards by date established by Section 112(f) of the act	Y	
63.6(e)	Operation and maintenance requirements	Y	
63.6(e)(1)	Operation in a manner consistent with safety and good air pollution control practices	Y	
63.6(e)(2)	Reserved	Y	
63.6(e)(3)	Startup, shutdown, and malfunction plan	Y	
63.6(e)(3)(i)	Development and implementation of a written startup, shutdown, and malfunction plan	Y	
63.6(e)(3)(ii)	Periods of startup, shutdown, and malfunction	Y	
63.6(e)(3)(iii)	Operation consistent with procedures	Y	
63.6(e)(3)(iv)	Operation not consistent with procedures (Except that reports of actions not consistent with plan are not required within 2 and 7 days of action but rather must be included in next periodic report)	Y	
63.6(e)(3)(v)	Maintenance of the plan at the affected source (The owner or operator is only required to keep the latest version of the plan)	Y	
63.6(e)(3)(vi)	Alternative plans	Y	
63.6(e)(3)(vii)	Administrator may require changes to plan	Y	
63.6(e)(3)(viii)	The owner or operator may periodically revise the startup, shutdown, and malfunction plan	Y	
63.6(f)	Compliance with non-opacity emission standards	Y	

Table IV – Ub
Source-specific Applicable Requirements
S465, MOLTEN SULFUR PIT; S1010 – U235 SULFUR PLANT UNIT

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
63.6(f)(1)	Applicability (standards apply at all times except startup, shutdown, and malfunction)	Y	
63.6(f)(2)	Methods for determining compliance	Y	
63.6(f)(2)(i)	Based on performance tests	Y	
63.6(f)(2)(ii)	Evaluation of an owner or operator's conformance with operation and maintenance requirements	Y	
63.6(f)(2)(iii)	Conditions under which performance testing for state requirements shows compliance	Y	
63.6(f)(2)(iii)(A)	Performance test conducted within a reasonable amount of time	Y	
63.6(f)(2)(iii)(B)	Performance test conducted under representative operating conditions	Y	
63.6(f)(2)(iii)(c)	EPA-approved test methods and procedures	Y	
63.6(f)(2)(iv)	Determination of compliance	Y	
63.6(f)(2)(v)	Conformance with operation and maintenance requirements	Y	
63.6(f)(3)	Finding of compliance	Y	
63.6(g)	Use of an alternative non-opacity emission standard	Y	
63.6(i)	Extension of compliance with emission standards (Parts 1-14 and part 16. Part 15 is reserved.	Y	
63.7	Performance testing requirements	Y	
63.7(a)	Applicability and performance test dates	Y	
63.7(a)(1)	Performance test requirements Applicability (Except that subpart UUU specifies the applicable test and demonstration procedures.)	Y	
63.7(a)(3)	The Administrator may require performance tests at any time when action is authorized by section 114 of the Act (Except that subpart UUU specifies notification at least 30 days prior to the scheduled test date rather than 60 days.)	Y	
63.7(b)	Notification of performance test	Y	
63.7(c)	Quality assurance program	Y	
63.7(d)	Performance testing facilities	Y	
63.7(e)	Conduct of performance tests	Y	
63.7(f)	Use of an alternative test method	Y	
63.7(g)	Data analysis, recordkeeping, and reporting (Except performance test reports must be submitted with notification of compliance status due 150 days after the compliance date.)	Y	
63.7(h)	Waiver of performance tests	Y	

Table IV – Ub
Source-specific Applicable Requirements
S465, MOLTEN SULFUR PIT; S1010 – U235 SULFUR PLANT UNIT

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
63.8	Monitoring requirements	Y	
63.8(a)	Applicability	Y	
63.8(a)(1)	Applicability	Y	
63.8(a)(2)	Performance Specifications	Y	
63.8(a)(4)	Additional monitoring requirements for control devices	Y	
63.8(b)	Conduct of monitoring	Y	
63.8(b)(1)	Conduct of monitoring	Y	
63.8(b)(2)	Combination of the emissions from two or more affected sources (Subpart UUU specifies the required monitoring locations.)	Y	
63.8(b)(3)	More than one CMS (Subpart UUU specifies the required monitoring locations.)	Y	
63.8(c)	Operation and maintenance of continuous monitoring systems	Y	
63.8(c)(1)	Good air pollution control practices	Y	
63.8(c)(1)(i)	Maintenance and operation of each CMS	Y	
63.8(c)(1)(ii)	Parts for routine repairs readily available (Except that subpart UUU specifies that reports are not required if actions are consistent with the SSM plan, unless requested by the permitting authority. If actions are not consistent, actions must be described in next compliance report.)	Y	
63.8(c)(1)(iii)	Compliance with Operation and Maintenance Requirements (Except that subpart UUU specifies that reports are not required if actions are consistent with the SSM plan, unless requested by the permitting authority. If actions are not consistent, actions must be described in next compliance report.)	Y	
63.8(c)(2)	Monitoring system installation	Y	
63.8(c)(3)	Monitoring system installation	Y	
63.8(c)(4)(ii)	One cycle of operation for each 15-minute period (Applicable since facility has chosen to comply with NSPS SO2 standard)	Y	
63.8(c)(6)	CMS Requirements (Applicable since facility has chosen to comply with NSPS SO2 standard)	Y	
63.8(c)(7)	Out-of-control CMS	Y	
63.8(c)(8)	Submittal of all information concerning out-of-control periods	Y	
63.8(d)	Quality Control Program (Applicable since facility has chosen to comply with NSPS SO2 standard)	Y	
63.8(e)	Performance evaluation of continuous monitoring systems (Applicable since facility has chosen to comply with NSPS SO2 standard. Results to be submitted by part of Notification	Y	

Table IV – Ub
Source-specific Applicable Requirements
S465, MOLTEN SULFUR PIT; S1010 – U235 SULFUR PLANT UNIT

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
	Compliance Status due 150 days after the compliance date)		
63.8(f)	Use of an alternative monitoring method	Y	
63.8(g)	Reduction of monitoring data	Y	
63.8(g)(1)	Reduction of monitoring data	Y	
63.8(g)(2)	1-hour averages	Y	
63.8(g)(3)	Records in reduced or non-reduced form	Y	
63.8(g)(4)	Units of the relevant standard	Y	
63.9	Notification requirements	Y	
63.9(a)	Applicability and general information	Y	
63.9(b)	Initial notifications (Sections 1, 2, 4, and 5. Section 3 is reserved.) Notification of construction or reconstruction is to be submitted as soon as practicable before startup.)	Y	
63.9(c)	Request for extension of compliance	Y	
63.9(d)	Notification that source is subject to special compliance requirements	Y	
63.9(e)	Notification of performance test (Except that notification is required at least 30 days before test.)	Y	
63.9(g)	Additional notification requirements for sources with continuous monitoring systems (Applicable since facility has chosen to comply with NSPS SO2 standard)	Y	
63.9(h)	Notification of compliance status (Except that subpart UUU specifies the notification is due no later than 150 days after compliance date.)	Y	
63.9(i)	Adjustment to time periods or postmark deadlines	Y	
63.9(j)	Change in information already provided	Y	
63.10	Recordkeeping and reporting requirements	Y	
63.10(a)	Applicability and general information	Y	
63.10(b)	General recordkeeping requirements	Y	
63.10(c)	Additional recordkeeping requirements for sources with continuous monitoring systems	Y	
63.10(c)(1)	All required CMS measurements	Y	
63.10(c)(2)	[reserved]	Y	
63.10(c)(3)	[reserved]	Y	
63.10(c)(4)	[reserved]	Y	
63.10(c)(5)	Date and time when CMS was inoperative	Y	
63.10(c)(6)	Date and time when CMS was out-of-control	Y	
63.10(c)(9)	[reserved]	Y	

Table IV – Ub
Source-specific Applicable Requirements
S465, MOLTEN SULFUR PIT; S1010 – U235 SULFUR PLANT UNIT

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
63.10(c)(10)	The nature and cause of any malfunction	Y	
63.10(c)(11)	Corrective action or preventive measures	Y	
63.10(c)(12)	Nature of repairs or adjustments	Y	
63.10(c)(13)	Process operating time	Y	
63.10(c)(14)	Procedures in quality control program	Y	
63.10(c)(15)	Use of startup, shutdown, and malfunction plan	Y	
63.10(d)	General reporting requirements	Y	
63.10(d)(1)	Reports to the Administrator	Y	
63.10(d)(4)	Progress reports	Y	
63.10(d)(5)(i)	Periodic startup, shutdown, and malfunction reports	Y	
63.10(d)(5)(ii)	Immediate startup, shutdown, and malfunction reports (reports not required if actions consistent with the SSM plan, unless requested by permitting authority)	Y	
63.10(e)	Additional reporting requirements for sources with continuous monitoring systems	Y	
63.10(e)(1)	General (Applicable since facility has chosen to comply with NSPS SO2 standard)	Y	
63.10(e)(2)	Reporting results of continuous monitoring system performance evaluations (Applicable since facility has chosen to comply with NSPS SO2 standard)	Y	
63.10(f)	Waiver of recordkeeping or reporting requirements	Y	
63.11	Control device requirements (Applicable to flares)	Y	
63.15	Availability of information and confidentiality	Y	
40 CFR 63 Subpart UUU	**National Emission Standards for Hazardous Pollutants for Petroleum Refineries: Catalytic Cracking Units, Catalytic Reforming Units, and Sulfur Recovery Units (4/11/02)**	**Y**	
63.1561	Am I subject to this subpart?	Y	
63.1562(a)	New, reconstructed, or existing affected sources	Y	
63.1562(b)(3)	Sulfur recovery units and tail gas treatment units	Y	
63.1563	When do I have to comply with this subpart?	Y	
63.1563(b)	Deadline for existing sources-4/11/05	Y	
63.1563(e)	Notification requirements	Y	
63.1568	What are my requirements for HAP emissions from sulfur recovery units?	Y	
63.1568(a)	Emission limitations and work practice standards	Y	
63.1568(a)(1)(i)	Sulfur Emission Limitation from Claus sulfur recovery units electing to meet NSPS Limits: 250 ppmvd SO2 at 0% excess air. (Table 29,	Y	

Table IV – Ub
Source-specific Applicable Requirements
S465, MOLTEN SULFUR PIT; S1010 – U235 SULFUR PLANT UNIT

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
	Item 2.a)		
63.1568(a)(3)	Prepare Operation, Maintenance, and Monitoring Plan and operate at all times according to the procedures in the plan	Y	
63.1568(b)	Demonstrate Initial Compliance with Emission Limitation and Work Practice Standard	Y	
63.1568(b)(1)	Continuous Emission Monitoring System to measure and record hourly average SO2 concentration, with O2 monitor to correct excess air concentration (Table 31, Item 2.a)	Y	
63.1568(b)(2)	Performance Test: measure SO2 concentration using CEMS every 15 minutes for 24 hours and reduce the data to 1-hr averages (Table 32, Item 1)	Y	
63.1568(b)(5)	Demonstrate Initial Compliance with Emission Limitation: Average SO2 emissions measured by CEMS in initial performance test not greater than 250 ppmvd at 0% excess O2, and monitoring system meets applicable requirements (Table 33, Item 2.a)	Y	
63.1568(b)(6)	Demonstrate initial compliance by submitting Operation, Maintenance, and Monitoring Plan	Y	
63.1568(b)(7)	Submit Notice of Compliance Status	Y	
63.1568(c)	Demonstrate Continuous Compliance with Emission Limitation and Work Practice Standards	Y	
63.1568(c)(1)	Demonstrate Continuous Compliance with Emission Limitation: collect hourly average SO2 monitoring data; maintain hourly average below applicable limit; determine and record each 12-hour concentration; report 12-hour concentration greater than applicable limitation (Table 34, Item 2.a)	Y	
63.1568(c)(2)	Demonstrate Continuous Compliance with Work Practice Standards by complying with the procedures in Operation, Maintenance, and Monitoring Plan.	Y	
63.1570	What are my general requirements for complying with this subpart?	Y	
63.1570(a)	Operate in compliance with non-opacity standards at all times except during periods of startup, shutdown, and malfunction, as specified in 63.6(f)(1)	Y	
63.1570(c)	Operate and maintain source including pollution control and monitoring equipment in accordance with 63.6(e)(1). Between 4/11/05 and the date continuous monitoring systems are installed and validated and operating limits have been set, maintain a log detailing operation and maintenance of process and equipment.	Y	

Table IV – Ub
Source-specific Applicable Requirements
S465, MOLTEN SULFUR PIT; S1010 – U235 SULFUR PLANT UNIT

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
63.1570(d)	Develop and implement startup, shutdown, and malfunction plan (SSMP) in accordance with 63.6(e)(3)	Y	
63.1570(e)	Operate in accordance with SSMPP during periods of startup, shutdown, and malfunction	Y	
63.1570(f)	Report deviations from compliance with this subpart according to the requirements of 63.1575	Y	
63.1570(g)	Deviations that occur during startup, shutdown, or malfunction are not violations if operating in accordance with SSMP	Y	
63.1571	How and when do I conduct a performance test or other initial compliance demonstration?	Y	
63.1571(a)	Conduct Performance Test and submit results no later than 150 days after compliance date	Y	
63.1571(a)(1)	For emission limitation or work practice standard where compliance not demonstrated using performance test, opacity observation, or visible emission observation, conduct initial compliance demonstration within 30 days after compliance date	Y	
63.1571(b)	Requirements for Performance Tests	Y	
63.1571(b)(1)	Conduct performance tests in accordance with the requirements of 63.7(e)(1)	Y	
63.1571(b)(2)	Conduct three separate test runs of at least an hour for each performance test	Y	
63.1571(b)(3	Conduct each performance evaluation in accordance with the requirements of 63.8(e)	Y	
63.1571(b)(4)	Performance tests not conducted during periods of startup, shutdown, or malfunction	Y	
63.1571(b)(5)	Arithmetic average of emission rates	Y	
63.1572	What are my monitoring installation, operation, and maintenance requirements?	Y	
63.1572(a)	Requirements for installation, operation, and maintenance of continuous emission monitoring system	Y	
63.1572(a)(1)	SO2 CEMS must meet requirements of Performance Specification 2 (40 CFR Part 60, App B) (Table 40, Item 4)	Y	
63.1572(a)(2)	Conduct performance evaluation for SO2 CEMS according to Performance Specification 2 (Table 40, Item 4)	Y	
63.1572(a)(3)	CEMS must complete one cycle of operation for each 15-minute period	Y	
63.1572(a)(4)	Data reduction per 63.8(g)(2)	Y	

Table IV – Ub
Source-specific Applicable Requirements
S465, MOLTEN SULFUR PIT; S1010 – U235 SULFUR PLANT UNIT

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
63.1572(d)	Data monitoring and collection requirements	Y	
63.1572(d)(1)	Conduct monitoring at all times, except for monitoring malfunctions, repairs, and QA/QC activities	Y	
63.1572(d)(2)	Data recorded during monitoring malfunctions, repairs, and QA/QC activities not used for compliance purposes	Y	
63.1573	What are my monitoring alternatives?	Y	
63.1573(d)	Monitoring for alternative parameters (optional)	Y	
63.1573(e)	Alternative Monitoring Requests (optional)	Y	
63.1574	What notifications must I submit and when?	Y	
63.1574(a)	Notifications Required by Subpart A	Y	
63.1574(a)(1)	Notifications of reconstruction	Y	
63.1574(a)(2)	Submit notification of intent to conduct performance test 30 days before scheduled (instead of 60 days)	Y	
63.1574(a)(3)	Notification of Compliance Status	Y	
63.1574(a)(3)(ii)	Submit Notification of Compliance Status for initial compliance demonstration that includes a performance test, no later than 150 days after source compliance date	Y	
63.1574(d)	Information to be Submitted in Notice of Compliance Status (Table 42): identification of affected sources and emission points (Item 1); initial compliance demonstration (Item 2); continuous compliance (Item 3)	Y	
63.1574(f)	Requirement to prepare Operation, Maintenance, and Monitoring Plan	Y	
63.1574(f)(1)	Submit plan to permitting authority for review and approval along with notification of compliance status. Include duty to prepare and implement plan into Part 70 or 71 permit.	Y	
63.1574(f)(2)	Minimum contents of Operation, Maintenance, and Monitoring Plan	Y	
63.1574(f)(2)(ii)	Procedures for monitoring emissions and process and control device operating parameters for each affected source.	Y	
63.1574(f)(2)(vii)	Monitoring schedule	Y	
63.1574(f)(2)(ix)	Quality control plan for continuous emission monitor	Y	
63.1574(f)(2)(x)	Maintenance schedule for monitoring systems and control devices	Y	
63.1575	What reports must I submit and when?	Y	
63.1575(a)	Required reports: Statement that there were no deviations or report	Y	

Table IV – Ub
Source-specific Applicable Requirements
S465, MOLTEN SULFUR PIT; S1010 – U235 SULFUR PLANT UNIT

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
	including information in 1575(d) or (e) (Table 43, Item 1) on a semi-annual basis		
63.1575(b)	Specified semiannual report submittal dates	Y	
63.1575(c)	Information required in compliance report	Y	
63.1575(d)	Information required for deviations from emission limitations and work practice standards where CEMS or COMS is not used to comply with emission limitation or work practice standard	Y	
63.1575(e)	Information required for deviations from emission limitations and work practice standards where CEMS or COMS is used to comply with emission limitation or work practice standard	Y	
63.1575(f)	Additional information for compliance reports	Y	
63.1575(f)(1)	Requirement to submit performance test reports	Y	
63.1575(f)(2)	Submittal of requested change in the applicability of an emission standard	Y	
63.1575(g)	Submittal of reports required by other regulations in place of or as part of compliance report if they contain the required information	Y	
63.1575(h)	Reporting requirements for startups, shutdowns, and malfunctions	Y	
63.1576	What records must I keep, in what form, and for how long?	Y	
63.1576(a)	Required Records – General	Y	
63.1576(b)	Records for CEMs	Y	
63.1576(b)(1)	Records described in §63.10(b)(2)(vi) through (xi).	Y	
63.1576(b)(3)	Previous (i.e., superceded) versions of the performance evaluation plan as required in §63.8(d)(3).	Y	
63.1576(b)(4)	Requests for alternatives to the relative accuracy test for continuous emission monitoring systems as required in §63.8(f)(6)(i).	Y	
63.1576(b)(5)	Records of the date and time that each deviation started and stopped, and whether the deviation occurred during a period of startup, shutdown, or malfunction or during another period.	Y	
63.1576(d)	Records required by Tables 34 and 35 of Subpart UUU	Y	
63.1576(e)	Maintain copy of operation, maintenance, and monitoring plan	Y	
63.1576(f)	Records of changes that affect emission control system performance	Y	
63.1576(g)	Records in a form suitable and readily available for review	Y	
63.1576(h)	Maintain records for 5 years	Y	
63.1576(i)	Records onsite for 2 years; may be maintained offsite for remaining 3 years	Y	
40 CFR 64	**Compliance Assurance Monitoring (10/27/97)**	Y	
64.2(a)	General Applicability	Y	

Table IV – Ub
Source-specific Applicable Requirements
S465, MOLTEN SULFUR PIT; S1010 – U235 SULFUR PLANT UNIT

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
64.3	Monitoring design criteria	Y	
64.3(a)(1)	One or more indicators or emissions	Y	
64.3(a)(2)	Appropriate range	Y	
64.3(a)(3)(i)	Indicator based on a single minimum value (for temperature monitoring)	Y	
64.3(b)	Performance criteria	Y	
64.3(b)(1)	Requirement for specifications that provide for obtaining data that are representative of the parameters (for temperature monitor)	Y	
64.3(b)(1)	Requirement for specifications that provide for obtaining data that are representative of the emissions (for CO and SO2 CEMs, use BAAQMD Manual of Procedures Volume V, approval from District Source Test Group)	Y	
64.3(b)(2)	Verification procedures	Y	
64.3(b)(3)	Quality assurance and control practices	Y	
64.3(b)(4)	Specifications for frequency	Y	
64.3(c)	Evaluation factors	Y	
64.3(d)	Special criteria for the use of continuous emission, opacity or predictive monitoring systems	Y	
64.4	Submittal Requirements	Y	
64.4(a)	Submittal information (applies to temperature monitor)	Y	
64.4(a)(1)	Indicators to be monitored (applies to temperature monitor)	Y	
64.4(a)(2)	Ranges or designated conditions (applies to temperature monitor)	Y	
64.4(a)(3)	Performance criteria (applies to temperature monitor)	Y	
64.4(b)	Presumptively acceptable monitoring (applies to CO and SO2 CEMs)	Y	
64.4(b)(2)	Use of CEMs (applies to CO and SO2 CEMs)	Y	
64.4(c)(1)	Verification during source tests	Y	
64.4(c)(2)	Documentation of no change to control device	Y	
64.4(d)	Submittal of test plant	Y	
64.4(e)	Implementation plan and schedule for installing, testing and performing	Y	
64.5	Deadlines for submittals	Y	
64.5(b)	Other pollutant-specific units	Y	
64.6	Approval of monitoring	Y	
64.6(b)	Conditions for approval	Y	
64.6(c)	Establishment of permit terms	Y	
64.6(d)	Enforceable schedule	Y	

Table IV – Ub
Source-specific Applicable Requirements
S465, MOLTEN SULFUR PIT; S1010 – U235 SULFUR PLANT UNIT

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
64.7	Operation of approved monitoring	Y	
64.7(a)	Commencement of monitoring	Y	
64.7(b)	Maintenance	Y	
64.7(c)	Continued operation	Y	
64.7(d)	Response to exceedances or excursions	Y	
64.7(e)	Documentation of need for improved monitoring	Y	
64.9	Reporting and recordkeeping requirements	Y	
64.10	Savings provisions	Y	
BAAQMD Condition 22964			
Part 2	Annual throughput limit at S465 [Cumulative increase]	Y	
Part 3	Control of S465, Sulfur Pit, by S1010 [Cumulative increase, 40 CFR 60.104(b)]	Y	
Part 9	Recordkeeping [Cumulative increase]	Y	
BAAQMD Condition 22970			
Part A.1	Applicability of Condition 22970 [Cumulative increase, PSD]		
Part A.2a	Annual NOx limit for S45, Heater, S434, U246 High Pressure Reactor Train; and S1010, Sulfur Recovery Unit [Cumulative increase]		
Part A.2b	Annual SO2 limit for S45, Heater, S434, U246 High Pressure Reactor Train; and S1010, Sulfur Recovery Unit [Cumulative increase]		
Part A.2c	Annual PM10 limit for S45, Heater, S434, U246 High Pressure Reactor Train; and S1010, Sulfur Recovery Unit [Cumulative increase, PSD]		
Part A.2d	Annual POC limit for S45, Heater, S434, U246 High Pressure Reactor Train; and S1010, Sulfur Recovery Unit [Cumulative increase]		
Part A.2e	Annual CO limit for S45, Heater, S434, U246 High Pressure Reactor Train; and S1010, Sulfur Recovery Unit [Cumulative increase]		
Part A.2f	Annual sulfuric acid mist limit for S45, Heater, S434, U246 High Pressure Reactor Train; and S1010, Sulfur Recovery Unit [PSD]		
Part A.2g	Annual ammonia limit for S45, Heater, S434, U246 High Pressure Reactor Train; and S1010, Sulfur Recovery Unit [BAAQMD		

Table IV – Ub
Source-specific Applicable Requirements
S465, MOLTEN SULFUR PIT; S1010 – U235 SULFUR PLANT UNIT

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
	Regulation 2, Rule 5]		
Part A.3	Daily sulfuric acid mist limit for S45, Heater, S434, U246 High Pressure Reactor Train; and S1010, Sulfur Recovery Unit at Facility A0016 and S2 at B7419. [PSD]		
Part A.4	Determination of compliance with Part A.2 [Cumulative increase, PSD, BAAQMD Regulation 2, Rule 5]		
Part A.5	Additional offsets and PSD analysis, if necessary [Offsets, PSD]		
Part A.6	Annual PM10 limit for S45, S434, and S1010 at Facility A0016, and S2 and S3 at Facility B7419 [1-104, 2-2-304]		
Part B	Offset Report [2-1-403, 2-2-410]		
BAAQMD Condition 23125			
Part 1	Throughput limit [Cumulative Increase]		
Part 3	Abatement requirement [Cumulative Increase]		
Part 4	Control requirement for S503, S504, and S505 [Cumulative Increase, 2-1-305]		
Part 5	Pressure relief devices [8-28-302, BACT]		
Part 6	Requirement for use of natural gas as supplemental fuel at incinerator [BACT]		
Part 7a	Concentration limit for SO2 [BACT]	Y	
Part 7b	Concentration limit for CO [BACT]	Y	
Part 7c	Concentration limit for NOx [BACT]	Y	
Part 8a	Concentration limit for NH3 [Regulation 2, Rule 5]	N	
Part 8b	Concentration limit for H2S [Regulation 2, Rule 5]	N	
Part 9a	Hourly mass emission limit for NOx [2-1-305]	Y	
Part 9b	Hourly mass emission limit for H2S [Regulation 2, Rule 5]	N	
Part 9c	Hourly mass emission limit for NH3 [Regulation 2, Rule 5]	N	
Part 10a	Daily mass emission limit for sulfuric acid mist [PSD]	Y	
Part 10b	Daily mass emission limit for PM10 [2-1-301]	Y	
Part 11a	Annual mass emission limit for SO2 [BACT, Cumulative Increase]	Y	
Part 11b	Annual mass emission limit for NH3 [Regulation 2, Rule 5]	Y	
Part 11c	Annual mass emission limit for CO [BACT, Cumulative Increase]	Y	
Part 11d	Annual mass emission limit for NOx [BACT, Cumulative Increase]	Y	
Part 11e	Annual mass emission limit for POC [Cumulative Increase]	Y	
Part 11f	Annual mass emission limit for PM10 [Cumulative Increase]	Y	
Part 11g	Annual mass emission limit for sulfuric acid mist [2-1-301]	Y	

Table IV – Ub
Source-specific Applicable Requirements
S465, MOLTEN SULFUR PIT; S1010 – U235 SULFUR PLANT UNIT

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
Part 11h	Annual mass emission limit for H2S [Regulation 2, Rule 5]	N	
Part 11i	Annual mass emission limit for total reduced sulfur [PSD]	Y	
Part 11j	Annual mass emission limit for reduced sulfur compounds [PSD]	Y	
Part 11k	Annual mass emission limit for H2S [PSD]	Y	
Part 12	Approval of source test ports [1-501]	Y	
Part 13	Source test requirements [BACT, Cumulative Increase; Regulation 2, Rule 5; BAAQMD Regulation 6; PSD, 40 CFR 64.6(d)]	Y	
Part 14	Minimum temperature requirement [Offsets, 40 CFR 64]	Y	
Part 15	Temperature measurement requirement [1-521, 40 CFR 64.6(d)]	Y	
Part 16	Temperature excursions [2-1-403]	Y	
Part 17	Recordkeeping for allowable temperature excursions [2-1-403]	Y	
Part 18	Temperatures above the limit [2-1-403]	Y	
Part 19	Submission of source test protocols [[BACT, Cumulative Increase; Regulation 2, Rule 5]	Y	
Part 20a	Annual source test to demonstrate compliance with BAAQMD Regulation 6-1-310 and SIP Regulation 6-310	Y	
Part 20b	Annual source test to demonstrate compliance with BAAQMD Regulation 6-1-311 and SIP Regulation 6-311	Y	
Part 20c	Annual source test to demonstrate compliance with BAAQMD Regulation 6-1-330 and SIP Regulation 6-330	Y	
Part 20d	Annual source test to demonstrate compliance with emission rates in parts 7c, 8a, 8b, 9a, 9b, and 9c of this condition [BACT, PSD, Regulation 2, Rule 5, Cumulative Increase]	Y	
Part 20e	Annual source test to determine emission rates of sulfuric acid mist, total reduced sulfur, and reduced sulfur compounds [PSD, Regulation 2, Rule 5]	Y	
Part 21	SO2 and O2 CEMS [BACT, Cumulative Increase, 40 CFR 60.105a; 40 CFR 64.6(c)(1), (c)(3), and (d); 40 CFR 63.1568(a)(1)(i)]	Y	
Part 22	Flow monitor and CO CEM [BACT, cumulative increase; 40 CFR 64.6(c)(1) and (d)]	Y	
Part 24	Daily throughput records [Cumulative increase]	Y	
Part 25	Determination of compliance [Cumulative increase; Regulation 2, Rule 5; Cumulative Increase, PSD]	Y	
Part 26	Visible emissions check [Basis: BAAQMD Regulations 6-1-301, 2-1-403]	Y	
Part 27	Location and installation of temperature monitor [40 CFR 64.3(b)(1)]	Y	

Table IV – Ub
Source-specific Applicable Requirements
S465, MOLTEN SULFUR PIT; S1010 – U235 SULFUR PLANT UNIT

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
Part 28	Verification procedures for temperature monitor [40 CFR 64.3(b)(2)]	Y	
Part 29	Quality assurance and control practices for temperature monitor [40 CFR 64.3(b)(3)]	Y	
Part 30	Frequency of temperature measurement, alternate H2S analysis [40 CFR 64.3(b)(4)]	Y	
Part 31	Determination of temperature exceedances [40 CFSR 64.6(c)(2)]	Y	

Sources S503, S504, and S505 are not subject to the general 300-ppm limit for SO2 in Section 302 of BAAQMD Regulation 9, Rule 1, because the facility has ground level monitors in accordance with Section 110.

S503, Sulfur Tank, is not subject to the SO2 limit in 40 CFR 60.102a(f)(1) for sulfur pits because the definition of sulfur pits in 40 CFR 60.101 explicitly excludes sulfur storage downstream of the initial Claus reactor sulfur pits.

The sources are controlled by S1003 or S1010, Sulfur Recovery Units, so they will not have significant emissions of particulate or SO2.

Table IV – Uc
Source-specific Applicable Requirements
S503, SULFUR STORAGE TANK; S504, SULFUR DEGASSING UNIT; AND S505, SULFUR LOADING RACK

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
BAAQMD Regulation 6, Rule 1	**Particulate Matter and Visible Emissions (12/5/07)**		
6-1-301	Ringelmann #1 Limitation	N	
6-1-305	Visible Particles	N	
6-1-310.3	Particulate Weight Limitation	N	
6-1-311	General Operations	N	
6-1-401	Appearance of Emissions	N	
SIP Regulation 6	**Particulate Matter and Visible Emissions (9/4/98)**		

Table IV – Uc
Source-specific Applicable Requirements
S503, SULFUR STORAGE TANK; S504, SULFUR DEGASSING UNIT; AND S505, SULFUR LOADING RACK

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
6-301	Ringelmann #1 Limitation	Y	
6-305	Visible Particles	Y	
6-310.3	Particulate Weight Limitation	Y	
6-311	General Operations	Y	
6-401	Appearance of Emissions	Y	
BAAQMD Condition 23125			
Part 2	Sulfur throughput at S503 [Cumulative increase]	Y	
Part 4	Control requirement for S503, S504, and S505 [Cumulative increase, 2-1-305]	Y	
Part 24	Throughput records for S503 [Cumulative increase]	Y	

The requirements of BAAQMD Regulation 1-520 and 1-522, and the Manual of Procedures, Volume 5, apply to the SO2 CEMS and have been added to Table VII-Ua.

The citation of Condition 19278, part 5, in Table IV-Ua has been corrected. Installation of a second port is not required at this time. A source test was required by January 29, 2009, which was 90 days after issuance of the Major Facility Review permit pursuant to Application 10994. The source test was performed, and the source was found to be in compliance with BAAQMD Regulation 6, Rule 1, Particulate Matter, General Requirements, and SIP Regulation 6, Particulate Matter and Visible Emissions.

The flow to the new sulfur recovery unit, S1010, will be manifolded together with the flow to the old sulfur recovery units, S1001-S1003. In this case, NSPS Subpart Ja will apply to all of the sulfur recovery units instead of the NSPS Subpart J requirements. The table will show that applicability of Subpart J will end after startup of S1010.

The requirements in 40 CFR 63, Subpart UUU for sulfur recovery plants are the same for existing and new plants.

Table IV – Ua
Source-specific Applicable Requirements
S1001 – SULFUR PLANT UNIT 234 , S1002 – SULFUR PLANT UNIT 236
S1003 – SULFUR PLANT UNIT 238, S301 – MOLTEN SULFUR PIT 234
S302 – MOLTEN SULFUR PIT 236 AND S303 – MOLTEN SULFUR PIT 238

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
BAAQMD Regulation 1	**General Provisions and Definitions (7/9/08)**		
1-520	Continuous Emission Monitoring	Y	
1-520.8	Monitors pursuant to Regulation 10	Y	
1-522	Continuous Emission Monitoring and Recordkeeping Procedures		
1-522.1	approval of plans and specifications	Y	
1-522.2	scheduling requirements	Y	
1-522.3	CEM performance testing	Y	
1-522.4	reporting of inoperative CEMs	Y	
1-522.5	CEM calibration requirements	Y	
1-522.6	CEM accuracy requirements	Y	
1-522.7	emission limit exceedance reporting requirements	N	
1-522.8	monitoring data submittal requirements	Y	
1-522.9	recordkeeping requirements	Y	
1-602	Area and Continuous Monitoring Requirements	N	
SIP Regulation 1	**PROVISIONS NO LONGER IN CURRENT RULE** **General Provisions and Definitions (6/28/99)**		
1-522	Continuous Emission Monitoring and Recordkeeping Procedures	Y – note 1	
1-522.7	emission limit exceedance reporting requirements	Y - note 1	
BAAQMD Regulation 6, Rule 1	**Particulate Matter, General Requirements (12/7/07)**		
6-1-301	Ringelmann #1 Limitation	N	
6-1-305	Visible Particles	N	
6-1-310	Particulate Weight Limitation	N	
6-1-311	General Operations	N	
6-1-330	Sulfur Recovery Units (SO3, H2SO4 emission limitations)	N	
6-1-401	Appearance of Emissions	N	
~~**BAAQMD**~~ **SIP Regulation 6**	**Particulate Matter and Visible Emissions (~~12/19/90~~9/4/98)**		
6-301	Ringelmann #1 Limitation	Y	
6-305	Visible Particles	Y	
6-310	Particulate Weight Limitation	Y	

Table IV – Ua
Source-specific Applicable Requirements
S1001 – SULFUR PLANT UNIT 234 , S1002 – SULFUR PLANT UNIT 236
S1003 – SULFUR PLANT UNIT 238, S301 – MOLTEN SULFUR PIT 234
S302 – MOLTEN SULFUR PIT 236 AND S303 – MOLTEN SULFUR PIT 238

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
6-311	General Operations	Y	
6-330	Sulfur Recovery Units (SO3, H2SO4 emission limitations)	Y	
6-401	Appearance of Emissions	Y	
BAAQMD Regulation 9, Rule 1	**Inorganic Gaseous Pollutants – Sulfur Dioxide (3/15/95)**		
9-1-313	Sulfur Removal Operations at Petroleum Refineries (processing more than 20,000 bbl/day of crude oil)	N	
9-1-313.2	operation of a sulfur removal and recovery system that removes and recovers: 95% of H2S from refinery fuel gas, 95% of H2S and ammonia from process water streams	N	
SIP Regulation 9, Rule 1	**Inorganic Gaseous Pollutants – Sulfur Dioxide (6/8/99)**		
9-1-313	Sulfur Removal Operations at Petroleum Refineries (processing more than 20,000 bbl/day of crude oil)	Y	
9-1-313.2	operation of a sulfur removal and recovery system that removes and recovers: 95% of H2S from refinery fuel gas, 95% of H2S and ammonia from process water streams	Y – note 1	
BAAQMD Manual of Procedures, Volume V	**Continuous Emission Monitoring Policy and Procedures (1/20/82)**	Y	
40 CFR 60 Subpart A	**General Provisions (03/16/1994)**		
60.7	Notification and record keeping	Y	
60.7(a)(5)	Notification of beginning of demonstration of continuous monitoring system	Y	
60.7(b)	Records of startup, shutdown, or malfunction, malfunction of control equipment; or periods when CEM is inoperative	Y	
60.7(c)	Excess emissions and monitoring systems reports	Y	
60.7(d)	Format of summary report forms	Y	
60.7(f)	Records	Y	
60.8	Performance tests	Y	
60.11	Compliance with standards and maintenance requirements	Y	
60.11(a)	Compliance determined by performance tests and CEM	Y	

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S302 – MOLTEN SULFUR PIT 236 AND S303 – MOLTEN SULFUR PIT 238

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
60.11(d)	Good air pollution control practice	Y	
60.11(f)	applicable subpart shall supersede any conflicting provisions in paragraphs (a) through (e)	Y	
60.11(g)	Credible evidence	Y	
60.12	Circumvention	Y	
60.13	Monitoring requirements	Y	
60.13(a)	CEMs subject to Appendices B and F	Y	
60.13(b)	Installation of CEMs before performance tests	Y	
60.13(d)(1)	Zero and span calibration drifts	Y	
60.13(e)	Continuous operation; minimum frequency of operation	Y	
60.13(e)(2)	Monitoring cycle every 15 minutes	Y	
60.13(f)	Representative measurements	Y	
60.19	General notification and reporting requirements	Y	
NSPS 40 CFR 60 Subpart J	**Standards of Performance for Petroleum Refineries (7/1/00)**		N/A after startup of S1010
60.104	Standards for Sulfur Oxides	Y	N/A after startup of S1010
60.104(a)(2)(i)	Sulfur dioxide (SO2) less than 250 ppm at 0% excess air	Y	N/A after startup of S1010
60.105	Monitoring of Emissions and Operations	Y	N/A after startup of S1010
60.105(a)	Continuous Monitoring systems	Y	N/A after startup of S1010
60.105(a)(5)	SO2 and O2 monitors	Y	N/A after startup of S1010
60.105(a)(5)(i)	Span values: 500 ppm SO2 and 25% O2	Y	N/A after startup of S1010
60.105(a)(5)(ii)	The performance evaluations for this SO2 monitor under §60.13(c) shall use Performance Specification 2. Methods 6 or 6C and 3 or 3A	Y	N/A after startup of

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Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
	shall be used for conducting the relative accuracy evaluations		S1010
60.105(e)(4)	Periods of excess emissions	Y	N/A after startup of S1010
60.105(e)(4)(i)	12-hour periods where concentration exceeds average of 250 ppm, dry, at 0% O2	Y	N/A after startup of S1010
60.106	Test methods and procedures	Y	N/A after startup of S1010
60.106(a)	Methods in Appendix A	Y	N/A after startup of S1010
60.106(f)	Determination of compliance with SO2 limit	Y	N/A after startup of S1010
60.106(f)(1)	Methods to determine SO2 concentration	Y	N/A after startup of S1010
60.106(f)(3)	Methods to determine O2 concentration	Y	N/A after startup of S1010
60.107	Reporting and recordkeeping requirements	Y	N/A after startup of S1010
60.107(d)	Data availability	Y	N/A after startup of S1010
60.107(e)	Semi-annual reports	Y	N/A after startup of S1010
60.107(f)	Signed certifications	Y	N/A after startup of S1010
NSPS 40 CFR 60	**Standards of Performance for Petroleum Refineries for which Construction, Reconstruction, or Modification Commenced**		Applies after startup of S1010

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Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
Subpart Ja	**After May 14, 2007 (6/24/08)**		
60.100a(b)	Applicability to sources built after 5/14/07	Y	Applies after startup of S1010
60.102a	Emissions limitations	Y	Applies after startup of S1010
60.102a(a)	Compliance within 60 days of achieving maximum production rate or 180 days after initial startup	Y	Applies after startup of S1010
60.102a(f)(1)	Standards for Sulfur Oxides	Y	Applies after startup of S1010
60.102a(f)(3)	Periods of maintenance for the sulfur pits	Y	Applies after startup of S1010
60.103a	Work Practice Standards	Y	Applies after startup of S1010
60.103a(b)	Root cause analysis of any emission limit exceedance or process start-up, shutdown, upset, or malfunction that causes a discharge to the atmosphere in excess 500 lb per day of SO2.	Y	Applies after startup of S1010
60.104a	Performance tests	Y	Applies after startup of S1010
60.104a(a)	Initial performance test	Y	Applies after startup of S1010
60.104a(c)	Allowable performance tests	Y	Applies after startup of S1010
60.104a(h)	Performance tests for SRUs	Y	Applies after startup of S1010
60.104a(h)(1)	Method 1 for sample and velocity traverses	Y	Applies after startup

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S1001 – Sulfur Plant Unit 234 , S1002 – Sulfur Plant Unit 236
S1003 – Sulfur Plant Unit 238, S301 – Molten Sulfur Pit 234
S302 – Molten Sulfur Pit 236 and S303 – Molten Sulfur Pit 238

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
			of S1010
60.104a(h)(2)	Method 2 for velocity and volumetric flow rate	Y	Applies after startup of S1010
60.104a(h)(3)	Method 3, 3A, or 3B for gas analysis	Y	Applies after startup of S1010
60.104a(h)(4)	Method 6, 6A, or 6C for SO2 concentration	Y	Applies after startup of S1010
60.106a	Monitoring of emissions and operations for sulfur recovery units	Y	Applies after startup of S1010
60.106a(a)	Continuous monitoring systems	Y	Applies after startup of S1010
60.106a(a)(1)	Continuous SO2 and O2 Monitoring systems	Y	Applies after startup of S1010
60.106a(b)	Excess emissions		Applies after startup of S1010
60.108a	Recordkeeping and reporting requirements.	Y	Applies after startup of S1010
60.108a(a)	Compliance with notification, recordkeeping, and reporting requirements in §60.7 and other requirements as specified in this section.	Y	Applies after startup of S1010
60.108a(b)	Notification to Administrator of monitoring option	Y	Applies after startup of S1010
60.108a(c)(6)	Notification of discharges greater than 500 lb SO2/day and discharge to flare greater than 500,000 scfd	Y	Applies after startup of S1010
60.108a(d)	Excess emissions reports	Y	Applies after startup

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Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
			of S1010
NSPS 40 CFR 60 Appendix B	**Performance Specifications**		
Performance Specification 2	Specifications and Test Procedures for SO2 and NOX Continuous Emission Monitoring Systems in Stationary Sources	Y	
NSPS 40 CFR 60 Appendix F	**Quality Assurance Procedures**		
40 CFR 63, Subpart A	**General Provisions (3/16/94)**		
63.1	Applicability (except that Subpart UUU specifies calendar or operating day)	Y	
63.2	Definitions	Y	
63.3	Units and Abbreviations	Y	
63.4	Prohibited Activities	Y	
63.5	Construction and Reconstruction	Y	
63.5(a)	Applicability	Y	
63.5(b)	Requirements for existing, newly constructed, and reconstructed sources (replace reference to Section 63.9 with Sections 63.9(b)(4) and (5))	Y	
63.5(c)	[reserved]	Y	
63.5(d)	Application for approval of construction or reconstruction	Y	
63.5(d)(1)	General application requirements	Y	
63.5(d)(1)(i)	Application for approval (except that Subpart UUU specifies the application is submitted as soon as practicable before startup but not later than 90 days (rather then 60) after the promulgation date where construction or reconstruction had commenced and initial startup had not occurred before promulgation.)	Y	
63.5(d)(1)(ii)	Separate application for each construction or deconstruction (Except that emission estimates specified in §63.5(d)(1)(ii)(H) are not required.)	Y	
63.5(d)(3)	Application for approval of reconstruction (Except that §63.5(d)(3)(ii) does not apply.)	Y	
63.5(d)(3)(i)	A brief description of the affected source, etc.	Y	

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Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
63.5(d)(3)(iii)	An estimate of the fixed capital cost of the replacements and of constructing a comparable entirely new source	Y	
63.5(d)(3)(iv)	The estimated life of the affected source after the replacements	Y	
63.5(d)(3)(v)	A discussion of any economic or technical limitations	Y	
63.5(d)(3)(vi)	Designation of reconstructed source	Y	
63.5(d)(4)	Additional information	Y	
63.5(e)	Approval of construction or reconstruction	Y	
63.5(f)	Approval of construction or reconstruction based on prior State preconstruction review	Y	
63.5(f)(1)	Preconstruction review procedures that a State utilizes for other purposes, etc.	Y	
63.5(f)(2)	Deadline for request of approval of construction or reconstruction (Except that 60 days is changed to 90 days and cross-reference to 53.9(B)(2) does not apply.)	Y	
63.6	Compliance with standards and maintenance requirements	Y	
63.6(a)	Applicability	Y	
63.6(b)	Compliance dates for new and reconstructed sources	Y	
63.6(b)(1)	Compliance at standard's effective date	Y	
63.6(b)(2)	Compliance upon startup	Y	
63.6(b)(3)	Compliance within 3 years of effective date	Y	
63.6(b)(4)	Compliance within 10 years of effective date	Y	
63.6(b)(5)	Notification to administrator of later compliance date (Except that subpart UUU specifies different compliance dates for sources)	Y	
63.6(c)	Compliance dates for existing sources	Y	
63.6(c)(1)	Compliance with standards by the compliance date established by the Administrator	Y	
63.6(c)(2)	Compliance with standards by date established by Section 112(f) of the act	Y	
63.6(e)	Operation and maintenance requirements	Y	
63.6(e)(1)	Operation in a manner consistent with safety and good air pollution control practices	Y	
63.6(e)(2)	Reserved	Y	
63.6(e)(3)	Startup, shutdown, and malfunction plan	Y	
63.6(e)(3)(i)	Development and implementation of a written startup, shutdown, and malfunction plan	Y	
63.6(e)(3)(ii)	Periods of startup, shutdown, and malfunction	Y	

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S302 – MOLTEN SULFUR PIT 236 AND S303 – MOLTEN SULFUR PIT 238

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
63.6(e)(3)(iii)	Operation consistent with procedures	Y	
63.6(e)(3)(iv)	Operation not consistent with procedures (Except that reports of actions not consistent with plan are not required within 2 and 7 days of action but rather must be included in next periodic report)	Y	
63.6(e)(3)(v)	Maintenance of the plan at the affected source (The owner or operator is only required to keep the latest version of the plan)	Y	
63.6(e)(3)(vi)	Alternative plans	Y	
63.6(e)(3) (vii)	Administrator may require changes to plan	Y	
63.6(e)(3) (viii)	The owner or operator may periodically revise the startup, shutdown, and malfunction plan	Y	
63.6(f)	Compliance with non-opacity emission standards	Y	
63.6(f)(1)	Applicability (standards apply at all times except startup, shutdown, and malfunction)	Y	
63.6(f)(2)	Methods for determining compliance	Y	
63.6(f)(2)(i)	Based on performance tests	Y	
63.6(f)(2)(ii)	Evaluation of an owner or operator's conformance with operation and maintenance requirements	Y	
63.6(f)(2)(iii)	Conditions under which performance testing for state requirements shows compliance	Y	
63.6(f)(2)(iii) (A)	Performance test conducted within a reasonable amount of time	Y	
63.6(f)(2)(iii) (B)	Performance test conducted under representative operating conditions	Y	
63.6(f)(2)(iii) (c)	EPA-approved test methods and procedures	Y	
63.6(f)(2)(iv)	Determination of compliance	Y	
63.6(f)(2)(v)	Conformance with operation and maintenance requirements	Y	
63.6(f)(3)	Finding of compliance	Y	
63.6(g)	Use of an alternative non-opacity emission standard	Y	
63.6(i)	Extension of compliance with emission standards (Parts 1-14 and part 16. Part 15 is reserved.	Y	
63.7	Performance testing requirements	Y	
63.7(a)	Applicability and performance test dates	Y	
63.7(a)(1)	Performance test requirements Applicability (Except that subpart UUU specifies the applicable test and demonstration procedures.)	Y	

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Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
63.7(a)(3)	The Administrator may require performance tests at any time when action is authorized by section 114 of the Act (Except that subpart UUU specifies notification at least 30 days prior to the scheduled test date rather than 60 days.)	Y	
63.7(b)	Notification of performance test	Y	
63.7(c)	Quality assurance program	Y	
63.7(d)	Performance testing facilities	Y	
63.7(e)	Conduct of performance tests	Y	
63.7(f)	Use of an alternative test method	Y	
63.7(g)	Data analysis, recordkeeping, and reporting (Except performance test reports must be submitted with notification of compliance status due 150 days after the compliance date.)	Y	
63.7(h)	Waiver of performance tests	Y	
63.8	Monitoring requirements	Y	
63.8(a)	Applicability	Y	
63.8(a)(1)	Applicability	Y	
63.8(a)(2)	Performance Specifications	Y	
63.8(a)(4)	Additional monitoring requirements for control devices	Y	
63.8(b)	Conduct of monitoring	Y	
63.8(b)(1)	Conduct of monitoring	Y	
63.8(b)(2)	Combination of the emissions from two or more affected sources (Subpart UUU specifies the required monitoring locations.)	Y	
63.8(b)(3)	More than one CMS (Subpart UUU specifies the required monitoring locations.)	Y	
63.8(c)	Operation and maintenance of continuous monitoring systems	Y	
63.8(c)(1)	Good air pollution control practices	Y	
63.8(c)(1)(i)	Maintenance and operation of each CMS	Y	
63.8(c)(1)(ii)	Parts for routine repairs readily available (Except that subpart UUU specifies that reports are not required if actions are consistent with the SSM plan, unless requested by the permitting authority. If actions are not consistent, actions must be described in next compliance report.)	Y	
63.8(c)(1)(iii)	Compliance with Operation and Maintenance Requirements (Except that subpart UUU specifies that reports are not required if actions are consistent with the SSM plan, unless requested by the permitting authority. If actions are not consistent, actions must be	Y	

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Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
	described in next compliance report.)		
63.8(c)(2)	Monitoring system installation	Y	
63.8(c)(3)	Monitoring system installation	Y	
63.8(c)(4)(ii)	One cycle of operation for each 15-minute period (Applicable since facility has chosen to comply with NSPS SO2 standard)	Y	
63.8(c)(6)	CMS Requirements (Applicable since facility has chosen to comply with NSPS SO2 standard)	Y	
63.8(c)(7)	Out-of-control CMS	Y	
63.8(c)(8)	Submittal of all information concerning out-of-control periods	Y	
63.8(d)	Quality Control Program (Applicable since facility has chosen to comply with NSPS SO2 standard)	Y	
63.8(e)	Performance evaluation of continuous monitoring systems (Applicable since facility has chosen to comply with NSPS SO2 standard. Results to be submitted by part of Notification Compliance Status due 150 days after the compliance date)	Y	
63.8(f)	Use of an alternative monitoring method	Y	
63.8(g)	Reduction of monitoring data	Y	
63.8(g)(1)	Reduction of monitoring data	Y	
63.8(g)(2)	1-hour averages	Y	
63.8(g)(3)	Records in reduced or non-reduced form	Y	
63.8(g)(4)	Units of the relevant standard	Y	
63.9	Notification requirements	Y	
63.9(a)	Applicability and general information	Y	
63.9(b)	Initial notifications (Sections 1, 2, 4, and 5. Section 3 is reserved.) Notification of construction or reconstruction is to be submitted as soon as practicable before startup.)	Y	
63.9(c)	Request for extension of compliance	Y	
63.9(d)	Notification that source is subject to special compliance requirements	Y	
63.9(e)	Notification of performance test (Except that notification is required at least 30 days before test.)	Y	
63.9(g)	Additional notification requirements for sources with continuous monitoring systems (Applicable since facility has chosen to comply with NSPS SO2 standard)	Y	
63.9(h)	Notification of compliance status (Except that subpart UUU specifies the notification is due no later than 150 days after	Y	

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Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
	compliance date.)		
63.9(i)	Adjustment to time periods or postmark deadlines	Y	
63.9(j)	Change in information already provided	Y	
63.10	Recordkeeping and reporting requirements	Y	
63.10(a)	Applicability and general information	Y	
63.10(b)	General recordkeeping requirements	Y	
63.10(c)	Additional recordkeeping requirements for sources with continuous monitoring systems	Y	
63.10(c)(1)	All required CMS measurements	Y	
63.10(c)(2)	[reserved]	Y	
63.10(c)(3)	[reserved]	Y	
63.10(c)(4)	[reserved]	Y	
63.10(c)(5)	Date and time when CMS was inoperative	Y	
63.10(c)(6)	Date and time when CMS was out-of-control	Y	
63.10(c)(9)	[reserved]	Y	
63.10(c)(10)	The nature and cause of any malfunction	Y	
63.10(c)(11)	Corrective action or preventive measures	Y	
63.10(c)(12)	Nature of repairs or adjustments	Y	
63.10(c)(13)	Process operating time	Y	
63.10(c)(14)	Procedures in quality control program	Y	
63.10(c)(15)	Use of startup, shutdown, and malfunction plan	Y	
63.10(d)	General reporting requirements	Y	
63.10(d)(1)	Reports to the Administrator	Y	
63.10(d)(4)	Progress reports	Y	
63.10(d)(5)(i)	Periodic startup, shutdown, and malfunction reports	Y	
63.10(d)(5)(ii)	Immediate startup, shutdown, and malfunction reports (reports not required if actions consistent with the SSM plan, unless requested by permitting authority)	Y	
63.10(e)	Additional reporting requirements for sources with continuous monitoring systems	Y	
63.10(e)(1)	General (Applicable since facility has chosen to comply with NSPS SO2 standard)	Y	
63.10(e)(2)	Reporting results of continuous monitoring system performance evaluations (Applicable since facility has chosen to comply with NSPS SO2 standard)	Y	
63.10(f)	Waiver of recordkeeping or reporting requirements	Y	

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Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
63.11	Control device requirements (Applicable to flares)	Y	
63.15	Availability of information and confidentiality	Y	
40 CFR 63 Subpart UUU	**National Emission Standards for Hazardous Pollutants for Petroleum Refineries: Catalytic Cracking Units, Catalytic Reforming Units, and Sulfur Recovery Units (4/11/02)**	**Y**	
63.1561	Am I subject to this subpart?	Y	
63.1562(a)	New, reconstructed, or existing affected sources	Y	
63.1562(b)(3)	Sulfur recovery units and tail gas treatment units	Y	
63.1563	When do I have to comply with this subpart?	Y	
63.1563(b)	Deadline for existing sources-4/11/05	Y	
63.1563(e)	Notification requirements	Y	
63.1568	What are my requirements for HAP emissions from sulfur recovery units?	Y	
63.1568(a)	Emission limitations and work practice standards	Y	
63.1568(a)(1)(i)	Sulfur Emission Limitation from Claus sulfur recovery units electing to meet NSPS Limits: 250 ppmvd SO2 at 0% excess air. (Table 29, Item 2.a)	Y	
63.1568(a)(3)	Prepare Operation, Maintenance, and Monitoring Plan and operate at all times according to the procedures in the plan	Y	
63.1568(b)	Demonstrate Initial Compliance with Emission Limitation and Work Practice Standard	Y	
63.1568(b)(1)	Continuous Emission Monitoring System to measure and record hourly average SO2 concentration, with O2 monitor to correct excess air concentration (Table 31, Item 2.a)	Y	
63.1568(b)(2)	Performance Test: measure SO2 concentration using CEMS every 15 minutes for 24 hours and reduce the data to 1-hr averages (Table 32, Item 1)	Y	
63.1568(b)(5)	Demonstrate Initial Compliance with Emission Limitation: Average SO2 emissions measured by CEMS in initial performance test not greater than 250 ppmvd at 0% excess O2, and monitoring system meets applicable requirements (Table 33, Item 2.a)	Y	
63.1568(b)(6)	Demonstrate initial compliance by submitting Operation, Maintenance, and Monitoring Plan	Y	
63.1568(b)(7)	Submit Notice of Compliance Status	Y	
63.1568(c)	Demonstrate Continuous Compliance with Emission Limitation and Work Practice Standards	Y	

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Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
63.1568(c)(1)	Demonstrate Continuous Compliance with Emission Limitation: collect hourly average SO2 monitoring data; maintain hourly average below applicable limit; determine and record each 12-hour concentration; report 12-hour concentration greater than applicable limitation (Table 34, Item 2.a)	Y	
63.1568(c)(2)	Demonstrate Continuous Compliance with Work Practice Standards by complying with the procedures in Operation, Maintenance, and Monitoring Plan.	Y	
63.1570	What are my general requirements for complying with this subpart?	Y	
63.1570(a)	Operate in compliance with non-opacity standards at all times except during periods of startup, shutdown, and malfunction, as specified in 63.6(f)(1)	Y	
63.1570(c)	Operate and maintain source including pollution control and monitoring equipment in accordance with 63.6(e)(1). Between 4/11/05 and the date continuous monitoring systems are installed and validated and operating limits have been set, maintain a log detailing operation and maintenance of process and equipment.	Y	
63.1570(d)	Develop and implement startup, shutdown, and malfunction plan (SSMP) in accordance with 63.6(e)(3)	Y	
63.1570(e)	Operate in accordance with SSMPP during periods of startup, shutdown, and malfunction	Y	
63.1570(f)	Report deviations from compliance with this subpart according to the requirements of 63.1575	Y	
63.1570(g)	Deviations that occur during startup, shutdown, or malfunction are not violations if operating in accordance with SSMP	Y	
63.1571	How and when do I conduct a performance test or other initial compliance demonstration?	Y	
63.1571(a)	Conduct Performance Test and submit results no later than 150 days after compliance date	Y	
63.1571(a)(1)	For emission limitation or work practice standard where compliance not demonstrated using performance test, opacity observation, or visible emission observation, conduct initial compliance demonstration within 30 days after compliance date	Y	
63.1571(b)	Requirements for Performance Tests	Y	
63.1571(b)(1)	Conduct performance tests in accordance with the requirements of 63.7(e)(1)	Y	

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S302 – Molten Sulfur Pit 236 and S303 – Molten Sulfur Pit 238

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
63.1571(b)(2)	Conduct three separate test runs of at least an hour for each performance test	Y	
63.1571(b)(3	Conduct each performance evaluation in accordance with the requirements of 63.8(e)	Y	
63.1571(b)(4)	Performance tests not conducted during periods of startup, shutdown, or malfunction	Y	
63.1571(b)(5)	Arithmetic average of emission rates	Y	
63.1572	What are my monitoring installation, operation, and maintenance requirements?	Y	
63.1572(a)	Requirements for installation, operation, and maintenance of continuous emission monitoring system	Y	
63.1572(a)(1)	SO2 CEMS must meet requirements of Performance Specification 2 (40 CFR Part 60, App B) (Table 40, Item 4)	Y	
63.1572(a)(2)	Conduct performance evaluation for SO2 CEMS according to Performance Specification 2 (Table 40, Item 4)	Y	
63.1572(a)(3)	CEMS must complete one cycle of operation for each 15-minute period	Y	
63.1572(a)(4)	Data reduction per 63.8(g)(2)	Y	
63.1572(d)	Data monitoring and collection requirements	Y	
63.1572(d)(1)	Conduct monitoring at all times, except for monitoring malfunctions, repairs, and QA/QC activities	Y	
63.1572(d)(2)	Data recorded during monitoring malfunctions, repairs, and QA/QC activities not used for compliance purposes	Y	
63.1573	What are my monitoring alternatives?	Y	
63.1573(d)	Monitoring for alternative parameters (optional)	Y	
63.1573(e)	Alternative Monitoring Requests (optional)	Y	
63.1574	What notifications must I submit and when?	Y	
63.1574(a)	Notifications Required by Subpart A	Y	
63.1574(a)(1)	Notifications of reconstruction	Y	
63.1574(a)(2)	Submit notification of intent to conduct performance test 30 days before scheduled (instead of 60 days)	Y	
63.1574(a)(3)	Notification of Compliance Status	Y	
63.1574(a)(3)(ii)	Submit Notification of Compliance Status for initial compliance demonstration that includes a performance test, no later than 150 days after source compliance date	Y	
63.1574(d)	Information to be Submitted in Notice of Compliance Status (Table	Y	

Table IV – Ua
Source-specific Applicable Requirements
S1001 – SULFUR PLANT UNIT 234 , S1002 – SULFUR PLANT UNIT 236
S1003 – SULFUR PLANT UNIT 238, S301 – MOLTEN SULFUR PIT 234
S302 – MOLTEN SULFUR PIT 236 AND S303 – MOLTEN SULFUR PIT 238

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
	42): identification of affected sources and emission points (Item 1); initial compliance demonstration (Item 2); continuous compliance (Item 3)		
63.1574(f)	Requirement to prepare Operation, Maintenance, and Monitoring Plan	Y	
63.1574(f)(1)	Submit plan to permitting authority for review and approval along with notification of compliance status. Include duty to prepare and implement plan into Part 70 or 71 permit.	Y	
63.1574(f)(2)	Minimum contents of Operation, Maintenance, and Monitoring Plan	Y	
63.1574(f)(2)(ii)	Procedures for monitoring emissions and process and control device operating parameters for each affected source.	Y	
63.1574(f)(2)(vii)	Monitoring schedule	Y	
63.1574(f)(2)(ix)	Quality control plan for continuous emission monitor	Y	
63.1574(f)(2)(x)	Maintenance schedule for monitoring systems and control devices	Y	
63.1575	What reports must I submit and when?	Y	
63.1575(a)	Required reports: Statement that there were no deviations or report including information in 1575(d) or (e) (Table 43, Item 1) on a semi-annual basis	Y	
63.1575(b)	Specified semiannual report submittal dates	Y	
63.1575(c)	Information required in compliance report	Y	
63.1575(d)	Information required for deviations from emission limitations and work practice standards where CEMS or COMS is not used to comply with emission limitation or work practice standard	Y	
63.1575(e)	Information required for deviations from emission limitations and work practice standards where CEMS or COMS is used to comply with emission limitation or work practice standard	Y	
63.1575(f)	Additional information for compliance reports	Y	
63.1575(f)(1)	Requirement to submit performance test reports	Y	
63.1575(f)(2)	Submittal of requested change in the applicability of an emission standard	Y	
63.1575(g)	Submittal of reports required by other regulations in place of or as part of compliance report if they contain the required information	Y	
63.1575(h)	Reporting requirements for startups, shutdowns, and malfunctions	Y	

Table IV – Ua
Source-specific Applicable Requirements
S1001 – SULFUR PLANT UNIT 234 , S1002 – SULFUR PLANT UNIT 236
S1003 – SULFUR PLANT UNIT 238, S301 – MOLTEN SULFUR PIT 234
S302 – MOLTEN SULFUR PIT 236 AND S303 – MOLTEN SULFUR PIT 238

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
63.1576	What records must I keep, in what form, and for how long?	Y	
63.1576(a)	Required Records – General	Y	
63.1576(b)	Records for CEMs	Y	
63.1576(b)(1)	Records described in §63.10(b)(2)(vi) through (xi).	Y	
63.1576(b)(3)	Previous (i.e., superceded) versions of the performance evaluation plan as required in §63.8(d)(3).	Y	
63.1576(b)(4)	Requests for alternatives to the relative accuracy test for continuous emission monitoring systems as required in §63.8(f)(6)(i).	Y	
63.1576(b)(5)	Records of the date and time that each deviation started and stopped, and whether the deviation occurred during a period of startup, shutdown, or malfunction or during another period.	Y	
63.1576(d)	Records required by Tables 34 and 35 of Subpart UUU	Y	
63.1576(e)	Maintain copy of operation, maintenance, and monitoring plan	Y	
63.1576(f)	Records of changes that affect emission control system performance	Y	
63.1576(g)	Records in a form suitable and readily available for review	Y	
63.1576(h)	Maintain records for 5 years	Y	
63.1576(i)	Records onsite for 2 years; may be maintained offsite for remaining 3 years	Y	
BAAQMD Condition 19278			
Part 3	Annual source test to verify SO3 and H2SO4 exhaust concentrations. [Basis: Regulation 6-330]	Y	
Part 4	Visible emissions monitoring for particulate [Basis: Regulation 2-6-503]	Y	
Part 5	~~Installation of ports for particulate testing and~~ Source test within 90 days of ~~next turnaround~~issuance of Major Facility Review permit pursuant to Application 10994; Annual testing [2-6-503]	Y	~~After turn-around~~ 10/31/08
Part 6	Throughput limits [Cumulative Increase]	Y	
BAAQMD Condition 21099	**APPLIES TO S1002, S1003 ONLY**		
Part 1	Light hydrocarbon control valve requirements [Basis: BACT]	Y	
Part 2	Light hydrocarbon flange/connector requirements [Basis: BACT]	Y	
Part 3	Centrifugal compressor requirements [Basis: BACT]	Y	
Part 4	Light hydrocarbon centrifugal pump requirements [Basis: BACT]	Y	

Table IV – Ua
Source-specific Applicable Requirements
S1001 – SULFUR PLANT UNIT 234 , S1002 – SULFUR PLANT UNIT 236
S1003 – SULFUR PLANT UNIT 238, S301 – MOLTEN SULFUR PIT 234
S302 – MOLTEN SULFUR PIT 236 AND S303 – MOLTEN SULFUR PIT 238

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
Part 5	Monitoring and repair program requirement [Basis: BACT]	Y	
Part 6	ULSD project component count report requirement [Basis: BACT, Cumulative Increase, Toxic Management Policy]	Y	
BAAQMD Condition 22964	**APPLIES TO S301, S302, S303**		
Part 1	Throughput limit for S301, S302, S303 [Cumulative Increase]	Y	
Part 4	Abatement requirement for S301 [Consent Decree Case No. 05-0258, paragraph 123, DATE: 1/27/05; Consent Decree Case No. 05-0258 amendment, paragraph 123, DATE: 5/1/07; 40 CFR 60.104(a)(2)(i)]	Y	
Part 5	Abatement requirement for S302 [Consent Decree Case No. 05-0258, paragraph 123, DATE: 1/27/05; Consent Decree Case No. 05-0258 amendment, paragraph 123, DATE: 5/1/07; 40 CFR 60.104(a)(2)(i)]	Y	
Part 6	Abatement requirement for S303 [Consent Decree Case No. 05-0258, paragraph 123, DATE: 1/27/05; Consent Decree Case No. 05-0258 amendment, paragraph 123, DATE: 5/1/07; 40 CFR 60.104(a)(2)(i)]	Y	
Part 7	Maintenance allowance for sulfur pits [Consent Decree Case No. 05-0258 amendment, paragraph 123, DATE: 5/1/07]	Y	
Part 8	Recordkeeping [Cumulative Increase]	Y	

1 This section has been removed from BAAQMD Regulations because it has been superseded. Nevertheless, the source must comply with this regulation until US EPA has reviewed and approved (or disapproved) the District's revision of the regulation.

Following are the proposed changes in Section IV for S1007, Dissolved Air Flotation Unit.

S1007 will be subject to a requirement to capture and destroy 44 tons of POC per year. ConocoPhillips estimated the POC emissions using analyses of grab samples prepared by the District and flow rate measurements at the DAF vents taken by ConocoPhillips. The facility will control the POC emissions to generate offsets for the CFEP project.

Per 40 CFR 64.2(a), S1007, Dissolved Air Flotation Unit, would be subject to 40 CFR 64, Compliance Assurance Monitoring, if the unit is subject to a federally enforceable requirement

for a pollutant, the pollutant is controlled by an abatement device, and the emissions of the pollutant before abatement are more than 100% of the major source thresholds.

After the oxidizer is installed, ConocoPhillips will perform tests to determine how much POC is captured and destroyed. The amount is expected to be about 44 tons per year, so S1007 is not subject to CAM.

A51, DAF Carbon Bed, is a backup to S49, and does not change the applicability determination for CAM.

The following parametric monitors will be used at the DAF: temperature monitoring for A49, Thermal Oxidizer; FID or PID monitoring at A51, DAF Carbon Bed; and pressure monitoring at S1007, DAF. Therefore, the requirements of BAAQMD and SIP Regulations 1-523 were added.

Changes to BAAQMD Regulation 8, Rule 8, Wastewater Collection and Separation Systems, made on September 15, 2004, have been incorporated into Table IV-D. The old provisions are still in the SIP, so they remain as federally enforceable requirements.

Conoco has requested an alternate operating scenario for the DAF in this action. When both A49 and A51 are not in use, Conoco will not consider S1007 to be controlled for the purposes of BWON, BAAQMD Regulation, Rule 8, and SIP Regulation, Rule 8. This is acceptable as long as Conoco complies with the other conditions. The Title V regulations in 40 CFR Part 70.6(a)(9) require that facility must keep a record in a contemporaneous log when the facility changes any aspect of its operations from one permitted scenario to another and that each alternate operating scenario must meet all applicable requirements.

BAAQMD Regulation 2-6-409.7(d) also requires that the facility must keep a record in a contemporaneous log.

The alternate operating scenario is in Condition 1440, part 10.

Table IV – D
Source-specific Applicable Requirements
S1007 DISSOLVED AIR FLOTATION UNIT

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
BAAQMD Regulation 1	**General Provisions and Definitions (7/9/08)**		
1-523	Parametric Monitoring and Recordkeeping Procedures	N	
1-523.1	Parametric monitor periods of inoperation	Y	
1-523.2	Limits on periods of inoperation	Y	
1-523.3	Reports of Violations	N	
1-523.4	Records	Y	

Table IV – D
Source-specific Applicable Requirements
S1007 DISSOLVED AIR FLOTATION UNIT

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
1-523.5	Maintenance and calibration	N	
SIP Regulation 1	**General Provisions and Definitions (6/28/99)**		
1-523	Parametric Monitoring and Recordkeeping Procedures	Y-note 1	
1-523.3	Reports of Violations	Y[1]	
BAAQMD Regulation 6, Rule 1	**Particulate Matter and Visible Emissions (12/5/07)**		
6-1-301	Ringelmann #1 Limitation	N	
6-1-305	Visible Particles	N	
6-1-310.3	Particulate Weight Limitation	N	
6-1-311	General Operations	N	
6-1-401	Appearance of Emissions	N	
SIP Regulation 6	**Particulate Matter and Visible Emissions (9/4/98)**		
6-301	Ringelmann #1 Limitation	Y	
6-305	Visible Particles	Y	
6-310.3	Particulate Weight Limitation	Y	
6-311	General Operations	Y	
6-401	Appearance of Emissions	Y	
BAAQMD Regulation 8, Rule 8	**Wastewater Collection and Separation Systems (9/15/04)**		
8-8-307	Air Flotation Unit: any air flotation unit and/or pre-air flotation unit flocculation sump, basin, chamber or tank with a maximum allowable capacity greater than 400 gals/min unless is equipped with one of the following:	Y	
8-8-307.1	A solid, gasketed, fixed cover totally enclosing the air flotation and pre-air-flotation-unit flocculation tank, chamber, or basin (compartment) liquid contents, with all cover openings closed, except when the opening is being used for inspection, maintenance, or wastewater sampling. The cover may include an atmospheric vent or pressure/vacuum valve. Roof seals, access doors, and other openings shall be checked by visual inspection initially and semiannually thereafter to ensure that no cracks or gaps greater than 0.32 cm (0.125 inch) occur in the roof or between the roof and wall; and that the access doors and other openings are closed and gasketed properly; (Standard applies when unit not controlled by organic compound vapor recovery system)	Y	
8-8-307.2	Organic compound vapor recovery system with a combined	N	

Table IV – D
Source-specific Applicable Requirements
S1007 DISSOLVED AIR FLOTATION UNIT

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
	collection and control efficiency of at least 70 percent by weight (Standard applies when unit controlled by organic compound vapor recovery system)		
SIP Regulation 8, Rule 8	**Wastewater (Oil-Water) Separators (8/2/94)**	Y	
8-8-307	Air Flotation Unit:	Y	
8-8-307.2	Organic compound vapor recovery system with a combined collection and control efficiency of at least 70 percent by weight (Standard applies when unit controlled by organic compound vapor recovery system)	Y	
40 CFR 61, Subpart A	**General Provisions (11/7/85)**		
61.5	Prohibited Activities	Y	
61.10	Source reporting and waiver request	Y	
61.10(c)	Changes in information provided	Y	
61.10(d)	Format for reporting	Y	
61.10(e)	Calendar days	Y	
61.10(f)	Requirement for postmarks	Y	
61.10(g)	Alternate deadlines pursuant to agreement with Administrator	Y	
61.10(h)	Coordination of federal reports with state reports	Y	
61.10(i)	Common schedules	Y	
61.10(j)	Procedure for adjusting deadlines	Y	
61.12	Compliance with standards and maintenance requirements	Y	
61.13	Emission tests and waiver of emission tests	Y	
61.14	Monitoring requirements	Y	
61.15	Modification	Y	
61.16	Availability of informations	Y	
61.17	State authority	Y	
61.19	Circumvention	Y	
40 CFR 61 Subpart FF	**National Emission Standards for Benzene Waste Operations (12/04/2003) (Applies to DAF and Thermal Oxidizer (A49) or Carbon Adsorption (A51) when A49 and/or A51 are in operation)**		
61.340(a)	Applicability: Chemical Manufacturing, coke by-product recovery, petroleum refineries	Y	
61.343	Standard: Tanks	Y	
61.343(a)	Control of tanks	Y	

Table IV – D
Source-specific Applicable Requirements
S1007 DISSOLVED AIR FLOTATION UNIT

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
61.343(a)(1)	Fixed-roof and closed-vent system that routes all organic vapors to a control device	Y	
61.343(a)(1)(i)(A)	No detectable emissions over 500 ppmv	Y	
61.343(a)(1)(i)(B)	Closed and sealed openings	Y	
61.343(a)(1)(i)(C)	Operation below atmospheric pressure	Y	
61.343(a)(1)(ii)	Standards: Tanks; Closed-vent systems are subject to 61.349	Y	
61.343(c)	Quarterly inspections	Y	
61.343(d)	Repair as soon as practicable but no later than 45 days after identification	Y	
61.355	Test methods, procedures and compliance provisions	Y	
61.355(h)	Leak inspection procedures	Y	
61.355(k)	Determination of benzene quantity	Y	
61.355(k)(2)	Determination of benzene quantity from controlled sources	Y	
61.355(k)(5)	Procedure for calculation of benzene quantity	Y	
61.356	Recordkeeping requirements	Y	
61.356(a)	Recordkeeping and retention requirements	Y	
61.356(b)	Identification of waste streams	Y	
61.356(b)(4)	Measurements, calculations, and documentation used to determine that total benzene quantity is less than 6.0 Mg/yr	Y	
61.356(d)	Engineering design documentation for all control equipment	Y	
61.356(g)	Recordkeeping Requirements: Visual inspection per 61.343 through 61.347	Y	
61.356(h)	Recordkeeping Requirements: Leak Monitoring	Y	
61.356(m)	Monitoring of pressure in head space	Y	
61.357	Reporting requirements	Y	
61.357(d)(7)	Quarterly reports	Y	
61.357(d)(7)(v)	Periods of operation equal to or greater than atmospheric pressure	Y	
BAAQMD Condition 1440			
Part 4b	No detectable VOC from equipment [Basis: Cumulative Increase]	Y	
Part 5	Semiannual VOC monitoring and records [Basis: Cumulative Increase]	Y	

Table IV – D
Source-specific Applicable Requirements
S1007 DISSOLVED AIR FLOTATION UNIT

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
Part 6	Maximum wastewater throughput [Basis: Cumulative Increase]	Y	
Part 7	Control of DAF to provide POC offsets [Offsets, CEQA]	Y	
Part 7a	Source test requirement; contingency if 44 tons of POC reduction not achieved [Offsets, CEQA]	Y	
Part 7b.i	Source test of A49, DAF Thermal oxidizer [Offsets, CEQA]	Y	
Part 7b.ii	Temperature excursions [Offsets, CEQA]	Y	
Part 7b.iii	Temperature measuring device [Offsets, CEQA]	Y	
~~Part 7b.iv~~	~~NSPS Subpart J requirement [40 CFR 60, Subpart J]~~	~~Y~~	
Part 7b.v	Source tests for SO2 ~~if H2S CEM not required~~ [Offsets, CEQA]	Y	
Part 7b.vi	Contingency if SO2 emissions are greater than 1.2 tons per year [Offsets, CEQA]	Y	
Part 7c	Requirements for A51, DAF Carbon Bed [Offsets]	Y	
Part 9	Requirement to seal DAF outlet channel and downstream sumps. Any vents on the channel shall be abated. [Offsets, CEQA]	Y	
Part 10	Alternate operating scenario: contingency for non-operation of control devices; must record beginning and end in contemporaneous log	Y	
Part 11	Requirement for use of thermal oxidizer at least 90%. [CEQA]	N	
BAAQMD Condition 22970			
Part B	Offset Report [2-1-403, 2-2-410]		
BAAQMD Condition 20989, Part A	Throughput limit for S1007 [Basis: 2-1-234.3]	Y	

Table IV – Da
Source-specific Applicable Requirements
A49 DAF THERMAL OXIDIZER

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
BAAQMD Regulation 1	**General Provisions and Definitions (7/9/08)**		
1-523	Parametric Monitoring and Recordkeeping Procedures	N	
1-523.1	Parametric monitor periods of Inoperation	Y	
1-523.2	Limits on periods of Inoperation	Y	
1-523.3	Reports of Violations	N	
1-523.4	Records	Y	
1-523.5	Maintenance and calibration	N	
SIP Regulation 1	**General Provisions and Definitions (6/28/99)**		
1-523	Parametric Monitoring and Recordkeeping Procedures	Y-note 1	
1-523.3	Reports of Violations	Y[1]	
BAAQMD Regulation 6, Rule 1	**Particulate Matter and Visible Emissions (12/5/07)**		
6-1-301	Ringelmann #1 Limitation	N	
6-1-305	Visible Particles	N	
6-1-310.3	Particulate Weight Limitation	N	
6-1-311	General Operations	N	
6-1-401	Appearance of Emissions	N	
SIP Regulation 6	**Particulate Matter and Visible Emissions (9/4/98)**		
6-301	Ringelmann #1 Limitation	Y	
6-305	Visible Particles	Y	
6-310.3	Particulate Weight Limitation	Y	
6-311	General Operations	Y	
6-401	Appearance of Emissions	Y	
BAAQMD Regulation 8, Rule 8	**Wastewater Collection and Separation Systems (9/15/04)**		
8-8-307	Air Flotation Unit: any air flotation unit and/or pre-air flotation unit flocculation sump, basin, chamber or tank with a maximum allowable capacity greater than 400 gals/min unless is equipped with one of the following:	Y	
8-8-307.2	Organic compound vapor recovery system with a combined collection and control efficiency of at least 70 percent by weight (Standard applies when unit controlled by organic compound vapor recovery system)	N	

Table IV – Da
Source-specific Applicable Requirements
A49 DAF THERMAL OXIDIZER

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
SIP Regulation 8, Rule 8	**Wastewater (Oil-Water) Separators (8/2/94)**	Y	
8-8-307	Air Flotation Unit:	Y	
8-8-307.2	Organic compound vapor recovery system with a combined collection and control efficiency of at least 70 percent by weight (Standard applies when unit controlled by organic compound vapor recovery system)	Y	
40 CFR 61, Subpart A	**General Provisions (11/7/85)**		
61.5	Prohibited Activities	Y	
61.10	Source reporting and waiver request	Y	
61.10(c)	Changes in information provided	Y	
61.10(d)	Format for reporting	Y	
61.10(e)	Calendar days	Y	
61.10(f)	Requirement for postmarks	Y	
61.10(g)	Alternate deadlines pursuant to agreement with Administrator	Y	
61.10(h)	Coordination of federal reports with state reports	Y	
61.10(i)	Common schedules	Y	
61.10(j)	Procedure for adjusting deadlines	Y	
61.12	Compliance with standards and maintenance requirements	Y	
61.13	Emission tests and waiver of emission tests	Y	
61.14	Monitoring requirements	Y	
61.15	Modification	Y	
61.16	Availability of informations	Y	
61.17	State authority	Y	
61.19	Circumvention	Y	
40 CFR 61 Subpart FF	**National Emission Standards for Benzene Waste Operations (12/04/2003) (Applies to closed vent system and control devices from DAF to Thermal Oxidizer (A49) or Carbon Adsorption (A51) when A49 and/or A51 are in operation)**		
61.340(a)	Applicability: Chemical Manufacturing, coke by-product recovery, petroleum refineries	Y	
61.349	Standards: Closed-Vent Systems and Control Devices	Y	
61.349(a)	Standards: Closed-Vent Systems and Control Devices; Applicability	Y	
61.349(a)(1)	Standards: Closed-Vent Systems and Control Devices; Closed vent system requirements	Y	

Table IV – Da
Source-specific Applicable Requirements
A49 DAF THERMAL OXIDIZER

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
61.349(a)(1)(i)	Standards: Closed-Vent System design and requirements: no detectable emissions above 500 ppm	Y	
61.349(a)(1)(ii)(B)	Standards: Closed-Vent Systems and Control Devices; Closed vent system requirements; no requirement for flow indicator for car-sealed valves on bypass lines in closed-vent systems	Y	
61.349(a)(1)(iii)	Standards: Closed-vent Systems and Control Devices; Closed vent system requirements; Gauging/sampling devices are gas-tight	Y	
61.349(a)(1)(iv)	Standards: Closed-Vent Systems and Control Devices; Closed vent system requirements; Safety valve provisions	Y	
61.349(a)(2)	Standards: Closed-Vent Systems and Control Devices; Control device requirements	Y	
61.349(a)(2)(i)	Standards: Closed-Vent Systems and Control Devices; Enclosed combustion device requirements	Y	
61.349(a)(2)(i)(A)	Controlled by enclosed combustion device with 95% or greater control efficiency	Y	
61.349(b)	Operation of control device at all times	Y	
61.349(c)	Standards: Closed-Vent Systems and Control Devices; Control Device Performance Demonstration	Y	
61.349(c)(2)	Performance tests	Y	
61.349(e)	Administrator may request performance tests	Y	
61.349(f)	Visually inspect for leaks quarterly	Y	
61.349(g)	Repair leaks; 5 days for first attempt; 15 days for complete repair	Y	
61.349(h)	Monitor per 61.354(c)	Y	
61.354	Monitoring of Operations		
61.354(c)	Monitoring of Operations; Closed-vent systems and control devices – Continuously monitor control device operation	Y	
61.354(c)(1)	Monitor thermal vapor incinerator temperature (**for A49**)	Y	
61.354(d)	Monitor on a daily basis or at intervals no greater than 20% of the design carbon replacement interval, whichever is greater. Replace carbon immediately when carbon breakthrough is indicated (**for A51**)	Y	
61.354(f)	Monitoring of Operations; Closed vent system with bypass line	Y	
61.354(f)(1)	Monitoring of Operations; Closed vent system with bypass line; Visually inspect carseal/valve positions monthly	Y	
61.354(g)	Monitoring of Operations; Pressure Monitor	Y	
61.355	Test methods, procedures and compliance provisions	Y	
61.355(h)	Leak inspection procedures	Y	
61.355(i)	Performance test procedures	Y	

Table IV – Da
Source-specific Applicable Requirements
A49 DAF THERMAL OXIDIZER

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
61.356	Recordkeeping requirements	Y	
61.356(a)	Recordkeeping and retention requirements	Y	
61.356(d)	Engineering design documentation for all control equipment	Y	
61.356(f)	Recordkeeping Requirements: Closed vent system and control device per 61.349 – retain for life of device	Y	
61.356(f)(1)	Recordkeeping Requirements; certification of performance level	Y	
61.356(f)(3)	Requirements for performance tests	Y	
61.356(g)	Recordkeeping Requirements: Visual inspection per 61.343 through 61.347	Y	
61.356(h)	Recordkeeping Requirements: Leak Monitoring		
61.356(j)	Recordkeeping Requirements: Control device operation	Y	
61.356(j)(1)	Recordkeeping Requirements: dates of startup and shutdown	Y	
61.356(j)(2)	Recordkeeping Requirements: description of parameters	Y	
61.356(j)(3)	Recorrdkeeping Requirements: periods when closed vent system and control device are not operating	Y	
61.356(j)(3)(i)	Recordkeeping Requirements: Bypass Line Controls	Y	
61.356(j)(4)	Recordkeeping Requirements: Thermal vapor incinerator records of temperature (**for DAF TO, A49**)	Y	
61.356(m)	Monitoring of pressure in head space	Y	
61.357	Reporting requirements	Y	
61.357(d)(7)	Quarterly reports		
61.357(d)(7)(iv)(A)	Reports of periods of operation below design combustion zone temperature	Y	
61.357(d)(7)(v)	Periods of operation equal to or greater than atmospheric pressure	Y	
BAAQMD Condition 1440			
Part 7	Control of DAF to provide POC offsets [Offsets, CEQA]	Y	
Part 7a	Source test requirement; contingency if 44 tons of POC reduction not achieved [Offsets, CEQA]	Y	
~~Part 7b.i~~	~~Source test of A49, DAF Thermal oxidizer [Offsets, CEQA]~~	~~Y~~	
~~Part 7b.ii~~	~~Temperature excursions [Offsets, CEQA]~~	~~Y~~	
~~Part 7b.iii~~	~~Temperature measuring device [Offsets, CEQA]~~	~~Y~~	
~~Part 7b.iv~~	~~NSPS Subpart J requirement [40 CFR 60, Subpart J]~~		
~~Part 7b.v~~	~~Source tests for SO2 if H2S CEM not required [Offsets, CEQA]~~	~~Y~~	
Part 7b.vi	Contingency if SO2 emissions are greater than 1.2 tons per year	Y	

Table IV – Da
Source-specific Applicable Requirements
A49 DAF THERMAL OXIDIZER

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
	[Offsets, CEQA]		
Part 9	Requirement to seal DAF outlet channel and downstream sumps. Any vents on the channel shall be abated. [Offsets, CEQA]	Y	
Part 10	Alternate operating scenario: contingency for non-operation of control devices; must record beginning and end in contemporaneous log	Y	
Part 11	Requirement for use of thermal oxidizer at least 90%. [CEQA]	N	
BAAQMD Condition 22970			
Part B	Offset Report [2-1-403, 2-2-410]		

Table IV – Db
Source-specific Applicable Requirements
A51 DAF CARBON BED

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
BAAQMD Regulation 1	**General Provisions and Definitions (7/9/08)**		
1-523	Parametric Monitoring and Recordkeeping Procedures	N	
1-523.1	Parametric monitor periods of inoperation	Y	
1-523.2	Limits on periods of inoperation	Y	
1-523.3	Reports of Violations	N	
1-523.4	Records	Y	
1-523.5	Maintenance and calibration	N	
SIP Regulation 1	**General Provisions and Definitions (6/28/99)**		
1-523	Parametric Monitoring and Recordkeeping Procedures	Y-note 1	
1-523.3	Reports of Violations	Y[1]	
BAAQMD Regulation 6, Rule 1	**Particulate Matter and Visible Emissions (12/5/07)**		
6-1-301	Ringelmann #1 Limitation	N	
6-1-305	Visible Particles	N	
6-1-310.3	Particulate Weight Limitation	N	

Table IV – Db
Source-specific Applicable Requirements
A51 DAF CARBON BED

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
6-1-311	General Operations	N	
6-1-401	Appearance of Emissions	N	
SIP Regulation 6	**Particulate Matter and Visible Emissions (9/4/98)**		
6-301	Ringelmann #1 Limitation	Y	
6-305	Visible Particles	Y	
6-310.3	Particulate Weight Limitation	Y	
6-311	General Operations	Y	
6-401	Appearance of Emissions	Y	
BAAQMD Regulation 8, Rule 8	**Wastewater Collection and Separation Systems (9/15/04)**		
8-8-307	Air Flotation Unit: any air flotation unit and/or pre-air flotation unit flocculation sump, basin, chamber or tank with a maximum allowable capacity greater than 400 gals/min unless is equipped with one of the following:	Y	
8-8-307.2	Organic compound vapor recovery system with a combined collection and control efficiency of at least 70 percent by weight (Standard applies when unit controlled by organic compound vapor recovery system)	N	
SIP Regulation 8, Rule 8	**Wastewater (Oil-Water) Separators (8/2/94)**	Y	
8-8-307	Air Flotation Unit:	Y	
8-8-307.2	Organic compound vapor recovery system with a combined collection and control efficiency of at least 70 percent by weight (Standard applies when unit controlled by organic compound vapor recovery system)	Y	
40 CFR 61, Subpart A	**General Provisions (11/7/85)**		
61.5	Prohibited Activities	Y	
61.10	Source reporting and waiver request	Y	
61.10(c)	Changes in information provided	Y	
61.10(d)	Format for reporting	Y	
61.10(e)	Calendar days	Y	
61.10(f)	Requirement for postmarks	Y	
61.10(g)	Alternate deadlines pursuant to agreement with Administrator	Y	
61.10(h)	Coordination of federal reports with state reports	Y	
61.10(i)	Common schedules	Y	

Table IV – Db
Source-specific Applicable Requirements
A51 DAF CARBON BED

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
61.10(j)	Procedure for adjusting deadlines	Y	
61.12	Compliance with standards and maintenance requirements	Y	
61.13	Emission tests and waiver of emission tests	Y	
61.14	Monitoring requirements	Y	
61.15	Modification	Y	
61.16	Availability of informations	Y	
61.17	State authority	Y	
61.19	Circumvention	Y	
40 CFR 61 Subpart FF	**National Emission Standards for Benzene Waste Operations (12/04/2003) (Applies to closed vent system and control devices from DAF to Thermal Oxidizer (A49) or Carbon Adsorption (A51) when A49 and/or A51 are in operation)**		
61.340(a)	Applicability: Chemical Manufacturing, coke by-product recovery, petroleum refineries	Y	
61.349	Standards: Closed-Vent Systems and Control Devices	Y	
61.349(a)	Standards: Closed-Vent Systems and Control Devices; Applicability	Y	
61.349(a)(1)	Standards: Closed-Vent Systems and Control Devices; Closed vent system requirements	Y	
61.349(a)(1)(i)	Standards: Closed-Vent System design and requirements: no detectable emissions above 500 ppm	Y	
61.349(a)(1)(ii)(B)	Standards: Closed-Vent Systems and Control Devices; Closed vent system requirements; no requirement for flow indicator for car-sealed valves on bypass lines in closed-vent systems	Y	
61.349(a)(1)(iii)	Standards: Closed-vent Systems and Control Devices; Closed vent system requirements; Gauging/sampling devices are gas-tight	Y	
61.349(a)(1)(iv)	Standards: Closed-Vent Systems and Control Devices; Closed vent system requirements; Safety valve provisions	Y	
61.349(a)(2)	Standards: Closed-Vent Systems and Control Devices; Control device requirements	Y	
61.349(a)(2)(ii)	Vapor recovery system (e.g.carbon adsorption system) recovers or controls organic emissions with an efficiency of 95% or greater by weight VOC or 98% or greater for Benzene **(applies only to A51, DAF Carbon Adsorption)**	Y	
61.349(b)	Operation of control device at all times	Y	
61.349(c)	Standards: Closed-Vent Systems and Control Devices; Control Device Performance Demonstration	Y	
61.349(c)(2)	Performance tests	Y	
61.349(e)	Administrator may request performance tests	Y	

Table IV – Db
Source-specific Applicable Requirements
A51 DAF CARBON BED

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
61.349(f)	Visually inspect for leaks quarterly	Y	
61.349(g)	Repair leaks; 5 days for first attempt; 15 days for complete repair	Y	
61.349(h)	Monitor per 61.354(c)	Y	
61.354	Monitoring of Operations		
61.354(c)	Monitoring of Operations; Closed-vent systems and control devices – Continuously monitor control device operation	Y	
61.354(d)	Monitor on a daily basis or at intervals no greater than 20% of the design carbon replacement interval, whichever is greater. Replace carbon immediately when carbon breakthrough is indicated (**for A51**)	Y	
61.354(f)	Monitoring of Operations; Closed vent system with bypass line	Y	
61.354(f)(1)	Monitoring of Operations; Closed vent system with bypass line; Visually inspect carseal/valve positions monthly	Y	
61.354(g)	Monitoring of Operations; Pressure Monitor	Y	
61.355	Test methods, procedures and compliance provisions	Y	
61.355(h)	Leak inspection procedures	Y	
61.355(i)	Performance test procedures	Y	
61.356	Recordkeeping requirements	Y	
61.356(a)	Recordkeeping and retention requirements	Y	
61.356(d)	Engineering design documentation for all control equipment	Y	
61.356(f)	Recordkeeping Requirements: Closed vent system and control device per 61.349 – retain for life of device	Y	
61.356(f)(1)	Recordkeeping Requirements; certification of performance level	Y	
61.356(f)(3)	Requirements for performance tests	Y	
61.356(g)	Recordkeeping Requirements: Visual inspection per 61.343 through 61.347	Y	
61.356(h)	Recordkeeping Requirements: Leak Monitoring		
61.356(j)	Recordkeeping Requirements: Control device operation	Y	
61.356(j)(1)	Recordkeeping Requirements: dates of startup and shutdown	Y	
61.356(j)(2)	Recordkeeping Requirements: description of parameters	Y	
61.356(j)(3)	Recorrdkeeping Requirements: periods when closed vent system and control device are not operating	Y	
61.356(j)(3)(i)	Recordkeeping Requirements: Bypass Line Controls	Y	
61.356(j)(10)	Recordkeeping Requirements: Carbon Adsorption records of monitoring, breakthrough, and carbon replacement (**for DAF Carbon Adsorption, A51**)	Y	
61.356(m)	Monitoring of pressure in head space	Y	

Table IV – Db
Source-specific Applicable Requirements
A51 DAF CARBON BED

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
61.357	Reporting requirements	Y	
61.357(d)(7)	Quarterly reports		
61.357(d)(7)(iv)(D)	Reports of periods of operation at concentrations 20% higher than design	Y	
61.357(d)(7)(iv)(I)	Reports of instances where carbon is not replaced at pre-determined intervals	Y	
61.357(d)(7)(v)	Periods of operation equal to or greater than atmospheric pressure	Y	
BAAQMD Condition 1440			
Part 7	Control of DAF to provide POC offsets [Offsets, CEQA]	Y	
Part 7a	Source test requirement; contingency if 44 tons of POC reduction not achieved [Offsets, CEQA]	Y	
Part 7c	Requirements for A51, DAF Carbon Bed [Offsets]	Y	
Part 9	Requirement to seal DAF outlet channel and downstream sumps. Any vents on the channel shall be abated. [Offsets, CEQA]	Y	
Part 10	Alternate operating scenario: contingency for non-operation of control devices; must record beginning and end in contemporaneous log	Y	
BAAQMD Condition 22970			
Part B	Offset Report [2-1-403, 2-2-410]	Y	

Following are the proposed changes in Section IV for S352-S357, Turbines and Duct Burners.

ConocoPhillips has 3 turbine/duct burner sets. The turbines burn refinery fuel gas and natural gas to produce electricity. The duct burners burn the same fuels in the duct downstream from the turbines to produce steam.

The requirements of BAAQMD and SIP Regulations 1-523, Parametric Monitoring and Recordkeeping Procedures, have been included since the fuel flow meters are parametric monitors.

The turbine table has citations for BAAQMD Regulation 6-1-310.3 and SIP Regulation 6-310.3, which are the grain loading standards for heat transfer operations. The turbine is also subject to BAAQMD Regulation 6-1-310 and SIP Regulation 6-310, so the citations have been added. Section 310 is the general standard. The turbines are subject to Section 6-310.3 because the turbines and the duct burners share a common stack and the duct burners are subject to Section 310.3 pursuant to BAAQMD Regulation 1-107.

Per 40 CFR 64.2(a), the turbines/duct burners would normally be subject to 40 CFR 64, Compliance Assurance Monitoring, because the units are subject to a federally enforceable requirement for NOx, the pollutant is controlled by an abatement device (SCR), and the NOx emissions before abatement are more than 100 tons.

However, in accordance with 40 CFR 64.2(b)(1)(vi), the turbines/duct burners are exempt from 40 CFR 64, because the turbines have a part 70 (Title V) permit that specifies a continuous compliance determination method. The method is the requirement for a CEM for NOx.

The turbines are not subject to 40 CFR 63, Subpart YYYY, National Emission Standards for Hazardous Air Pollutants for Stationary Combustion Turbines, because Section 63.6090(b)(4) exempts existing turbines from the standard and from the requirement for notification.

Regulation 9, Rule 9, Nitrogen Oxides from Stationary Gas Turbines, was amended on December 6, 2006. The old requirements are in the SIP, therefore citations for both the District and SIP rules will be in the turbine table. The titles of Sections 9-9-602 and 9-9-603 of the SIP Regulation have been corrected.

The New Source Performance Standard for Turbines, 40 CFR 60, Subpart GG, was amended on July 8, 2004, and February 24, 2006. Most of the changes were to monitoring. Before the amendments, NOx monitoring was only required for turbines with water injection. The amendments allow the use of a NOx CEM that meets the requirements of Section 60.334(b)(2) but still does not require monitoring for NOx for an existing turbine that does not use water or steam injection for NOx control.

The Title V regulations and BAAQMD Regulation 2, Rule 6, Major Facility Review, do require periodic monitoring for federally-enforceable standards. In the existing Title V permit, the CEM required by BAAQMD Condition 12122 and PSD Condition 18629 provided the required monitoring.

EPA approved an Alternative Monitoring Plan for the Steam Power Plant, which includes S352-S354, Turbines, and S355-S357, Duct Burners. EPA's letter (attached as Appendix F) of July 2, 2007, to Philip Stern of I, signed by Douglas K. McDaniel, Chief, Enforcement Office, Air Division, Region IX, approves no monitoring to ensure compliance with the SO2 limit in 40 CFR 60.104(a)(1) for purchased commercial grade natural gas. The Alternative Monitoring Plan has been incorporated into BAAQMD Permit Condition 12122, Part 16. This requirement was included in Section V.F as a custom schedule of compliance. Because EPA has approved an

Alternative Monitoring Plan, the facility is no longer out of compliance with the requirement and the custom schedule of compliance will be removed.

Table IV – Q.1
Source-specific Applicable Requirements
S352 – COMBUSTION TURBINE
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S354 – COMBUSTION TURBINE

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
BAAQMD Regulation 1	**General Provisions and Definitions (7/9/08~~7/17/06~~)**		
1-107	Combination of Emissions	Y	
1-520	Continuous Emission Monitoring	Y	
1-520.8	Monitors pursuant to Regulation 2-1-403	Y	
1-521	Monitoring May Be Required	Y	
1-522	Continuous Emission Monitoring and Recordkeeping Procedures		
1-522.4	reporting of inoperative CEMs	Y	
1-522.5	CEM calibration requirements	Y	
1-522.6	CEM accuracy requirements	Y	
1-522.7	emission limit ~~exceedance~~xceedances reporting requirements	N	
1-522.8	monitoring data submittal requirements	Y	
1-522.9	recordkeeping requirements	Y	
1-522.10	Regulation 1-521 monitors shall meet requirements specified by District	Y	
1-523	Parametric Monitoring and Recordkeeping Procedures	N	
1-523.1	Parametric monitor periods of inoperation	Y	
1-523.2	Limits on periods of inoperation	Y	
1-523.3	Reports of Violations	N	
1-523.4	Records	Y	
1-523.5	Maintenance and calibration	N	
1-602	Area and Continuous Monitoring Requirements	N	
SIP Regulation 1	**PROVISIONS NO LONGER IN CURRENT RULE General Provisions and Definitions (6/28/99)**		
1-522	Continuous Emission Monitoring and Recordkeeping Procedures	Y – note 1	
1-522.7	emission limit ~~exceedance~~xceedances reporting requirements	Y ~~–~~ note 1	
1-523	Parametric Monitoring and Recordkeeping Procedures	Y1	
1-523.3	Reports of Violations	Y1	
BAAQMD Regulation 2, Rule 1	**Regulation 2, Rule 1 ~~–~~ Permits, General Requirements (11/19/08~~7/19/06~~)**		
2-1-403	Permit conditions-measurement of emissions	N	
2-1-501	Monitors	Y	
SIP	PROVISIONS NO LONGER IN CURRENT RULE		

Table IV – Q.1
Source-specific Applicable Requirements
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Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
Regulation 2, Rule 1	**Permits, General Requirements (1/26/99 {adopted 11/01/89})**		
2-1-403	Permit conditions-measurement of emissions	Y-note 1	
BAAQMD Regulation 6, Rule 1	**Particulate Matter and Visible Emissions (12/5/07)**		
6-1-301	Ringelmann #1 Limitation	N	
6-1-305	Visible Particles	N	
6-1-310	Particulate Weight Limitation	N	
6-1-310.3	Particulate Weight Limitation	N	
~~BAAQMD~~ SIP Regulation 6	**Particulate Matter and Visible Emissions (9/4/98~~12/19/90~~)**		
6-301	Ringelmann #1 Limitation	Y	
6-305	Visible Particles	Y	
6-310	Particulate Weight Limitation	Y	
6-310.3	Particulate Weight Limitation, Heat Transfer Operations	Y	
BAAQMD Manual of Procedures, Volume V	**Continuous Emission Monitoring Policy and Procedures (1/20/82)**	Y	
BAAQMD Regulation 9, Rule 9	**Inorganic Gaseous Pollutants – Nitrogen Oxides from Stationary Gas Turbines (12/6/06)**	N	
9-9-113	Exemption – Inspection/Maintenance	N	
9-9-114	Exemption – Startup/Shutdown	N	
9-9-115	Limited Exemption, Minor Inspection and Maintenance Work	N	
9-9-120	Interchangeable Emission Reduction Credits	N	
9-9-301	Emission Limits – General	N	
9-9-301.1.3	Emission Limits	~~Y~~N	
9-9-301.2	Emission limits effective on January 1, 2010	N	1/1/10
9-9-401	Efficiency Certification	Y	
9-9-501	Continuous Emission Monitoring (CEM)	N	
9-9-601	Determination of Emissions	N	
9-9-602	Determination of Stack Gas Oxygen~~Oxygen emissions: Manual of~~	Y	

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Source-specific Applicable Requirements
S352 – COMBUSTION TURBINE
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Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
	~~Procedures, Vol. IV, ST-14~~		
9-9-603	Continuous Emission Monitoring	N	
9-9-604	Determination of HHV and LHV	N	
9-9-605	Compliance With Output Based NOx Emissions Standards	N	1/1/10
~~BAAQMD~~ SIP Regulation 9, Rule 9	**Inorganic Gaseous Pollutants ~~–~~ Nitrogen Oxides from Stationary Gas Turbines (~~9/21/94~~12/15/97)**		
9-9-113	Exemption ~~–~~ Inspection/Maintenance	Y	
9-9-114	Exemption ~~–~~ Startup/Shutdown	Y	
9-9-301	Emission Limits – General	Y	
9-9-301.3	Emission Limits	Y	
9-9-401	Efficiency Certification	Y	
9-9-501	Continuous Emission Monitoring (CEM)	Y	
9-9-600	Manual of Procedures	Y	
9-9-601	Determination of Emissions~~NOx emissions: Manual of Procedures, Vol. IV, ST-13A or B~~	Y	
9-9-603	~~CEM: Manual of Procedures, Volume V~~continuous Emission Monitoring	Y	
9-9-604	Determination of HHV and LHV	Y	
40 CFR 60 Subpart A	**General Provisions (03/16/1994)**		
60.13	Monitoring Requirements	Y	
60.13(i)	Approval of Alternative Monitoring (natural gas only)	Y	
40 CFR 60, Subpart J	**Standards of Performance for Petroleum Refineries (10/2/90)**		
60.100	Applicability	Y	
60.104	Standards for Sulfur Oxides: Compliance Schedule	Y	
60.104(a)(1)	fuel gas H2S concentration limited to 230 mg/dscm (0.10 gr/dscf) except for gas burned as a result of process upset or gas burned at flares from relief valve leaks or other emergency malfunctions	Y	
60.105	Monitoring of Emissions and Operations	Y	
60.1-05(a)(4)	monitoring requirement for H2S (dry basis) in fuel gas prior to combustion (except for natural gas)	Y	
60.105(e)(3)	Excess H2S emission definitions for 60.7~~(e)~~I	Y	

Table IV – Q.1
Source-specific Applicable Requirements
S352 – COMBUSTION TURBINE
S353 – COMBUSTION TURBINE
S354 – COMBUSTION TURBINE

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
(ii)			
60.106(a)	Test methods and procedures	Y	
60.106(e)(1)	Method 11 shall be used to verify compliance with 60.104(a)(1)	Y	
40 CFR 60, Subpart GG	**Standards of Performance for Stationary Gas Turbines (1/27/82)**		
60.330	Applicability	Y	
60.332(a)(2)	Alternate Standard, NOx (except when ice fog deemed a traffic hazard per 60.332(f)	Y	
60.332(d)	Compliance with 60.332(a)(2) required	Y	
60.332(f)	Exemption from 60.332(a)(2) when steam injection would result in ice fog which is deemed a traffic hazard	Y	
60.332(k)	Exemption: Natural gas turbines >10 MMbtu/hr when firing emergency fuel	Y	
60.333	Performance Standards, SO2	Y	
60.333(b)	Fuel Sulfur Limit (in lieu of SO2 concentration emission limit – 150 ppmv @ 15% O2 - in 60.333(a))	Y	
60.334	Monitoring Requirements	Y	
~~60.334(b)~~	~~Fuel Sulfur Content~~	~~Y~~	
~~60.334(e)(2)~~	~~Excess Emissions – SO2~~	~~Y~~	
60.334(h)(1)	Fuel Sulfur Content (for refinery fuel gas)	Y	
60.334(h)(3)(i)	Gas Quality Characteristics in current, valid purchase contract (for natural gas)	Y	
60.334(i)	Fuel sulfur content monitoring frequency	Y	
6.0334(i)(3)	Custom schedules for determination of fuel sulfur content	Y	
6.0334(i)(3)(i)	Custom schedules for determination of fuel sulfur content	Y	
60.334(j)	Excess emission reporting per 60.7(c)	Y	
60.334(j)(2)	Excess emission definition for fuel sulfur content	Y	
6.0334(j)(2)(i)	Excess emission definition for fuel sulfur content	Y	
60.334(j)(2)(iii)	Monitor downtime period definition	Y	
60.334(j)(5)	Excess emission reports due the 30th day following end of each calendar quarter	Y	
60.335	Test Methods and Procedures	Y	
BAAQMD			

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Source-specific Applicable Requirements
S352 – COMBUSTION TURBINE
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Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
Condition 12122			
Part 1	Restriction to natural gas and refinery fuel gas [Basis: Cumulative Increase]	Y	
Part 2	Restriction on duct burner operation to times when associated turbine is also operated [Basis: BACT, Cumulative Increase]	Y	
Part 3	Abatement requirement for S352 and S355 at A13 [Basis: BACT, Cumulative Increase]	Y	
Part 4	Abatement requirement for S353 and S356 at A14 [Basis: BACT, Cumulative Increase]	Y	
Part 5	Abatement requirement for S354 and S357 at A15 [Basis: BACT, Cumulative Increase]	Y	
Part 7	CO exhaust concentration limit [Basis: BACT, Cumulative Increase]	Y	
Part 8	POC exhaust concentration limit [Basis: BACT, Cumulative Increase]	Y	
Part 9a	NOx hourly, daily and annual emission limits [Basis: BACT, Cumulative Increase] (Part 9a will be deleted after offsets are provided for CFEP project)	Y	
Part 9b	NOx hourly, daily and annual emission limits after offsets are provided by the turbines/duct burners [Basis: BACT, Cumulative Increase]	Y	after offsets are provided
Part 9~~b~~c	NOx CEM requirement [Basis: BACT, Cumulative Increase]	Y	
Part 9d	Requirement for fuel meter [Basis: Cumulative Increase, 2-6-503]	Y	
Part 10a	CO annual emission limits [Basis: BACT, Cumulative Increase]	Y	
Part 10b	CO CEM requirement [Basis: BACT, Cumulative Increase]	Y	
Part 11	POC hourly and annual emission limits [Basis: BACT, Cumulative Increase]	Y	
Part 12	Refinery fuel gas testing requirement for total reduced sulfur [Basis: Cumulative Increase]	Y	
Part 13	Reporting requirement for refinery fuel gas total reduced sulfur measurements [Basis: Cumulative Increase]	Y	
Part 14	Annual POC source test [Basis: Regulation 2-6-409.2]	Y	
Part 15	Recordkeeping requirement [Basis: BACT, Cumulative Increase]	Y	
Part 16	No monitoring required for compliance with 40 CFR 60.104(a)(1)	Y	

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Source-specific Applicable Requirements
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Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
	for purchased commercial grade natural gas [40 CFR 60.13(i), EPA letter of 7/2/07]		
BAAQMD Condition 18629	PSD Approval to Construct / Modify issued 3/3/86, modified 5/26/89. The basis for each section is PSD.		
Part III	Facilities Operation	Y	
Part IV	Malfunction	Y	
Part V	Right to Entry	Y	
Part V.A	entry to premises	Y	
Part V.B	access to records	Y	
Part V.C	right to inspection of equipment and operations	Y	
Part V.D	right to sample emissions	Y	
Part VI	Transfer of Ownership	Y	
Part VII	Severability	Y	
Part VIII	Other Applicable Regulations	Y	
Part IX	Special Conditions	Y	
Part IX.B	Air Pollution Control Equipment	Y	
Part IX.B.1	Requirement for steam injection	Y	
Part IX.B.2	Requirement for SCR	Y	
Part IX.D.1	restriction to refinery fuel gas and natural gas	Y	
Part IX.D.2	466 MMbtu/hr firing rate limit for each of 3 turbine/duct burner sets	Y	
Part IX.D.3	1048 MMbtu/hr total firing rate limit	Y	
Part IX.D.4	fuel usage and related records	Y	
Part IX.E	Emission Limits for NOx	Y	
Part IX.F	Emission Limits for SO2	Y	
Part IX.G	Continuous Emission Monitoring	Y	
Part IX.G.1.a	Requirement for NOx CEM and fuel gas H2S sampling	Y	
Part IX.G.1.b	parametric monitoring of stack flowrates	Y	
Part IX.G.2	Requirement to maintain records (2 years)	Y	
Part IX.G.3	quarterly report of SO2 emissions and excess emissions	Y	
Part IX.G.3.a.(1)	total sulfur concentration in each fuel gas sample	Y	
Part IX.G.3.a.(2)	daily average sulfur content in fuel gas, daily average SO2 mass emission rate, total ton/yr of SO2	Y	

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Source-specific Applicable Requirements
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Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
Part IX.G.3.b	excess SO2 emissions	Y	
Part IX.G.3.c	excess SO2 emissions during startups, shutdowns and malfunctions	Y	
Part IX.G.3.d	time and date of CEM failures	Y	
Part IX.G.3.e	affirmative statement of CEM operation when no failures occur	Y	
Part IX.G.3.f	definition of excess SO2 emissions	Y	
Part IX.G.3.g	excess SO2 emissions indicated by CEM is a violation	Y	
Part IX.H	New Source Performance Standards (Subparts A and GG)	Y	
Part X	Agency Notifications	Y	
BAAQMD Condition 22970			
Part B	Offset Report [2-1-403, 2-2-410]		

1 This section has been removed from BAAQMD Regulations because it has been superseded. Nevertheless, the source must comply with this regulation until US EPA has reviewed and approved (or disapproved) the District's revision of the regulation.

Table IV – Q.2
Source-specific Applicable Requirements
S355 – SUPPLEMENTAL DUCT BURNERS FOR S352
S356 – SUPPLEMENTAL DUCT BURNERS FOR S353
S357 – SUPPLEMENTAL DUCT BURNERS FOR S354

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
BAAQMD Regulation 1	**General Provisions and Definitions (7/9/08~~7/17/06~~)**		
1-107	Combination of Emissions	Y	
1-520	Continuous Emission Monitoring	Y	
1-520.8	Monitors pursuant to Regulation 2-1-403	Y	
1-521	Monitoring May Be Required	Y	
1-522	Continuous Emission Monitoring and Recordkeeping Procedures		
1-522.4	reporting of inoperative CEMs	Y	

Table IV – Q.2
Source-specific Applicable Requirements
S355 – SUPPLEMENTAL DUCT BURNERS FOR S352
S356 – SUPPLEMENTAL DUCT BURNERS FOR S353
S357 – SUPPLEMENTAL DUCT BURNERS FOR S354

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
1-522.5	CEM calibration requirements	Y	
1-522.6	CEM accuracy requirements	Y	
1-522.7	emission limit exceedance reporting requirements	N	
1-522.8	monitoring data submittal requirements	Y	
1-522.9	recordkeeping requirements	Y	
1-522.10	Regulation 1-521 monitors shall meet requirements specified by District	Y	
1-602	Area and Continuous Monitoring Requirements	N	
SIP Regulation 1	**PROVISIONS NO LONGER IN CURRENT RULE General Provisions and Definitions (6/28/99)**		
1-522	Continuous Emission Monitoring and Recordkeeping Procedures	Y – note 1	
1-522.7	emission limit exceedance reporting requirements	Y - note 1	
BAAQMD Regulation 6, Rule 1	**Particulate Matter and Visible Emissions (12/7/07)**		
6-1-301	Ringelmann #1 Limitation	N	
6-1-305	Visible Particles	N	
6-1-310	Particulate Weight Limitation	N	
6-1-310.3	Particulate Weight Limitation, Heat Transfer Operations	N	
SIP ~~BAAQMD~~ Regulation 6	**Particulate Matter and Visible Emissions (9/4/98~~12/19/90~~)**		
6-301	Ringelmann #1 Limitation	Y	
6-305	Visible Particles	Y	
6-1-310	Particulate Weight Limitation	Y	
6-310.3	Particulate Weight Limitation	Y	
BAAQMD Regulation 2, Rule 1	**Regulation 2, Rule 1 - Permits, General Requirements (11/19/08~~7/19/06~~)**		
2-1-403	Permit conditions-measurement of emissions	N	
2-1-501	Monitors	Y	
SIP Regulation 2, Rule 1	PROVISIONS NO LONGER IN CURRENT RULE **Permits, General Requirements (1/26/99 {adopted 11/01/89})**		
2-1-403	Permit conditions-measurement of emissions	Y-note 1	

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Source-specific Applicable Requirements
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S357 – SUPPLEMENTAL DUCT BURNERS FOR S354

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
BAAQMD Manual of Procedures, Volume V	**Continuous Emission Monitoring Policy and Procedures (1/20/82)**	Y	
BAAQMD Regulation 9, Rule 10	**Inorganic Gaseous Pollutants - Nitrogen Oxides and Carbon Monoxide from Boilers, Steam Generators, and Process Heaters in Petroleum Refineries (7/17/02)**		
9-10-110.3	Exemption: Waste heat recovery boilers associated with gas turbines	Y	
40 CFR 60, Subpart Db	**Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units (3/13/00)**		
60.40b(a)	Applicability	Y	
60.40b(c)	Affected facilities subject to Subpart J are subject to PM and NOx standards in Subpart Db and SO2 standards in Subpart J	Y	
60.40b(f)	Modification for the sole purpose of combusting gases containing TRS is not a modification	Y	
60.40b(j)	Units subject to Subpart Db are not subject to Subpart D	Y	
60.44b(a)	NOx Standard	Y	
60.44b(a)(4)(i)	NOx standard for duct burner used in combined cycle system for natural gas-firing only conditions	Y	
60.44b(e)	NOx standard for refinery-produced byproduct (i.e., fuel gas) with oil or natural gas combustion.	Y	
60.44b(f)	NOx standard for refinery-produced byproduct with oil or natural gas combustion may be determined on a case-by-case basis (based on 25 ppmv NOx standard for PSD Permit Condition 18629, Part IX.E).	Y	
60.44b(h)	NOx standard applicable at all times	Y	
60.44b(i)	30-day rolling average	Y	
60.46b	Compliance/Performance test Methods for NOx	Y	
60.46b(b)	NOx standard applicable at all times		
60.48b	Emission Monitoring for NOx		
60.48b(b)(1)	Install, calibrate, and operate CEM and record output for measuring NOx discharges	Y	
60.48b(c)	Record data during all periods of operation of CEM except during breakdown and repairs	Y	
60.48b(d)	Continuous NOx monitors measure 1-hr average emission rates	Y	

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S357 – SUPPLEMENTAL DUCT BURNERS FOR S354

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
60.48b(e)	Complies with 60.13	Y	
60.48b(e)(2)	Span values for NOx	Y	
60.48b(e)(3)	Span values for NOx rounded to nearest 500 ppm	Y	
60.48b(f)	Standby monitoring system and test methods	Y	
60.48b(g)	NOx CEM requirements for units with 250 MMbtu/hr heat input capacity or less	Y	
60.48b(g)(1)	NOx CEM requirements for units with 250 MMbtu/hr heat input capacity or less	Y	
60.48b(h)	NOx CEM not required if subject to §60.44b(a)(4) for natural gas firing-only conditions	Y	
60.49b	Reporting and Recordkeeping	Y	
60.49b(d)	Record amounts of each fuel combusted/day and calculate annual capacity factors at a 12-month rolling average	Y	
60.49b(g)	Recordkeeping – NOx data	Y	
60.49b(h)	Excess emission reports	Y	
60.49b(h)(2)(i)	Combusts natural gas, distillate oil, or residual oil with nitrogen content of 0.3 weight percent or less – for natural gas firing-only conditions	Y	
60.49b(h)(2)(ii)	Heat input capacity of affected units is 250 MMbtu/hr or less and NOx CEM is required under 60.48b(g)(1)	Y	
60.49b(h)(4)	Excess emission definition	Y	
60.49b(i)	Reports of 60.49b(g) data	Y	
60.49b(o)	Records retained for 2 years	Y	
60.49b(v)	Electronic quarterly reports	Y	
60.49b(w)	Semi-annual reports	Y	
40 CFR 60, Subpart J	**Standards of Performance for Petroleum Refineries (10/2/90)**		
60.100	Applicability	Y	
60.104	Standards for Sulfur Oxides: Compliance Schedule	Y	
60.104(a)(1)	fuel gas H2S concentration limited to 230 mg/dscm (0.10 gr/dscf) except for gas burned as a result of process upset or gas burned at flares from relief valve leaks or other emergency malfunctions	Y	
60.105	Monitoring of Emissions and Operations	Y	
60.105(a)(4)	monitoring requirement for H2S (dry basis) in fuel gas prior to combustion	Y	

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S357 – SUPPLEMENTAL DUCT BURNERS FOR S354

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
60.105(e)(3)(ii)	Excess H2S emission definitions for 60.7(c)	Y	
60.106(a)	Test methods and procedures	Y	
60.106(e)(1)	Method 11 shall be used to verify compliance with 60.104(a)(1)	Y	
BAAQMD Condition 12122			
Part 1	Restriction to natural gas and refinery fuel gas [Basis: Cumulative Increase]	Y	
Part 2	Restriction on duct burner operation to times when associated turbine is also operated [Basis: BACT, Cumulative Increase]	Y	
Part 3	Abatement requirement for S352 and S355 at A13 [Basis: BACT, Cumulative Increase]	Y	
Part 4	Abatement requirement for S353 and S356 at A14 [Basis: BACT, Cumulative Increase]	Y	
Part 5	Abatement requirement for S354 and S357 at A15 [Basis: BACT, Cumulative Increase]	Y	
Part 6	Duct burner annual firing limit [Basis: Cumulative Increase]	Y	
Part 7	CO exhaust concentration limit [Basis: BACT, Cumulative Increase]	Y	
Part 8	POC exhaust concentration limit [Basis: BACT, Cumulative Increase]	Y	
Part 9a	NOx hourly, daily and annual emission limits [Basis: BACT, Cumulative Increase] (Part 9a will be deleted after offsets are provided for CFEP project)	Y	
Part 9b	NOx hourly, daily and annual emission limits after offsets are provided by the turbines/duct burners [Basis: BACT, Cumulative Increase]	Y	after offsets are provided
Part 9c~~b~~	NOx CEM requirement [Basis: BACT, Cumulative Increase]	Y	
Part 9d	Requirement for fuel meter [Basis: Cumulative Increase, 2-6-503]	Y	
Part 10a	CO annual emission limits [Basis: BACT, Cumulative Increase]	Y	
Part 10b	CO CEM requirement [Basis: BACT, Cumulative Increase]	Y	
Part 11	POC hourly and annual emission limits [Basis: BACT, Cumulative Increase]	Y	
Part 12	Refinery fuel gas testing requirement for total reduced sulfur [Basis:	Y	

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S357 – SUPPLEMENTAL DUCT BURNERS FOR S354

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
	Cumulative Increase]		
Part 13	Reporting requirement for refinery fuel gas total reduced sulfur measurements [Basis: Cumulative Increase]	Y	
Part 14	Annual POC source test [Basis: Regulation 2-6-409.2]	Y	
Part 15	Recordkeeping requirement [Basis: BACT, Cumulative Increase]	Y	
Part 16	Alternative monitoring plan for U240 Sweet Unicracker Gas [40 CFR 60.13(i), EPA letter of July 2, 2007	Y	
BAAQMD Condition 18629	PSD Approval to Construct / Modify issued 3/3/86, modified 5/26/89. The basis for each section is PSD.		
Part III	Facilities Operation	Y	
Part IV	Malfunction	Y	
Part V	Right to Entry	Y	
Part V.A	entry to premises	Y	
Part V.B	access to records	Y	
Part V.C	right to inspection of equipment and operations	Y	
Part V.D	right to sample emissions	Y	
Part VI	Transfer of Ownership	Y	
Part VII	Severability	Y	
Part VIII	Other Applicable Regulations	Y	
Part IX	Special Conditions	Y	
Part IX.B	Air Pollution Control Equipment	Y	
Part IX.B.1	Requirement for steam injection	Y	
Part IX.B.2	Requirement for SCR	Y	
Part IX.D.1	restriction to refinery fuel gas and natural gas	Y	
Part IX.D.2	466 MMbtu/hr firing rate limit for each of 3 turbine/duct burner sets	Y	
Part IX.D.3	1048 MMbtu/hr total firing rate limit	Y	
Part IX.D.4	fuel usage and related records	Y	
Part IX.E	Emission Limits for NOx	Y	
Part IX.F	Emission Limits for SO2	Y	
Part IX.G	Continuous Emission Monitoring	Y	
Part IX.G.1.a	Requirement for NOx CEM and fuel gas H2S sampling	Y	
Part IX.G.1.b	parametric monitoring of stack flowrates	Y	
Part IX.G.2	Requirement to maintain records (2 years)	Y	

Table IV – Q.2
Source-specific Applicable Requirements
S355 – SUPPLEMENTAL DUCT BURNERS FOR S352
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S357 – SUPPLEMENTAL DUCT BURNERS FOR S354

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
Part IX.G.3	quarterly report of SO2 emissions and excess emissions	Y	
Part IX.G.3.a.(1)	total sulfur concentration in each fuel gas sample	Y	
Part IX.G.3.a.(2)	daily average sulfur content in fuel gas, daily average SO2 mass emission rate, total ton/yr of SO2	Y	
Part IX.G.3.b	excess SO2 emissions	Y	
Part IX.G.3.c	excess SO2 emissions during startups, shutdowns and malfunctions	Y	
Part IX.G.3.d	time and date of CEM failures	Y	
Part IX.G.3.e	affirmative statement of CEM operation when no failures occur	Y	
Part IX.G.3.f	definition of excess SO2 emissions	Y	
Part IX.G.3.g	excess SO2 emissions indicated by CEM is a violation	Y	
Part IX.H	New Source Performance Standards (Subparts A and GG)	Y	
Part X	Agency Notifications	Y	
BAAQMD Condition 22970			
Part B	Offset Report [2-1-403, 2-2-410]		

1 This section has been removed from BAAQMD Regulations because it has been superseded. Nevertheless, the source must comply with this regulation until US EPA has reviewed and approved (or disapproved) the District's revision of the regulation.

Following are the proposed changes in Section IV for Fugitive Components.

Table IV-AB has been modified to show that Regulation 8, Rule 10, Equipment Leaks, was revised. The old requirements are in the SIP, therefore citations for both the District and SIP rules are in the table.

A citation for Section 8-10-602 has been added to the table because the facility is required to perform inspections.

A citation for Section 8-10-604 has been added to the table because the facility is required to determine the mass emission rate for non-repairable valves with major leaks after 45 days.

Table IV-AB has been modified to show that Regulation 8, Rule 28, Episodic Releases from Pressure Relief Devices at Petroleum Refineries and Chemical Plants, was revised. The old requirements are in the SIP, therefore citations for both the District and SIP rules are in the table.

A note has been added to Table IV-AB to show that pressure relief devices on the new and modified sources are now subject to Section 302 of Regulation 8, Rule 28.

The evaluation for Application 13424, stated that the following sources would now be subject to NSPS, Subpart GGG, which refers to NSPS, Subpart VV: S307, S308, S309, S339, S432, S434, and S464. A new determination has been made based on the number of new components at each source. S434 is a new source and therefore will be subject. S307 has sufficient new components to also be subject. Also, on June 2, 2008, EPA promulgated a new NSPS Subpart GGGa, which in turn refers to NSPS, Subpart VVa. Sources that are built or modified after November 7, 2006, are subject to the new standard, so sources S307 and S434 will be subject to the new standard. Sources S308, S309, S339, S432, and S464 will not be subject to NSPS.

S1010, Sulfur Recovery Unit, is not subject to the standard because it is not a process unit as defined by Section 60.591, which states:

> "Process unit means components assembled to produce intermediate or final products from petroleum, unfinished petroleum derivatives, or other intermediates; a process unit can operate independently if supplied with sufficient feed or raw materials and sufficient storage facilities for the product.

However, for the purposes of NESHAPS Subpart CC, S1010, Sulfur Recovery Unit, is considered to be a “petroleum refinery process unit” as defined in Section 63.641.

Applicability of NSPS, Subpart QQQ, Standards of Performance for VOC Emission From Petroleum Refinery Wastewater Systems, to S1007, Dissolved Air Flotation Unit (DAF), has been deleted because the DAF is not an individual drain system, an aggregate facility, or oil-water separator. The DAF is downstream of the oil-water separator. Individual drain systems, as defined in Section 60.691, are upstream of the oil-water separator. Aggregate facilities include the individual drain systems and the oil-water separator. Oil-water separators, as defined in the same section, do not include equipment that is downstream of the oil-water separator.

The preamble to NSPS QQQ, which was promulgated on November 23, 1988, makes it clear that the Dissolved Air Flotation unit and other downstream units were not included.

BAAQMD Condition 21099, which applies to the Ultra-Low Sulfur Diesel Project, has been added to this table. These citations are also found in Table IV-N for process vessels.

The citations of some items from 40 CFR 60, Subpart VV, were corrected. The actual titles for several sections was inserted and paraphrases of the titles were deleted.

A citation of 40 CFR 60, Subpart VV, Section 482-10 was added because the facility complies with the closed vent and control provisions of the standard instead of the provisions to measure

fugitive emission after use of the pressure relief device pursuant to 40 CFR 60.482-4(a) and (b). This means that the facility must comply with inspection requirements for the fuel gas recovery system and that the flares are considered to be a control device for the purposes of the standard. The additional provisions that apply to the flares will be shown following the tables for the fugitive components.

Table IV – AB
Applicable Requirements
COMPONENTS (FACILITY-WIDE EXCEPT AS NOTED)

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
BAAQMD Regulation 8, Rule 18	**Organic Compounds-Equipment Leaks (~~11/27/02~~9/15/04)**		
8-18-100	General/Applicability	~~Y~~N	
8-18-200	Definitions	~~Y~~N	
8-18-301	General Standard	Y	
8-18-302	Valves	Y	
8-18-303	Pumps and compressors	Y	
8-18-304	Connections	~~Y~~N	
8-18-305	Pressure relief devices	Y	
8-18-306	Non-repairable equipment	~~Y~~N	
8-18-307	Liquid Leaks	Y	
8-18-308	Alternate compliance	Y	
8-18-401	Inspection	Y	
8-18-402	Identification	~~Y~~N	
8-18-403	Visual inspection schedule	Y	
8-18-404	Alternate inspection schedule	Y	
8-18-405	Alternate inspection reduction plan	Y	
8-18-406	Interim Compliance	Y	
8-18-501	Portable Hydrocarbon Detector	Y	
8-18-502	Records	~~Y~~N	
8-18-503	Reports	N	
8-18-602	Inspection Procedures	Y	
8-18-604	Determination of Mass Emissions	N	
SIP Regulation 8, Rule 18	**Organic Compounds-Equipment Leaks (6/5/03)**		
8-18-100	General/Applicability	Y	
8-18-200	Definitions	Y	
8-18-304	Connections	Y	
8-18-306	Non-repairable equipment	Y	

Table IV – AB
Applicable Requirements
COMPONENTS (FACILITY-WIDE EXCEPT AS NOTED)

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
8-18-402	Identification	Y	
8-18-502	Records	Y	
8-18-604	Determination of Mass Emissions	Y	
BAAQMD Regulation 8, Rule 28	**Episodic Releases From Pressure Relief Devices at Petroleum Refineries and Chemical Plants (~~3/18/98~~12/1/05)**		
8-28-100	General/Applicability	~~Y~~N	
8-28-200	Definitions	~~Y~~N	
8-28-302	**Applies to S307, S308, S318, S432, S434, and S1010** Pressure Relief Devices at New or Modified Sources at Petroleum Refineries	~~Y~~N	
8-28-303	**Applies to other Pressure Relief Devices per Section 8-28-100 except those at S307, S308, S318, S432, S434, and S1010** Pressure Relief Devices at Existing Sources at Petroleum Refineries	~~Y~~N	
8-28-304	Repeat Releases - Pressure Relief Devices at Petroleum Refineries	~~Y~~N	
8-28-401	Reporting at Petroleum Refineries and Chemical Plants	~~Y~~N	
8-28-402	Inspection	~~Y~~N	
8-28-404	Identification	~~Y~~N	
8-28-405	~~Prevention Measures Procedures~~Process Safety Requirements	~~Y~~N	
8-28-406	Monitoring System Demonstration Report	Y	
8-28-407	Process Unit Identification Report	Y	
8-28-502	Records	Y	
8-28-503	Monitoring	Y	
SIP Regulation 8, Rule 28	**Episodic Releases From Pressure Relief Devices at Petroleum Refineries and Chemical Plants (3/18/98)**		
8-28-100	General/Applicability	Y	
8-28-200	Definitions	Y	
8-28-302	**Applies to S307, S308, S318, S432, S434, and S1010** Pressure Relief Devices at New or Modified Sources at Petroleum Refineries	Y	
8-28-303	Pressure Relief Devices at Existing Sources at Petroleum Refineries	Y	
8-28-304	Repeat Releases - Pressure Relief Devices at Petroleum Refineries	Y	
8-28-401	Reporting at Petroleum Refineries and Chemical Plants	Y	
8-28-402	Inspection	Y	
8-28-403	Records	Y	
8-28-404	Identification	Y	
8-28-405	Prevention Measures Procedures	Y	

Table IV – AB
Applicable Requirements
COMPONENTS (FACILITY-WIDE EXCEPT AS NOTED)

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
NSPS, Subpart VV, applies to the S350 crude unit, S370 isomerization unit, S437 hydrogen plant			
40 CFR 60, Subpart VV; BAAQMD Regulation 10-52	**Standards of Performance for Equipment Leaks (Fugitive Emission Sources) (8/18/95); BAAQMD Standards of Performance for New Stationary Sources (12/20/95)**	Y	
60.480	Applicability and designation of affected facility	Y	
60.481	Definitions	Y	
60.482-1	~~General~~ Standards: General	Y	
60.482-2	~~Pump~~ Standards: Pumps in light liquid service	Y	
60.482-2(a)(1)	Monthly monitoring of each pump, except for 60.482-1(c), 60.482-2(d), (e), or (f)	Y	
60.482-2(a)(2)	Weekly visual inspection of each pump, except for (e), (f), or (g)	Y	
60.482-2(b)	Air measurement >10,000 ppm or dripping liquid indicates leak	Y	
60.482-2(c)	Pump leak repair period	Y	
60.482-2(d)	Requirements for Dual-Mechanical seal pump	Y	
60.482-2(e)	No detectable emission designation: <500 ppm	Y	
60.482-2(f)	Requirements for Closed Vent Systems	Y	
60.482-3	~~Compressor~~ Standards: Compressors	Y	
60.482-4	~~Requirements for~~ Standards: Pressure Relief Devices in gas/vapor service	Y	
60.482-4(c)	Leakage routed to control device	Y	
60.482-5	Standards: ~~Requirements for~~ Sampling connecting systems	Y	
60.482-6	Standards: ~~Requirements for~~ Open-ended valves or lines	Y	
60.482-7	~~Valve~~ Standards: Valves in gas/vapor service and in light liquid service	Y	
60.482-7(a)-(c)	Monitor monthly unless 2 successive months <10,000 ppm, then monitor first month of each quarter. If leak >10,000 ppm is detected, resume monthly monitoring	Y	
60.482-7(d)	Valve leak repair period	Y	
60.482-7(e)	Methods for first attempts or minimizing valve leaks	Y	

Table IV – AB
Applicable Requirements
COMPONENTS (FACILITY-WIDE EXCEPT AS NOTED)

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
60.482-7(f)	Designated no-emissions (<500 ppm) valves with no external actuating mechanisms in contact with process fluid, may revert to annual monitoring, or that requested by the Administrator	Y	
60.482-8	Standards: Pumps and valves in heavy liquid service, pressure relief devices in light liquid or heavy liquid service, and connectors	Y	
60.482-9	Standards: Delay in repair	Y	
60.482-9(b)	Repair may be delayed for isolated equipment	Y	
60.482-9(c)	Delay of repair for valves is only allowed under certain circumstances	Y	
60.482-9(d)(1)	Only dual-mechanical seal pumps qualify for delay of repair	Y	
60.482-9(d)(2)	Pump leaks must be repaired within 6 months	Y	
~~60.482-9(b)~~	~~Repair may be delayed for isolated equipment~~Deleted because repeated	~~Y~~	
~~60.482-9(c)~~	~~Delay of repair for valves is only allowed under certain circumstances~~ (moved up four lines)	~~Y~~	
60.482-10	Standards: Closed vent systems and control devices	Y	
60.483-1, 60.483-2, and BAAQMD 8-18-404.1	Alternative standards for valves—allowable percentage of valves leaking and Alternative standards for valves—skip period leak detection and repair If a process unit has 5 consecutive quarters with <2% of valves leaking at >10,000 ppm, then any individual valve which measures <100 ppm for 5 consecutive quarters may be monitored annually	Y	
60.485	Test Methods and Procedures	Y	
60.486	Record-keeping Requirements	Y	
60.487	Reporting Requirements	Y	
NSPS Part 60 Subpart VVa; BAAQMD Regulation 10-52	**Applies to S307 and S434, Cracking Standards of Performance for Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry for Which Construction, Reconstruction, or Modification Commenced After November 7, 2006 (11/16/07); BAAQMD Standards of Performance for New Stationary Sources (12/20/95) (Applies to equipment in VOC service)**	Y	
60.480a	Applicability and designation of affected facility	Y	
60.481a	Definitions	Y	
	Equipment: each valve, pump, pressure relief device, sampling connection system, open-ended valve or line, and flange or other connector in VOC service. For the purposes of recordkeeping and reporting only, compressors are considered equipment.	Y	
60.482-1a	Standards: General	Y	

Table IV – AB
Applicable Requirements
COMPONENTS (FACILITY-WIDE EXCEPT AS NOTED)

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
60.482-2a	Standards: Pumps in light liquid service	Y	
60.482-2a(a)(1)	Monthly monitoring of each pump, except for 60.482-1aI and (f), 60.482-2(d), (e), or (f)	Y	
60.482-2a(a)(2)	Weekly visual inspection of each pump, except for 60.482-1a(f)	Y	
60.482-2a(b)(1)	Air measurement >2,000 ppm or dripping liquid indicates leak	Y	
60.482-2a(b)(2)	Procedure for liquid drips		
60.482-2a(c)	Pump leak repair period	Y	
60.482-2a(d)	Requirements for Dual-Mechanical seal pump	Y	
60.482-2a(e)	No detectable emission designation: <500 ppm	Y	
60.482-2a(f)	Requirements for Closed Vent Systems	Y	
60.482-2a(g)	Unsafe to monitor pumps	Y	
60.482-3a	Standards: Compressors	Y	
60.482-4a	Standards: Pressure Relief Devices in gas/vapor service	Y	
60.482-4a(c)	Leakage routed to control device	Y	
60.482-5a	Standards: Sampling connecting systems	Y	
60.482-6a	Standards: Open-ended valves or lines	Y	
60.482-7a	Standards: Valves in gas/vapor service and in light liquid service	Y	
60.482-7a(a)(1)	Monthly monitoring of valves	Y	
60.482-7a(b)	Leak standard > 500 ppm	Y	
60.482-7a(c)	Reduction in monitoring frequency	Y	
60.482-7a(d)	Valve leak repair period	Y	
60.482-7a(e)	Methods for first attempts or minimizing valve leaks	Y	
60.482-7a(f)	Designated no-emissions (<500 ppm) valves with no external actuating mechanisms in contact with process fluid, may revert to annual monitoring, or that requested by the Administrator	Y	
60.482-8a	Standards: Pumps, valves, and connectors in heavy liquid service and pressure relief devices in light liquid or heavy liquid service (per 40 CFR 60, Subpart GGGa, Section 60.593a(g), standard applies to all connectors, not just those in heavy liquid service)	Y	
60.482-9a	Standards: Delay of repair	Y	
60.482.10a	Standards: Closed vent systems and control devices	Y	
60.483-1a	Alternative standards for valves—allowable percentage of valves leaking (must notify EPA administrator and BAAQMD)	Y	
60.483-2a	Alternative standards for valves—skip period leak detection and repair (must notify EPA administrator and BAAQMD)	Y	
60.485a	Test Methods and Procedures	Y	
60.486a	Recordkeeping Requirements	Y	
60.487a	Reporting Requirements	Y	

Table IV – AB
Applicable Requirements
COMPONENTS (FACILITY-WIDE EXCEPT AS NOTED)

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
NSPS, Subpart GGG, applies to the S350 crude unit, S370 isomerization unit, S437 hydrogen plant			
40 CFR 60, Subpart GGG; BAAQMD Regulation 10-59	**Standards of Performance for Equipment Leaks (Fugitive Emission Sources) (5/30/84); BAAQMD Standards of Performance for New Stationary Sources (4/19/89)**		
60.590	Applicability	Y	
60.591	Definitions	Y	
60.592	Subject to provisions of Part 60, Subpart VV	Y	
60.593	Exceptions	Y	
NSPS Part 60 Subpart GGGa; BAAQMD Regulation 10-59 (Applies to S307 and S434, Cracking Units)	**Standards of Performance for Equipment Leaks of VOC in Petroleum Refineries for Which Construction, Reconstruction, or Modification Commenced After November 7, 2006 (11/16/07); BAAQMD Standards of Performance for New Stationary Sources (4/19/89)**		
60.590a	Applicability	Y	
60.591a	Definitions	Y	
60.592a	Subject to provisions of Part 60, Subpart VVa	Y	
60.593a	Exceptions	Y	
60.593a(a)	Compliance with exceptions	Y	
60.593a(b)(1)	Compressors in hydrogen service	Y	
60.593a(g)	Connectors in gas/vapor or light liquid service exempt if owner/operator complies with 40 CFR 60.482-8a for all connectors	Y	
BAAQMD Regulation 10-59	Incorporates by reference 40 CFR 60, Subpart GGG	Y	

Table IV – AB
Applicable Requirements
COMPONENTS (FACILITY-WIDE EXCEPT AS NOTED)

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
NSPS, Subpart QQQ, applies to the ~~S1007 dissolved air flotation unit and the~~ S324 ~~DAF~~ Oil-water separator unit.			
40 CFR 60, Subpart QQQ; BAAQMD Regulation 10-69	**Standards of Performance for VOC Emission From Petroleum Refinery Wastewater Systems (7/18/95); BAAQMD Standards of Performance for New Stationary Sources (12/20/95)**		
60.690	Applicability	Y	
60.691	Definitions	Y	
60.692-6	Delay of Repair Standards	Y	
60.695	Monitoring of closed-vent systems with bypass lines	Y	
60.696	Performance test methods and procedures and compliance provisions	Y	
60.697	Recordkeeping	Y	
60.698	Reporting	Y	
40 CFR 63, Subpart CC	**National Emission Standards for Hazardous Air Pollutants from Petroleum Refineries**	Y	
63.640(a)	Applicability	Y	
63.640(p)	Overlap of Subpart CC with other regulations for equipment leaks.	Y	
63.641	Definitions	Y	
63.642(e)	Keep records for 5 years	Y	
63.648(a)	Equipment leak standards. Comply with 40 CFR 60, Subpart VV	Y	
63.648(b)	Use of monitoring data from prior to 8/18/95 to qualify for less stringent monitoring frequency	Y	
63.648(d)	New sources	Y	
63.648(e)	Equipment leak standards – reciprocating pumps in heavy liquid service	Y	
63.648(f)	Equipment leak standards – reciprocating pumps in light liquid service	Y	
63.648(g)	Equipment leak standards – compressors in hydrogen service	Y	
63.648(h)	Keep records for 5 years	Y	
63.648(i)	Equipment leak standards – reciprocating compressors	Y	
63.654(d)	Record keeping and reporting	Y	

Table IV – AB
Applicable Requirements
COMPONENTS (FACILITY-WIDE EXCEPT AS NOTED)

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
BAAQMD Condition 21099	**APPLIES TO S304, S460 ONLY**		
Part 1	Light hydrocarbon control valve requirements [Basis: BACT]	Y	
Part 2	Light hydrocarbon flange/connector requirements [Basis: BACT]	Y	
Part 3	Centrifugal compressor requirements [Basis: BACT]	Y	
Part 4	Light hydrocarbon centrifugal pump requirements [Basis: BACT]	Y	
Part 5	Monitoring and repair program requirement [Basis: BACT]	Y	
Part 6	ULSD project component count report requirement [Basis: BACT, Cumulative Increase, Toxic Management Policy]	Y	
BAAQMD Condition #23725	**APPLIES TO COMPONENTS INSTALLED FOR CFEP PROJECT**		
Part 1	Fugitive Equipment	Y	
Part 1a	Specifications for valves in light hydrocarbon service [BACT]	Y	
Part 1b	100 ppm leak standard for valves [BACT, Regulation 8, Rule 8]	Y	
Part 1c	Specification for flanges and connectors [BACT]	Y	
Part 1d	Specifications for compressors [BACT]	Y	
Part 1e	100 ppm leak standard for pumps and compressors [BACT]	Y	
Part 1f	Specifications for pumps [BACT]	Y	
Part 1g	Identification of pumps and compressors with unique permanent identification code [Cumulative increase, BACT]	Y	
Part 2	Component count every 180 days after startup until completion [Cumulative increase, Offsets, Regulation 2, Rule 5]	Y	
Part 3	Calculations of CFEP fugitive emissions [Cumulative increase, BACT, Offsets]	Y	
Part 4	Inspection Frequency	Y	

The permit evaluation for Application 13424 concluded that the following sources would be subject to 40 CFR 60, Subpart VV, Standards of Performance for Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry, and Subpart GGG, Standards of Performance for Equipment Leaks of VOC in Petroleum Refineries: S307, S308, S309, S339, S432, S434, and S464. After completion of the design, the refinery has concluded that only new sources S434 and S1010 and existing Source S307 would be subject due to the number of new components.

Table IV- AA
Fugitive Sources: Applicable Requirements

Process Unit	BAAQMD Regulation 8, Rule 18	BAAQMD Regulation 8, Rule 28	NSPS Part 60, Subpart GGG; BAAQMD Regulation 10, Rule 59	NSPS Part 60, Subpart QQQ; BAAQMD Regulation 10, Rule 69	NSPS Part 60, Subpart VV; BAAQMD Regulation 10, Rule 52	NESHAPS Part 61, Subpart J	NESHAPS Part 61, Subpart FF; BAAQMD Regulation 11, Rule 12	NESHAPS Part 61, Subpart V; BAAQMD Regulation 11, Rule 7	NESHAPS Part 63, Subpart H	NESHAPS Part 63, Subpart CC
Refinery-wide applicability	**Y**	**Y**	**N**	**N**	**N**	**N**	**Report only**	**N**	**N**	**Y**
Specific unit applicability										
U240 Unicracking Unit (S307)	**Y**	**Y**	**Y (GGGa)**	**N**	**Y (VVa)**	**N**	**N**	**N**		**Y**
U244 Reforming Unit (S308)	**Y**	**Y**	**N**	**N**	**N**	**N**	**N**	**N**		**Y**
U248 UNISAR Unit (S309)	**Y**	**Y**	**N**	**N**	**N**	**N**	**N**	**N**		**Y**
U76 Gasoline/Mid Barrel Blending Unit (S318)	**Y**	**N**	**Y**	**N**	**Y**	**N**	**N**	**N**		**Y**
Unit 233 (S338)	**Y**	**Y**	**N~~NA~~**	**NA**	**NA**	**NA**	**NA**	**NA**		**NA**

Table IV- AA
Fugitive Sources: Applicable Requirements

Process Unit	BAAQMD Regulation 8, Rule 18	BAAQMD Regulation 8, Rule 28	NSPS Part 60, Subpart GGG; BAAQMD Regulation 10, Rule 59	NSPS Part 60, Subpart QQQ; BAAQMD Regulation 10, Rule 69	NSPS Part 60, Subpart VV; BAAQMD Regulation 10, Rule 52	NESHAPS Part 61, Subpart J	NESHAPS Part 61, Subpart FF; BAAQMD Regulation 11, Rule 12	NESHAPS Part 61, Subpart V; BAAQMD Regulation 11, Rule 7	NESHAPS Part 63, Subpart H	NESHAPS Part 63, Subpart CC
U80 Refined Oil Shipping Unit (S339)	**Y**	**N**	**N**	**N**	**N**	**N**	**N**	**N**		***Y?***
Unit 267 Crude Unit (S350)	**Y**	**Y**	**N~~Y~~**	**N**	**Y**	**N**	**N**	**N**		**Y**
Unit 228 Isomerization Unit (S370)	**Y**	**Y**	**~~Y~~N**	**N**	**Y**	**N**	**N**	**N**		**Y**
U215 Deiso-butanizer (S432)	**Y**	**Y**	**N**	**N**	**N**	**N**	**N**	**N?**		**Y**
U246 High Pressure Reactor Train (S434)	**Y**	**Y**	**Y (GGGa)**	**N**	**Y (VVa)**	**N**	**N**	**N?**	**Y**	**Y**
Hydrogen Manufacturing Unit (S437)	**Y**	**Y**	**Y**	**N**	**Y**	**N**	**N**	**N**		**Y**
Hydrogen Manufacturing Unit	**Y**	**Y**	**N**	**N**	**N**	**N**	**N**	**N**		**Y**

Table IV- AA
Fugitive Sources: Applicable Requirements

Process Unit	BAAQMD Regulation 8, Rule 18	BAAQMD Regulation 8, Rule 28	NSPS Part 60, Subpart GGG; BAAQMD Regulation 10, Rule 59	NSPS Part 60, Subpart QQQ; BAAQMD Regulation 10, Rule 69	NSPS Part 60, Subpart VV; BAAQMD Regulation 10, Rule 52	NESHAPS Part 61, Subpart J	NESHAPS Part 61, Subpart FF; BAAQMD Regulation 11, Rule 12	NESHAPS Part 61, Subpart V; BAAQMD Regulation 11, Rule 7	NESHAPS Part 63, Subpart H	NESHAPS Part 63, Subpart CC
(S464)										
Unit 100 Wastewater plant (~~S195, S196,~~ S324~~, S388, S1007~~)	**Y**	**Y**	**N**	**Y**	**N**	**N**	**N**	**N**		**Y**
Unit 100 Wastewater plant (S195, S196, S388)	**Y**	**Y**	**N**	**N**	**N**	**N**	**N**	**N**		**Y**
Unit 100 Wastewater plant (S1007)	**Y**	**Y**	**N**	~~**Y**~~**N**	**N**	**N**	**N**	**N**		**Y**
Unit U235 Sulfur Recovery Unit (S1010)	**Y**	**Y**	**N**	**N**	**N**	**N**	**N**	**N**	**Y**	**Y** (equipment leaks but not vents)
S296, Flare	**Y**	**Y**	**Y (GGG and GGGa, closed vent and control**	**N**	**Y (VV and VVa, closed vent and control device**	**N**	**N**	**N**	**N**	**Y**

Table IV- AA
Fugitive Sources: Applicable Requirements

Process Unit	BAAQMD Regulation 8, Rule 18	BAAQMD Regulation 8, Rule 28	NSPS Part 60, Subpart GGG; BAAQMD Regulation 10, Rule 59	NSPS Part 60, Subpart QQQ; BAAQMD Regulation 10, Rule 69	NSPS Part 60, Subpart VV; BAAQMD Regulation 10, Rule 52	NESHAPS Part 61, Subpart J	NESHAPS Part 61, Subpart FF; BAAQMD Regulation 11, Rule 12	NESHAPS Part 61, Subpart V; BAAQMD Regulation 11, Rule 7	NESHAPS Part 63, Subpart H	NESHAPS Part 63, Subpart CC
			device reqs. only)		**reqs. only)**					
S398, Flare	**Y**	**Y**	**Y (GGG and GGGa, closed vent and control device reqs. only)**	**N**	**Y (VV and VVa, closed vent and control device reqs. only)**	**N**	**N**	**N**	**N**	**Y**
Fuel gas recovesry system	**Y**	**Y**	**Y (GGG and GGGa)**	**N**	**Y (VV and VVa)**	**N**	**N**	**N**	**N**	**Y**

Flares

A citation of 40 CFR 60, Subpart VV, Section 482-10 was added to Table IV-AB because the facility complies with the closed vent and control provisions of the standard instead of the provisions to measure fugitive emission after use of the pressure relief device pursuant to 40 CFR 60.482-4(a) and (b). This means that the facility must comply with inspection requirements for the fuel gas recovery system and that the flares are considered to be a control device for the purposes of the standard. Therefore, the flares must comply with the control device requirements in 40 CFR 60.18. The additional provisions that apply to the flares will be shown in the following tables.

Table IV – L.1
Source-specific Applicable Requirements
S296 – C-1 FLARE

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
40 CFR 60, Subpart A	**New Source Performance Standards – General Provisions (12/23/71)** (Standard applies when flares are used as control devices for the purpose of complying with 40 CFR 60.482-4a(c). The main control device is the fuel gas recovery system.)		
60.18	General control device and work practice requirements	Y	
40 CFR 60, Subpart VV; BAAQMD Regulation 10-52	**Standards of Performance for Equipment Leaks (Fugitive Emission Sources) (8/18/95); BAAQMD Standards of Performance for New Stationary Sources (12/20/95)** (Standard applies with flares are used as control devices for the purpose of complying with 40 CFR 60.482-4a(c). The main control device is the fuel gas system.)	Y	
60.482-4	Standards: Pressure Relief Devices in gas/vapor service	Y	
60.482-4(c)	Leakage routed to control device	Y	
60.482-10	Standards: Closed vent systems and control devices	Y	
NSPS Part 60 Subpart VVa; BAAQMD Regulation 10-52	**Applies to S307 and S434, Cracking Standards of Performance for Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry for Which Construction, Reconstruction, or Modification Commenced After November 7, 2006 (11/16/07); BAAQMD Standards of Performance for New Stationary Sources (12/20/95) (Applies to equipment in VOC service)** (Standard applies with flares are used as control devices for the purpose of complying with 40 CFR 60.482-4a(c). The main control device is the fuel gas system.)	Y	
60.482-4a	Standards: Pressure Relief Devices in gas/vapor service	Y	
60.482-4a(c)	Leakage routed to control device	Y	

Table IV – L.1
Source-specific Applicable Requirements
S296 – C-1 FLARE

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
60.482.10a	Standards: Closed vent systems and control devices	Y	

Table IV – L.2
Source-specific Applicable Requirements
S398 – MP-30 FLARE

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
40 CFR 60, Subpart A	**New Source Performance Standards – General Provisions (12/23/71)** (Standard applies when flares are used as control devices for the purpose of complying with 40 CFR 60.482-4a(c). The main control device is the fuel gas recovery system.)		
60.18	General control device and work practice requirements	Y	
40 CFR 60, Subpart VV; BAAQMD Regulation 10-52	**Standards of Performance for Equipment Leaks (Fugitive Emission Sources) (8/18/95); BAAQMD Standards of Performance for New Stationary Sources (12/20/95)** (Standard applies with flares are used as control devices for the purpose of complying with 40 CFR 60.482-4a(c). The main control device is the fuel gas system.)	Y	
60.482-4	Standards: Pressure Relief Devices in gas/vapor service	Y	
60.482-4(c)	Leakage routed to control device	Y	
60.482-10	Standards: Closed vent systems and control devices	Y	
NSPS Part 60 Subpart VVa; BAAQMD Regulation 10-52	**Applies to S307 and S434, Cracking Standards of Performance for Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry for Which Construction, Reconstruction, or Modification Commenced After November 7, 2006 (11/16/07); BAAQMD Standards of Performance for New Stationary Sources (12/20/95) (Applies to equipment in VOC service)** (Standard applies with flares are used as control devices for the purpose of complying with 40 CFR 60.482-4a(c). The main control device is the fuel gas system.)	Y	
60.482-4a	Standards: Pressure Relief Devices in gas/vapor service	Y	
60.482-4a(c)	Leakage routed to control device	Y	
60.482.10a	Standards: Closed vent systems and control devices	Y	

Tanks

Regulation 8, Rule 5, Storage of Organic Liquids, was amended on October 18, 2006. The old requirements are in the SIP, therefore citations for both the District and SIP rules will be in the tank tables.

S98 will no longer be an exempt tank. It is now subject to the requirements in Table IV-BB.13 for MACT Zero-Gap External Floating Roof Tanks.

Following are the proposed changes in Section IV for Tanks.

Tanks S98, S168, S173, and S174 will be permitted tanks and will be deleted from Table IV-BB.21. S98 will be moved to Table BB.13, MACT Zero-Gap External Floating Roof Tanks. S168 will be moved to Table BB.15a, MACT Fixed Roof Tanks with Vapor Recovery to Fuel Gas. S173 and S174 store gas oil and will be moved to Table BB.4.

Tank S239 is being deleted from Table BB.4, Low Vapor Pressure Permitted Tanks Vented to Fuel Gas, because it was never vented to the fuel gas system. It will be added to Table BB.21.

Table IV – BB.21
Source-Specific Applicable Requirements
EXEMPT TANKS SUBJECT TO MACT RECORDKEEPING
S91 (TANK 73), S94 (TANK 78), ~~S98 (TANK 101),~~ S99 (TANK 102), S103 (TANK 106), S120 (TANK 165), S130 (TANK 188), S131 (TANK 189), S132 (TANK 191), S136 (TANK 201), S138 (TANK 203), S141 (TANK 213), S142 (TANK 214), S143 (TANK 215), S144 (TANK 216), S145 (TANK 217), S148 (TANK 231), S149 (TANK 232), S157 (TANK 252), S162 (TANK 262), S164 (TANK 264), S165 (TANK 265), S166 (TANK 266), S167 (TANK 268), S168 (TANK 269), S169 (TANK 270), S171 (TANK 273), S172 (TANK 279), S173 (TANK 280), S174 (TANK 281), S179 (TANK 291), S180 (TANK 292), S187 (TANK 299), S191 (TANK 303), S192 (TANK 304), S202 (TANK 521), S204 (TANK 528), S205 (TANK 529), S206 (TANK 530), S207 (TANK 531), S209 (TANK 674), S224 (TANK 746), S225 (TANK 747), S226 (TANK 748), S227 (TANK 749), S228 (TANK 750), S229 (TANK 751), S230 (TANK 752), S231 (TANK 753), S236 (TANK 770), S237 (TANK 771), S239 (TANK 212), S240 (TANK 774), S241 (TANK 775), S260 (TANK 1009), S262 (TANK 1011), S263 (TANK 1012), S266 (TANK 1345), S267 (TANK 1346), S286 (F3), S287 (F10), S293 (F805)

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
Tanks S168, S173, and S174 will be subject to the requirements in this table until they are controlled by A7, Odor Abatement System. S168 will be subject to the requirements in Table IV-15a when controlled by A7. S173 and S174 will be subject to the requirements in Table IV-4 when controlled by A7.			
BAAQMD · Regulation 8, Rule 5	**Organic Compounds, Storage of Organic Liquids (~~11/27/02~~10/18/06) EXEMPT**		
8-5-117	Exemption, Low Vapor Pressure	~~Y~~N	
SIP Regulation 8, Rule 5	**Organic Compounds, Storage of Organic Liquids (6/05/03) EXEMPT**		
8-5-117	Exemption, Low Vapor Pressure	Y	
40 CFR 63, Subpart G	**SOCMI HON G (01/27/1995) REQUIREMENTS FOR GROUP 2 RECORDKEEPING ONLY**		
63.119(a)(3)	Storage Vessel Provisions – Reference Control Technology – Group 2 storage vessels comply only with recordkeeping requirements in 63.123(a)	Y	
63.123(a)	Storage Vessel Provisions – Recordkeeping – Group 2 storage vessels only required to keep tank dimensions and capacity analysis. Retain for life of source.	Y	
40 CFR 63, Subpart CC	**National Emission Standards for Hazardous Air Pollutants for Petroleum Refining (8/18/95) REQUIREMENTS FOR GROUP 2 RECORDKEEPING ONLY**		
63.640(c)(2)	Applicability and Designation of Storage Vessels	Y	
63.646(b)(1)	Storage Vessel Provisions-Determine stored liquid % OHAP for group determination	Y	
63.646(b)(2)	Storage Vessel Provisions-Determine stored liquid % OHAP-method 18 to resolve disputes	Y	
63.654(h)(6)	Reporting and Recordkeeping Requirements-Other reports-Determination of Applicability	Y	
63.654(h)(6)(ii)	Reporting and Recordkeeping Requirements-Other reports-	Y	

Table IV – BB.21
Source-Specific Applicable Requirements
EXEMPT TANKS SUBJECT TO MACT RECORDKEEPING
S91 (TANK 73), S94 (TANK 78), ~~S98 (TANK 101),~~ S99 (TANK 102), S103 (TANK 106), S120 (TANK 165), S130 (TANK 188), S131 (TANK 189), S132 (TANK 191), S136 (TANK 201), S138 (TANK 203), S141 (TANK 213), S142 (TANK 214), S143 (TANK 215), S144 (TANK 216), S145 (TANK 217), S148 (TANK 231), S149 (TANK 232), S157 (TANK 252), S162 (TANK 262), S164 (TANK 264), S165 (TANK 265), S166 (TANK 266), S167 (TANK 268), S168 (TANK 269), S169 (TANK 270), S171 (TANK 273), S172 (TANK 279), S173 (TANK 280), S174 (TANK 281), S179 (TANK 291), S180 (TANK 292), S187 (TANK 299), S191 (TANK 303), S192 (TANK 304), S202 (TANK 521), S204 (TANK 528), S205 (TANK 529), S206 (TANK 530), S207 (TANK 531), S209 (TANK 674), S224 (TANK 746), S225 (TANK 747), S226 (TANK 748), S227 (TANK 749), S228 (TANK 750), S229 (TANK 751), S230 (TANK 752), S231 (TANK 753), S236 (TANK 770), S237 (TANK 771), S239 (TANK 212), S240 (TANK 774), S241 (TANK 775), S260 (TANK 1009), S262 (TANK 1011), S263 (TANK 1012), S266 (TANK 1345), S267 (TANK 1346), S286 (F3), S287 (F10), S293 (F805)

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
	Determination of Applicability		
63.654(i)(1)	Reporting and Recordkeeping Requirements-Recordkeeping for storage vessels – Keep records specified in 63.123	Y	
63.654(i)(1)(iv)	Reporting and Recordkeeping Requirements-Recordkeeping for storage vessels – Data and assumptions used to determine Group 2 classification	Y	
63.654(i)(4)	Reporting and Recordkeeping Requirements-Recordkeeping--Record retention – 5 years	Y	
BAAQMD Condition 20773			
Part 1	Requirement to verify exempt status of tank based on true vapor pressure of contents [Basis: Regulation 8-5-117, 2-6-409.2]	Y	
Part 2	Record retention requirement [Basis: Regulation 2-6-409.2]	Y	
BAAQMD Condition 20989	Applies to S239		
Part 1	Throughput limit	N	

ConocoPhillips has included some of the tanks in Table IV-BB.13 in the Enhanced Monitoring Program pursuant to Section 411 of Regulation 8, Rule 5. A list is not given because the facility is allowed to change which tanks are in the program without notice. This program requires monitoring every quarter instead of every six months. In exchange, the facility is exempt from violations of certain equipment standards listed in Section 119.1 if the requirements of Section 119.2 and 119.3 are met. The main requirements are minimization of emissions within 8 hours of discovery and repair within 48 hours of discovery.

Table IV – BB.13
Source-Specific Applicable Requirements
MACT ZERO-GAP EXTERNAL FLOATING ROOF TANKS
S97 (TANK 100), S98, (TANK 101), S100 (TANK 103), S107 (TANK 150), S110 (TANK 155), S111 (TANK 156), S112 (TANK 157), S114 (TANK 159), S115 (TANK 160), S122 (TANK 167), S123 (TANK 168), S124 (TANK 169), S128 (TANK 174), S129 (TANK 180), S150 (TANK 241), S151 (TANK 242), S177 (TANK 287), S178 (TANK 288), S186 (TANK 298), S254 (TANK 1001), S255 (TANK 1002), S256 (TANK 1003), S259 (TANK 1006)

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforce-able (Y/N)	Future Effective Date
BAAQMD Regulation 8, Rule 5	**Organic Compounds, Storage of Organic Liquids (~~11/27/02~~10/18/06) REQUIREMENTS FOR EXTERNAL FLOATING ROOF TANKS**		
8-5-111	Limited Exemption, Tank Removal From and Return to Service	~~Y~~N	
8-5-111.1	Limited Exemption, Tank Removal From and Return to Service, Notification	~~Y~~N	
8-5-111.1.1	Limited Exemption, Tank Removal From and Return to Service, Notification, 3 day prior notification	Y	
8-5-111.1.2	Limited Exemption, Tank Removal From and Return to Service, Notification, Telephone notification	Y	
8-5-111.2	Limited Exemption, Tank Removal From and Return to Service, Tank in compliance prior to notification	~~Y~~N	
8-5-111.3	Limited Exemption, Tank Removal From and Return to Service, Floating roof tanks	Y	
8-5-111.5	Limited Exemption, Tank Removal From and Return to Service, Minimize emissions	Y	
~~8-5-111.6~~	~~Limited Exemption, Tank Removal From and Return to Service, Notice of completion not required~~	~~Y~~	
~~8-5-111.7~~	~~Limited Exemption, Tank Removal From and Return to Service, Satisfy requirements of 8-5-328~~	~~Y~~	
8-5-112	Limited Exemption, Preventative Maintenance and Inspection of Tanks in Operation	~~Y~~N	
8-5-112.1	Limited Exemption, Tanks in Operation, Notification	~~Y~~N	
8-5-112.1.1	Limited Exemption, Tanks in Operation, Notification, 3 day prior notification	~~Y~~N	
8-5-112.1.2	Limited Exemption, Tanks in Operation, Notification, Telephone notification	~~Y~~N	
8-5-112.2	Limited Exemption, Tanks in Operation, Tank in compliance prior to start of work. Certified per 8-5-404	~~Y~~N	
8-5-112.3	Limited Exemption, Tanks in Operation, No product movement, Minimize emissions	~~Y~~N	

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MACT ZERO-GAP EXTERNAL FLOATING ROOF TANKS
S97 (TANK 100), S98, (TANK 101), S100 (TANK 103), S107 (TANK 150), S110 (TANK 155), S111 (TANK 156), S112 (TANK 157), S114 (TANK 159), S115 (TANK 160), S122 (TANK 167), S123 (TANK 168), S124 (TANK 169), S128 (TANK 174), S129 (TANK 180), S150 (TANK 241), S151 (TANK 242), S177 (TANK 287), S178 (TANK 288), S186 (TANK 298), S254 (TANK 1001), S255 (TANK 1002), S256 (TANK 1003), S259 (TANK 1006)

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforce-able (Y/N)	Future Effective Date
8-5-112.4	Limited Exemption, Tanks in Operation, Not to exceed 7 days	~~Y~~N	
8-5-112.6	Tank Records	N	
8-5-119	Limited Exemption, Repair Period (Applies to S122, S123, S124, S128, S150, S151, S177, S254, S255, S256, S259)	N	
8-5-301	Storage Tank Control Requirements (internal floating roof, external floating roof, or approved emission control system)	~~Y~~N	
8-5-303	Requirements for Pressure Vacuum Valves (applies only to S107 (Tank 150), S110 (Tank 155), S115 (Tank 160), S123 (Tank 168), S128 (Tank 174), S129 (Tank 180), S178 (Tank 288))	~~Y~~N	
8-5-303.1	Requirements for Pressure Vacuum Valves; Set pressure (applies only to S107 (Tank 150), S110 (Tank 155), S115 (Tank 160), S123 (Tank 168), S128 (Tank 174), S129 (Tank 180), S178 (Tank 288))	~~Y~~N	
8-5-303.2	Requirements for Pressure Vacuum Valves; Installation, maintenance, operation (applies only to S107 (Tank 150), S110 (Tank 155), S115 (Tank 160), S123 (Tank 168), S128 (Tank 174), S129 (Tank 180), S178 (Tank 288))	~~Y~~N	
8-5-304	Requirements for External Floating Roofs	Y	
8-5-304.1	Requirements for External Floating Roofs; Tank fitting requirements	Y	
8-5-304.2	Requirements for External Floating Roofs; Primary seal requirements	Y	
8-5-304.3	Requirements for External Floating Roofs; Secondary seal requirements	Y	
8-5-304.4	Requirements for External Floating Roofs; Floating roof requirements	~~Y~~N	
8-5-304.5	Requirements for External Floating Roofs; Shell in good condition	N	
8-5-304.6	Requirements for External Floating Roofs; tank pontoons	N	
8-5-320.2	Tank Fitting Requirements; Floating roof tanks, Projection below liquid surface	Y	
8-5-320.3	Tank Fitting Requirements; Floating roof tanks, Gasketed covers, seals, lids	Y	
8-5-320.3.1	Tank Fitting Requirements; Floating roof tanks, Gasketed covers, seals, lids - Gap requirements	Y	
8-5-320.4	Tank Fitting Requirements; Solid sampling or gauging well requirements in floating roof tanks	Y	
8-5-320.4.1	Tank Fitting Requirements; Solid sampling or gauging well requirements-projection below liquid surface	Y	
8-5-320.4.2	Tank Fitting Requirements; Solid sampling or gauging well requirements-cover, seal, or lid	Y	
8-5-320.4.3	Tank Fitting Requirements; Solid sampling or gauging well requirements-gap between well and roof	Y	
8-5-320.6	Tank Fitting Requirements; Emergency roof drain	Y	
8-5-320.7	Tank Fitting Requirements; Pressure relief devices	Y	
8-5-321	Primary Seal Requirements	Y	
8-5-321.1	Primary Seal Requirements; No holes, tears, other openings	Y	

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Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforce-able (Y/N)	Future Effective Date
8-5-321.2	Primary seal requirements; The seal shall be metallic shoe or liquid mounted except as provided in 8-5-305.1.3	Y	
8-5-321.3	Primary Seal Requirements; Metallic-shoe-type seal requirements	Y	
8-5-321.3.1	Primary Seal Requirements; Metallic-shoe-type seal requirements-geometry of shoe	Y	
8-5-321.3.2	Primary Seal Requirements; Metallic-shoe-type seal requirements-welded tanks	Y	
8-5-322	Secondary Seal Requirements	Y	
8-5-322.1	Secondary Seal Requirements; No holes, tears, other openings	Y	
8-5-322.2	Secondary Seal Requirements; Insertion of probes	Y	
8-5-322.5	Secondary Seal Requirements; Welded external floating roof tanks with seals installed after 9/4/1985 or welded internal floating roof tanks with seals installed after 2/1/1993	Y	
8-5-322.6	Secondary Seal Requirements; Extent of seal	Y	
8-5-328	Tank Degassing Requirements	Y	
8-5-328.1	Tank Degassing Requirements; Tanks > 75 cubic meters	Y	
8-5-328.1.2	Tank Degassing Requirements; Tanks > 75 cubic meters, Approved Emission Control System	Y	
8-5-328.2	Tank Degassing Requirements; Ozone Excess Day Prohibition	Y	
8-5-328.3	Notification of degassing	N	
8-5-331	Tank Cleaning Requirements	N	
8-5-332	Sludge Handling Requirements	N	
8-5-401	Inspection Requirements for External Floating Roof Tanks	~~Y~~N	
8-5-401.1	Inspection Requirements for External Floating Roof Tanks; Primary and Secondary Seal Inspections	~~Y~~N	
8-5-401.2	Inspection Requirements for External Floating Roof Tanks; Tank Fittings Inspections	N~~Y~~	
8-5-403	Inspection Requirements for Pressure Vacuum Valves (applies only to S107 (Tank 150), S110 (Tank 155), S115 (Tank 160), S123 (Tank 168), S128 (Tank 174), S129 (Tank 180), S178 (Tank 288))	~~Y~~N	
8-5-404	Inspection, Abatement Efficiency Determination and Source Test Reports~~Certification~~	~~Y~~N	
8-5-405	Information Required	Y	
8-5-411	Enhanced Monitoring Program (Applies to list of tanks chosen by facility)	N	
8-5-412	Monitoring of Leaking Pontoons	N	
8-5-501	Records	~~Y~~N	
8-5-501.1	Records; Type and amounts of liquid, type of blanket gas, TVP ~~–~~ Retain 24 months	~~Y~~N	
8-5-501.2	Records; Internal and External Floating Roof Tanks, Seal Replacement Records ~~–~~ Retain 10 years	N~~Y~~	

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Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforce-able (Y/N)	Future Effective Date
8-5-501.3	Records retained for 24 months	N	
8-5-501.4	Engineering data sheets showing setpoints for pressure vacuum valves installed after 6/1/07	N	
~~8-5-503~~	~~Portable Hydrocarbon Detector~~	~~Y~~	
8-5-602	Analysis of Samples, True Vapor Pressure	Y	
8-5-604	Determination of Applicability	Y	
8-5-605	Pressure Vacuum Valve Gas Tight Determination (applies only to S107 (Tank 150), S110 (Tank 155), S115 (Tank 160), S123 (Tank 168), S128 (Tank 174), S129 (Tank 180), S178 (Tank 288))	Y	
SIP Regulation 8 Rule 5	**Organic Compounds, Storage of Organic Liquids (6/5/03)**		
8-5-111.1	Limited Exemption, Tank Removal From and Return to Service, Notification	Y	
8-5-111.2	Limited Exemption, Tank Removal From and Return to Service, Tank in compliance prior to notification	Y	
8-5-111.5	Limited Exemption, Tank Removal From and Return to Service, Minimize emissions	Y	
8-5-111.6	Limited Exemption, Tank Removal From and Return to Service, Notice of completion not required	Y	
8-5-111.7	Limited Exemption, Tank Removal From and Return to Service, Satisfy requirements of 8-5-328	Y	
8-5-112	Limited Exemption, Preventative Maintenance and Inspection of Tanks in Operation	Y	
8-5-112.1	Limited Exemption, Tanks in Operation, Notification	Y	
8-5-112.1.1	Limited Exemption, Tanks in Operation, Notification, 3 day prior notification	Y	
8-5-112.1.2	Limited Exemption, Tanks in Operation, Notification, Telephone notification	Y	
8-5-112.2	Limited Exemption, Tanks in Operation, Tank in compliance prior to start of work. Certified per 8-5-404	Y	
8-5-301	Storage Tank Control Requirements (internal floating roof, external floating roof, or approved emission control system)	Y	
8-5-303	Requirements for Pressure Vacuum Valves (applies only to S107 (Tank 150), S110 (Tank 155), S115 (Tank 160), S123 (Tank 168), S128 (Tank 174), S129 (Tank 180), S178 (Tank 288))	Y	
8-5-320	Tank Fitting Requirements	Y	
8-5-320.3	Tank Fitting Requirements; Floating roof tanks, Gasketed covers, seals, lids	Y	
8-5-320.4	Tank Fitting Requirements; Solid sampling or gauging well requirements in floating roof tanks	Y	

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Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforce-able (Y/N)	Future Effective Date
8-5-320.4.1	Tank Fitting Requirements; Solid sampling or gauging well requirements-projection below liquid surface	Y	
8-5-320.4.2	Tank Fitting Requirements; Solid sampling or gauging well requirements-cover, seal, or lid	Y	
8-5-320.4.3	Tank Fitting Requirements; Solid sampling or gauging well requirements-gap between well and roof	Y	
8-5-328	Tank Degassing Requirements	Y	
8-5-328.1	Tank Degassing Requirements; Tanks > 75 cubic meters	Y	
8-5-328.1.2	Tank Degassing Requirements; Tanks > 75 cubic meters, Approved Emission Control System	Y	
8-5-328.2	Tank Degassing Requirements; Ozone Excess Day Prohibition	Y	
8-5-328.3	Notification of degassing	N	
8-5-331	Tank Cleaning Requirements	N	
8-5-332	Sludge Handling Requirements	N	
8-5-401	Inspection Requirements for External Floating Roof Tanks	Y	
8-5-401.1	Inspection Requirements for External Floating Roof Tanks; Primary and Secondary Seal Inspections	Y	
8-5-401.2	Inspection Requirements for External Floating Roof Tanks; Tank Fittings Inspections	Y	
8-5-403	Inspection Requirements for Pressure Vacuum Valves (applies only to S107 (Tank 150), S110 (Tank 155), S115 (Tank 160), S123 (Tank 168), S128 (Tank 174), S129 (Tank 180), S178 (Tank 288))	Y	
8-5-404	Certification	Y	
8-5-501	Records	Y	
8-5-501.1	Records; Type and amounts of liquid, type of blanket gas, TVP – Retain 24 months	Y	
8-5-501.2	Records; Internal and External Floating Roof Tanks, Seal Replacement Records – Retain 10 years	Y	
8-5-503	Portable Hydrocarbon Detector	Y	
NESHAPS Title 40 Part 63 Subpart G	**SOCMI HON G (01/27/1995) REQUIREMENTS FOR EXTERNAL FLOATING ROOF TANKS**		
40 CFR 63.119(a)	Storage Vessel Provisions –– Reference Control Technology	Y	
40 CFR 63.119(a)(1)	Storage Vessel Provisions –– Reference Control Technology–– Group 1, TVP < 76.6 kPa	Y	
40 CFR 63.119(c)	Storage Vessel Provisions –– Reference Control Technology–– External floating roof	Y	
40 CFR 63.119(c)(1)	Storage Vessel Provisions –– Reference Control Technology–– External floating roof seals	Y	
40 CFR 63.119(c)(1)(i)	Storage Vessel Provisions –– Reference Control Technology–– External floating roof double seals required	Y	
40 CFR	Storage Vessel Provisions –– Reference Control Technology––	Y	

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S97 (TANK 100), S98, (TANK 101), S100 (TANK 103), S107 (TANK 150), S110 (TANK 155), S111 (TANK 156), S112 (TANK 157), S114 (TANK 159), S115 (TANK 160), S122 (TANK 167), S123 (TANK 168), S124 (TANK 169), S128 (TANK 174), S129 (TANK 180), S150 (TANK 241), S151 (TANK 242), S177 (TANK 287), S178 (TANK 288), S186 (TANK 298), S254 (TANK 1001), S255 (TANK 1002), S256 (TANK 1003), S259 (TANK 1006)

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforce-able (Y/N)	Future Effective Date
63.119(c)(1)(ii)	External floating roof primary seal requirements – metallic shoe or liquid-mounted		
40 CFR 63.119(c)(1)(iii)	Storage Vessel Provisions –– Reference Control Technology–– External floating roof seal requirements	Y	
40 CFR 63.119(c)(3)	Storage Vessel Provisions –– Reference Control Technology–– External floating roof––Must float on liquid	Y	
40 CFR 63.119(c)(3)(i)	Storage Vessel Provisions –– Reference Control Technology–– External floating roof ––Must float on liquid except during initial fill	Y	
40 CFR 63.119(c)(3)(ii)	Storage Vessel Provisions –– Reference Control Technology–– External floating roof––Must float on liquid except after completely emptied and degassed	Y	
40 CFR 63.119(c)(3)(iii)	Storage Vessel Provisions –– Reference Control Technology–– External floating roof –– Must float on liquid except when completely emptied before refilling	Y	
40 CFR 63.119(c)(4)	Storage Vessel Provisions –– Reference Control Technology–– External Floating Roof Operations, when not floating	Y	
40 CFR 63.120(b)	Storage Vessel Provisions –– Procedures to Determine Compliance––Compliance Demonstration––External floating roof	Y	
40 CFR 63.120(b)(1)	Storage Vessel Provisions –– Procedures to Determine Compliance––External FR seal gap measurement	Y	
40 CFR 63.120(b)(1)(i)	Storage Vessel Provisions –– Procedures to Determine Compliance––External FR with double seals – primary seal gap measurement – 5 year intervals	Y	
40 CFR 63.120(b)(1)(iii)	Storage Vessel Provisions –– Procedures to Determine Compliance––External FR with double seals – secondary seal gap measurement – annual requirement	Y	
40 CFR 63.120(b)(1)(iv)	Storage Vessel Provisions –– Procedures to Determine Compliance––External FR seal inspections prior to tank refill with organic HAP after not storing organic HAP for 1 year or longer	Y	
40 CFR 63.120(b)(2)	Storage Vessel Provisions –– Procedures to Determine Compliance––External FR seal gap determination methods	Y	
40 CFR 63.120(b)(2)(i)	Storage Vessel Provisions –– Procedures to Determine Compliance––External FR seal gap determination methods – roof not resting on legs	Y	
40 CFR 63.120(b)(2)(ii)	Storage Vessel Provisions –– Procedures to Determine Compliance––External FR seal gap determination methods – measure gaps around entire circumference of seal and measure width and length of gaps	Y	
40 CFR 63.120(b)(2)(iii)	Storage Vessel Provisions –– Procedures to Determine Compliance––External FR seal gap determination methods –	Y	

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MACT ZERO-GAP EXTERNAL FLOATING ROOF TANKS
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Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforce-able (Y/N)	Future Effective Date
	determine total surface area of each gap		
40 CFR 63.120(b)(3)	Storage Vessel Provisions –– Procedures to Determine Compliance––External FR primary seal gap calculation method – total surface area of primary seal gaps <= 212 cm2 per meter of vessel diameter. Maximum width <= 3.81 cm	Y	
40 CFR 63.120(b)(4)	Storage Vessel Provisions –– Procedures to Determine Compliance––External FR secondary seal gap calculation method – total surface area of secondary seal gaps <= 21.2 cm2 per meter of vessel diameter. Maximum width <= 1.27 cm	Y	
40 CFR 63.120(b)(5)	Storage Vessel Provisions –– Procedures to Determine Compliance––External FR primary seal additional requirements	Y	
40 CFR 63.120(b)(5)(i)	Storage Vessel Provisions –– Procedures to Determine Compliance––External FR primary seal additional requirements – metallic shoe seal – shoe geometry	Y	
40 CFR 63.120(b)(5)(ii)	Storage Vessel Provisions –– Procedures to Determine Compliance––External FR primary seal additional requirements – no holes, tears, or openings	Y	
40 CFR 63.120(b)(6)	Storage Vessel Provisions –– Procedures to Determine Compliance––External FR secondary seal requirements	Y	
40 CFR 63.120(b)(6)(i)	Storage Vessel Provisions –– Procedures to Determine Compliance––External FR secondary seal requirements – location and extent	Y	
40 CFR 63.120(b)(6)(ii)	Storage Vessel Provisions –– Procedures to Determine Compliance––External FR secondary seal requirements –– no holes, tears or openings	Y	
40 CFR 63.120(b)(7)	Storage Vessel Provisions –– Procedures to Determine Compliance––External FR unsafe to perform seal measurements or inspect the tank	Y	
40 CFR 63.120(b)(7)(i)	Storage Vessel Provisions –– Procedures to Determine Compliance––External FR unsafe to perform seal measurements or inspect the tank – complete measurements or inspection within 30 days after determining roof is unsafe or comply with 40 CFR 63.120(b)(7)(ii)	Y	
40 CFR 63.120(b)(7)(ii)	Storage Vessel Provisions –– Procedures to Determine Compliance––External FR unsafe to perform seal measurements or inspect the tank – empty and remove vessel from service within 45 days after determining roof is unsafe or comply with 40 CFR 63.120(b)(7)(i). Two 30 day extensions are allowed to empty the tank. Decision to use extension must be documented.	Y	
40 CFR 63.120(b)(8)	Storage Vessel Provisions –– Procedures to Determine Compliance External FR Repairs must be made within 45 days after identification or empty and remove tank from service. Two 30 day extensions are allowed to empty the tank. Decision to use extension	Y	

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Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforce-able (Y/N)	Future Effective Date
	must be documented.		
40 CFR 63.120(b)(9)	Storage Vessel Provisions –– Procedures to Determine Compliance External FR seal gap measurement 30 day notification	Y	
40 CFR 63.120(b)(10)	Storage Vessel Provisions –– Procedures to Determine Compliance––External FR and seals visual inspection each time emptied	Y	
40 CFR 63.120(b)(10)(i)	Storage Vessel Provisions –– Procedures to Determine Compliance––External FR and seal visual inspection each time emptied – Repair defects before refilling [does not apply to gaskets, slotted membranes, or sleeve seals for Group 1 Refinery MACT tanks per 40 CFR 63.646(e)]	Y	
40 CFR 63.120(b)(10)(ii)	Storage Vessel Provisions –– Procedures to Determine Compliance––External FR and seal visual inspection each time emptied – 30 day notification	Y	
40 CFR 63.120(b)(10)(iii)	Storage Vessel Provisions –– Procedures to Determine Compliance––External FR and seal visual inspection each time emptied –-Notification for unplanned	Y	
40 CFR 63.123(a)	Storage Vessel Provisions –– Recordkeeping––Group 1 and Group 2 storage vessel dimensions and capacity. Keep for life of source.	Y	
40 CFR 63.123(d)	Storage Vessel Provisions –– Recordkeeping––Group 1 External floating roof tank requirements –– records of seal gap measurements (date, raw data, and required calculations)	Y	
40 CFR 63.123(g)	Storage Vessel Provisions –– Recordkeeping, Extensions for emptying storage vessel – keep documentation specified	Y	
NESHAPS Title 40 Part 63 Subpart CC	**NESHAPS for Petroleum Refineries (06/12/1996) REQUIREMENTS FOR EXTERNAL FLOATING ROOF TANKS**		
40 CFR 63.640(c)(2)	Applicability and Designation of Storage Vessels	Y	
40 CFR 63.646(a)	Storage Vessel Provisions-Group 1	Y	
40 CFR 63.646(b)(1)	Storage Vessel Provisions-Determine stored liquid % OHAP for group determination	Y	
40 CFR 63.646(b)(2)	Storage Vessel Provisions-Determine stored liquid % OHAP-method 18 to resolve disputes	Y	
40 CFR 63.646(c)	Storage Vessel Provisions—40 CFR 63 Subpart G exclusions for storage vessels [EFRs exempt from 63.119(c)(2)]	Y	
40 CFR 63.646(d)	Storage Vessel Provisions-References	Y	
40 CFR 63.646(d)(2)	Storage Vessel Provisions-References to April 22,1994	Y	
40 CFR 63.646(d)(3)	Storage Vessel Provisions-References to December 31, 1992	Y	
40 CFR	Storage Vessel Provisions-References to compliance dates in 40	Y	

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Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforce-able (Y/N)	Future Effective Date
63.646(d)(4)	CFR 63.100 of Subpart F		
40 CFR 63.646(e)	Storage Vessel Provisions—Exceptions for compliance with inspection requirements of 40 CFR 63.120 of Subpart G – Not required to comply with provisions for gaskets, slotted membranes, and sleeve seals.	Y	
40 CFR 63.646(f)	Storage Vessel Provisions-Group 1 floating roof requirements	Y	
40 CFR 63.646(f)(1)	Storage Vessel Provisions—Group 1 floating roof requirements-Covers or lids closed except when in use	Y	
40 CFR 63.646(f)(2)	Storage Vessel Provisions-Group 1 floating roof requirements-Rim space vents requirements	Y	
40 CFR 63.646(f)(3)	Storage Vessel ProvisionSGroup 1 floating roof requirements-Automatic bleeder vents requirements	Y	
40 CFR 63.646(l)	Storage Vessel Provisions-State or local permitting agency notification requirements	Y	
40 CFR 63.654(f)	Reporting and Recordkeeping Requirements-Notice of compliance status report requirements	Y	
40 CFR 63.654(f)(1)	Reporting and Recordkeeping Requirements-Notice of compliance status report requirements	Y	
40 CFR 63.654(f)(1)(i)	Reporting and Recordkeeping Requirements-Notice of compliance status report requirements-Reporting—storage vessels	Y	
40 CFR 63.654(f)(1)(i)(A)	Reporting and Recordkeeping Requirements-Notice of compliance status report requirements-Reporting—storage vessels	Y	
40 CFR 63.654(f)(1)(i)(A)(1)	Reporting and Recordkeeping Requirements-Notice of compliance status report requirements-Reporting—storage vessels	Y	
40 CFR 63.654(g)	Periodic Reporting and Recordkeeping Requirements	Y	
40 CFR 63.654(g)(1)	Periodic Reporting and Recordkeeping Requirements-storage vessels [Information related to gaskets, slotted membranes, and sleeve seals not required for storage vessels that are part of existing source]	Y	
40 CFR 63.654(g)(3)	Periodic Reporting and Recordkeeping Requirements-storage vessels with external floating roofs	Y	
40 CFR 63.654(g)(3)(i)	Periodic Reporting and Recordkeeping Requirements-storage vessels with external floating roofSdocument results of each seal gap measurement	Y	
40 CFR 63.654(g)(3)(ii)	Periodic Reporting and Recordkeeping Requirements-storage vessels with external floating roofs – extension documentation	Y	
40 CFR 63.654(g)(3)(iii)	Periodic Reporting and Recordkeeping Requirements-storage vessels with external floating roofs – documentation of failures	Y	
40 CFR 63.654(h)(2)	Reporting and Recordkeeping Requirements-Other reports-Storage vessel notification of inspections.	Y	
40 CFR 63.654(h)(2)(i)	Reporting and Recordkeeping Requirements-Other reports-Storage vessel notification of inspections – refilling Group 1 storage vessel.	Y	

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S97 (TANK 100), S98, (TANK 101), S100 (TANK 103), S107 (TANK 150), S110 (TANK 155), S111 (TANK 156), S112 (TANK 157), S114 (TANK 159), S115 (TANK 160), S122 (TANK 167), S123 (TANK 168), S124 (TANK 169), S128 (TANK 174), S129 (TANK 180), S150 (TANK 241), S151 (TANK 242), S177 (TANK 287), S178 (TANK 288), S186 (TANK 298), S254 (TANK 1001), S255 (TANK 1002), S256 (TANK 1003), S259 (TANK 1006)

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforce-able (Y/N)	Future Effective Date
40 CFR 63.654(h)(2)(ii)	Reporting and Recordkeeping Requirements-Other reports-Storage vessel notification of inspections –Group 1 storage vessel seal gap measurements – 30 day notification [can be waived or modified by state or local].	Y	
40 CFR 63.654(h)(6)	Reporting and Recordkeeping Requirements-Other reports-Determination of Applicability	Y	
40 CFR 63.654(h)(6)(ii)	Reporting and Recordkeeping Requirements-Other reports-Determination of Applicability	Y	
40 CFR 63.654(i)(1)	Reporting and Recordkeeping Requirements-Recordkeeping for storage vessels – keep records specified in 40 CFR 63.123 (Subpart G)	Y	
40 CFR 63.654(i)(1)(i)	Reporting and Recordkeeping Requirements-Recordkeeping for storage vessels– keep records specified in 40 CFR 63.123 (Subpart G) except records related to gaskets, slotted membranes, and sleeve seals for vessels in existing sources	Y	
40 CFR 63.654(i)(4)	Reporting and Recordkeeping Requirements—Recordkeeping for storage vessels-Record retention – 5 years	Y	
BAAQMD Condition 20989, Part A	Throughput limits for sources S97, S100, S107, S110, S111, S112, S114, S115, ~~S122, S128,~~ S177, S254, S255, S256, S259 [Basis: 2-1-234.3]	N	
BAAQMD Condition 20989, Part A	Throughput limits for sources S129, S150, S151, S178 [Basis: 2-1-234.3]	Y	
BAAQMD Condition 22478	Applies to S123, S124, S186		
Part 1	Vapor pressure limit for S123 [Basis: cumulative increase]	Y	
Part 2	Vapor pressure ~~Emissions~~ limit for S124 [Basis: cumulative increase]	Y	
Part 3	Emissions limit for S186 [Basis: cumulative increase]	Y	
Part 5	Throughput limit for S123 [Basis: cumulative increase]	Y	
Part 6	Throughput limit for S124 [Basis: cumulative increase]		
Part 8~~7~~	BACT equipment requirements for S123, S124, S186, and S334 [Basis: BACT, cumulative increase]	Y	
Part 9~~8~~	Emission calculations ~~for S124 and~~ S186 [Basis: cumulative increase]	Y	
BAAQMD Condition 22963	Applies to S98. S122, S128		
Part 1a	Vapor pressure limit for S98 for October through March [Basis: cumulative increase]	Y	
Part 1b	Vapor pressure limit for S98 for April through September [Basis: cumulative increase]		
Part 1d	Vapor pressure limit for S122 [Basis: cumulative increase]		

Table IV – BB.13
Source-Specific Applicable Requirements
MACT ZERO-GAP EXTERNAL FLOATING ROOF TANKS
S97 (TANK 100), S98, (TANK 101), S100 (TANK 103), S107 (TANK 150), S110 (TANK 155), S111 (TANK 156), S112 (TANK 157), S114 (TANK 159), S115 (TANK 160), S122 (TANK 167), S123 (TANK 168), S124 (TANK 169), S128 (TANK 174), S129 (TANK 180), S150 (TANK 241), S151 (TANK 242), S177 (TANK 287), S178 (TANK 288), S186 (TANK 298), S254 (TANK 1001), S255 (TANK 1002), S256 (TANK 1003), S259 (TANK 1006)

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforce-able (Y/N)	Future Effective Date
Part 1e	Vapor pressure limit for S128 [Basis: cumulative increase]		
Part 2a	Throughput limit for S98 for October through March [Basis: cumulative increase]		
Part 2b	Throughput limit for S98 for April through September [Basis: cumulative increase]		
Part 2d	Annual throughput limit for S122 [Basis: cumulative increase]		
Part 2e	Annual throughput limit for S128 [Basis: cumulative increase]		
Part 4	Seal, penetration, guide pole, and roof leg requirements [Basis: BACT, cumulative increase]		

Tanks S173 and S174 will be moved from Table BB.21 because they will have District permits. The facility has also asked the District to remove tank S238 because it is out of service.

Tank S239 is being deleted from Table BB.4 because it was never vented to the fuel gas system. It will be added to Table BB.21, Exempt Tanks Subject to MACT Recordkeeping.

Table IV – BB.4
Source-Specific Applicable Requirements
LOW VAPOR PRESSURE PERMITTED TANKS
VENTED TO FUEL GAS
S173 (TANK 280), S174, (TANK 281), ~~S238 (TANK 211), S239 (TANK 212)~~

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
Tanks S173 and S174 will be subject to the requirements in Table IV-BB.21 until they are controlled by A7, Odor Abatement System. S173 and S174 will be subject to the requirements in Table IV-4 when controlled by A7.			
BAAQMD · Regulation 8, Rule 5	**Organic Compounds, Storage of Organic Liquids (11/27/02) EXEMPT**		
8-5-117	Exemption, Low Vapor Pressure	Y	
40 CFR 63, Subpart CC	**National Emission Standards for Hazardous Air Pollutants for Petroleum Refining (8/18/95) REQUIREMENTS FOR EMISSION POINTS ROUTED TO FUEL GAS**		
63.640(c)(2)	Applies to S173 and S174: Applicability and Designation of Storage Vessels	Y	
63.640(c)(3)	Wastewater streams and treatment operations associated with petroleum	Y	

Table IV – BB.4
Source-Specific Applicable Requirements
LOW VAPOR PRESSURE PERMITTED TANKS
VENTED TO FUEL GAS
S173 (TANK 280), S174, (TANK 281), ~~S238 (TANK 211), S239 (TANK 212)~~

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
	refining process units meeting the criteria of section 63.640(a)		
63.640(d)(5)	Exemption for emission points routed to fuel gas system	Y	
BAAQMD Condition 20773			
Part 1	Requirement to verify exempt status of tank based on true vapor pressure of contents [Basis: Regulation 8-5-117, 2-6-409.2]	Y	
Part 2	Record retention requirement [Basis: Regulation 2-6-409.2]	Y	
BAAQMD Condition 20989, Part A	Throughput limits for sources ~~S238, S239~~ [Basis: 2-1-234.3]	N	
BAAQMD Condition 23724	Applies to S173 and S174		
Part 1a	Requirement for abatement by A7, Odor Abatement System [2-1-403]	Y	When blanketing is required to preserve product or feed
Part 2	Requirement for utility-grade natural gas blanket [2-1-403]	Y	
Part 3	Requirement for pressure monitoring device for S173 and S174 by 7/5/09. [2-1-403]	Y	7/5/09
Part 4	After pressure monitoring devices are installed, requirement to operate below tank set pressure [2-1-403]	Y	
Part 4a	Tank pressures for tanks subject to Regulation 8, Rule 5 [Regulation 8, Rule 5]	Y	
Part 5	Pressure relief valve setting at or above nominal set pressure	Y	
Part 6	Corrective Plan	Y	
Part 7	Pressure monitoring records [2-1-403]	Y	
Part 8	Initial date for reporting pressures in excess of nominal set pressure	Y	7/5/09
Part 9	Compliance with nuisance and odor regulations [1-301, 7-301, 7-302]	Y	

ConocoPhillips has included a tank in Table IV-BB.14 in the Enhanced Monitoring Program pursuant to Section 411 of Regulation 8, Rule 5. The tank is not identified because the facility is allowed to change which tanks are in the program without notice. This program requires monitoring every quarter instead of every six months. In exchange, the facility is exempt from

violations of certain equipment standards listed in Section 119.1 if the requirements of Section 119.2 and 119.3 are met. The main requirements are minimization of emissions within 8 hours of discovery and repair within 48 hours of discovery.

The part numbers for Condition 22478 have been amended due to the CFEP project.

Table IV – BB.14
Source-Specific Applicable Requirements
NSPS K AND NSPS KA ZERO-GAP EXTERNAL FLOATING ROOF TANKS
NSPS K – S334 (TANK 107),
NSPS KA – S341 (TANK 208), S342 (TANK 209), S343 (TANK 210)

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforce-able (Y/N)	Future Effective Date
BAAQMD Regulation 8, Rule 5	**Organic Compounds, Storage of Organic Liquids (~~11/27/02~~10/18/06) REQUIREMENTS FOR EXTERNAL FLOATING ROOF TANKS**		
8-5-111	Limited Exemption, Tank Removal From and Return to Service	Y	
8-5-111.1	Limited Exemption, Tank Removal From and Return to Service, Notification	~~Y~~N	
8-5-111.1.1	Limited Exemption, Tank Removal From and Return to Service, Notification, 3 day prior notification	Y	
8-5-111.1.2	Limited Exemption, Tank Removal From and Return to Service, Notification, Telephone notification	Y	
8-5-111.2	Limited Exemption, Tank Removal From and Return to Service, Tank in compliance prior to notification	N~~Y~~	
8-5-111.3	Limited Exemption, Tank Removal From and Return to Service, Floating roof tanks	Y	
8-5-111.5	Limited Exemption, Tank Removal From and Return to Service, Minimize emissions	Y	
~~8-5-111.6~~	~~Limited Exemption, Tank Removal From and Return to Service, Notice of completion not required~~	~~Y~~	
~~8-5-111.7~~	~~Limited Exemption, Tank Removal From and Return to Service, Satisfy requirements of 8-5-328~~	~~Y~~	
8-5-112	Limited Exemption, Preventative Maintenance and Inspection of Tanks in Operation	~~Y~~N	
8-5-112.1	Limited Exemption, Tanks in Operation, Notification	~~Y~~N	
8-5-112.1.1	Limited Exemption, Tanks in Operation, Notification, 3 day prior notification	~~Y~~N	
8-5-112.1.2	Limited Exemption, Tanks in Operation, Notification, Telephone notification	~~Y~~N	
8-5-112.2	Limited Exemption, Tanks in Operation, Tank in compliance prior to start of work. Certified per 8-5-404	~~Y~~N	
8-5-112.3	Limited Exemption, Tanks in Operation, No product movement, Minimize emissions	~~Y~~N	
8-5-112.4	Limited Exemption, Tanks in Operation, Not to exceed 7 days	~~Y~~N	
8-5-112.6	Tank Records	N	
8-5-119	Limited Exemption, Repair Period (Applies to S341 only)	N	
8-5-301	Storage Tank Control Requirements (internal floating roof, external floating roof, or approved emission control system)	~~Y~~N	
8-5-304	Requirements for External Floating Roofs	~~Y~~N	

Table IV – BB.14
Source-Specific Applicable Requirements
NSPS K AND NSPS KA ZERO-GAP EXTERNAL FLOATING ROOF TANKS
NSPS K – S334 (TANK 107),
NSPS KA – S341 (TANK 208), S342 (TANK 209), S343 (TANK 210)

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforce-able (Y/N)	Future Effective Date
8-5-304.1	Requirements for External Floating Roofs; Tank fitting requirements	Y	
8-5-304.2	Requirements for External Floating Roofs; Primary seal requirements	Y	
8-5-304.3	Requirements for External Floating Roofs; Secondary seal requirements	Y	
8-5-304.4	Requirements for External Floating Roofs; Floating roof requirements	~~Y~~N	
8-5-304.5	Requirements for External Floating Roofs; Shell in good condition	N	
8-5-304.6	Requirements for External Floating Roofs; tank pontoons	N	
8-5-320	Tank Fitting Requirements; Floating roof tanks	Y	
8-5-320.2	Tank Fitting Requirements; Floating roof tanks, Projection below liquid surface	Y	
8-5-320.3	Tank Fitting Requirements; Floating roof tanks, Gasketed covers, seals, lids	Y	
8-5-320.3.1	Tank Fitting Requirements; Floating roof tanks, Gasketed covers, seals, lids – Gap requirements	Y	
8-5-320.4	Tank Fitting Requirements; Solid sampling or gauging well requirements in floating roof tanks	Y	
8-5-320.4.1	Tank Fitting Requirements; Solid sampling or gauging well requirements-projection below liquid surface	Y	
8-5-320.4.2	Tank Fitting Requirements; Solid sampling or gauging well requirements-cover, seal, or lid	Y	
8-5-320.4.3	Tank Fitting Requirements; Solid sampling or gauging well requirements-gap between well and roof	Y	
8-5-320.6	Tank Fitting Requirements; Emergency roof drain	Y	
8-5-320.7	Tank Fitting Requirements; Pressure relief devices	Y	
8-5-321	Primary Seal Requirements	Y	
8-5-321.1	Primary Seal Requirements; No holes, tears, other openings	Y	
8-5-321.2	Primary seal requirements; The seal shall be metallic shoe or liquid mounted except as provided in 8-5-305.1.3	Y	
8-5-321.3	Primary Seal Requirements; Metallic-shoe-type seal requirements	Y	
8-5-321.3.1	Primary Seal Requirements; Metallic-shoe-type seal requirements-geometry of shoe	Y	
8-5-321.3.2	Primary Seal Requirements; Metallic-shoe-type seal requirements-welded tanks	Y	
8-5-322	Secondary Seal Requirements	Y	
8-5-322.1	Secondary Seal Requirements; No holes, tears, other openings	Y	
8-5-322.2	Secondary Seal Requirements; Insertion of probes	Y	
8-5-322.5	Secondary Seal Requirements; Welded external floating roof tanks with seals installed after 9/4/1985 or welded internal floating roof tanks with seals installed after 2/1/1993	Y	
8-5-322.6	Secondary Seal Requirements; Extent of seal	Y	
8-5-328	Tank Degassing Requirements	Y	
8-5-328.1	Tank Degassing Requirements; Tanks > 75 cubic meters	Y	
8-5-328.1.2	Tank Degassing Requirements; Tanks > 75 cubic meters, Approved Emission Control System	Y	
8-5-328.2	Tank Degassing Requirements; Ozone Excess Day Prohibition	Y	
8-5-328.3	Notification of degassing	N	

Table IV – BB.14
Source-Specific Applicable Requirements
NSPS K AND NSPS KA ZERO-GAP EXTERNAL FLOATING ROOF TANKS
NSPS K – S334 (TANK 107),
NSPS KA – S341 (TANK 208), S342 (TANK 209), S343 (TANK 210)

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforce-able (Y/N)	Future Effective Date
8-5-331	Tank Cleaning Requirements	N	
8-5-332	Sludge Handling Requirements	N	
8-5-401	Inspection Requirements for External Floating Roof Tanks	Y	
8-5-401.1	Inspection Requirements for External Floating Roof Tanks; Primary and Secondary Seal Inspections	Y	
8-5-401.2	Inspection Requirements for External Floating Roof Tanks; Tank Fittings Inspections	Y	
8-5-404	Inspection, Abatement Efficiency Determination and Source Test Reports~~Certification~~	~~Y~~N	
8-5-405	Information Required	Y	
8-5-411	Enhanced Monitoring Program (Applies to list of tanks chosen by facility)	N	
8-5-412	Monitoring of Leaking Pontoons	N	
8-5-501	Records	Y	
8-5-501.1	Records; Type and amounts of liquid, type of blanket gas, TVP – Retain 24 months	Y	
8-5-501.2	Records; Internal and External Floating Roof Tanks, Seal Replacement Records – Retain 10 years	Y	
~~8-5-503~~	~~Portable Hydrocarbon Detector~~	~~Y~~	
8-5-602	Analysis of Samples, True Vapor Pressure	Y	
8-5-604	Determination of Applicability	Y	
SIP Regulation 8 Rule 5	**Organic Compounds, Storage of Organic Liquids (6/5/03)**		
8-5-111.1	Limited Exemption, Tank Removal From and Return to Service, Notification	Y	
8-5-111.2	Limited Exemption, Tank Removal From and Return to Service, Tank in compliance prior to notification	Y	
8-5-111.5	Limited Exemption, Tank Removal From and Return to Service, Minimize emissions	Y	
8-5-111.6	Limited Exemption, Tank Removal From and Return to Service, Notice of completion not required	Y	
8-5-111.7	Limited Exemption, Tank Removal From and Return to Service, Satisfy requirements of 8-5-328	Y	
8-5-112	Limited Exemption, Preventative Maintenance and Inspection of Tanks in Operation	Y	
8-5-112.1	Limited Exemption, Tanks in Operation, Notification	Y	
8-5-112.1.1	Limited Exemption, Tanks in Operation, Notification, 3 day prior notification	Y	
8-5-112.1.2	Limited Exemption, Tanks in Operation, Notification, Telephone notification	Y	
8-5-112.2	Limited Exemption, Tanks in Operation, Tank in compliance prior to start of work. Certified per 8-5-404	Y	
8-5-301	Storage Tank Control Requirements (internal floating roof, external floating roof, or approved emission control system)	Y	
8-5-303	Requirements for Pressure Vacuum Valves (applies only to S107	Y	

Table IV – BB.14
Source-Specific Applicable Requirements
NSPS K AND NSPS KA ZERO-GAP EXTERNAL FLOATING ROOF TANKS
NSPS K – S334 (TANK 107),
NSPS KA – S341 (TANK 208), S342 (TANK 209), S343 (TANK 210)

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforce-able (Y/N)	Future Effective Date
	(Tank 150), S110 (Tank 155), S115 (Tank 160), S123 (Tank 168), S128 (Tank 174), S129 (Tank 180), S178 (Tank 288))		
8-5-320	Tank Fitting Requirements	Y	
8-5-320.3	Tank Fitting Requirements; Floating roof tanks, Gasketed covers, seals, lids	Y	
8-5-320.4	Tank Fitting Requirements; Solid sampling or gauging well requirements in floating roof tanks	Y	
8-5-320.4.1	Tank Fitting Requirements; Solid sampling or gauging well requirements-projection below liquid surface	Y	
8-5-320.4.2	Tank Fitting Requirements; Solid sampling or gauging well requirements-cover, seal, or lid	Y	
8-5-320.4.3	Tank Fitting Requirements; Solid sampling or gauging well requirements-gap between well and roof	Y	
8-5-328	Tank Degassing Requirements	Y	
8-5-328.1	Tank Degassing Requirements; Tanks > 75 cubic meters	Y	
8-5-328.1.2	Tank Degassing Requirements; Tanks > 75 cubic meters, Approved Emission Control System	Y	
8-5-328.2	Tank Degassing Requirements; Ozone Excess Day Prohibition	Y	
8-5-328.3	Notification of degassing	N	
8-5-331	Tank Cleaning Requirements	N	
8-5-332	Sludge Handling Requirements	N	
8-5-401	Inspection Requirements for External Floating Roof Tanks	Y	
8-5-401.1	Inspection Requirements for External Floating Roof Tanks; Primary and Secondary Seal Inspections	Y	
8-5-401.2	Inspection Requirements for External Floating Roof Tanks; Tank Fittings Inspections	Y	
8-5-403	Inspection Requirements for Pressure Vacuum Valves (applies only to S107 (Tank 150), S110 (Tank 155), S115 (Tank 160), S123 (Tank 168), S128 (Tank 174), S129 (Tank 180), S178 (Tank 288))	Y	
8-5-404	Certification	Y	
8-5-501	Records	Y	
8-5-501.1	Records; Type and amounts of liquid, type of blanket gas, TVP - Retain 24 months	Y	
8-5-501.2	Records; Internal and External Floating Roof Tanks, Seal Replacement Records - Retain 10 years	Y	
8-5-503	Portable Hydrocarbon Detector	Y	
40 CFR 60, Subpart K	**Standards of Performance for Storage Vessels for Volatile Organic Liquid Storage Vessels for Which Construction, Reconstruction, or Modification Commenced After June 11, 1973, and Prior to May 19, 1978 (4/4/1980) APPLIES TO S334 (Tank 107)**		
60.110(a)	Applicability and Designation of Affected Facility; Affected facility	Y	
60.110(c)(2)	Applicability and Designation of Affected Facility-->65,000 gal after 6/11/1973 and before 5/19/1978.	Y	
60.112(a)(1)	Standard for petroleum liquids above 1.5 psia and below 11.1 psia	Y	

Table IV – BB.14
Source-Specific Applicable Requirements
NSPS K AND NSPS KA ZERO-GAP EXTERNAL FLOATING ROOF TANKS
NSPS K – S334 (TANK 107),
NSPS KA – S341 (TANK 208), S342 (TANK 209), S343 (TANK 210)

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforce-able (Y/N)	Future Effective Date
60.113(a)	Records of petroleum liquids, period of storage, and maximum true vapor pressure	Y	
60.113(b)	Nomographs may be used	Y	
40 CFR 60, Subpart Ka	**Standards of Performance for Storage Vessels for Volatile Organic Liquid Storage Vessels for Which Construction, Reconstruction, or Modification Commenced After May 18, 1978, and Prior to July 23, 1984 (12/14/2000) APPLIES TO S341 (Tank 208), S342 (Tank 209), S343 (Tank 210)**		
60.110a(a)	Applicability and Designation of Affected Facility	Y	
40 CFR 63, Subpart G	**SOCMI HON G (01/27/1995) REQUIREMENTS FOR EXTERNAL FLOATING ROOF TANKS**		
63.119(a)	Storage Vessel Provisions -- Reference Control Technology	Y	
63.119(a)(1)	Storage Vessel Provisions -- Reference Control Technology--Group 1, TVP < 76.6 kPa	Y	
63.119(c)	Storage Vessel Provisions -- Reference Control Technology--External floating roof	Y	
63.119(c)(1)	Storage Vessel Provisions -- Reference Control Technology--External floating roof seals	Y	
63.119(c)(1)(i)	Storage Vessel Provisions -- Reference Control Technology--External floating roof double seals required	Y	
63.119(c)(1)(ii)	Storage Vessel Provisions -- Reference Control Technology--External floating roof primary seal requirements – metallic shoe or liquid-mounted	Y	
63.119(c)(1)(iii)	Storage Vessel Provisions -- Reference Control Technology--External floating roof seal requirements	Y	
63.119(c)(3)	Storage Vessel Provisions -- Reference Control Technology--External floating roof--Must float on liquid	Y	
63.119(c)(3)(i)	Storage Vessel Provisions -- Reference Control Technology--External floating roof --Must float on liquid except during initial fill	Y	
63.119(c)(3)(ii)	Storage Vessel Provisions -- Reference Control Technology--External floating roof-- Must float on liquid except after completely emptied and degassed	Y	
63.119(c)(3)(iii)	Storage Vessel Provisions -- Reference Control Technology--External floating roof -- Must float on liquid except when completely emptied before refilling	Y	
63.119(c)(4)	Storage Vessel Provisions -- Reference Control Technology--External Floating Roof Operations, when not floating	Y	
63.120(b)	Storage Vessel Provisions -- Procedures to Determine Compliance--Compliance Demonstration--External floating roof	Y	
63.120(b)(1)	Storage Vessel Provisions -- Procedures to Determine Compliance--External FR seal gap measurement	Y	
63.120(b)(1)(i)	Storage Vessel Provisions -- Procedures to Determine Compliance--External FR with double seals - primary seal gap measurement – 5 year intervals	Y	

Table IV – BB.14
Source-Specific Applicable Requirements
NSPS K AND NSPS KA ZERO-GAP EXTERNAL FLOATING ROOF TANKS
NSPS K – S334 (TANK 107),
NSPS KA – S341 (TANK 208), S342 (TANK 209), S343 (TANK 210)

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforce-able (Y/N)	Future Effective Date
63.120(b)(1)(iii)	Storage Vessel Provisions -- Procedures to Determine Compliance-- External FR with double seals - secondary seal gap measurement – annual requirement	Y	
63.120(b)(1)(iv)	Storage Vessel Provisions -- Procedures to Determine Compliance-- External FR seal inspections prior to tank refill with organic HAP after not storing organic HAP for 1 year or longer	Y	
63.120(b)(2)	Storage Vessel Provisions -- Procedures to Determine Compliance-- External FR seal gap determination methods	Y	
63.120(b)(2)(i)	Storage Vessel Provisions -- Procedures to Determine Compliance-- External FR seal gap determination methods – roof not resting on legs	Y	
63.120(b)(2)(ii)	Storage Vessel Provisions -- Procedures to Determine Compliance-- External FR seal gap determination methods – measure gaps around entire circumference of seal and measure width and length of gaps	Y	
63.120(b)(2)(iii)	Storage Vessel Provisions -- Procedures to Determine Compliance-- External FR seal gap determination methods – determine total surface area of each gap	Y	
63.120(b)(3)	Storage Vessel Provisions -- Procedures to Determine Compliance-- External FR primary seal gap calculation method – total surface area of primary seal gaps <= 212 cm2 per meter of vessel diameter. Maximum width <= 3.81 cm	Y	
63.120(b)(4)	Storage Vessel Provisions -- Procedures to Determine Compliance-- External FR secondary seal gap calculation method – total surface area of secondary seal gaps <= 21.2 cm2 per meter of vessel diameter. Maximum width <= 1.27 cm	Y	
63.120(b)(5)	Storage Vessel Provisions -- Procedures to Determine Compliance-- External FR primary seal additional requirements	Y	
63.120(b)(5)(i)	Storage Vessel Provisions -- Procedures to Determine Compliance-- External FR primary seal additional requirements – metallic shoe seal – shoe geometry	Y	
63.120(b)(5)(ii)	Storage Vessel Provisions -- Procedures to Determine Compliance-- External FR primary seal additional requirements – no holes, tears, or openings	Y	
63.120(b)(6)	Storage Vessel Provisions -- Procedures to Determine Compliance-- External FR secondary seal requirements	Y	
63.120(b)(6)(i)	Storage Vessel Provisions -- Procedures to Determine Compliance-- External FR secondary seal requirements – location and extent	Y	
63.120(b)(6)(ii)	Storage Vessel Provisions -- Procedures to Determine Compliance-- External FR secondary seal requirements - no holes, tears or openings	Y	
63.120(b)(7)	Storage Vessel Provisions -- Procedures to Determine Compliance-- External FR unsafe to perform seal measurements or inspect the tank	Y	
63.120(b)(7)(i)	Storage Vessel Provisions -- Procedures to Determine Compliance-- External FR unsafe to perform seal measurements or inspect the tank – complete measurements or inspection within 30 days after determining roof is unsafe or comply with 63.120(b)(7)(ii)	Y	
63.120(b)(7)(ii)	Storage Vessel Provisions -- Procedures to Determine Compliance--	Y	

Table IV – BB.14
Source-Specific Applicable Requirements
NSPS K AND NSPS KA ZERO-GAP EXTERNAL FLOATING ROOF TANKS
NSPS K – S334 (TANK 107),
NSPS KA – S341 (TANK 208), S342 (TANK 209), S343 (TANK 210)

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforce-able (Y/N)	Future Effective Date
	External FR unsafe to perform seal measurements or inspect the tank – empty and remove vessel from service within 45 days after determining roof is unsafe or comply with 63.120(b)(7)(i). Two 30 day extensions are allowed to empty the tank. Decision to use extension must be documented.		
63.120(b)(8)	Storage Vessel Provisions -- Procedures to Determine Compliance External FR Repairs must be made within 45 days after identification or empty and remove tank from service. Two 30 day extensions are allowed to empty the tank. Decision to use extension must be documented.	Y	
63.120(b)(9)	Storage Vessel Provisions -- Procedures to Determine Compliance External FR seal gap measurement 30 day notification	Y	
63.120(b)(10)	Storage Vessel Provisions -- Procedures to Determine Compliance-- External FR and seals visual inspection each time emptied	Y	
63.120(b)(10)(i)	Storage Vessel Provisions -- Procedures to Determine Compliance-- External FR and seal visual inspection each time emptied – Repair defects before refilling [does not apply to gaskets, slotted membranes, or sleeve seals for Group 1 Refinery MACT tanks per 63.646(e)	Y	
63.120(b)(10)(ii)	Storage Vessel Provisions -- Procedures to Determine Compliance-- External FR and seal visual inspection each time emptied – 30 day notification	Y	
63.120(b)(10)(iii)	Storage Vessel Provisions -- Procedures to Determine Compliance-- External FR and seal visual inspection each time emptied –- Notification for unplanned	Y	
63.123(a)	Storage Vessel Provisions -- Recordkeeping--Group 1 and Group 2 storage vessel dimensions and capacity. Keep for life of source.	Y	
63.123(d)	Storage Vessel Provisions -- Recordkeeping--Group 1 External floating roof tank requirements - records of seal gap measurements (date, raw data, and required calculations)	Y	
63.123(g)	Storage Vessel Provisions -- Recordkeeping, Extensions for emptying storage vessel – keep documentation specified	Y	
40 CFR 63, Subpart CC	**National Emission Standards for Hazardous Air Pollutants for Petroleum Refineries (06/12/1996) REQUIREMENTS FOR EXTERNAL FLOATING ROOF TANKS ALSO SUBJECT TO NSPS Subparts K OR Ka**		
63.640(c)(2)	Applicability and Designation of Storage Vessels	Y	
63.640(n)(5)	Applicability and Designation of Affected Source Overlap for Storage Vessels— Group 1 vessel also subject to NSPS, Subparts K or Ka only subject to 63 Subpart CC	Y	
63.646(a)	Storage Vessel Provisions-Group 1	Y	
63.646(b)(1)	Storage Vessel Provisions-Determine stored liquid % OHAP for group determination	Y	
63.646(b)(2)	Storage Vessel Provisions-Determine stored liquid % OHAP-method 18 to resolve disputes	Y	
63.646(c)	Storage Vessel Provisions—63 Subpart G exclusions for storage vessels [EFRs exempt from 63.119(c)(2)]	Y	

Table IV – BB.14
Source-Specific Applicable Requirements
NSPS K AND NSPS KA ZERO-GAP EXTERNAL FLOATING ROOF TANKS
NSPS K – S334 (TANK 107),
NSPS KA – S341 (TANK 208), S342 (TANK 209), S343 (TANK 210)

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforce-able (Y/N)	Future Effective Date
63.646(d)	Storage Vessel Provisions-References	Y	
63.646(d)(2)	Storage Vessel Provisions-References to April 22,1994	Y	
63.646(d)(3)	Storage Vessel Provisions-References to December 31, 1992	Y	
63.646(d)(4)	Storage Vessel Provisions-References to compliance dates in 63.100 of Subpart F	Y	
63.646(e)	Storage Vessel Provisions—Exceptions for compliance with inspection requirements of 63.120 of Subpart G – Not required to comply with provisions for gaskets, slotted membranes, and sleeve seals.	Y	
63.646(f)	Storage Vessel Provisions-Group 1 floating roof requirements	Y	
63.646(f)(1)	Storage Vessel Provisions—Group 1 floating roof requirements-Covers or lids closed except when in use	Y	
63.646(f)(2)	Storage Vessel Provisions-Group 1 floating roof requirements-Rim space vents requirements	Y	
63.646(f)(3)	Storage Vessel Provisions-Group 1 floating roof requirements-Automatic bleeder vents requirements	Y	
63.646(l)	Storage Vessel Provisions-State or local permitting agency notification requirements	Y	
63.654(f)	Reporting and Recordkeeping Requirements-Notice of compliance status report requirements	Y	
63.654(f)(1)	Reporting and Recordkeeping Requirements-Notice of compliance status report requirements	Y	
63.654(f)(1)(i)	Reporting and Recordkeeping Requirements-Notice of compliance status report requirements-Reporting--storage vessels	Y	
63.654(f)(1)(i)(A)	Reporting and Recordkeeping Requirements-Notice of compliance status report requirements-Reporting--storage vessels	Y	
63.654(f)(1)(i)(A)(1)	Reporting and Recordkeeping Requirements-Notice of compliance status report requirements-Reporting--storage vessels	Y	
63.654(g)	Periodic Reporting and Recordkeeping Requirements	Y	
63.654(g)(1)	Periodic Reporting and Recordkeeping Requirements-storage vessels [Information related to gaskets, slotted membranes, and sleeve seals not required for storage vessels that are part of existing source]	Y	
63.654(g)(3)	Periodic Reporting and Recordkeeping Requirements-storage vessels with external floating roofs	Y	
63.654(g)(3)(i)	Periodic Reporting and Recordkeeping Requirements-storage vessels with external floating roofs-document results of each seal gap measurement	Y	
63.654(g)(3)(ii)	Periodic Reporting and Recordkeeping Requirements-storage vessels with external floating roofs – extension documentation	Y	
63.654(g)(3)(iii)	Periodic Reporting and Recordkeeping Requirements-storage vessels with external floating roofs – documentation of failures	Y	
63.654(h)(2)	Reporting and Recordkeeping Requirements-Other reports-Storage vessel notification of inspections.	Y	
63.654(h)(2)(i)	Reporting and Recordkeeping Requirements-Other reports-Storage vessel notification of inspections – refilling Group 1 storage vessel.	Y	

Table IV – BB.14
Source-Specific Applicable Requirements
NSPS K AND NSPS KA ZERO-GAP EXTERNAL FLOATING ROOF TANKS
NSPS K – S334 (TANK 107),
NSPS KA – S341 (TANK 208), S342 (TANK 209), S343 (TANK 210)

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforce-able (Y/N)	Future Effective Date
63.654(h)(2)(ii)	Reporting and Recordkeeping Requirements-Other reports-Storage vessel notification of inspections –Group 1 storage vessel seal gap measurements – 30 day notification [can be waived or modified by state or local].	Y	
63.654(h)(6)	Reporting and Recordkeeping Requirements-Other reports-Determination of Applicability	Y	
63.654(h)(6)(ii)	Reporting and Recordkeeping Requirements-Other reports-Determination of Applicability	Y	
63.654(i)(1)	Reporting and Recordkeeping Requirements-Recordkeeping for storage vessels – keep records specified in 63.123 (Subpart G)	Y	
63.654(i)(1)(i)	Reporting and Recordkeeping Requirements-Recordkeeping for storage vessels– keep records specified in 63.123 (Subpart G) except records related to gaskets, slotted membranes, and sleeve seals for vessels in existing sources	Y	
63.654(i)(4)	Reporting and Recordkeeping Requirements—Recordkeeping for storage vessels-Record retention – 5 years	Y	
BAAQMD Condition 22478	**Applies to S334**		
Part 4	Vapor pressure limit [Basis: cumulative increase]	Y	
Part 7~~6~~	Throughput limit for S334 [Basis: cumulative increase]	Y	
Part 8~~7~~	BACT equipment requirements for S123, S124, S186, and S334 [Basis: BACT, cumulative increase]	Y	

Table IV – BB.2
Source-Specific Applicable Requirements
LOW VAPOR PRESSURE PERMITTED TANKS
SUBJECT TO MACT RECORDKEEPING
S118 (TANK 163)

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
BAAQMD · Regulation 8, Rule 5	**Organic Compounds, Storage of Organic Liquids (~~11/27/02~~10/18/06) EXEMPT**		
8-5-117	Exemption, Low Vapor Pressure	~~Y~~N	
SIP · Regulation 8, Rule 5	**Organic Compounds, Storage of Organic Liquids (6/5/03) EXEMPT**		
8-5-117	Exemption, Low Vapor Pressure	Y	
NESHAPS Title 40 Part 63 Subpart G	**SOCMI HON G (01/27/1995) REQUIREMENTS FOR GROUP 2 RECORDKEEPING ONLY**		
40 CFR 63.119(a)(3)	Storage Vessel Provisions – Reference Control Technology – Group 2 storage vessels comply only with recordkeeping requirements in 40 CFR 63.123(a)	Y	
40 CFR 63.123(a)	Storage Vessel Provisions – Recordkeeping – Group 2 storage vessels only required to keep tank dimensions and capacity analysis. Retain for life of source.	Y	
NESHAPS Title 40 Part 63 Subpart CC	**National Emission Standards for Hazardous Air Pollutants for Petroleum Refining (8/18/95) REQUIREMENTS FOR GROUP 2 RECORDKEEPING ONLY**		
40 CFR 63.640(c)(2)	Applicability and Designation of Storage Vessels	Y	
40 CFR 63.646(b)(1)	Storage Vessel Provisions-Determine stored liquid % OHAP for group determination	Y	
40 CFR 63.646(b)(2)	Storage Vessel Provisions-Determine stored liquid % OHAP-method 18 to resolve disputes	Y	
40 CFR 63.654(h)(6)	Reporting and Recordkeeping Requirements-Other reports-Determination of Applicability	Y	
40 CFR 63.654(h)(6)(ii)	Reporting and Recordkeeping Requirements-Other reports-Determination of Applicability	Y	
40 CFR 63.654(i)(1)	Reporting and Recordkeeping Requirements-Recordkeeping for storage vessels – Keep records specified in 40 CFR 63.123	Y	
40 CFR 63.654(i)(1)(iv)	Reporting and Recordkeeping Requirements-Recordkeeping for storage vessels – Data and assumptions used to determine Group 2 classification	Y	
40 CFR 63.654(i)(4)	Reporting and Recordkeeping Requirements-Recordkeeping--Record retention – 5 years	Y	
BAAQMD Condition 20773			
Part 1	Requirement to verify exempt status of tank based on true vapor pressure of contents [Basis: Regulation 8-5-117, 2-6-409.2]	Y	
Part 2	Record retention requirement [Basis: Regulation 2-6-409.2]	Y	
~~**BAAQMD Condition 20989, Part A**~~	~~Throughput limits for source S118 [Basis: 2-1-234.3]~~	~~N~~	
BAAQMD			

Table IV – BB.2
Source-Specific Applicable Requirements
LOW VAPOR PRESSURE PERMITTED TANKS
SUBJECT TO MACT RECORDKEEPING
S118 (TANK 163)

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
Condition 22963			
Part 1c	Vapor pressure limit for S118 [Basis: cumulative increase]		
Part 2c	Annual throughput limit for S118 [Basis: cumulative increase]		

Tables IV-15a and IV-15b contain requirements for MACT fixed roof tanks with vapor recovery to fuel gas. The difference between the two tables is that Table IV-15a also contains requirements for wastewater treatment tanks. The tanks in this table will store water and petroleum liquids.

These tanks are not subject to Section 8-5-307.2 and 8-5-307.3 because they are blanketed with natural gas.

S137 has been moved to Table IV-BB.15b from Table IV-BB.15a because it does not contain wastewater.

S168 was moved from Table BB.21 to Table BB-15a because it is no longer an exempt source, it will be controlled by the vapor recovery system, and it will contain wastewater. S182 was moved from Table BB.15b to Table BB-15a because it will store sour water as well as sour naphtha.

Condition 23724 required pressure monitoring and pressure limits for the tanks that are controlled by the odor abatement system. A number of the tanks had pressure monitoring, but no limit. The deadline for determining the limit for tanks S139, S140, and S168 was January 5, 2008. These limits have been included in Condition 23724, and Tables IV-BB.15a and IV-BB.15b. The deadline for installing the pressure monitoring and determining the limit for S137 and S182 is July 5, 2009.

S137, S140, S168, and S182 were built before 1973. Therefore, they are not subject to the NSPS for storage tanks.

S139 was built in 1974 but does not contain petroleum liquids as defined by 40 CFR 60, Subpart K, Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After June 11, 1973, and Prior to May 19, 1978. S139 holds sour water only. The description in the equipment table in Section II has been corrected.

TABLE IV – BB.15a
SOURCE-SPECIFIC APPLICABLE REQUIREMENTS
MACT FIXED ROOF TANKS WITH VAPOR RECOVERY TO FUEL GAS
~~S137 (TANK 202),~~ S139 (TANK 204), S140 (TANK 205), S168 (TANK 269), S182 (TANK 294)

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforce-able (Y/N)	Future Effective Date
Tank S168 will be subject to the requirements of Table BB.21 until it is controlled by A7, Odor Abatement System. Tank S168 will be subject to the requirements in Table IV-15a when controlled by A7.			
BAAQMD Regulation 1	**General Provisions and Definitions (7/9/08)**		
1-523	Parametric Monitoring and Recordkeeping Procedures	N	7/5/09 for S182
1-523.1	Parametric monitor periods of inoperation	Y	7/5/09 for S182
1-523.2	Limits on periods of inoperation	Y	7/5/09 for S182
1-523.3	Reports of Violations	N	7/5/09 for S182
1-523.4	Records	Y	7/5/09 for S182
1-523.5	Maintenance and calibration	N	7/5/09 for S182
SIP Regulation 1	**General Provisions and Definitions (6/28/99)**		
1-523	Parametric Monitoring and Recordkeeping Procedures	Y[1]	7/5/09 for S182
1-523.3	Reports of Violations	Y[1]	7/5/09 for S182
BAAQMD Regulation 8, Rule 5	**Organic Compounds, Storage of Organic Liquids (~~11/27/02~~10/18/06) REQUIREMENTS FOR FIXED ROOF TANKS**		
8-5-111	Limited Exemption, Tank Removal From and Return to Service	~~Y~~N	
8-5-111.1	Limited Exemption, Tank Removal From and Return to Service; Notice to the APCO	~~Y~~N	
8-5-111.1.1	Limited Exemption, Tank Removal From and Return to Service; Notice to the APCO; 3 day prior notification	~~Y~~N	
8-5-111.1.2	Limited Exemption, Tank Removal From and Return to Service; Notice to the APCO; Telephone notification	Y	
8-5-111.2	Limited Exemption, Tank Removal From and Return to Service; Compliance before notification	~~Y~~N	
8-5-111.4	Limited Exemption, Tank Removal From and Return to Service; Use of vapor recovery	Y	
8-5-111.5	Limited Exemption, Tank Removal From and Return to Service; Minimization of emissions	Y	
~~8-5-111.6~~	~~Limited Exemption, Tank Removal From and Return to Service; Written notice of completion not required~~	~~Y~~	
~~8-5-111.7~~	~~Limited Exemption, Tank Removal From and Return to Service; Compliance with Section 8-5-328~~	~~Y~~	
8-5-112	Limited Exemption, Preventative Maintenance and Inspection of Tanks in Operation	~~Y~~N	
8-5-112.1	Limited Exemption, Tanks in Operation; Notice to the APCO	~~Y~~N	
8-5-112.1.1	Limited Exemption, Tanks in Operation; Notice to the APCO; 3 day	~~Y~~N	

TABLE IV – BB.15a
SOURCE-SPECIFIC APPLICABLE REQUIREMENTS
MACT FIXED ROOF TANKS WITH VAPOR RECOVERY TO FUEL GAS
~~S137 (TANK 202),~~ S139 (TANK 204), S140 (TANK 205), S168 (TANK 269), S182 (TANK 294)

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforce-able (Y/N)	Future Effective Date
	prior notification		
8-5-112.1.2	Limited Exemption, Tanks in Operation; Notice to the APCO; Telephone notification	~~Y~~N	
8-5-112.2	Limited Exemption, Tanks in Operation; Compliance and certification before commencement of work	~~Y~~N	
8-5-112.3	Limited Exemption, Tanks in Operation; No product movement; minimization of emissions	Y	
8-5-112.4	Limited Exemption, Tanks in Operation; Exemption does not exceed 7 days	~~Y~~N	
8-5-112.6	Tank Records	N	
8-5-301	Storage Tank Control Requirements (internal floating roof, external floating roof, or approved emission control system)	~~Y~~N	
8-5-303	Requirements for Pressure Vacuum Valves	~~Y~~N	
8-5-303.1	Requirements for Pressure Vacuum Valves; Set pressure	N~~Y~~	
8-5-303.2	Requirements for Pressure Vacuum Valves; Installation, maintenance, operation	~~Y~~N	
8-5-306	Requirements for Approved Emission Control Systems	~~Y~~N	
8-5-307	Requirements for Fixed Roof Tanks, Pressure Tanks, and Blanketed Tanks	N	
8-5-307.1	Shell in good condition with no leakage	Y	
8-5-328	Tank Degassing Requirements	Y	
8-5-328.1	Tank Degassing Requirements; Tanks > 75 cubic meters	~~Y~~N	
8-5-328.1.2	Tank Degassing Requirements; Tanks > 75 cubic meters; Concentration of <10,000 ppm as methane after degassing	~~Y~~N	
8-5-328.2	Tank degassing requirements; Ozone excess day prohibition	~~Y~~N	
8-5-328.3	Notification of degassing	N	
8-5-331	Tank Cleaning Requirements	N	
8-5-332	Sludge Handling Requirements	N	
8-5-403	Inspection Requirements for Pressure ~~Vacuum Valves~~ Relief Devices	~~Y~~N	
8-5-404	Inspection, Abatement Efficiency Determination and Source Test Reports~~Certification~~	~~Y~~N	
8-5-501	Records	~~Y~~N	
8-5-501.1	Records; Type and amounts of liquid; true vapor pressure; Retain 24 months	~~Y~~N	
8-5-501.3	Records retained for 24 months	N	
8-5-501.4	Engineering data sheets showing setpoints for pressure vacuum valves installed after 6/1/07	N	
~~8-5-503~~	~~Portable hydrocarbon detector~~	~~Y~~	
8-5-602	Analysis of Samples, True Vapor Pressure	~~Y~~N	
8-5-603	Determination of emissions	~~Y~~N	
8-5-603.1	Determination of Emissions; Organic compounds specified in 8-5-306	~~Y~~N	
8-5-604	Determination of Applicability Based on True Vapor Pressure	~~Y~~N	
8-5-605	~~Pressure Vacuum Valve Gas Tight Determination~~ Measurement of Leak Concentrations and Residual Concentrations	~~Y~~N	

TABLE IV – BB.15a
SOURCE-SPECIFIC APPLICABLE REQUIREMENTS
MACT FIXED ROOF TANKS WITH VAPOR RECOVERY TO FUEL GAS
~~S137 (TANK 202),~~ S139 (TANK 204), S140 (TANK 205), S168 (TANK 269), S182 (TANK 294)

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforce-able (Y/N)	Future Effective Date
SIP Regulation 8 Rule 5	Organic Compounds, Storage of Organic Liquids (6/5/03)		
8-5-111.1	Limited Exemption, Tank Removal From and Return to Service, Notification	Y	
8-5-111.1	Limited Exemption, Tank Removal From and Return to Service; Notice to the APCO	Y	
8-5-111.1.1	Limited Exemption, Tank Removal From and Return to Service; Notice to the APCO; 3 day prior notification	Y	
8-5-111.1.2	Limited Exemption, Tank Removal From and Return to Service; Notice to the APCO; Telephone notification	Y	
8-5-111.2	Limited Exemption, Tank Removal From and Return to Service, Tank in compliance prior to notification	Y	
8-5-111.5	Limited Exemption, Tank Removal From and Return to Service, Minimize emissions	Y	
8-5-111.6	Limited Exemption, Tank Removal From and Return to Service, Notice of completion not required	Y	
8-5-111.7	Limited Exemption, Tank Removal From and Return to Service, Satisfy requirements of 8-5-328	Y	
8-5-112	Limited Exemption, Preventative Maintenance and Inspection of Tanks in Operation	Y	
8-5-112.1	Limited Exemption, Tanks in Operation, Notification	Y	
8-5-112.1.1	Limited Exemption, Tanks in Operation, Notification, 3 day prior notification	Y	
8-5-112.1.2	Limited Exemption, Tanks in Operation, Notification, Telephone notification	Y	
8-5-112.2	Limited Exemption, Tanks in Operation, Tank in compliance prior to start of work. Certified per 8-5-404	Y	
8-5-112.4	Limited Exemption, Tanks in Operation; Exemption does not exceed 7 days	Y	
8-5-301	Storage Tank Control Requirements (internal floating roof, external floating roof, or approved emission control system)	Y	
8-5-303	Requirements for Pressure Vacuum Valves (applies only to S107 (Tank 150), S110 (Tank 155), S115 (Tank 160), S123 (Tank 168), S128 (Tank 174), S129 (Tank 180), S178 (Tank 288))	Y	
8-5-303.1	Requirements for Pressure Vacuum Valves; Set pressure	Y	
8-5-303.2	Requirements for Pressure Vacuum Valves; Installation, maintenance, operation	Y	
8-5-306	Requirements for Approved Emission Control Systems	Y	
8-5-328	Tank Degassing Requirements	Y	
8-5-328.1	Tank Degassing Requirements; Tanks > 75 cubic meters	Y	
8-5-328.1.2	Tank Degassing Requirements; Tanks > 75 cubic meters; Concentration of <10,000 ppm as methane after degassing	Y	
8-5-328.2	Tank degassing requirements; Ozone excess day prohibition	Y	
8-5-328.3	Notification of degassing	N	

TABLE IV – BB.15a
SOURCE-SPECIFIC APPLICABLE REQUIREMENTS
MACT FIXED ROOF TANKS WITH VAPOR RECOVERY TO FUEL GAS
~~S137 (TANK 202),~~ S139 (TANK 204), S140 (TANK 205), S168 (TANK 269), S182 (TANK 294)

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforce-able (Y/N)	Future Effective Date
8-5-331	Tank Cleaning Requirements	N	
8-5-332	Sludge Handling Requirements	N	
8-5-403	Inspection Requirements for Pressure Vacuum Valves	Y	
8-5-404	Certification	Y	
8-5-501	Records	Y	
8-5-501.1	Records; Type and amounts of liquid; true vapor pressure; Retain 24 months	Y	
8-5-503	Portable hydrocarbon detector	Y	
8-5-602	Analysis of Samples, True Vapor Pressure	Y	
8-5-603	Determination of emissions	Y	
8-5-603.1	Determination of Emissions; Organic compounds specified in 8-5-306	Y	
8-5-604	Determination of Applicability	Y	
8-5-605	Pressure Vacuum Valve Gas Tight Determination	Y	
BAAQMD · Regulation 8, Rule 8	**Organic Compounds, Wastewater (Oil-Water Separators) (9/15/2004)**		
8-8-302	Wastewater Separators Larger than or Equal to 18.9 Liters per Second	N	
8-8-302.3	Requirements for separators with fixed roofs and control device	Y	
8-8-303	Gauging and Sampling Devices	Y	
8-8-503	Inspection and Repair Records	Y	
8-8-504	Portable Hydrocarbon Detector	Y	
8-8-505	Records for Wastewater Collection System Components at Petroleum Refineries	N	
8-8-603	Inspection procedures	N	
SIP Regulation 8, Rule 8	**Organic Compounds, Wastewater (Oil-Water Separators) (8/29/94)**		
8-8-505	Records for Wastewater Collection System Components at Petroleum Refineries	Y	
NSPS Title 40 Part 60 Subpart K	**NSPS Subpart K, Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After June 11, 1973, and Prior to May 19, 1978 ~~for Tanks~~ (4/4/1980)** **EXEMPTION FOR TANKS NOT CONTAINING PETROLEUM LIQUIDS (Applicable to S139 only)**		
40 CFR 60.111(b)	Definitions: Petroleum liquids	Y	
NESHAPS Title 40 Part 63 Subpart CC	**National Emission Standards for Hazardous Air Pollutants for Petroleum Refining (8/18/95)** **EXEMPTION FOR TANKS VENTED TO FUEL GAS SYSTEM**		
40 CFR 63.640(c)(2)	Applicability and Designation of Storage Vessels	Y	
40 CFR 63.640(d)(5)	Exemption for emission points routed to fuel gas system	Y	
~~**BAAQMD**~~	~~Throughput limits for sources S139, S140 [Basis: 2-1-234.3]~~	~~N~~	

TABLE IV – BB.15a
SOURCE-SPECIFIC APPLICABLE REQUIREMENTS
MACT FIXED ROOF TANKS WITH VAPOR RECOVERY TO FUEL GAS
~~S137 (TANK 202),~~ S139 (TANK 204), S140 (TANK 205), S168 (TANK 269), S182 (TANK 294)

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforce-able (Y/N)	Future Effective Date
~~**Condition 20989, Part A**~~			
~~**BAAQMD Condition 22518**~~	~~**APPLICABLE TO S137**~~		
~~Part 2~~	~~Vapor pressure limit [Cumulative increase]~~	~~Y~~	
~~Part 3~~	~~Throughput limit [Cumulative increase]~~	~~Y~~	
~~Part 4~~	~~Control requirement [Cumulative increase]~~	~~Y~~	
~~Part 5~~	~~Prohibition on tank cleaning when switching products [Cumulative increase]~~	~~Y~~	
BAAQMD Condition 22963	**APPLIES TO S139 AND S140**		
Part 3	Requirement for abatement by A7, Odor Abatement System [8-5-301, 40 CFR 61, Subpart FF]	Y	
BAAQMD Condition 23724			
Part 1a	Requirement for abatement by A7, Odor Abatement System [2-1-403]	Y	Prior to startup of S434 for S168
Part 2	Requirement for utility-grade natural gas blanket [2-1-403]	Y	
Part 3	Requirement for pressure monitoring device for S168 and S182 by 7/5/09. [2-1-403]	Y	7/5/09
Part 4	After pressure monitoring devices are installed, requirement to operate below tank set pressure [2-1-403]	Y	
Part 4a	Tank pressures for tanks subject to Regulation 8, Rule 5 [Regulation 8, Rule 5]	Y	
Part 5	Pressure relief valve setting at or above nominal set pressure	Y	
Part 6	Corrective Plan	Y	
Part 7	Pressure monitoring records [2-1-403]	Y	
Part 8	Initial date for reporting pressures in excess of nominal set pressure	Y	7/5/09
Part 9	Compliance with nuisance and odor regulations [1-301, 7-301, 7-302]	Y	

S137 has been moved to Table BB-15b from BB-15a because it does not contain wastewater.

This tank is not subject to Section 8-5-307.2 and 8-5-307.3 because it is blanketed with natural gas.

Table IV – BB.15b
Source-Specific Applicable Requirements
MACT FIXED ROOF TANKS WITH VAPOR RECOVERY TO FUEL GAS
S137 (TANK 202)~~S182 (Tank 294)~~

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforce-able (Y/N)	Future Effective Date
BAAQMD Regulation 1	**General Provisions and Definitions (7/9/08)**		
1-523	Parametric Monitoring and Recordkeeping Procedures	N	7/5/08
1-523.1	Parametric monitor periods of inoperation	Y	7/5/08
1-523.2	Limits on periods of inoperation	Y	7/5/08
1-523.3	Reports of Violations	N	7/5/08
1-523.4	Records	Y	7/5/08
1-523.5	Maintenance and calibration	N	7/5/08
SIP Regulation 1	**General Provisions and Definitions (6/28/99)**		
1-523	Parametric Monitoring and Recordkeeping Procedures	Y[1]	7/5/08
1-523.3	Reports of Violations	Y[1]	7/5/08
BAAQMD Regulation 8, Rule 5	**Organic Compounds, Storage of Organic Liquids (~~11/27/02~~10/18/06) REQUIREMENTS FOR FIXED ROOF TANKS**		
8-5-111	Limited Exemption, Tank Removal From and Return to Service	~~Y~~N	
8-5-111.1	Limited Exemption, Tank Removal From and Return to Service; Notice to the APCO	~~Y~~N	
8-5-111.1.1	Limited Exemption, Tank Removal From and Return to Service; Notice to the APCO; 3 day prior notification	~~Y~~N	
8-5-111.1.2	Limited Exemption, Tank Removal From and Return to Service; Notice to the APCO; Telephone notification	Y	
8-5-111.2	Limited Exemption, Tank Removal From and Return to Service; Compliance before notification	~~Y~~N	
8-5-111.4	Limited Exemption, Tank Removal From and Return to Service; Use of vapor recovery	Y	
8-5-111.5	Limited Exemption, Tank Removal From and Return to Service; Minimization of emissions	~~Y~~N	
~~8-5-111.6~~	~~Limited Exemption, Tank Removal From and Return to Service; Written notice of completion not required~~	~~Y~~	
~~8-5-111.7~~	~~Limited Exemption, Tank Removal From and Return to Service; Compliance with Section 8-5-328~~	~~Y~~	
8-5-112	Limited Exemption, Preventative Maintenance and Inspection of Tanks in Operation~~Limited Exemption, Tanks in Operation~~	~~Y~~N	
8-5-112.1	Limited Exemption, Tanks in Operation; Notice to the APCO	N~~Y~~	
8-5-112.1.1	Limited Exemption, Tanks in Operation; Notice to the APCO; 3 day prior notification	~~Y~~N	
8-5-112.1.2	Limited Exemption, Tanks in Operation; Notice to the APCO; Telephone notification	~~Y~~N	

Table IV – BB.15b
Source-Specific Applicable Requirements
MACT FIXED ROOF TANKS WITH VAPOR RECOVERY TO FUEL GAS
S137 (TANK 202)~~S182 (Tank 294)~~

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforce-able (Y/N)	Future Effective Date
8-5-112.2	Limited Exemption, Tanks in Operation; Compliance and certification before commencement of work	N~~Y~~	
8-5-112.3	Limited Exemption, Tanks in Operation; No product movement; minimization of emissions	Y	
8-5-112.4	Limited Exemption, Tanks in Operation; Exemption does not exceed 7 days	~~Y~~N	
8-5-112.6	Records for 24 months	N	
8-5-301	Storage Tank Control Requirements (internal floating roof, external floating roof, or approved emission control system)	~~Y~~N	
8-5-303	Requirements for Pressure Vacuum Valves	N~~Y~~	
8-5-303.1	Requirements for Pressure Vacuum Valves; Set pressure	N~~Y~~	
8-5-303.2	Requirements for Pressure Vacuum Valves; Installation, maintenance, operation	N~~Y~~	
8-5-306	Requirements for Approved Emission Control Systems	~~Y~~N	
8-5-307	Requirements for Fixed Roof Tanks, Pressure Tanks, and Blanketed Tanks	N	
8-5-307.1	Shell in good condition with no leakage	N	
8-5-328	Tank Degassing Requirements	~~Y~~N	
8-5-328.1	Tank Degassing Requirements; Tanks > 75 cubic meters	~~Y~~N	
8-5-328.1.2	Tank Degassing Requirements; Tanks > 75 cubic meters; Concentration of <10,000 ppm as methane after degassing	~~Y~~N	
8-5-328.2	Tank degassing requirements; Ozone excess day prohibition	~~Y~~N	
8-5-328.3	Notification of degassing	N	
8-5-331	Tank Cleaning Requirements	N	
8-5-332	Sludge Handling Requirements	N	
8-5-403	Inspection Requirements for Pressure ~~Vacuum Valves~~ Relief Devices	~~Y~~N	
8-5-404	Inspection, Abatement Efficiency Determination and Source Test Reports~~Certification~~	~~Y~~N	
8-5-501	Records	Y	
8-5-501.1	Records; Type and amounts of liquid; true vapor pressure; Retain 24 months	Y	
8-5-503	Portable hydrocarbon detector	Y	
8-5-602	Analysis of Samples, True Vapor Pressure	Y	
8-5-603	Determination of emissions	Y	
8-5-603.1	Determination of Emissions; Organic compounds specified in 8-5-306	Y	
8-5-604	Determination of Applicability	Y	
8-5-605	Pressure Vacuum Valve Gas Tight Determination	Y	
SIP Regulation 8 Rule 5	**Organic Compounds, Storage of Organic Liquids (6/5/03)**		
8-5-111.1	Limited Exemption, Tank Removal From and Return to Service, Notification	Y	
8-5-111.1	Limited Exemption, Tank Removal From and Return to Service; Notice to the APCO	Y	
8-5-111.1.1	Limited Exemption, Tank Removal From and Return to Service;	Y	

Table IV – BB.15b
Source-Specific Applicable Requirements
MACT FIXED ROOF TANKS WITH VAPOR RECOVERY TO FUEL GAS
S137 (TANK 202)~~S182 (Tank 294)~~

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforce-able (Y/N)	Future Effective Date
	Notice to the APCO; 3 day prior notification		
8-5-111.1.2	Limited Exemption, Tank Removal From and Return to Service; Notice to the APCO; Telephone notification	Y	
8-5-111.2	Limited Exemption, Tank Removal From and Return to Service, Tank in compliance prior to notification	Y	
8-5-111.5	Limited Exemption, Tank Removal From and Return to Service, Minimize emissions	Y	
8-5-111.6	Limited Exemption, Tank Removal From and Return to Service, Notice of completion not required	Y	
8-5-111.7	Limited Exemption, Tank Removal From and Return to Service, Satisfy requirements of 8-5-328	Y	
8-5-112	Limited Exemption, Preventative Maintenance and Inspection of Tanks in Operation	Y	
8-5-112.1	Limited Exemption, Tanks in Operation, Notification	Y	
8-5-112.1.1	Limited Exemption, Tanks in Operation, Notification, 3 day prior notification	Y	
8-5-112.1.2	Limited Exemption, Tanks in Operation, Notification, Telephone notification	Y	
8-5-112.2	Limited Exemption, Tanks in Operation, Tank in compliance prior to start of work. Certified per 8-5-404	Y	
8-5-112.4	Limited Exemption, Tanks in Operation; Exemption does not exceed 7 days	Y	
8-5-301	Storage Tank Control Requirements (internal floating roof, external floating roof, or approved emission control system)	Y	
8-5-303	Requirements for Pressure Vacuum Valves	Y	
8-5-303.1	Requirements for Pressure Vacuum Valves; Set pressure	Y	
8-5-303.2	Requirements for Pressure Vacuum Valves; Installation, maintenance, operation	Y	
8-5-306	Requirements for Approved Emission Control Systems	Y	
8-5-328	Tank Degassing Requirements	Y	
8-5-328.1	Tank Degassing Requirements; Tanks > 75 cubic meters	Y	
8-5-328.1.2	Tank Degassing Requirements; Tanks > 75 cubic meters; Concentration of <10,000 ppm as methane after degassing	Y	
8-5-328.2	Tank degassing requirements; Ozone excess day prohibition	Y	
8-5-328.3	Notification of degassing	N	
8-5-331	Tank Cleaning Requirements	N	
8-5-332	Sludge Handling Requirements	N	
8-5-403	Inspection Requirements for Pressure Vacuum Valves	Y	
8-5-404	Certification	Y	
8-5-501	Records	Y	
8-5-501.1	Records; Type and amounts of liquid; true vapor pressure; Retain 24 months	Y	
8-5-503	Portable hydrocarbon detector	Y	
8-5-602	Analysis of Samples, True Vapor Pressure	Y	
8-5-603	Determination of emissions	Y	
8-5-603.1	Determination of Emissions; Organic compounds specified in 8-5-306	Y	

Table IV – BB.15b
Source-Specific Applicable Requirements
MACT FIXED ROOF TANKS WITH VAPOR RECOVERY TO FUEL GAS
S137 (TANK 202)~~S182 (Tank 294)~~

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforce-able (Y/N)	Future Effective Date
8-5-604	Determination of Applicability	Y	
8-5-605	Pressure Vacuum Valve Gas Tight Determination	Y	
NESHAPS Title 40 Part 63 Subpart CC	**National Emission Standards for Hazardous Air Pollutants for Petroleum Refining (8/18/95)** **EXEMPTION FOR TANKS VENTED TO FUEL GAS SYSTEM**		
40 CFR 63.640(c)(2)	Applicability and Designation of Storage Vessels	Y	
40 CFR 63.640(d)(5)	Exemption for emission points routed to fuel gas system	Y	
BAAQMD Condition 13184			
Part 1	Requirement to vent emissions to fuel gas system [Basis: Cumulative Increase]	Y	
BAAQMD Condition 22518	**APPLIES TO S137**		
Part 2	Vapor pressure limit [Cumulative increase]	**Y**	
Part 3	Throughput limit [Cumulative increase]	**Y**	
Part 4	Control requirement [Cumulative increase]	**Y**	
Part 5	Prohibition on tank cleaning when switching products [Cumulative increase]	Y	
BAAQMD Condition 23724			
Part 1a	Requirement for abatement by A7, Odor Abatement System [2-1-403]	Y	
Part 2	Requirement for utility-grade natural gas blanket [2-1-403]	Y	
Part 3	Requirement for pressure monitoring device for S137 by 7/5/09. [2-1-403]	Y	7/5/08
Part 4	After pressure monitoring devices are installed, requirement to operate below tank set pressure [2-1-403]	Y	
Part 4a	Tank pressures for tanks subject to Regulation 8, Rule 5 [Regulation 8, Rule 5]	Y	
Part 5	Pressure relief valve setting at or above nominal set pressure	Y	
Part 6	Corrective Plan	Y	
Part 7	Pressure monitoring records [2-1-403]	Y	
Part 8	Initial date for reporting pressures in excess of nominal set pressure	Y	7/5/09
Part 9	Compliance with nuisance and odor regulations [1-301, 7-301, 7-302]	Y	

These tanks are not subject to Section 8-5-307.2 and 8-5-307.3 because they are blanketed with natural gas.

S506 is replacing S158. This change was reviewed in Application 16940, attached.

Table IV – BB.11
Source-Specific Applicable Requirements
NSPS KB FIXED ROOF TANKS WITH VAPOR RECOVERY TO FUEL GAS
S135 (Tank 200), S360 (TANK 223), S445 (TANK 271), S449 (TANK 285)
S506 (TANK 257)

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforce-able (Y/N)	Future Effective Date
Tank S506 will be subject to the requirements in Table IV-BB.11 upon startup.			
BAAQMD Regulation 1	**General Provisions and Definitions (7/9/08)**		
1-523	Parametric Monitoring and Recordkeeping Procedures	N	1/5/08 for S360, S445, S449 7/5/09 for S135 Upon comple-tion of construc-tion for S506
1-523.1	Parametric monitor periods of inoperation	Y	1/5/08 for S360, S445, S449 7/5/09 for S135 Upon comple-tion of construc-tion for S506
1-523.2	Limits on periods of inoperation	Y	1/5/08 for S360, S445, S449 7/5/09 for S135

Table IV – BB.11
Source-Specific Applicable Requirements
NSPS Kb Fixed Roof Tanks with Vapor Recovery to Fuel Gas
S135 (Tank 200), S360 (Tank 223), S445 (Tank 271), S449 (Tank 285)
S506 (Tank 257)

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforce-able (Y/N)	Future Effective Date
			Upon comple-tion of construc-tion for S506
1-523.3	Reports of Violations	N	1/5/08 for S360, S445, S449 7/5/09 for S135 Upon comple-tion of construc-tion for S506
1-523.4	Records	Y	1/5/08 for S360, S445, S449 7/5/09 for S135 Upon comple-tion of construc-tion for S506
1-523.5	Maintenance and calibration	N	1/5/08 for S360, S445, S449 7/5/09 for S135 Upon comple-tion of construc-

Table IV – BB.11
Source-Specific Applicable Requirements
NSPS Kb Fixed Roof Tanks with Vapor Recovery to Fuel Gas
S135 (Tank 200), S360 (Tank 223), S445 (Tank 271), S449 (Tank 285)
S506 (Tank 257)

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforce-able (Y/N)	Future Effective Date
			tion for S506
SIP Regulation 1	**General Provisions and Definitions (6/28/99)**		
1-523	Parametric Monitoring and Recordkeeping Procedures	Y[1]	1/5/08 for S360, S445, S449 7/5/09 for S135 Upon comple-tion of construc-tion for S506
1-523.3	Reports of Violations	Y[1]	1/5/08 for S360, S445, S449 7/5/09 for S135 Upon comple-tion of construc-tion for S506
BAAQMD · Regulation 8, Rule 5	**Organic Compounds, Storage of Organic Liquids (~~11/27/02~~10/18/06) REQUIREMENTS FOR FIXED ROOF TANKS**		
8-5-111	Limited Exemption, Tank Removal From and Return to Service	~~Y~~N	
8-5-111.1	Limited Exemption, Tank Removal From and Return to Service; Notice to the APCO	~~Y~~N	
8-5-111.1.1	Limited Exemption, Tank Removal From and Return to Service; Notice to the APCO; 3 day prior notification	~~Y~~N	
8-5-111.1.2	Limited Exemption, Tank Removal From and Return to Service; Notice to the APCO; Telephone notification	Y	
8-5-111.2	Limited Exemption, Tank Removal From and Return to Service; Compliance before notification	~~Y~~N	
8-5-111.4	Limited Exemption, Tank Removal From and Return to Service; Use of	Y	

Table IV – BB.11
Source-Specific Applicable Requirements
NSPS Kb Fixed Roof Tanks with Vapor Recovery to Fuel Gas
S135 (Tank 200), S360 (Tank 223), S445 (Tank 271), S449 (Tank 285)
S506 (Tank 257)

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforce-able (Y/N)	Future Effective Date
	vapor recovery		
8-5-111.5	Limited Exemption, Tank Removal From and Return to Service; Minimization of emissions	~~Y~~N	
~~8-5-111.6~~	~~Limited Exemption, Tank Removal From and Return to Service; Written notice of completion not required~~	~~Y~~N	
~~8-5-111.7~~	~~Limited Exemption, Tank Removal From and Return to Service; Compliance with Section 8-5-328~~	~~Y~~N	
8-5-112	Limited Exemption, Preventative Maintenance and Inspection of Tanks in Operation~~Limited Exemption, Tanks in Operation~~	~~Y~~N	
8-5-112.1	Limited Exemption, Tanks in Operation; Notice to the APCO	~~Y~~N	
8-5-112.1.1	Limited Exemption, Tanks in Operation; Notice to the APCO; 3 day prior notification	~~Y~~N	
8-5-112.1.2	Limited Exemption, Tanks in Operation; Notice to the APCO; Telephone notification	~~Y~~N	
8-5-112.2	Limited Exemption, Tanks in Operation; Compliance and certification before commencement of work	~~Y~~N	
8-5-112.3	Limited Exemption, Tanks in Operation; No product movement; minimization of emissions	Y	
8-5-112.4	Limited Exemption, Tanks in Operation; Exemption does not exceed 7 days	~~Y~~N	
8-5-112.6	Tank Records	N	
8-5-301	Storage Tank Control Requirements (internal floating roof, external floating roof, or approved emission control system)	~~Y~~N	
8-5-303	Requirements for Pressure Vacuum Valves	~~Y~~N	
8-5-303.1	Requirements for Pressure Vacuum Valves; Set pressure	~~Y~~N	
8-5-303.2	Requirements for Pressure Vacuum Valves; Installation, maintenance, operation	~~Y~~N	
8-5-306	Requirements for Approved Emission Control Systems	~~Y~~N	
8-5-307	Requirements for Fixed Roof Tanks, Pressure Tanks, and Blanketed Tanks	N	
8-5-307.1	Shell in good condition with no leakage	N	
8-5-328	Tank Degassing Requirements	~~Y~~N	
8-5-328.1	Tank Degassing Requirements; Tanks > 75 cubic meters	~~Y~~N	
8-5-328.1.2	Tank Degassing Requirements; Tanks > 75 cubic meters; Concentration of <10,000 ppm as methane after degassing	~~Y~~N	
8-5-328.2	Tank degassing requirements; Ozone excess day prohibition	~~Y~~N	
8-5-328.3	Notification of degassing	N	
8-5-331	Tank Cleaning Requirements	N	
8-5-332	Sludge Handling Requirements	N	
8-5-403	Inspection Requirements for Pressure ~~Vacuum Valves~~ Relief Devices	~~Y~~N	
8-5-404	Inspection, Abatement Efficiency Determination and Source Test Reports~~Certification~~	~~Y~~N	
8-5-501	Records	~~Y~~N	
8-5-501.1	Records; Type and amounts of liquid; true vapor pressure; Retain 24 months	N~~Y~~	

Table IV – BB.11
Source-Specific Applicable Requirements
NSPS Kb Fixed Roof Tanks with Vapor Recovery to Fuel Gas
S135 (Tank 200), S360 (Tank 223), S445 (Tank 271), S449 (Tank 285)
S506 (Tank 257)

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforce-able (Y/N)	Future Effective Date
8-5-501.3	Records retained for 24 months	N	
8-5-501.4	Engineering data sheets showing setpoints for pressure vacuum valves installed after 6/1/07	N	
~~8-5-503~~	~~Portable hydrocarbon detector~~	~~Y~~	
8-5-602	Analysis of Samples, True Vapor Pressure	N~~Y~~	
8-5-603	Determination of emissions	~~Y~~N	
8-5-603.1	Determination of Emissions; Organic compounds specified in 8-5-306	~~Y~~N	
8-5-604	Determination of Applicability	~~Y~~N	
8-5-605	Pressure Vacuum Valve Gas Tight Determination	~~Y~~N	
SIP Regulation 8 Rule 5	Organic Compounds, Storage of Organic Liquids (6/5/03)		
8-5-111.1	Limited Exemption, Tank Removal From and Return to Service, Notification	Y	
8-5-111.2	Limited Exemption, Tank Removal From and Return to Service, Tank in compliance prior to notification	Y	
8-5-111.5	Limited Exemption, Tank Removal From and Return to Service, Minimize emissions	Y	
8-5-111.6	Limited Exemption, Tank Removal From and Return to Service, Notice of completion not required	Y	
8-5-111.7	Limited Exemption, Tank Removal From and Return to Service, Satisfy requirements of 8-5-328	Y	
8-5-112	Limited Exemption, Preventative Maintenance and Inspection of Tanks in Operation	Y	
8-5-112.1	Limited Exemption, Tanks in Operation, Notification	Y	
8-5-112.1.1	Limited Exemption, Tanks in Operation, Notification, 3 day prior notification	Y	
8-5-112.1.2	Limited Exemption, Tanks in Operation, Notification, Telephone notification	Y	
8-5-112.2	Limited Exemption, Tanks in Operation, Tank in compliance prior to start of work. Certified per 8-5-404	Y	
8-5-301	Storage Tank Control Requirements (internal floating roof, external floating roof, or approved emission control system)	Y	
8-5-303	Requirements for Pressure Vacuum Valves (applies only to S107 (Tank 150), S110 (Tank 155), S115 (Tank 160), S123 (Tank 168), S128 (Tank 174), S129 (Tank 180), S178 (Tank 288))	Y	
8-5-306	Requirements for Approved Emission Control Systems	Y	
8-5-328	Tank Degassing Requirements	Y	
8-5-328.1	Tank Degassing Requirements; Tanks > 75 cubic meters	Y	
8-5-328.1.2	Tank Degassing Requirements; Tanks > 75 cubic meters; Concentration of <10,000 ppm as methane after degassing	Y	
8-5-328.2	Tank degassing requirements; Ozone excess day prohibition	Y	
8-5-328.3	Notification of degassing	N	
8-5-331	Tank Cleaning Requirements	N	
8-5-332	Sludge Handling Requirements	N	

Table IV – BB.11
Source-Specific Applicable Requirements
NSPS Kb Fixed Roof Tanks with Vapor Recovery to Fuel Gas
S135 (Tank 200), S360 (Tank 223), S445 (Tank 271), S449 (Tank 285)
S506 (Tank 257)

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforce-able (Y/N)	Future Effective Date
8-5-403	Inspection Requirements for Pressure Vacuum Valves	Y	
8-5-404	Certification	Y	
8-5-503	Portable hydrocarbon detector	Y	
8-5-603	Determination of emissions	Y	
8-5-603.1	Determination of Emissions; Organic compounds specified in 8-5-306	Y	
8-5-604	Determination of Applicability	Y	
8-5-605	Pressure Vacuum Valve Gas Tight Determination	Y	
40 CFR 60, Subpart Kb	**Standards of Performance for Storage Vessels for Volatile Organic Liquid Storage Vessels for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984 (12/14/2000) REQUIREMENTS FOR FIXED ROOF TANKS**		
60.110b(a)	Applicability and Designation of Affected Facility; Volatile organic liquid storage vessels > or = to 40 cu m, after 7/23/1984	Y	
60.112b(a)(3)	Standard for Volatile Organic Compounds (VOC); Closed vent system and control device	Y	
60.112b(a)(3)(i)	Standard for Volatile Organic Compounds (VOC); Closed vent system and control device no detectable emissions per 60.485(b) (Subpart VV)	Y	
60.112b(a)(3)(ii)	Standard for Volatile Organic Compounds (VOC); Closed vent system and control device >= 95% inlet VOC emission reduction	Y	
60.113b(c)	Testing and Procedures; Closed vent system and control device (not flare)	Y	
60.113b(c)(1)	Testing and Procedures; Closed vent system and control device (not flare) operating plan submission	Y	
60.113b(c)(1)(i)	Testing and Procedures; Closed vent system and control device (not flare) operating plan--efficiency demonstration	Y	
60.113b(c)(1)(ii)	Testing and Procedures; Closed vent system and control device (not flare) operating plan--monitoring parameters	Y	
60.113b(c)(2)	Testing and Procedures; Closed vent system and control device (not flare) operate in accordance with operating plan	Y	
60.115b	Reporting and Recordkeeping Requirements; 60.112b(a) tanks; Record retention	Y	
60.115b(c)	Reporting and Recordkeeping Requirements; Closed vent system and control device (not flare)	Y	
60.115b(c)(1)	Reporting and Recordkeeping Requirements; Closed vent system and control device (not flare) operating plan copy – Retain for life of control device	Y	
60.115b(c)(2)	Reporting and Recordkeeping Requirements; Closed vent system and control device (not flare) operating records – Retain for at least 2 years	Y	
60.116b(a)	Monitoring of Operations; Record retention	Y	
60.116b(b)	Monitoring of Operations; Permanent record requirements	Y	
60.116b(e)	Monitoring of Operations; Determine TVP	Y	
60.116b(e)(2)	Monitoring of Operations; Determine TVP-crude oil or refined petroleum products	Y	
60.116b(g)	Monitoring of Operations; Exemption from 60.116b(c) and 60.116b(d) for tanks with closed vent system and control device	Y	

Table IV – BB.11
Source-Specific Applicable Requirements
NSPS Kb Fixed Roof Tanks with Vapor Recovery to Fuel Gas
S135 (Tank 200), S360 (Tank 223), S445 (Tank 271), S449 (Tank 285)
S506 (Tank 257)

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforce-able (Y/N)	Future Effective Date
40 CFR 63, Subpart CC	**National Emission Standards for Hazardous Air Pollutants for Petroleum Refineries (06/12/1996) EXEMPTION FOR TANKS VENTED TO FUEL GAS SYSTEM**		
63.640(c)(2)	Applicability and Designation of Storage Vessels	Y	
63.640(d)(5)	Exemption for emission points routed to fuel gas system	Y	
BAAQMD Condition 11219	**APPLICABLE TO S449**		
Part 1	Requirement to vent emissions to fuel gas system [Basis: Cumulative Increase]	Y	
BAAQMD Condition 12130	**APPLICABLE TO S445**		
Part 1	Requirement to vent emissions to fuel gas system [Basis: Cumulative Increase]	Y	
BAAQMD Condition 20989, Part A	Throughput limits for sources S360 [Basis: 2-1-234.3]	Y	
BAAQMD Condition 22518	**APPLICABLE TO S135**		
Part 1	Vapor pressure limit [Cumulative increase]	Y	
Part 3	Throughput limit [Cumulative increase]	Y	
Part 4	Control requirement [Cumulative increase]	Y	
Part 5	Prohibition on tank cleaning when switching products [Cumulative increase]	Y	
BAAQMD Condition 23724			
Part 1a	Requirement for abatement by A7, Odor Abatement System [2-1-403]	Y	Upon startup for S506
Part 2	Requirement for utility-grade natural gas blanket [2-1-403]	Y	
Part 3	Requirement for pressure monitoring device for S135 by 7/5/09. [2-1-403]	Y	7/5/09
Part 4	After pressure monitoring devices are installed, requirement to operate below tank set pressure [2-1-403]	Y	
Part 4a	Tank pressures for tanks subject to Regulation 8, Rule 5 [Regulation 8, Rule 5]	Y	
Part 5	Pressure relief valve setting at or above nominal set pressure	Y	
Part 6	Corrective Plan	Y	
Part 7	Pressure monitoring records [2-1-403]	Y	
Part 8	Initial date for reporting pressures in excess of nominal set pressure	Y	7/5/09
Part 9	Compliance with nuisance and odor regulations [1-301, 7-301, 7-302]	Y	
BAAQMD Condition 23843	**Applies to S506**		
Part 1	Vapor pressure < 1.5 psia	Y	Upon startup
Part 2	Requirement to dismantle S158	Y	Upon

Table IV – BB.11
Source-Specific Applicable Requirements
NSPS Kb Fixed Roof Tanks with Vapor Recovery to Fuel Gas
S135 (Tank 200), S360 (Tank 223), S445 (Tank 271), S449 (Tank 285)
S506 (Tank 257)

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforce-able (Y/N)	Future Effective Date
			startup

S158 has been replaced by S506. This change was reviewed in Application 16940, attached.

Table IV – BB.22
Source-Specific Applicable Requirements
Exempt Fixed Roof Tanks with Vapor Recovery to Fuel Gas
~~S158 (Tank 258),~~ S175 (Tank 284)

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
BAAQMD Regulation 1	**General Provisions and Definitions (7/9/08)**		
1-523	Parametric Monitoring and Recordkeeping Procedures	N	7/5/09
1-523.1	Parametric monitor periods of inoperation	Y	7/5/09
1-523.2	Limits on periods of inoperation	Y	7/5/09
1-523.3	Reports of Violations	N	7/5/09
1-523.4	Records	Y	7/5/09
1-523.5	Maintenance and calibration	N	7/5/09
SIP Regulation 1	**General Provisions and Definitions (6/28/99)**		
1-523	Parametric Monitoring and Recordkeeping Procedures	Y[1]	7/5/09
1-523.3	Reports of Violations	Y[1]	7/5/09
BAAQMD · Regulation 8, Rule 5	**Organic Compounds, Storage of Organic Liquids (~~11/27/02~~10/18/06) EXEMPT**		
8-5-117	Exemption, Low Vapor Pressure	~~Y~~N	
SIP · Regulation 8, Rule 5	**Organic Compounds, Storage of Organic Liquids (6/05/03) EXEMPT**		
8-5-117	Exemption, Low Vapor Pressure	Y	
40 CFR 63, Subpart CC	**National Emission Standards for Hazardous Air Pollutants for Petroleum Refining (8/18/95) EXEMPTION FOR TANKS VENTED TO FUEL GAS SYSTEM**		
63.640(c)(2)	Applicability and Designation of Storage Vessels	Y	
63.640(d)(5)	Exemption for emission points routed to fuel gas system	Y	
BAAQMD Condition 20773			
Part 1	Requirement to verify exempt status of tank based on true vapor pressure of contents [Basis: Regulation 8-5-117, 2-6-409.2]	Y	

Table IV – BB.22
Source-Specific Applicable Requirements
EXEMPT FIXED ROOF TANKS WITH VAPOR RECOVERY TO FUEL GAS
~~S158 (TANK 258),~~ S175 (TANK 284)

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
Part 2	Record retention requirement [Basis: Regulation 2-6-409.2]	Y	
BAAQMD Condition 23724			
Part 1a	Requirement for abatement by A7, Odor Abatement System [2-1-403]	Y	
Part 2	Requirement for utility-grade natural gas blanket [2-1-403]	Y	
Part 3	Requirement for pressure monitoring devicea by 7/5/09. [2-1-403]	Y	7/5/09
Part 4	After pressure monitoring devices are installed, requirement to operate below tank set pressure [2-1-403]	Y	
Part 4b	Tank pressures for other tanks [2-1-403]	Y	
Part 5	Pressure relief valve setting at or above nominal set pressure	Y	
Part 6	Corrective Plan	Y	
Part 7	Pressure monitoring records [2-1-403]	Y	
Part 8	Initial date for reporting pressures in excess of nominal set pressure	Y	7/5/09
Part 9	Compliance with nuisance and odor regulations [1-301, 7-301, 7-302]	Y	

1 This section has been removed from BAAQMD Regulations because it has been superseded. Nevertheless, the source must comply with this regulation until US EPA has reviewed and approved (or disapproved) the District's revision of the regulation.

Following are the revisions to Table IV-BB.27 pursuant to the appeal submitted on June 8, 2004. The facility had stated that 40 CFR 60, Subpart QQQ, did not apply to Tank 235, Tank 236, and Tank 237. The District concurs because Tanks 235 and 236 handle stripped sour water, not oily water. Tank 237 is out of service.

Table IV – BB.27
Source-Specific Applicable Requirements
NSPS KB EXEMPT FIXED ROOF WASTEWATER TANKS VENTED TO FUEL GAS
TANK 235, TANK 236

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
BAAQMD Regulation 1	**General Provisions and Definitions (7/9/08)**		
1-523	Parametric Monitoring and Recordkeeping Procedures	N	7/5/09
1-523.1	Parametric monitor periods of inoperation	Y	7/5/09
1-523.2	Limits on periods of inoperation	Y	7/5/09
1-523.3	Reports of Violations	N	7/5/09

Table IV – BB.27
Source-Specific Applicable Requirements
NSPS Kb Exempt Fixed Roof Wastewater Tanks Vented to Fuel Gas
Tank 235, Tank 236

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
1-523.4	Records	Y	7/5/09
1-523.5	Maintenance and calibration	N	7/5/09
SIP Regulation 1	**General Provisions and Definitions (6/28/99)**		
1-523	Parametric Monitoring and Recordkeeping Procedures	Y[1]	7/5/09
1-523.3	Reports of Violations	Y[1]	7/5/09
BAAQMD · Regulation 8, Rule 5	**Organic Compounds, Storage of Organic Liquids (11/27/02) EXEMPT**		
8-5-117	Exemption, Low Vapor Pressure	Y	
40 CFR 60, Subpart Kb	**Standards of Performance for Storage Vessels for Volatile Organic Liquid Storage Vessels for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984 (12/14/2000) REQUIREMENTS FOR RECORDKEEPING ONLY**		
60.110b(a)	Applicability and Designation of Affected Facility; Volatile organic liquid storage vessels > or = to 40 cu m, after 7/23/1984	Y	
60.110b(c)	Applicability and Designation of Affected Facility; Exemptions for storage vessels > or = to 75 cu m	Y	
60.116b(a)	Monitoring of Operations; Record retention	Y	
60.116b(b)	Monitoring of Operations; Permanent record requirements	Y	
60.116b(e)	Monitoring of Operations; Determine TVP	Y	
60.116b(e)(3)	Monitoring of Operations; Determine TVP-other liquids	Y	
60.116b(f)	Monitoring of Operations; Waste storage tanks (indeterminate or variable composition)	Y	
60.116b(g)	Monitoring of Operations; Exemption from 60.116b(c) and 60.116b(d) for tanks with closed vent system and control device	Y	
~~**40 CFR 60, Subpart QQQ**~~	~~**Standards of Performance for VOC Emissions from Petroleum Refinery Wastewater Systems (8/18/95) REQUIREMENTS FOR FIXED ROOF TANKS ROUTED TO FUEL GAS**~~		
~~60.690(a)(1)~~	~~Applicability and Designation of Affected Facility~~	~~Y~~	
~~60.690(a)(3)~~	~~Applicability and Designation of Affected Facility~~	~~Y~~	
~~60.691~~	~~Definitions: Closed Vent System. If gas or vapor from regulated equipment are routed to a process (e.g., petroleum refinery fuel gas system), the process shall not be considered a closed vent system and is not subject to the closed vent system standards.~~	~~Y~~	
~~60.692-1~~	~~Standards: General~~	~~Y~~	
~~60.692-1(a)~~	~~Standards: General~~	~~Y~~	
~~60.692-1(b)~~	~~Standards: General~~	~~Y~~	
~~60.692-3~~	~~Standards: Oil-Water Separators (includes storage vessels)~~	~~Y~~	
~~60.692-3(a)~~	~~Standards: Oil-Water Separators (includes storage vessels)~~	~~Y~~	
~~60.692-3(a)(1)~~	~~Standards: Oil-Water Separators (includes storage vessels)~~	~~Y~~	
~~60.692-3(a)(2)~~	~~Standards: Oil-Water Separators (includes storage vessels)~~	~~Y~~	
~~60.692-3(a)(3)~~	~~Standards: Oil-Water Separators (includes storage vessels)~~	~~Y~~	
~~60.692-3(a)(4)~~	~~Standards: Oil-Water Separators (includes storage vessels)~~	~~Y~~	
~~60.692-3(a)(5)~~	~~Standards: Oil-Water Separators (includes storage vessels)~~	~~Y~~	

Table IV – BB.27
Source-Specific Applicable Requirements
NSPS Kb Exempt Fixed Roof Wastewater Tanks Vented to Fuel Gas
Tank 235, Tank 236

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
~~60.692-3(f)~~	~~Standards: Oil-Water Separators (includes storage vessels)~~	~~Y~~	
~~60.692-6~~	~~Standards: Delay of Repair~~	~~Y~~	
~~60.692-6(a)~~	~~Standards: Delay of Repair~~	~~Y~~	
~~60.692-6(b)~~	~~Standards: Delay of Repair~~	~~Y~~	
~~60.697~~	~~Recordkeeping Requirements~~	~~Y~~	
~~60.697(a)~~	~~Recordkeeping Requirements~~	~~Y~~	
~~60.697(c)~~	~~Recordkeeping Requirements~~	~~Y~~	
~~60.697(e)(1)~~	~~Recordkeeping Requirements~~	~~Y~~	
~~60.697(e)(2)~~	~~Recordkeeping Requirements~~	~~Y~~	
~~60.697(e)(3)~~	~~Recordkeeping Requirements~~	~~Y~~	
~~60.697(e)(4)~~	~~Recordkeeping Requirements~~	~~Y~~	
~~60.697(f)(1)~~	~~Recordkeeping Requirements~~	~~Y~~	
~~60.697(f)(2)~~	~~Recordkeeping Requirements~~	~~Y~~	
~~60.698(e)~~	~~Reporting Requirements~~	~~Y~~	
40 CFR 63, Subpart CC	**National Emission Standards for Hazardous Air Pollutants for Petroleum Refining (8/18/95) REQUIREMENTS FOR EMISSION POINTS ROUTED TO FUEL GAS**		
63.640(c)(3)	Wastewater streams and treatment operations associated with petroleum refining process units meeting the criteria of section 63.640(a)	Y	
63.640(d)(5)	Exemption for emission points routed to fuel gas system	Y	
BAAQMD Condition 20773			
Part 1	Requirement to verify exempt status of tank based on true vapor pressure of contents [Basis: Regulation 8-5-117, 2-6-409.2]	Y	
Part 2	Record retention requirement [Basis: Regulation 2-6-409.2]	Y	
BAAQMD Condition 23724			
Part 1a	Requirement for abatement by A7, Odor Abatement System [2-1-403]	Y	
Part 2	Requirement for utility-grade natural gas blanket [2-1-403]	Y	
Part 3	Requirement for pressure monitoring device for S137 by 7/5/09. [2-1-403]	Y	7/5/09
Part 4	After pressure monitoring devices are installed, requirement to operate below tank set pressure [2-1-403]	Y	
Part 4b	Tank pressures for other tanks [2-1-403]	Y	
Part 5	Pressure relief valve setting at or above nominal set pressure	Y	
Part 6	Corrective Plan	Y	
Part 7	Pressure monitoring records [2-1-403]	Y	
Part 8	Initial date for reporting pressures in excess of nominal set pressure	Y	7/5/09
Part 9	Compliance with nuisance and odor regulations [1-301, 7-301, 7-302]	Y	

S117 and S193 are being deleted because they are out of service.

Table IV – BB.3
Source-Specific Applicable Requirements
LOW VAPOR PRESSURE PERMITTED TANKS < 10,000 GALLONS
~~S117 (TANK 162), S193 (TANK 305),~~ S194 (TANK 306)

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
BAAQMD · Regulation 8, Rule 5	**Organic Compounds, Storage of Organic Liquids (11/27/02) EXEMPT**		
8-5-117	Exemption, Low Vapor Pressure	Y	
BAAQMD Condition 20773			
Part 1	Requirement to verify exempt status of tank based on true vapor pressure of contents [Basis: Regulation 8-5-117, 2-6-409.2]	Y	
Part 2	Record retention requirement [Basis: Regulation 2-6-409.2]	Y	
BAAQMD Condition 20989, Part A	Throughput limit~~s~~ for source~~s~~ ~~S117, S193,~~ S194 [Basis: 2-1-234.3]	N	

S121 is being deleted because it is out of service.

~~**Table IV – BB.6**~~
~~**Source-Specific Applicable Requirements**~~
~~**MACT (SMALL) ZERO GAP EXTERNAL FLOATING ROOF TANK**~~
~~**S121 (TANK 166)**~~

~~Applicable Requirement~~	~~Regulation Title or Description of Requirement~~	~~Federally Enforceable (Y/N)~~	~~Future Effective Date~~
~~**BAAQMD Regulation 8, Rule 5**~~	~~**Organic Compounds, Storage of Organic Liquids (11/27/02) REQUIREMENTS FOR EXTERNAL FLOATING ROOF TANKS**~~		
~~8-5-111~~	~~Limited Exemption, Tank Removal From and Return to Service~~	~~Y~~	
~~8-5-111.1~~	~~Limited Exemption, Tank Removal From and Return to Service; Notice to the APCO~~	~~Y~~	
~~8-5-111.1.1~~	~~Limited Exemption, Tank Removal From and Return to Service; Notice to the APCO; 3-day prior notification~~	~~Y~~	
~~8-5-111.1.2~~	~~Limited Exemption, Tank Removal From and Return to Service; Notice to the APCO; Telephone notification~~	~~Y~~	
~~8-5-111.2~~	~~Limited Exemption, Tank Removal From and Return to Service; Compliance before notification~~	~~Y~~	
~~8-5-111.3~~	~~Limited Exemption, Tank Removal From and Return to Service; Floating roof tanks - continuous and quick filling, emptying and refilling~~	~~Y~~	
~~8-5-111.5~~	~~Limited Exemption, Tank Removal From and Return to Service; Minimization of emissions~~	~~Y~~	
~~8-5-111.6~~	~~Limited Exemption, Tank Removal From and Return to Service; Written notice of completion not required~~	~~Y~~	

Table IV – BB.6
Source-Specific Applicable Requirements
MACT (SMALL) ZERO GAP EXTERNAL FLOATING ROOF TANK
S121 (TANK 166)

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
8-5-111.7	Limited Exemption, Tank Removal From and Return to Service; Compliance with Section 8-5-328	Y	
8-5-112	Limited Exemption, Tanks in Operation	Y	
8-5-112.1	Limited Exemption, Tanks in Operation; Notice to the APCO	Y	
8-5-112.1.1	Limited Exemption, Tanks in Operation; Notice to the APCO; 3-day prior notification	Y	
8-5-112.1.2	Limited Exemption, Tanks in Operation; Notice to the APCO; Telephone notification	Y	
8-5-112.2	Limited Exemption, Tanks in Operation; Compliance and certification before commencement of work	Y	
8-5-112.3	Limited Exemption, Tanks in Operation; No product movement; minimization of emissions	Y	
8-5-112.4	Limited Exemption, Tanks in Operation; Exemption does not exceed 7 days	Y	
8-5-301	Storage Tank Control Requirements (internal floating roof, external floating roof, or approved emission control system)	Y	
8-5-304	Requirements for External Floating Roofs	Y	
8-5-304.1	Requirements for External Floating Roofs; Tank fitting requirements	Y	
8-5-304.2	Requirements for External Floating Roofs; Primary seal requirements	Y	
8-5-304.3	Requirements for External Floating Roofs; Secondary seal requirements	Y	
8-5-304.4	Requirements for External Floating Roofs; Floating roof requirements	Y	
8-5-320	Tank fitting requirements – Floating roof tanks	Y	
8-5-320.2	Tank fitting requirements – Floating roof tanks, Gasketed covers, seals, lids – Projection below surface except p/v valves and vacuum breaker vents	Y	
8-5-320.3	Tank fitting requirements – Floating roof tanks, Gasketed covers, seals, lids –	Y	
8-5-320.3.1	Tank fitting requirements – Floating roof tanks, Gasketed covers, seals, lids – Gap requirements	Y	
8-5-320.4	Tank Fitting Requirements; Solid sampling or gauging well requirements in floating roof tanks	Y	
8-5-320.4.1	Tank fitting requirements; Floating roof tanks; Solid sampling or gauging wells; Projection below the liquid surface	Y	
8-5-320.4.2	Tank fitting requirements; Floating roof tanks; Solid sampling or gauging wells; Cover, seal, or lid	Y	
8-5-320.4.3	Tank fitting requirements; Floating roof tanks; Solid sampling or gauging wells; Gap between the well and the roof	Y	
8-5-320.6	Tank Fitting Requirements; Emergency roof drain	Y	
8-5-321	Primary seal requirements	Y	
8-5-321.1	Primary seal requirements; No holes, tears, or other openings	Y	
8-5-321.2	Primary seal requirements; The seal shall be metallic shoe or liquid mounted except as provided in 8-5-305.1.3	Y	
8-5-321.4	Primary seal requirements; Resilient-toroid seal requirements including seal gaps	Y	
8-5-322	Secondary seal requirements	Y	
8-5-322.1	Secondary seal requirements; No holes, tears, or other openings	Y	
8-5-322.2	Secondary seal requirements; Insertion of probes	Y	

Table IV – BB.6
Source-Specific Applicable Requirements
MACT (SMALL) ZERO GAP EXTERNAL FLOATING ROOF TANK
S121 (TANK 166)

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
8-5-322.5	Secondary seal requirements; Gap for welded tanks with seal installed after September 4, 1985	Y	
8-5-322.6	Secondary seal requirements; extent of seal	Y	
8-5-328	Tank degassing requirements	Y	
8-5-328.1	Tank degassing requirements; Tanks > 75 cubic meters	Y	
8-5-328.1.2	Tank degassing requirements; Tanks > 75 cubic meters; Concentration of <10,000 ppm as methane after degassing	Y	
8-5-328.2	Tank degassing requirements; Ozone Excess Day Prohibition	Y	
8-5-401	Inspection Requirements for External Floating Roof Tanks	Y	
8-5-401.1	Inspection Requirements for External Floating Roof Tanks; Primary and Secondary Seal Inspections	Y	
8-5-401.2	Inspection Requirements for External Floating Roof Tanks; Tank Fittings Inspections	Y	
8-5-404	Certification	Y	
8-5-405	Information required	Y	
8-5-501	Records	Y	
8-5-501.1	Records; Type and amounts of liquid; true vapor pressure; Retain 24 months	Y	
8-5-501.2	Records; Internal and External Floating Roof Tanks; Seal Replacement Records – Retain 10 years	Y	
8-5-503	Portable hydrocarbon detector	Y	
8-5-602	Analysis of Samples, True Vapor Pressure	Y	
8-5-604	Determination of Applicability	Y	
40 CFR 63, Subpart G	**SOCMI HON G (01/27/1995) REQUIREMENTS FOR GROUP 2 RECORDKEEPING ONLY**		
63.119(a)(3)	Storage Vessel Provisions – Reference Control Technology – Group 2 storage vessels comply only with recordkeeping requirements in 40 CFR 63.123(a)	Y	
63.123(a)	Storage Vessel Provisions – Recordkeeping – Group 2 storage vessels only required to keep tank dimensions and capacity analysis. Retain for life of source.	Y	
40 CFR 63, Subpart CC	**National Emission Standards for Hazardous Air Pollutants for Petroleum Refining (8/18/95) REQUIREMENTS FOR GROUP 2 RECORDKEEPING ONLY**		
63.640(c)(2)	Applicability and Designation of Storage Vessels	Y	
63.646(b)(1)	Storage Vessel Provisions-Determine stored liquid % OHAP for group determination	Y	
63.646(b)(2)	Storage Vessel Provisions-Determine stored liquid % OHAP-method 18 to resolve disputes	Y	
63.654(i)(1)	Reporting and Recordkeeping Requirements-Recordkeeping for storage vessels – Keep records specified in 40 CFR 63.123	Y	
63.654(i)(1)(iv)	Reporting and Recordkeeping Requirements-Recordkeeping for storage vessels – Data and assumptions used to determine Group 2 classification	Y	
63.654(i)(4)	Reporting and Recordkeeping Requirements-Recordkeeping - Record	Y	

~~**Table IV – BB.6**~~
~~**Source-Specific Applicable Requirements**~~
~~**MACT (SMALL) ZERO GAP EXTERNAL FLOATING ROOF TANK**~~
~~**S121 (TANK 166)**~~

~~Applicable Requirement~~	~~Regulation Title or Description of Requirement~~	~~Federally Enforceable (Y/N)~~	~~Future Effective Date~~
	~~retention – 5 years~~		
~~BAAQMD Condition 20989, Part A~~	~~Throughput limits for source S121 [Basis: 2-1-234.3]~~	~~N~~	

Following are the proposed changes in Section IV for S8, Heater.

S8 will be removed when it is shutdown to provide offsets for the CFEP project.

Amendments were made to SIP Regulation 9, Rule 10 on April 2, 2008. These changes have been incorporation into Table IV-A.6 for S8. The effect of the amendments is to make monitoring and recordkeeping federally enforceable.

Table IV – A.6
Source-specific Applicable Requirements
S8 – UNIT 240, B-1 BOILER
(S8 will be removed from service within 90 days of the date that the NOx offsets pursuant to Application 13424 must be supplied pursuant to BAAQMD Regulation 2-2-410.)

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
BAAQMD Regulation 1	**General Provisions and Definitions (7/9/08~~7/17/06~~)**		
1-520	Continuous Emission Monitoring	Y	
1-520.1	NOx, O2 monitors for steam generators with capacity of 250 MMbtu/hr or more	Y	
1-521	Monitoring May Be Required	Y	
1-522	Continuous Emission Monitoring and Recordkeeping Procedures		
1-522.4	reporting of inoperative CEMs	Y	
1-522.5	CEM calibration requirements	Y	
1-522.6	CEM accuracy requirements	Y	
1-522.7	emission limit exceedance reporting requirements	N	
1-522.8	monitoring data submittal requirements	Y	
1-522.9	recordkeeping requirements	Y	

Table IV – A.6
Source-specific Applicable Requirements
S8 – UNIT 240, B-1 BOILER

(S8 will be removed from service within 90 days of the date that the NOx offsets pursuant to Application 13424 must be supplied pursuant to BAAQMD Regulation 2-2-410.)

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
1-522.10	Regulation 1-521 monitors shall meet requirements specified by District	Y	
1-602	Area and Continuous Monitoring Requirements	N	
SIP Regulation 1	**PROVISIONS NO LONGER IN CURRENT RULE General Provisions and Definitions (6/28/99)**		
1-522	Continuous Emission Monitoring and Recordkeeping Procedures	Y – note 1	
1-522.7	emission limit exceedance reporting requirements	Y - note 1	
BAAQMD Regulation 6, Rule 1	**Particulate Matter and Visible Emissions (12/7/08)**		
6-1-301	Ringelmann #1 Limitation	N	
6-1-304	Tube Cleaning	N	
6-1-305	Visible Particles	N	
6-1-310.3	Particulate Weight Limitation	N	
~~BAAQMD~~ SIP Regulation 6	**Particulate Matter and Visible Emissions (12/19/90)**		
6-301	Ringelmann #1 Limitation	Y	
6-304	Tube Cleaning	Y	
6-305	Visible Particles	Y	
6-310.3	Particulate Weight Limitation	Y	
BAAQMD Manual of Procedures, Volume V	**Continuous Emission Monitoring Policy and Procedures (1/20/82)**	Y	
BAAQMD Regulation 9, Rule 10	**Inorganic Gaseous Pollutants - Nitrogen Oxides and Carbon Monoxide from Boilers, Steam Generators, and Process Heaters in Petroleum Refineries (7/17/02)**		
9-10-301	Emission Limit for Facility, NOx: 0.033 lb NOx/MMbtu	N	
9-10-301.1	...Start-up/Shutdown Contribution	N	
9-10-301.2	...Out-of-Service Units Contribution	N	
9-10-301.3	...Test-firing on Non-gaseous fuel Contribution	N	
9-10-303	Federal Facility-wide NOx emission rate limit	Y	
9-10-305	CO emission limit	N	
9-10-502	Monitoring	Y	

Table IV – A.6
Source-specific Applicable Requirements
S8 – UNIT 240, B-1 BOILER

(S8 will be removed from service within 90 days of the date that the NOx offsets pursuant to Application 13424 must be supplied pursuant to BAAQMD Regulation 2-2-410.)

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
9-10-502.1	CEMS for NOx, CO, and O2 or equivalent monitoring	~~N~~Y	
9-10-502.2	Fuel flowmeters	Y	
9-10-504	Recordkeeping	N	
9-10-504.1	Records	N	
9-10-505	Reporting	N	
9-10-601	Determination of NOx	N	
9-10-602	Determination of CO and Stack Gas O2	N	
9-10-603	Compliance Determination	Y	
SIP Regulation 9, Rule 10	**Inorganic Gaseous Pollutants - Nitrogen Oxides and Carbon Monoxide from Boilers, Steam Generators, and Process Heaters in Petroleum Refineries (4/2/08)**		
9-10-504	Recordkeeping	Y	
9-10-504.1	Records	Y	
9-10-505	Reporting	Y	
9-10-601	Determination of NOx	Y	
40 CFR 60, Subpart A	**General Provisions (2/12/98)**		
60.7(b)	Records	Y	
60.7(c)	Notification and recordkeeping for continuous monitoring	Y	
60.7(d)	Summary reports	Y	
60.7(e)	Reduction of frequency of summary reports	Y	
60.7(f)	Records	Y	
60.7(g)	Alternative Notification	Y	
60.7(h)	Specific Provisions	Y	
60.8	Performance Tests	Y	
60.11	Compliance with Standards and Maintenance Requirements	Y	
60.11(a)	Compliance determined by performance tests	Y	
60.11(d)	Control devices operated using good air pollution control practice	Y	
60.13	Monitoring requirements	Y	
60.13(a)	Continuous monitoring systems subject to Appendix B, and Appendix F, (if used to demonstrate compliance with continuous emission limits), of Part 60	Y	
60.13(b)	Continuous monitoring systems and devices operational prior to performance tests required by 60.8	Y	
60.13(d)(1)	Continuous monitoring system zero and span calibration requirements	Y	

Table IV – A.6
Source-specific Applicable Requirements
S8 – UNIT 240, B-1 BOILER

(S8 will be removed from service within 90 days of the date that the NOx offsets pursuant to Application 13424 must be supplied pursuant to BAAQMD Regulation 2-2-410.)

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
60.13(e)	Continuous monitoring system minimum frequency of operation	Y	
60.13(e)(2)	Continuous monitoring system minimum frequency of operation for non-opacity-measuring devices	Y	
60.13(f)	Continuous monitoring system installation location requirement	Y	
NSPS 40 CFR 60, Subpart J	**Standards of Performance for Petroleum Refineries (7/1/00)**		
60.100	Applicability	Y	
60.104	Standards for Sulfur Oxides: Compliance Schedule	Y	
60.104(a)(1)	fuel gas H2S concentration limited to 230 mg/dscm (0.10 gr/dscf) except for gas burned as a result of process upset or gas burned at flares from relief valve leaks or other emergency malfunctions	Y	
60.105	Monitoring of Emissions and Operations	Y	
60.105(a)(4)	monitoring requirement for H2S (dry basis) in fuel gas prior to combustion (in lieu of separate combustion device exhaust SO2 monitors as required by 60.105(a)(3))	Y	
60.105(a)(4)(iv)(A)	Exemption from monitoring for pilot gas	Y	
60.105(e)(3)(ii)	Excess H2S emission definitions for 60.7(c)	Y	
60.106(a)	Test methods and procedures	Y	
60.106(e)(1)	Method 11 shall be used to verify compliance with 60.104(a)(1)	Y	
NSPS 40 CFR 60, Appendix A	**Appendix A to Part 60 – Test Methods**	Y	
NSPS 40 CFR 60 Appendix B	**Performance Specifications**		
Performance Specification 7	H2S continuous emission monitoring systems	Y	
BAAQMD Condition 1694			
Part A.1b	Heat ratings, firing limits [Basis: Regulation 2-1-301]	Y	
Part A.2a	Fuel restrictions [Basis: Regulation 2, Rule 1]	Y	

Table IV – A.6
Source-specific Applicable Requirements
S8 – UNIT 240, B-1 BOILER

(S8 will be removed from service within 90 days of the date that the NOx offsets pursuant to Application 13424 must be supplied pursuant to BAAQMD Regulation 2-2-410.)

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
Part A.3a	TRS testing requirement [Basis: SO2 Bubble]	Y	
Part A.3b	TRS reporting requirements [Basis: SO2 Bubble]	Y	
Part A.4	SO2 emission limit [Basis: SO2 Bubble]	Y	
Part A.5	Records [Basis: Regulation 2, Rule 1; SO2 Bubble; Regulation 2-6-409.2]	Y	
Part F.1	Annual fuel firing limit at S8, S9, S10, S11, S12, S13, S14 [Basis: Cumulative Increase]	Y	
Part F.3	Monthly fuel firing records [Basis: Recordkeeping]	Y	
BAAQMD Condition 21235			
Part 1	Sources subject to Regulation 9-10–301 and 9-10-305 [Basis: Regulation 9-10-301, 9-10-305]	N	
Part 2	O2 CEM requirement [Basis: Regulation 9-10-502]	N	
Part 8	CO source test requirement for sources with NOx CEMs [Basis: Regulation 9-10-502]	N	
Part 9	CO, O2 CEM requirement [Basis: Regulation 9-10-502, 1-522]	N	
Part 10	Recordkeeping requirement [Basis: Regulation 9-10-504]	N	
BAAQMD Condition 22970			
Part B	Offset Report [2-1-403, 2-2-410]	Y	

Following are the revisions to the permit pursuant to the appeal submitted on June 8, 2004. The facility had stated that 40 CFR 60, Subpart QQQ, did not apply to the following sources: S195, S196, S388, S433, Tank 235, Tank 236, and Tank 237. The District concurs for the following reasons.

The facility has stated that S195, S196, and S388 do not receive slop oil. They receive sludge from S324, Oil-Water Separator, and flocculant and sediment from S1007, Dissolved Air Flotation Unit (DAF). Subpart QQQ does not apply to the DAF. The standard does not address sludge. It does address slop oil from the oil-water separator, which goes to Tanks S133 and S134. These tanks are not subject to the standard because they were built before 1987. The slop oil is piped to S300, Coker, for re-processing into products.

S433 receives the sludge and flocculant from S195, S196, and S388. It does not receive the slop oil. The sludge and flocculant are also piped into S300, Coker. Since S433 does not receive the slop oil, it is not subject to the standard.

Tank 237 is out of service. Tanks 235 and 236 handle stripped sour water, not oily water, and so are not subject to the standard. The deletions to tables IV-BB.27 for Tank 235 and Tank 236 are shown on page 140 of this statement of basis.

Following are the deletions from the Section IV tables for these sources.

Table IV – BB.1
Source-Specific Applicable Requirements
NSPS Kb Low Vapor Pressure Permitted Wastewater Sludge Tanks with Vapor Recovery to Fuel Gas
S433 (F224-MOSC)

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
BAAQMD · Regulation 8, Rule 5	**Organic Compounds, Storage of Organic Liquids (11/27/02) EXEMPT**		
8-5-117	Exemption, Low Vapor Pressure	Y	
BAAQMD · Regulation 8, Rule 8	**Organic Compounds, Wastewater (Oil-Water Separators) (6/15/1994) REQUIREMENTS FOR SLUDGE DEWATERING UNITS**		
8-8-113	Exemption, Secondary Wastewater Treatment Processes and Stormwater Sewer Systems (segregated) are exempt from 8-8-301, 8-8-302, 8-8-306, 8-8-308	Y	
8-8-303	Standards: Gauging and Sampling Devices	Y	
8-8-304	Standards: Sludge-dewatering Unit	Y	
8-8-504	Monitoring and Records: Portable Hydrocarbon Detector	Y	
8-8-602	Manual of Procedures: Determination of Emissions	Y	
8-8-603	Manual of Procedures: Inspection Procedures	Y	
40 CFR 60, Subpart Kb	**Standards of Performance for Storage Vessels for Volatile Organic Liquid Storage Vessels for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984 (12/14/2000) REQUIREMENTS FOR RECORDKEEPING ONLY**		
60.110b(a)	Applicability and Designation of Affected Facility; Volatile organic liquid storage vessels > or = to 40 cu m, after 7/23/1984	Y	
60.110b(c)	Applicability and Designation of Affected Facility; Exemptions for storage vessels > or = to 75 cu m	Y	
60.116b(a)	Monitoring of Operations; Record retention	Y	
60.116b(b)	Monitoring of Operations; Permanent record requirements	Y	
60.116b(e)	Monitoring of Operations; Determine TVP	Y	
60.116b(e)(3)	Monitoring of Operations; Determine TVP-other liquids	Y	
60.116b(f)	Monitoring of Operations; Waste storage tanks (indeterminate or variable composition)	Y	
60.116b(g)	Monitoring of Operations; Exemption from 40 CFR 60.116b(c) and 40 CFR 60.116b(d) for tanks with closed vent system and control device	Y	

Table IV – BB.1
Source-Specific Applicable Requirements
NSPS Kb Low Vapor Pressure Permitted Wastewater Sludge Tanks with Vapor Recovery to Fuel Gas
S433 (F224-MOSC)

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
~~**40 CFR 60, Subpart QQQ**~~	~~**Standards of Performance for VOC Emissions from Petroleum Refinery Wastewater Systems (8/18/95)**~~ ~~**REQUIREMENTS FOR FIXED ROOF TANKS ROUTED TO FUEL GAS**~~		
~~60.690(a)(1)~~	~~Applicability and Designation of Affected Facility~~	~~Y~~	
~~60.690(a)(3)~~	~~Applicability and Designation of Affected Facility~~	~~Y~~	
~~60.691~~	~~Definitions: Closed Vent System. If gas or vapor from regulated equipment are routed to a process (e.g., petroleum refinery fuel gas system), the process shall not be considered a closed vent system and is not subject to the closed vent system standards.~~	~~Y~~	
~~60.692-1~~	~~Standards: General~~	~~Y~~	
~~60.692-1(a)~~	~~Standards: General~~	~~Y~~	
~~60.692-1(b)~~	~~Standards: General~~	~~Y~~	
~~60.692-3~~	~~Standards: Oil-Water Separators (includes storage vessels)~~	~~Y~~	
~~60.692-3(a)~~	~~Standards: Oil-Water Separators (includes storage vessels)~~	~~Y~~	
~~60.692-3(a)(1)~~	~~Standards: Oil-Water Separators (includes storage vessels)~~	~~Y~~	
~~60.692-3(a)(2)~~	~~Standards: Oil-Water Separators (includes storage vessels)~~	~~Y~~	
~~60.692-3(a)(3)~~	~~Standards: Oil-Water Separators (includes storage vessels)~~	~~Y~~	
~~60.692-3(a)(4)~~	~~Standards: Oil-Water Separators (includes storage vessels)~~	~~Y~~	
~~60.692-3(a)(5)~~	~~Standards: Oil-Water Separators (includes storage vessels)~~	~~Y~~	
~~60.692-3(f)~~	~~Standards: Oil-Water Separators (includes storage vessels)~~	~~Y~~	
~~60.692-6~~	~~Standards: Delay of Repair~~	~~Y~~	
~~60.692-6(a)~~	~~Standards: Delay of Repair~~	~~Y~~	
~~60.692-6(b)~~	~~Standards: Delay of Repair~~	~~Y~~	
~~60.697~~	~~Recordkeeping Requirements~~	~~Y~~	
~~60.697(a)~~	~~Recordkeeping Requirements~~	~~Y~~	
~~60.697(c)~~	~~Recordkeeping Requirements~~	~~Y~~	
~~60.697(e)(1)~~	~~Recordkeeping Requirements~~	~~Y~~	
~~60.697(e)(2)~~	~~Recordkeeping Requirements~~	~~Y~~	
~~60.697(e)(3)~~	~~Recordkeeping Requirements~~	~~Y~~	
~~60.697(e)(4)~~	~~Recordkeeping Requirements~~	~~Y~~	
~~60.697(f)(1)~~	~~Recordkeeping Requirements~~	~~Y~~	
~~60.697(f)(2)~~	~~Recordkeeping Requirements~~	~~Y~~	
~~60.698(e)~~	~~Reporting Requirements~~	~~Y~~	
40 CFR 63, Subpart CC	**National Emission Standards for Hazardous Air Pollutants for Petroleum Refining (8/18/95)** **REQUIREMENTS FOR EMISSION POINTS ROUTED TO FUEL GAS**		
63.640(c)(2)	Applicability and Designation of Storage Vessels	Y	
63.640(d)(5)	Exemption for emission points routed to fuel gas system	Y	
BAAQMD Condition 7353	**APPLICABLE TO S433**		
Part 1	Requirement to vent tank to fuel gas system [Basis: Cumulative Increase]	Y	
Part 2	Valve, pump design requirements [Basis: Cumulative Increase]	Y	

Table IV – BB.1
Source-Specific Applicable Requirements
NSPS Kb Low Vapor Pressure Permitted Wastewater Sludge Tanks with Vapor Recovery to Fuel Gas
S433 (F224-MOSC)

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
Part 3	Limitation on material stored [Basis: Cumulative Increase]	Y	
Part 4	Annual throughput limit [Basis: Cumulative Increase]	Y	
Part 5	Weekly throughput records [Basis: Recordkeeping]	Y	
BAAQMD Condition 20773			
Part 1	Requirement to verify exempt status of tank based on true vapor pressure of contents [Basis: Regulation 8-5-117, 2-6-409.2]	Y	
Part 2	Record retention requirement [Basis: Regulation 2-6-409.2]	Y	

Table IV – BB.5
Source-Specific Applicable Requirements
NSPS Kb Low Vapor Pressure Permitted Fixed Roof Wastewater Sludge Tanks
S195 (Tank 501), S196 (Tank 502), S388 (Tank 276/F205)

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
BAAQMD · Regulation 8, Rule 5	**Organic Compounds, Storage of Organic Liquids (11/27/02) EXEMPT**		
8-5-117	Exemption, Low Vapor Pressure	Y	
BAAQMD · Regulation 8, Rule 8	**Organic Compounds, Wastewater (Oil-Water Separators) (6/15/1994) REQUIREMENTS FOR SLUDGE DEWATERING UNITS**		
8-8-113	Exemption, Secondary Wastewater Treatment Processes and Stormwater Sewer Systems (segregated) are exempt from 8-8-301, 8-8-302, 8-8-306, 8-8-308	Y	
8-8-303	Standards: Gauging and Sampling Devices	Y	
8-8-305	Oil-Water Separator And/Or Air Flotation Unit Slop Oil Vessels	Y	
8-8-504	Monitoring and Records: Portable Hydrocarbon Detector	Y	
8-8-602	Manual of Procedures: Determination of Emissions	Y	
8-8-603	Manual of Procedures: Inspection Procedures	Y	
40 CFR 60, Subpart Kb	**Standards of Performance for Storage Vessels for Volatile Organic Liquid Storage Vessels for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984 (12/14/2000) REQUIREMENTS FOR RECORDKEEPING ONLY**		
60.110b(a)	Applicability and Designation of Affected Facility; Volatile organic liquid storage vessels > or = to 40 cu m, after 7/23/1984	Y	
60.110b(c)	Applicability and Designation of Affected Facility; Exemptions for storage vessels > or = to 75 cu m	Y	

Table IV – BB.5
Source-Specific Applicable Requirements
NSPS Kb Low Vapor Pressure Permitted Fixed Roof Wastewater Sludge Tanks
S195 (Tank 501), S196 (Tank 502), S388 (Tank 276/F205)

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
60.116b(a)	Monitoring of Operations; Record retention	Y	
60.116b(b)	Monitoring of Operations; Permanent record requirements	Y	
60.116b(d)	Monitoring of Operations; 30-day notification for TVP exceedances	Y	
60.116b(e)	Monitoring of Operations; Determine TVP	Y	
60.116b(e)(3)	Monitoring of Operations; Determine TVP-other liquids	Y	
60.116b(f)	Monitoring of Operations; Waste storage tanks (indeterminate or variable composition)	Y	
~~**40 CFR 60, Subpart QQQ**~~	~~**Standards of Performance for VOC Emissions from Petroleum Refinery Wastewater Systems (8/18/95)**~~ ~~**REQUIREMENTS FOR STORAGE VESSELS NOT SUBJECT TO NSPS, Subpart Kb CONTROL REQUIREMENTS (60.112b)**~~		
~~60.690(a)(1)~~	~~Applicability and Designation of Affected Facility~~	~~Y~~	
~~60.690(a)(3)~~	~~Applicability and Designation of Affected Facility~~	~~Y~~	
~~60.692-1~~	~~Standards: General~~	~~Y~~	
~~60.692-1(a)~~	~~Standards: General~~	~~Y~~	
~~60.692-1(b)~~	~~Standards: General~~	~~Y~~	
~~60.692-3~~	~~Standards: Oil-Water Separators (includes storage vessels)~~	~~Y~~	
~~60.692-3(a)~~	~~Standards: Oil-Water Separators (includes storage vessels)~~	~~Y~~	
~~60.692-3(a)(1)~~	~~Standards: Oil-Water Separators (includes storage vessels)~~	~~Y~~	
~~60.692-3(a)(2)~~	~~Standards: Oil-Water Separators (includes storage vessels)~~	~~Y~~	
~~60.692-3(a)(3)~~	~~Standards: Oil-Water Separators (includes storage vessels)~~	~~Y~~	
~~60.692-3(a)(4)~~	~~Standards: Oil-Water Separators (includes storage vessels)~~	~~Y~~	
~~60.692-3(a)(5)~~	~~Standards: Oil-Water Separators (includes storage vessels)~~	~~Y~~	
~~60.692-3(f)~~	~~Standards: Oil-Water Separators (includes storage vessels)~~	~~Y~~	
~~60.692-6~~	~~Standards: Delay of Repair~~	~~Y~~	
~~60.692-6(a)~~	~~Standards: Delay of Repair~~	~~Y~~	
~~60.692-6(b)~~	~~Standards: Delay of Repair~~	~~Y~~	
~~60.697~~	~~Recordkeeping Requirements~~	~~Y~~	
~~60.697(a)~~	~~Recordkeeping Requirements~~	~~Y~~	
~~60.697(e)~~	~~Recordkeeping Requirements~~	~~Y~~	
~~60.697(e)(1)~~	~~Recordkeeping Requirements~~	~~Y~~	
~~60.697(e)(2)~~	~~Recordkeeping Requirements~~	~~Y~~	
~~60.697(e)(3)~~	~~Recordkeeping Requirements~~	~~Y~~	
~~60.697(e)(4)~~	~~Recordkeeping Requirements~~	~~Y~~	
~~60.697(f)(1)~~	~~Recordkeeping Requirements~~	~~Y~~	
~~60.697(f)(2)~~	~~Recordkeeping Requirements~~	~~Y~~	
~~60.698(e)~~	~~Reporting Requirements~~	~~Y~~	
40 CFR 63, Subpart CC	**National Emission Standards for Hazardous Air Pollutants for Petroleum Refining (8/18/95)** **REQUIREMENTS FOR TANKS ALSO SUBJECT TO NSPS, Subpart Kb**		
63.640(c)(2)	Applicability and Designation of Storage Vessels	Y	
63.640(n)(1)	Applicability and Designation of Affected Source Overlap for Storage Vessels-Existing Group 1 or Group 2 also subject to Kb only subject to Kb and 63.640(n)(8).	Y	

Table IV – BB.5
Source-Specific Applicable Requirements
NSPS KB LOW VAPOR PRESSURE PERMITTED FIXED ROOF
WASTEWATER SLUDGE TANKS
S195 (TANK 501), S196 (TANK 502), S388 (TANK 276/F205)

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
63.640(n)(8)	Applicability and Designation of Affected Source Overlap for Storage Vessels-Additional requirements for Kb storage vessels	Y	
BAAQMD Condition 20773			
Part 1	Requirement to verify exempt status of tank based on true vapor pressure of contents [Basis: Regulation 8-5-117, 2-6-409.2]	Y	
Part 2	Record retention requirement [Basis: Regulation 2-6-409.2]	Y	
BAAQMD Condition 20989, Part A	Throughput limits for source S195, S196, S388 [Basis: 2-1-234.3]	Y	

V. Schedule of Compliance

A schedule of compliance is required in all Title V permits pursuant to BAAQMD Regulation 2-6-409.10 which provides that a major facility review permit shall contain the following information and provisions:

"409.10 A schedule of compliance containing the following elements:

10.1 A statement that the facility shall continue to comply with all applicable requirements with which it is currently in compliance;

10.2 A statement that the facility shall meet all applicable requirements on a timely basis as requirements become effective during the permit term; and

10.3 If the facility is out of compliance with an applicable requirement at the time of issuance, revision, or reopening, the schedule of compliance shall contain a plan by which the facility will achieve compliance. The plan shall contain deadlines for each item in the plan. The schedule of compliance shall also contain a requirement for submission of progress reports by the facility at least every six months. The progress reports shall contain the dates by which each item in the plan was achieved and an explanation of why any dates in the schedule of compliance were not or will not be met, and any preventive or corrective measures adopted."

The District had determined that the facility was out of compliance with the requirement to monitor H2S in natural gas burned at the following sources in accordance with 40 CFR 60, Subpart J: S352-S354, Turbines, and S355-S357, Duct Burners. The facility had petitioned EPA for an alternate monitoring plan that requires no monitoring because purchased commercial natural gas has an extremely low sulfur content. The petition was submitted on May 11, 2004. A schedule of compliance for these sources was added to the permit when it was re-issued on March 2, 2006.

Since EPA approved an alternative monitoring plan for these sources in their letter of July 2, 2007, attached in Appendix E, the schedule of compliance below is no longer required and will be deleted from the permit.

However, the alternative monitoring plan is no longer required because EPA exempted natural gas from monitoring when the NSPS was amended. The amendments were promulgated on June 24, 2008.

~~F. CUSTOM SCHEDULE OF COMPLIANCE~~

~~The owner/operator is out of compliance with the requirement in 60 Subpart J 60.105(a)(4) to continuously verify the H2S concentration in natural gas combusted at S352-S357, combustion turbines and duct burners. Therefore, the District is imposing the following Schedule of Compliance.~~

~~Milestones~~

~~The proposed alternative monitoring plan was submitted to U.S. EPA in a letter dated May 11, 2004.~~

~~Reporting Requirements~~

~~Progress reports shall be submitted every six months together with the monitoring reports required by Standard Condition I.F. The progress reports shall contain the date by which the item in the custom schedule of compliance was achieved or an explanation of why the item was not achieved by the above date and any corrective measures adopted.~~

~~In accordance with 40 Code of Federal Regulations, section 70.5(c)(8)(iii)(c), this schedule of compliance is supplemental to, and does not sanction noncompliance with, the requirements addressed herein.~~

VI. Permit Conditions

The Major Facility Review permit contains conditions that are derived from previously issued District Authorities to Construct (A/C) or Permits to Operate (P/O). Permit conditions may also be imposed or revised as part of the annual review of the facility by the District pursuant to California Health and Safety Code (H&SC) § 42301(e), through a variance pursuant to H&SC § 42350 et seq., an order of abatement pursuant to H&SC § 42450 et seq., or as an administrative revision initiated by District staff. After issuance of the Title V permit, permit conditions will be revised using the procedures in Regulation 2, Rule 6, Major Facility Review.

When necessary to meet Title V requirements, additional monitoring, recordkeeping, or reporting has been added to the permit.

Each permit condition is identified with a unique numerical identifier, up to five digits.

All changes to existing permit conditions that are proposed in this action are clearly shown in "strike-out/underline" format in the proposed permit. When the permit is issued, all 'strike-out" language will be deleted and all "underline" language will be retained, subject to consideration of comments received.

Changes to permit:
The changes to the permit condition will be presented in number order.

ConocoPhillips will provide 44 tons per year of contemporaneous POC offsets by controlling emissions at S1007, Dissolved Air Flotation Unit (DAF). These emissions are surplus, because they are not otherwise controlled by District regulations or permit, or other federal, State or local requirements.

Using a thermal oxidizer to control the DAF is also expected to reduce odors because the emissions of the DAF contain H2S. The conditions allow control with carbon when the thermal oxidizer is not working. Because carbon will not control H2S, a provision has been added requiring control with a thermal oxidizer or other equivalent control of H2S at least 90% of the time.

This condition has been imposed pursuant to a state requirement, CEQA, and is therefore not federally enforceable. This requirement was included in part 7 of the conditions, which is federally enforceable because it was imposed to provide offsets for the CFEP project. The requirement has been moved to part 10 of the conditions, which will not be federally enforceable.

Part 7b.v required a source test for SO2 only if 40 CFR 60, Subpart J or Ja did not require a CEM for H2S. Since the thermal oxidizer will not be subject to Subpart J or Ja, the CEM is not required, and the condition has been amended to require the source test.

In this action, a note will be added showing which applications amended Condition 1440.

CONDITION 1440

CONDITIONS FOR S324, S381, S382, S383, S384, S385, S386, S387, S390, S392, S400, S401 S1007, S1008, S1009

This condition was amended by Applications 483 in 1988, 10623 in 2005, 13424 in 2007, and 13727 in 2009.

1. S324 API Separator shall be operated such that the liquid in the main separator basin is in full contact with the fixed concrete roof. This condition shall not apply during separator shutdown for maintenance. [Cumulative Increase]

2. Diversions of refinery wastewater around the Water Effluent Treating Facility to the open Storm Water Basins (S1008, S1009) shall be minimized. These diversions shall not cause a nuisance as defined in District Regulation 7 or Regulation 1-301. [Cumulative Increase]

3. Records shall be maintained of each incident in which refinery wastewater is diverted to the open storm water basins. These records shall include the reason for the diversion, the total quantity of wastewater diverted to the basins, and the approximate hydrocarbon content of the water. [Cumulative Increase]

4. The following sources shall be vapor-tight as defined in Regulation 8, Rule 8:

   a. Doors, hatches, covers, and other openings on the S324 API Separator, forebay, outlet basin, and channel to the S1007 DAF Unit.

   b. Doors, hatches, covers, and other openings on the S1007 DAF Unit and the S400 Wet and S401 Dry Weather Sumps, except for the vent opening on these units.

   c. Any open process vessel, distribution box, tank, or other equipment downstream of the S1007 DAF Unit (S381, S382, S383, S384, S385, S386, S387, S390, S392). [Cumulative Increase]

5. Compliance with the VOC emission criteria of Part 4 shall be determined semi-annually and records kept of each inspection. These records shall be made available to District personnel upon request. [Cumulative Increase]

6. The maximum wastewater throughput at the S324 API Separator and S1007 DAF Unit shall not exceed 7,500 gpm during media filter backwash and 7,000 gpm during all other times for each unit. Any modifications to equipment at this facility that increase the annual average waste water throughput at S324 and S1007 shall first be submitted to the BAAQMD in the form of a permit application. [Cumulative Increase]

7. This part will apply after VOC emissions at S1007 must be reduced to provide offsets for Application 13424 per Condition 22970, Part B. The owner/operator shall ensure that S1007, DAF, is controlled by A49, DAF Thermal Oxidizer or A51, DAF Carbon Bed, at all times of operation of S1007, except for up to 175 hours per any consecutive 12-month period for startup, shutdown, or maintenance. ~~The owner/operator must control with a thermal oxidizer at least 90% of the time on a consecutive 12-month basis, unless owner/operator controls H2S with an equivalent control device as determined by the APCO.~~
   [Offsets~~, CEQA~~]

   a. Through source testing as described in Part 7(b) and 7(c), the owner/operator must demonstrate that the total reduction of emissions through use of A49, DAF Thermal Oxidizer and/or A51, DAF Carbon Bed will result in a total reduction of 44 tons POC per year, considering that abatement will not occur with either abatement device up to 175 hours per year. If initial testing does not demonstrate total reduction of 44 tons POC per year, the owner/operator may choose to:

i. In the case of A49, DAF Thermal Oxidizer, perform 4 tests in one year and average the results. In this case, the tests will be performed no less than 2 months apart and no more than 4 months apart.
ii. In the case of A51, DAF Carbon Bed, average the results of one year's worth of monitoring.
If, after further testing, a total of 44 tons worth of POC reduction is not demonstrated, the owner/operator will supply offsets necessary to ensure a total reduction of 44 tons per year POC pursuant to BAAQMD Regulation 2-2-302. [Offsets, CEQA]

b. The following conditions apply to operation of A49, DAF Thermal Oxidizer:
i. Within 90 days of the startup date of A49, DAF Thermal Oxidizer, the owner/operator shall perform a source test to determine the following:
1. Mass emissions rate for POC that is collected and sent to A49.
2. Mass emissions rate for POC after abatement by A49.
3. Mass emissions rate for H2S that is collected and sent to A49.
4. Mass emissions rate for H2S after abatement by A49.
5. Mass emissions rate for SO2

During the source test, the owner/operator shall determine the temperature required to achieve 98.0% destruction by weight of POC or a concentration of 10 ppmv POC at the outlet. The temperature shall become an enforceable limit.

For the purposes of determining the amount of POC controlled, the owner/operator shall use District Method ST-7, Organic Compounds. The owner/operator shall submit the source test results to the District Source Test Manager, the District Permit Evaluation Manager, and the District Director of Compliance and Enforcement no later than 60 days after any source test. [Offsets, CEQA]

ii. After the initial source test required in Part 8 of this condition, the minimum temperature determined shall become the minimum temperature limit for A49. A49 shall not be operated below the minimum temperature except during an "Allowable Temperature Excursion" as defined below:
1. Operation of A49 within 20°F below the minimum temperature
2. Operation of A49 more than 20°F below the minimum temperature for a period or periods which, when combined are less than or equal to 15 minutes in any hour; or
3. Operation of A49 more than 20°F below the minimum temperature for a period or periods which when combined are more than 15 minutes in any hour, provided that all three of the following criteria are met:
a. The excursion does not exceed 50°F below the minimum temperature;
b. The duration of the excursion does not exceed 24 hours; and
c. The total number of such excursions does not exceed 12 per calendar year (or any consecutive 12 month period).
Two or more excursions greater than 15 minutes in duration occurring during the same 24-hour period shall be counted as one excursion toward the 12 excursion limit.
For each such excursion, sufficient records shall be kept to

demonstrate that they meet the qualifying criteria described above. Records shall include at least the following information:

1. Temperature controller setpoint;
2. Starting date and time, and duration of each Allowable Temperature Excursion;
3. Measured temperature during each allowable Temperature Excursion;
4. Number of Allowable Temperature Excursions per month, and total number for the current calendar year; and
5. All strip charts or other temperature records.

[Offsets, CEQA]

iii. To determine compliance with the temperature limit in Part 9, A49, Thermal Oxidizer shall be equipped with a temperature measuring device capable of continuously measuring and recording the temperature in A49. The temperature device shall be installed and maintained in accordance with the manufacturer's recommendations, shall be ranged appropriately to measure the temperature limit determined, and shall have a minimum accuracy over the range of 1.0 percent of full-scale.

[Offsets, CEQA]

~~iv. Unless amendments to 40 CFR 60, Subpart J, remove applicability of the DAF vapors from that subpart, the owner or operator shall:~~
~~1. Ensure that the H2S content of the gas burned at A49 does not exceed 0.10 gr/dscf. (This condition will be deleted when the citation is added to the Title V Permit)~~
~~2. Install, calibrate, maintain, and operate a District-approved Continuous Emissions Monitoring System and recorder for H2S in the gas that is sent to A49. The owner/operator is not required to operate the CEMS when A49 is not being operated.~~

~~[40 CFR 60, Subpart J]~~

v. ~~If 40 CFR 60, Subpart J is amended such that a continuous monitoring system is not required for A49, and the owner/operator does not install a Continuous Emissions Monitoring System,~~ The owner/operator shall perform a source test to determine emissions of SO2 from A49, DAF Thermal Oxidizer using District Method ST-19A, Sulfur Dioxide, Continuous Sampling. The owner/operator shall submit the source test results to the District Source Test Manager, the District Permit Evaluation Manager and the District Director of Compliance and Enforcement no later than 60 days after any source test.

[Offsets, CEQA]

vi. If ~~the continuous monitoring data per Part 7.b.iv or the~~ Source Test Data per Part 7.b.v shows that the annual SO2 emissions are greater than 1.2 tons per year, the owner/operator shall provide additional SO2 offsets in accordance with BAAQMD Regulation 2-2-303.

[Offsets, CEQA]

c. The following conditions apply to A51, DAF Carbon Bed

i. A51 shall consist of two or more activated carbon vessels arranged in series, with at least one carbon vessel in service except for up to 175 hours per any consecutive 12-month period for startup, shutdown, or maintenance.
[Offsets, CEQA]

ii. Total emission reduction of A51 shall be demonstrated through use of an in-line flowmeter, and the results of monitoring per the conditions below.
[Offsets]

iii. The owner/operator of A51 shall monitor with a photo-ionization detector (PID), flame-ionization detector (FID), or other method approved in writing by the Air Pollution Control Officer at the following locations:

1. The stream prior to any carbon vessels
2. At the inlet to the last carbon vessel in series
3. At the outlet of the carbon vessel that is last in series prior to venting to atmosphere

[Offsets]

iv. When using an FID to monitor breakthrough, readings may be taken with or without a carbon filter tip fitted on the FID probe. Concentrations measured with the carbon filter tip in place shall be considered methane for the purpose of these permit conditions.
[Offsets]

v. All breakthrough monitoring readings shall be recorded in a monitoring log each time they are taken. Readings shall be conducted on a daily basis initially, but after two months of daily collection, the owner/operator may propose for District review, based on actual measurements taken at the site during operation of the source, that the monitoring schedule be changed to weekly based on the demonstrated breakthrough rates of the carbon vessels. If the District Engineering Division does not disapprove of the proposed monitoring changes within 30 days, the owner/operator shall commence weekly monitoring.
[Offsets]

vi. The owner/operator shall utilize the activated carbon vessels in such a manner to ensure that the outlet stream to atmosphere contains below 10 ppm VOC or 98% reduction of VOC, whichever is greater.
[Offsets]

vii. The owner/operator of this source shall maintain the following records for each month of operation of A51:

1. The hours and times of operation
2. Each monitor reading or analysis result for the day of operation they are taken.
3. The number of spent carbon beds removed from service.

[Offsets]

~~8. This part will apply after VOC emissions at S1007 must be reduced to provide offsets for Application 13424 per Condition 22970, Part B. Any exceedance of any limit in part 7 shall be reported to the Compliance and Enforcement Division within 10 days of discovery of the occurrence. (This condition will be deleted when the condition is added to the Title V Permit.) [basis: Offsets; CEQA; 40 CFR 60, Subpart J]~~Deleted Application 13427.

9. This part will apply after VOC emissions at S1007 must be reduced to provide offsets for Application 13424 per Condition 22970, Part B. The owner/operator shall seal the DAF outlet channel and downstream sumps by a solid cover with gaskets. Any vents installed on the covered channel shall be routed to the thermal oxidizer or an equivalent control as determined by the APCO. [Offsets, CEQA]

*10. The owner/operator must control with a thermal oxidizer at least 90% of the time on a consecutive 12-month basis, unless owner/operator controls H2S with an equivalent control device as determined by the APCO. [CEQA]

Alternate Operating Scenario

11. During periods when A49, DAF Thermal Oxidizer or A51, DAF Carbon Bed are not in operation, the owner/operator shall comply with the following requirements:
    a. Affected facility wastes routed to the API or DAF ~~should~~**shall** be included in the facility TAB in accordance with 40 CFR 61, Subpart FF.
    b. The owner/operator shall comply with BAAQMD and SIP Regulations 8-8-307.2 in lieu of BAAQMD and SIP Regulations 8-8-307.1.
    c. S1007 shall not be subject to the closed vent and control device requirements in 40 CFR 61.349.
    d. The owner/operator shall comply with parts 4, 5, 7, and 9 of this condition during periods when A49, DAF Thermal Oxidizer or A51, DAF Carbon Bed are not in operation.

    This is considered an Alternate Operating Scenario in accordance with BAAQMD Regulation 2-6-409.7 and 40 CFR 70. The owner/operator shall keep a record in a contemporaneous log when a period of non-control at S1007 commences and when control of S1007 resumes. [40 CFR 61, Subpart FF, 40 CFR 70.6(a)(9), BAAQMD Regulation 2-6-409.7]

The title of Condition 1694 has been changed to show that the emissions from engines are not included in the SO2 cap. When this condition was written, the engines were exempt and the emissions from engines were not considered. Also, the new heater, S45, will not be included in the SO2 cap.

S336 and S337 have been moved from part A.1a to A.1b because they are not grandfathered sources. They were modified in 1999 pursuant to Application 18696 to retrofit the burners for compliance with BAAQMD Regulation 9, Rule 10.

S8 will be removed from part A.1b because it will be removed from service. The SO2 cap in part A.4 will not change because the refinery fuel gas will be burned in other sources.

Application 13424 contained an earlier version of Parts A.2a, A.2b, and A.2c. The updated condition is shown below.

The overall fuel firing for Sources S2, S3, S4, S5, S7, S9, S10, S11, S12, S13, and S14, Heaters, in part F.1b will be reduced by 115.7 MMbtu/hr when S8 is removed from service, based on the baseline for S8.

CONDITION 1694

CONDITIONS FOR COMBUSTION SOURCES AND SO2 CAP, EXCEPT FOR GAS TURBINES, ~~AND~~ DUCT BURNERS, ENGINES, AND S45, HEATER (U246 B801~~/B802~~ A/B)

-

A. Heater Firing Rate Limits and General Requirements

1a. Each heater listed below shall not exceed the indicated daily firing rate limit (based on higher heating value of fuel), which are considered maximum sustainable firing rates. The indicated hourly firing rate is the daily limit divided by 24 hours and is the basis for permit fees and is the rate listed in the District database.

District Source Number	Refinery ID Number	Daily Firing Limit (MMbtu/day)	Hourly Firing Rate (MMbtu/hr)
S3	U230/B201	1,488	62
S7	U231/B103	1,536	64
S21	U244/B507	194.4	8.1
~~S336~~	~~U231/B104~~	~~2,664~~	~~111~~
~~S337~~	~~U231/B105~~	~~816~~	~~34~~

[Regulation 2-1-234.3]

1b. Each heater listed below shall not exceed the indicated daily firing rate limit (based on higher heating value of fuel), which are considered maximum sustainable firing rates. The indicated hourly firing rate is the daily limit divided by 24 hours and is the basis for permit fees and is the rate listed in the District database.

District Source Number	Refinery ID Number	Daily Firing Limit (MM BTU/day)	Hourly Firing Rate (MM BTU/hr)
S2	U229/B301	528	22
S4	U231/B101	2,304	96
S5	U231/B102	2,496	104
S8	U240/B1	6,144	256

S8 will be removed from service within 90 days of the date that the NOx offsets ~~pursuant to~~ for Application 13424 must be supplied pursuant to BAAQMD Regulation 2-2-410.

S9	U240/B2	1,464	61

S10	U240/B101	5,352	223
S11	U240/B201	2,592	108
S12	U240/B202	1,008	42
S13	U240/B301	4,656	194
S14	U240/B401	13,344	556
S15 thru S19	U244/B501 thru B505	5,754	239.75
S20	U244/B506	552	23
S22	U248/B606	744	31
S29	U200/B5	2,472	103
S30	U200/B101	1,200	50
S31	U200/B501	480	20
S43	U200/B202	5,520	230
S44	U200/B201	1,104	46
S351	U267	2,280	95
S336	U231/B104	2,664	111
S337	U231/B105	816	34
S371/372	U228/B520 and B521	1,392	58

[Regulation 2-1-301]

1c. Each heater listed below shall not exceed the indicated daily firing rate limit (based on higher heating value of fuel), which are considered maximum sustainable firing rates. The indicated hourly firing rate is the daily limit divided by 24 hours and is the basis for permit fees and is the rate listed in the District database.

District Source Number	Refinery ID Number	Daily Firing Limit (MMbtu/day)	Hourly Firing Rate (MMbtu/hr)
S438	U110	6,000	250

[Cumulative Increase]

2a. All sources shall use only refinery fuel gas and natural gas as fuel, EXCEPT for S438 which may also use pressure swing adsorption (PSA) off gas as fuel, and EXCEPT for S3 and S7 which may also use naphtha fuel during periods of natural gas curtailment, test runs, or for operator training. [Regulation 9-1-304 (sulfur content), Regulation 2, Rule 1, Consent Decree Case No. 05-0258, DATE: 1/27/05] Amended Application 12931

2b. Sources S3 and S7 are permitted to use naphtha fuel only during periods of natural gas curtailment, test runs, or for operator training. These sources shall be monitored for visible emissions during tube cleaning. If any visible emissions are detected when the operation commences, corrective action shall be taken within one day, and monitoring shall be performed after the corrective action is taken. If no visible emissions are detected, monitoring shall be performed on an hourly basis. [Regulation 2-6-409.2, Consent Decree Case No. 05-0258, DATE: 1/27/05] Amended Application 12931

2c. Sources S3 and S7 are permitted to use naphtha fuel only during periods of natural gas curtailment, test runs, or for operator training. These sources shall be monitored for visible emissions before each 1 million gallons of liquid fuel is combusted at each source. If an inspection documents visible emissions, a Method 9 evaluation shall be completed within 3 working days, or during the next scheduled operating period if the specific unit ceases firing

on liquid fuel within the 3 working day time frame. [Regulation 2-6-409.2, Consent Decree Case No. 05-0258, DATE: 1/27/05]. Amended Application 12931

3a. The refinery fuel gas shall be tested for total reduced sulfur (TRS) concentration by GC analysis at least once per 8 hour shift (3 times per calendar day). At least 90% of these samples shall be taken each calendar month. No readable samples or sample results shall be omitted. TRS shall include hydrogen sulfide, methyl mercaptan, methyl sulfide, dimethyl disulfide. As an alternative to GC TRS analysis, the fuel gas total sulfur content may be measured with a dedicated total sulfur analyzer (Houston Atlas or equivalent), and TRS concentration estimated based on the total sulfur/TRS ratio, with the TRS estimate increased by a 5% margin for conservatism. The total sulfur/TRS ratio shall be determined at least on a monthly basis through GC analyses of total sulfur and TRS values, and the most recent ratio shall be used to estimate TRS concentration. [SO2 Bubble]

3b. The average of the 3 daily refinery fuel gas TRS sample results shall be reported to the District in a table format each calendar month, with a separate entry for each daily average. Sample reports shall be submitted to the District within 30 days of the end of each calendar month. Any omitted sample results shall be explained in this report. [SO2 Bubble]

4. Emissions of SO2 shall not exceed 1,612 lb/day on a monthly average basis from non-cogeneration sources burning fuel gas or liquid fuel. This limit shall not include S45, Heater (U246~~0~~) and shall not include any engine. [SO2 Bubble]

5. The following records shall be maintained in a District-approved log for at least 5 years and shall be made available to the District upon request:

a. Daily and monthly records of the type and amount of fuel combusted at each source listed in Part A.1. [Regulation 2, Rule 1]
b. TRS sample results as required by Part A.3 [SO2 Bubble]
c. SO2 emissions as required by Part A.4 [SO2 Bubble]
d. The operator shall keep records of all visible emission monitoring required by Part 2b, shall identify the person performing the monitoring and shall describe all corrective actions taken [Regulation 2-6-409.2]
e. The operator shall keep records of all visible emission monitoring required by Part 2c, of the results of required visual monitoring and Method 9 evaluations on these sources, shall identify the person performing the monitoring and shall describe all corrective actions taken. [Regulation 2-6-409.2]

F. S2, S3, S4, S5, S7, S8, S9, S10, S11, S12, S13, S14, Heaters
[S8 will be deleted from this part when the source is removed from service pursuant to Application 13424.]

1a. Total fuel firing at Unit 240 (S8, S9, S10, S11, S12, S13, S14) shall not exceed 993 MMbtu/hr averaged over any consecutive 12 month period. [Cumulative Increase]
[Part 1a will be effective until S8 is removed from service pursuant to Application 13424.]

1b. Total fuel firing at Unit 240 (S9, S10, S11, S12, S13, S14) shall not exceed 877.3 MMbtu/hr (based on higher heating value) averaged over any consecutive 12 month period. [Cumulative Increase]

[Part 1b will be effective after S8 is removed from service pursuant to Application 13424.]

2. Total fuel fired at the MP-30 Complex, including Unit 229 (S2), Unit 230 (S3) and Unit 231 (S4, S5, S7) shall not exceed 346.5 MMbtu/hr (based on higher heating value) averaged over any consecutive 12 month period. [Cumulative Increase]

3. Monthly records of the fuel fired at sources in Parts 1 and 2 shall be kept in a District-approved log for at least 5 years and shall be made available the District upon request. [~~Recordkeeping.~~ Cumulative Increase]

G. Regulation 9-10 Startup / Shutdown Provisions [Basis: 9-10-301]

For determining compliance with Regulation 9-10-301, the contribution of each affected unit that is in a startup or shutdown condition shall be based on the methods described in 9-10-301.1, and the contribution of each affected unit that is in an out of service condition shall be based on the methods described in 9-10-301.2. Low-firing conditions (no higher than 20% of a unit's rated capacity), including refractory dryout periods, shall be considered out of service conditions subject to the 30-day averaging procedure in Regulation 9-10-301.2, including the 60-day annual limit for this procedure.

1. Heaters S8 (Unit 240, B-1), S14 (Unit 240, B-401) and S44 (Unit 200, B-201) shall be considered to be in normal operation whenever they have detectable fuel flow, and shall be considered to be out of service for the purpose of Regulation 9-10-301 whenever they have undetectable fuel flow.

[S8 will be deleted from this part when the source is removed from service pursuant to Application 13424.]

2. For heaters S43 (Unit 200, B-202), S351 (Unit 267, B-601/602) and S371/372 (Unit 228, B-520/521), the durations of startups, shutdowns and refractory dryout periods are defined in Condition 1694, Part D.2 (S43), Part B.2 (S351) and Part C.2 (S371, S372).

3. For heaters S10 (Unit 240, B-101) and S15 through S19 (Unit 244, B-501 through B-505), the duration of startups, shutdowns and low-firing periods are defined as follows:

   a. startup and shutdown periods are not to exceed 24 hours
   b. low-firing periods are not to exceed 72 hours

4. For heater S13 (Unit 240, B-301), the duration of startups, shutdowns and low-firing periods are defined as follows:

   a. startup and shutdown periods are not to exceed 72 hours
   b. low-firing periods are not to exceed 72 hours

5. For heaters with no CEMS:

   S2 (Unit 229, B-301)
   S3 (Unit 230, B-201)
   S4 (Unit 231, B-101)
   S5 (Unit 231, B-102)
   S7 (Unit 231, B-103)
   S9 (Unit 240, B-2)

S11 (Unit 240, B-201)
S12 (Unit 240, B-202)
S20 (Unit 244, B-506)
S22 (Unit 248, B-606)
S29 (Unit 200, B-5)
S30 (Unit 200, B-101)
S31 (Unit 200, B-501)
S336 (Unit 231, B-104)
S337 (Unit 231, B-105)

startups, shutdowns, and out of service conditions shall each not exceed 5 days in succession at each source.

Since ConocoPhillips has stated that the any additional HGO that they receive from their Santa Maria refinery will be transported by pipeline, a condition has been added to limit receipts of HGO destined for the hydrocracker through the wharf based on the average of the following 3 years: 8/1/02 to 8/1/05. The purpose of the condition is to ensure that emissions from marine vessels do not increase due to the CFEP project, as they have stated. If at a later date, ConocoPhillips wishes to receive more Santa Maria HGO by ship or purchase it from another source and receive it at the wharf, the facility may apply for this change and provide the emissions offsets.

CONDITION 4336
CONDITIONS FOR S425, S426**,** Marine Loading Berths

1. For each loading event of "regulated organic liquid", A420 shall be operated with a temperature of at least 1300 degrees F during the first 15 minutes of the loading operation. After the initial 15 minutes of loading, the A420 temperature shall be at least 1400 degrees F. [Cumulative Increase]

2. Instruments shall be installed and maintained to monitor and record the following:

   a. Static pressure developed in the marine tank vessel
   b. A420 temperature.
   c. Hydrocarbons and flow to determine mass emissions or a concentration measurement alone if it is demonstrated to the satisfaction of the APCO that concentration alone allows verification of compliance, or
   d. Any other device that verifies compliance, with prior approval from the APCO.

   [Cumulative Increase]

3. A "regulated organic liquid" shall not be loaded from this facility into a marine tank vessel within the District whenever A420 is not fully operational. A420 must be maintained to be leak free, gas tight, and in good working order. For the purposes of this condition, "operational" shall mean the system is achieving the reductions required by Regulation 8, Rule 44; "regulated organic liquids" include gasoline, gasoline blendstocks, aviation gasoline and JP-4 aviation fuel and crude oil. [Cumulative Increase]

4. A leak test shall be conducted on all vessels loading under positive pressure prior to loading more than 20% of the cargo. The leak test shall include all vessel relief valves, hatch cover, butterworth plates, gauging connections, and any other potential leak points.

   [Cumulative Increase]

5. Loading pressure shall not exceed 80% of the lowest relief valve set pressure of the vessel being loaded. [Cumulative Increase]

6a. No more than 25,000 barrels per day of gasoline, naphtha and C5/C6 shall be shipped across the wharf on an annual average basis. [Cumulative Increase]

1. Deleted Application 13690

2. When barges are used to lighter crude oil, the volume of oil lightered during any reporting period shall be multiplied by a factor of 0.42 and included in the shipping totals to determine compliance with the throughput limits. The vessel Exxon Galveston is considered a ship for the purposes of this condition.

6b. The maximum loading rate at any time at both S425 and S426 shall not exceed 20,000 barrels per hour to prevent overloading the A420 oxidizer. [Cumulative Increase]

7a. The owner/operator shall not receive more than 30,000 bbl per day crude oil delivered by tanker or ship on a 12 month rolling average basis. (Cumulative increase, 2-1-403)

7b. The owner/operator shall receive no more than 249,000 barrels per year of gas oil feed at the Marine Terminal (S425, S426) to the U-240 (S305) Prefractionator. [Offsets]

8. All throughput records required to verify compliance with Parts 6 and 7, including hourly loading rate records (total for S425, S426), monthly crude oil receipt records, and maintenance records required for A420, which are subject to Regulation 8, Rule 44, shall be kept on site for at least 5 years and made available to the District upon request. [Cumulative Increase]

9. The destruction efficiency of the A420 control system shall be at least 98.5% by weight over each loading event for gasoline, gasoline blending stocks, aviation gas, aviation fuel (JP-4 type), and crude oil. [BACT]

10. The purpose of part 10 is to implement an alternative monitoring plan to assure compliance with the H2S limit in 40 CFR 60.104(a)(1) at A420, Thermal Oxidizer. This part will apply whenever A420 is used to comply with BAAQMD Regulation 8, Rule 44, and whenever A420 is used to burn fuel gas as defined by 40 CFR 60.101(d). To ensure that the thermal oxidizer is not used to burn fuel gas that is high in H2S, the following activities are not allowed at the terminal: ballasting, cleaning, inerting, purging, and gas freeing. The owner/operator shall perform the following monitoring: One detection tube sampling shall be conducted on the vapors collected during the event for each marine vessel tank that is affected. The detector tube ranges shall be 0-10/0-100 ppm (N=10/1) unless the H2S level is above 100 ppm. If the H2S level is above 100 ppm, the owner/operator shall use a detection tube with a 0-500 ppm range. The owner/operator shall use ASTM Method 4913-00, Standard Practice for Determining Concentration of Hydrogen Sulfide by Reading Length of Stain, Visual Chemical Detectors. The owner/operator shall maintain records of the H2S detection tube test data for five years from the date of the record. In addition, the owner/operator shall monitor at least once every calendar day that the thermal oxidizer is used. Within 8 months of approval of this part pursuant to Application 13691, the owner/operator shall submit the first six months of results of the H2S analysis to the

District's Engineering and Enforcement and Compliance Departments for review. [40 CFR 60.13(i), BAAQMD Regulation 2-6-501]

The purpose of Condition 6671 is to control emissions of POC from the deaerator vent of a hydrogen plant that serves S307, Unicracker. Since hydrogen plants are normally permitted separately, a new source designation has been created for the hydrogen plant, and the condition has been assigned to it.

CONDITION 6671

CONDITIONS FOR ~~S307~~S464, HYDROGEN PLANT, U-240 PLANT 4

1. The vapor vent on the E-421 condenser (overhead condenser on D-406 condensate stripper in U-240 Unicracker Complex hydrogen plant) shall be vented to the A50 (D-410 Vent Scrubber) condenser whenever the vent operates. [Regulation 8-2-301]

2. A50 shall reduce total organic carbon emissions from the E-421 vent as necessary to a level ~~which~~that complies with Regulation 8-2-301. [Regulation 8-2-301]

3. All blowdown and other liquid effluent from A50 shall be piped to the plant wastewater treatment system. [Cumulative Increase]

4. Whenever the U-240 hydrogen plant operates, normal flow of scrubbing liquid through the E-421 scrubber pumparound pump and normal flow of cooling water through the pumparound cooler shall be verified on a daily basis. [Cumulative Increase]

5. Daily records (on days when the U-240 hydrogen plant operates) of normal scrubbing liquid flow and normal cooling water flow shall be kept in a District-approved log for at least five years and shall be made available to the District upon request. [Cumulative Increase]

6. Effective 1/1/05, an annual source test shall be performed on the vapor vent on the E-421 condenser to verify compliance with Regulation 8-2-301 in accordance with District source test methods or other methods approved in advance by the District. A copy of the test report shall be provided to the District Director of Compliance and Enforcement within 45 days of completion of the test. [Regulation 2-6-409.2]

The recordkeeping condition for S432 was inadvertently omitted in Application 13424. It is being added in this action.

CONDITION 6725

CONDITIONS FOR S432, DEISOBUTANIZER

1. All new flanges in hydrocarbon service associated with the S432 Deisobutanizer project shall utilize graphitic gaskets. All new valves in hydrocarbon service associated with the project shall be either live-loaded valves, bellows-sealed valves, diaphragm valves, or other District approved equivalent valve designs. [BACT, Cumulative Increase]

2. All new pressure relief valves in hydrocarbon service associated with the S432 project shall be vented to the refinery flare gas recovery system.

[BACT, Cumulative Increase]

3. All new pumps and compressors in hydrocarbon service associated with the S432 project shall utilize either a double mechanical shaft seal design with barrier fluid, a magnetically coupled shaft, or other District approved equivalent design. If a barrier fluid is used, either the fluid reservoir shall be vented to a 95% efficient control device, or the barrier fluid shall be operated at a pressure higher than the process stream pressure.
[BACT, Cumulative Increase]

4. The owner/operator shall ensure that the throughput of S432 does not exceed 10,200 barrels/day. [Cumulative Increase]

5. All pressure relief devices on the process unit shall be vented to a fuel gas recovery system, furnace, or flare with a recovery/destruction efficiency of 98%. [8-28-302, BACT]

6. The owner/operator shall keep throughput records for this source on a daily basis. The records shall be kept on site for a period of at least 5 years and shall be made available for inspection by District staff upon request. [Cumulative Increase]

Parts 6, 15, and 9 of Condition 12122 imply the presence of fuel meters for these sources. Part 9d was added to make this clear.

Part 9b of Condition 12122 was amended after public comment to make clear that control of emissions at the turbines and duct burners are required when NOx emissions must be reduced to provide offsets for Application 13424 in accordance with offset condition 22970, part B.

Part 16 was written to incorporate an alternative monitoring plan for the sources that was approved by EPA on on July 2, 2007.

The amendments to NSPS Subpart J make it unnecessary to incorporate the alternative monitoring plan for commercial grade natural gas that EPA granted in their letter to Conoco of July 2, 2007.

An alternative monitoring plan for NSPS Subpart J compliane for U240 Sweet Unicracker Gas that is burned at the Steam Power Plant (Sources S352-S357), which was also granted by EPA on July 2, 2007, has been added to the condition in part 16.

CONDITION 12122

CONDITIONS FOR S352, S353, S354, S355, S356, S357: TURBINES AND DUCT BURNERS

1. The gas turbines (S352, S353 and S354) and the heat recovery steam generator (HRSG) duct burners (S355,S356 and S357) shall be fired on refinery fuel gas or natural gas.
[Cumulative Increase]

2. A HRSG duct burner shall be operated only when the associated gas turbine is operated.
[Cumulative Increase]

3. The exhaust from S352 and S355 shall be abated at all times by SCR unit A13, except that S352 and S355 may operate without SCR abatement on a temporary basis for periods of planned or emergency maintenance. A District-approved NOx CEM shall monitor and record the 352 and S355 NOx emission rate whenever S352 and S355 operate without abatement. All emission limits applicable to S352 and S355 shall remain in effect whether or not they are operated with SCR abatement. [BACT, Cumulative Increase]

4. The exhaust from S353 and S356 shall be abated at all times by SCR unit A14, except that S353 and S356 may operate without SCR abatement on a temporary basis for periods of planned or emergency maintenance. A District-approved NOx CEM shall monitor and record the S353 and S356 NOx emission rate whenever S353 and S356 operate without abatement. All emission limits applicable to S353 and S356 shall remain in effect whether or not they are operated with SCR abatement. [BACT, Cumulative Increase]

5. The exhaust from S354 and S357 shall be abated at all times by SCR unit A15, except that S354 and S357 may operate without SCR abatement on a temporary basis for periods of planned or emergency maintenance. A District-approved NOx CEM shall monitor and record the S354 and S357 NOx emission rate whenever S354 and S357 operate without abatement. All emission limits applicable to S354 and S357 shall remain in effect whether or not they are operated with SCR abatement. [BACT, Cumulative Increase]

6. Total fuel fired in S355, S356, and S357 shall not exceed 2.42 E 12 btu in any consecutive 365 day period. [Cumulative Increase]

7. CO emissions from each turbine/duct burner set shall not exceed 39 ppmv at 15% oxygen, averaged over any consecutive 30 day period. Emissions during startup periods, which shall not exceed four hours, and shutdown periods, which shall not exceed two hours, may be excluded when averaging emissions. [BACT, Cumulative Increase]

8. POC emissions from each turbine/duct burner set shall not exceed 6 ppmv at 15% oxygen, averaged over any consecutive 30 day period. Emissions during startup periods, which shall not exceed four hours, and shutdown periods, which shall not exceed two hours, may be excluded when averaging emissions. [BACT, Cumulative Increase]

9a. The combined NOx emissions from S352, S353, S354, S355, S356 and S357 shall not exceed 66 lb/hr (averaged over any 3 hour period), nor 167 tons in any consecutive 365 day period. NOx emissions from each turbine/duct burner set shall not exceed 528 lb/day. (This condition will be invalid when the NOx emissions at these sources must be reduced to provide offsets for Application 13424.) [BACT, Cumulative Increase]

9b. This part will apply after NOx emissions at S352, S353, S354, S355, S356 and S357 must be reduced to provide offsets for Application 13424 per Condition 22970, Part B. The combined NOx emissions from S352, S353, S354, S355, S356 and S357 shall not exceed 66 lb/hr (averaged over any 3 hour period), and shall not exceed 79.8 tons in any consecutive 365 day period. NOx emissions from each turbine/duct burner set shall not exceed 528 lb/day. [BACT, Cumulative Increase, Offsets]

9~~b~~c. NOx emissions from S 352, S353, S354, S355, S356 and S357 shall be monitored with a District-approved continuous emission monitor. [BACT, Cumulative Increase]

9d. The owner/operator shall use a fuel meter to determine the heat input to each unit. This data shall be used to determine compliance with all throughput limits and the NOx, CO, and SO2 mass emission limits. [Cumulative Increase, 2-6-503]

10a. The combined CO emissions from S352, S353, S354, S 355, S356 and S357 shall not exceed 200 tons in any consecutive 365 day period.
[BACT, Cumulative Increase]

10b. CO emissions from S 352, S353, S354, S355, S356 and S357 shall be monitored with a District-approved continuous emission monitor. [BACT, Cumulative Increase]

11. The combined POC emissions S352, S353, S354, S355, S356 and S357 shall not exceed 8.3 lb/hr ~~nor~~and shall not exceed 30.5 tons in any consecutive 365 day period.
[BACT, Cumulative Increase]

12. The refinery fuel gas shall be tested for total reduced sulfur (TRS) concentration at least once per 8 hour shift (3 times per calendar day). At least 90% of these samples shall be taken each calendar month. No readable samples or sample results shall be omitted. TRS shall include hydrogen sulfide, methyl mercaptan, methyl sulfide, dimethyl disulfide.
[Cumulative Increase]

13. The average of the 3 daily refinery fuel gas TRS sample results shall be reported to the District in a table format each calendar month, with a separate entry for each daily average. Sample reports shall be submitted to the District within 30 days of the end of each calendar month. Any omitted sample results shall be explained in this report.
[Cumulative Increase]

14. A source test to verify compliance with Parts 8 and 11 shall be performed each calendar year in accordance with District source test methods or other methods approved in advance by the District. A copy of the test report shall be provided to the District Director of Compliance and Enforcement within 45 days of completion of the test. [Regulation 2-6-409.2]

15. Records shall be maintained to allow verification of compliance with all permit conditions. Records shall be retained for at least five years and shall be made available to the District upon request. [BACT, Cumulative Increase]

16. Based on the Alternative Monitoring Plan (AMP) approved by EPA on July 2, 2007, the following conditions apply to the U240 Sweet Unicracker Gas burned at S352-S357:
    a. Continuous H2S process analyzer must be in place to monitor H2S content of process stream.
    b. Upon USEPA request, the owner/operator shall conduct a test audit for any gas stream with an approved AMP.
    c. If, at any time, the process parameter data indicates an H2S concentration of 5 ppm or greater exiting the H2S Absorber Tower (D401), the owner/operator shall conduct detector tube sampling at the AMP monitoring location on a daily basis for seven

days. If the average detector tube result plus 3 standard deviations for those seven samples is greater than or equal to 81 ppm H2S, the owner/operator shall submit the date and value of the process parameter monitoring that triggered the additional sampling and the 7 day sampling results in a written report submitted within 30 days after the conclusion of the 7 day sampling. If the average plus three standard deviations for those seven samples is equal to or greater than 81 ppm H2S, the owner/operator will proceed to part 16d of this condition.

d. If the H2S detector tube data indicates a potential for the emission limit to be exceeded then the owner/operator shall notify USEPA of those results before the end of the next business day following the last sample day. The gas stream shall subsequently be tested daily for a two (2) week period (14 samples). After the two week period is complete, sampling will continue once per week until USEPA approves a revised sampling plant schedule from the owner/operator, or until USEPA makes a determination to withdraw approval of the Alternative Monitoring Plant ("AMP"). An H2S detector tube that measures a value in excess of 162 ppm is evidence that emission standard has been violated.

e. Blended Unit 233 Refinery Fuel Gas & Unit 240 Sweet Unicracker Gas: In accordance with BAAQMD, Plant 16, ~~Title V~~***Major Facility Review permit, Section*** VI. Permit Condition 1694, part 3a: The refinery fuel gas shall be tested for Total Reduced Sulfur ("TRS") concentration by GC analysis at least once per 8 hour shift (3 times per calendar day). At least 90% of these samples shall be taken each calendar month. No readable samples or sample results shall be omitted. TRS shall include hydrogen sulfide, methyl mercaptan, methyl sulfide, and dimethyl sulfide.

[40 CFR 60.13(i), EPA letter of July 2, 2007]

CONDITION 13184
For Source S182, STORAGE TANK

1. The POC emissions from the S182 fixed roof storage tank shall be collected and vented at all times to the fuel gas collection system.
[Cumulative Increase]

Condition 18629 is a PSD condition that was originally imposed by EPA. It also applies to the turbines. The existence of a fuel meter is implied in parts XI.G.1.b and XI.G.3.a(2).

CONDITION 18629
Conditions for S352, S353, S354, S355, S356, S357

May 30, 1989 PSD Permit Amendments (first issued March 3, 1986)
Permit NSR 4-4-3 SFB 85-03

I. [Obsolete – Approval to Construct executed in a timely manner]

II. [Obsolete – Approval to Construct executed in a timely manner]

III. Facilities Operation

All equipment, facilities and systems installed or used to achieve compliance with the terms and conditions of this Approval to Construct/Modify shall at all times be maintained in good working order and be operated as efficiently as possible so as to minimize air pollutant emissions.

IV. Malfunction

The Regional Administrator shall be notified by telephone within two working days following any failure of air pollution control equipment, process equipment, or of any process to operate in a normal manner which results in an increase in emissions above any allowable emissions limit stated in Section IX of these conditions. In addition, the Regional Administrator shall be notified in writing within 15 days of any such failure. This notification shall include a description of the malfunctioning equipment or abnormal operation, the date of the initial failure, the period of time over which emissions were increased due to the failure, the cause of the failure, the estimated resultant emissions in excess of those allowed under Section IX of these conditions, and the methods utilized to restore normal operations. Compliance with this malfunction notification provision shall not excuse or otherwise constitute a defense to any violations of this permit or of any law or regulations ~~which~~that such malfunction may cause.

V. Right to Entry

The Regional Administrator, the head of the State Air Pollution Control Agency, the head of the responsible local air pollution control agency, and/or their authorized representatives, upon presentation of credentials, shall be permitted:

A. to enter upon the premises where the source is located or in which any records are required to be kept under the terms and conditions of this Approval to Construct/Modify; and

B. at reasonable times to have access to and copy any records required to be kept under the terms and conditions of this Approval to Construct/Modify; and

C. to inspect any equipment, operation, or method required in this Approval to Construct/Modify; and

D. to sample emissions from this source.

VI. Transfer of Ownership

In the event of any changes in control or ownership of facilities to be constructed or modified, this Approval to Construct/Modify shall be binding on all subsequent owners and operators. The applicant shall notify the succeeding owner and operator of the existence of this Approval to Construct/Modify and its conditions by letter, a copy of which shall be forwarded to the Regional Administrator and the State and local Air Pollution Control Agency.

VII. Severability

The provisions of this Approval to Construct/Modify are severable, and, if any provisions of this Approval to Construct/Modify ~~is~~are held invalid, the remainder of this Approval to Construct/Modify shall not be affected thereby.

VIII. Other Applicable Regulations

The owner and operator of the proposed project shall construct and operate the proposed stationary source in compliance with all other applicable provisions of Parts 52, 60 and 61 and all other applicable Federal, State and local air quality regulations.

IX. Special Conditions

A. [Obsolete – Approval to Construct executed in a timely manner]

B. Air Pollution Control Equipment
~~Permit holder~~The owner/operator shall install, continuously operate, and maintain the following air pollution controls to minimize emissions. Controls listed shall be fully operational upon startup of the proposed equipment.

1. Each gas turbine shall be equipped with steam injection for the control of NOx emissions.

2. Each gas turbine shall be equipped with a Selective Catalytic Reduction (SCR) system for the control of NOx emissions.

D. Operating Limitations

1. The gas turbines and Heat Recovery Steam Generator (HRG) burners shall be fired only on refinery fuel gas and natural gas

2. The firing rate of each gas turbine/HRG burner set shall not exceed 466 MMbtu/hr.

3. The total fuel firing rate of the Steam/Power Plant shall not exceed 1048 MMbtu/hr.

4. The ~~permit holder~~owner/operator shall maintain records of the amount of fuel used in the gas turbines and the HRG Burners, hours of operation, sulfur content of the fuel, and the ratio of steam injected to fuel fired in each gas turbine, in a permanent form suitable for inspection. The record shall be retained for at least two years following the date of record and shall be made available to EPA upon request.

E. Emission Limits for NOx

On or after the date of startup, the ~~permit holder~~owner/operator shall not discharge from the gas turbine/HRG Burner sets NOx in excess of the more stringent of 83 lb/hr total or 25 ppmv at 15% O2 (3-hour average), or 664 lb/day per set. The concentration limit shall not apply for 4 hours during startup or 2 hours during shutdown.

F. Emission Limits for SO2

On or after the date of startup, the ~~permit holder~~owner/operator shall not discharge from the gas turbine/HRG Burner sets SO2 in excess of 15.6 lb/hr per set or 44 lb/hr total (3-hour average). Additionally, total SO2 emissions shall not exceed 34 lb/hr (3 hour average) for more than 36 days per year, ~~nor~~and shall not exceed a total of 153 tons per year (365 days)

G. Continuous Emission Monitoring

1. Prior to the date of startup and thereafter, the ~~permit holder~~owner/operator shall install, maintain and operate the following continuous monitoring systems downstream of each of the gas turbine/HRG Burner units:

a. Continuous monitoring systems to measure stack gas NOx and SO2 concentrations. The systems shall meet EPA monitoring performance specifications (60.13 and 60, Appendix B, Performance Specifications). Alternatively, the SO2 continuous monitor may be substituted for by a continuous monitoring system measuring H2S in the refinery fuel gas system and daily sampling for total sulfur in the fuel gas.

b. A system to calculate the stack gas volumetric flow rates continuously from actual process variables.

2. The ~~permit holder~~owner/operator shall maintain a file of all measurements, including continuous monitoring system performance evaluations, all continuous monitoring system monitoring device calibration checks, adjustments and maintenance performed on these systems or devices, and all other information required by 60 recorded in a permanent form suitable for inspection. The file shall be retained for at least two years following the date of such measurements, maintenance, reports and records.

3. The ~~permit holder~~owner/operator shall submit a written report of SO2 emission status and all excess emissions to EPA (Attn: A3-3) for every calendar quarter. The report shall include the following:

a. If fuel gas samples are used to determine SO2 emissions:
(1) The total measured sulfur concentration in each fuel gas sample for the calendar quarter.

(2) The daily average sulfur content in the fuel gas, daily average SO2 mass emission rate (lb/hr), and total tons per year of SO2 emitted for the last 365 consecutive days. Total SO2 emissions exceeding 34 lb/hr must be identified.

b. The magnitude of excess emissions computed in accordance with 60.13(h), any conversion factors used, and the date and time of commencement and completion of each time period of excess emissions.

c. Specific identification of each period of excess emissions that occurs during startups, shutdowns and malfunctions of the cogeneration gas turbine system. The nature and cause of any malfunction (if known) and the corrective action taken or preventative measures adopted shall also be reported.

d. The date and time identifying each period during which the continuous monitoring system was inoperative except for zero and span checks, and the nature of the system repairs or adjustments.

e. When no excess emissions have occurred or the continuous monitoring system has not been inoperative, repaired, or adjusted, such information shall be stated in the report.

f. Excess emissions shall be defined as any three-hour period during which the average emissions of NOx and/or SO2 as measured by the continuous monitoring system and/or calculated from the daily average of the total sulfur in the fuel gas, exceeds the NOx and/or SO2 maximum emission limits set for each of the pollutants in Conditions IX.E and IX.F. above

g. Excess emissions indicated by the CEM system shall be considered violations of the applicable emission limits for the purpose of this permit.

H. New Source Performance Standards

The proposed cogeneration facility is subject to the Federal regulations entitled Standards of Performance for New Stationary Sources (60). The ~~permit holder~~owner/operator shall meet all applicable requirements of Subparts A and GG of this regulation.

X. Agency Notifications

All correspondence as required by this Approval to Construct/Modify shall be forwarded to:

A. Director, Air Management Division (Attn: A3-3)
EPA Region 9
215 Fremont Street
San Francisco, CA 94105 (415/974-8034)

B. Chief, Stationary Source Division
California Air Resources Board
P O Box 2815
Sacramento, CA 95812

C. Air Pollution Control Officer
Bay Area Air Quality Management District
939 Ellis Street
San Francisco, CA 94109

The throughput limits for S1001-S1003 were established in Application 5814, but were not added to the permit condition at that time. The limits were included as part 6 of Condition 19278 in the Major Facility Review permit issued on October 31, 2008, pursuant to Application 10994. They were also included in Application 13424 as part 5.

CONDITION 19278

Conditions for S1001, S1002, S1003

1. Deleted Application 12433

2. Deleted Application 12433

3. An annual District-approved source test shall be performed to verify compliance with the requirements of Regulation ~~6~~ 6-1-330. A copy of the source test results shall be provided to the District Director of Compliance and Enforcement within 45 days of the test. [Regulation ~~6~~ 6-1-330]

4. The Owner/Operator shall perform a visible emissions check on Sources S1001, S1002, and S1003 on a monthly basis. The visible emissions check shall take place while the equipment is operating and during daylight hours. If any visible emissions are detected, the owner/operator shall have a CARB-certified smoke reader determine compliance with the opacity standard, using EPA Method 9 or the procedures outlined in the CARB manual, "Visible Emissions Evaluation" for six (6) minutes within three (3) days and record the results of the reading. If the reading is in compliance with the Ringelmann 1.0 limit in BAAQMD Regulation ~~6~~ 6-1-301, the reading shall be recorded and the owner/operator shall continue to perform a visible emissions check on a monthly basis. If the reading is not in compliance with the Ringelmann 1.0 limit in BAAQMD Regulation ~~6~~ 6-1-301, the owner/operator shall take corrective action and report the violation in accordance with Standard Condition 1.F of this permit. The certified smoke-reader shall continue to conduct the Method 9 or CARB Visible Emission Evaluation on a daily basis until the daily reading shows compliance with the applicable limit or until the equipment is shut down. Records of visible emissions checks and opacity readings made by a CARB-certified smoke reader shall be kept for a period of at least 5 years from date of entry and shall be made available to District staff upon request. [Basis: Regulations ~~6~~ 6-1-301, 2-6-501, 2-6-503]

5. Within 90 days of issuance of the Major Facility review permit pursuant to Application 10994, the owner/operator shall perform source tests at the stacks of Tail Gas Incinerators A421-A423 to determine compliance with BAAQMD Regulations 6-310 and 6-311 for filterable particulate using the existing single port. The owner/operator shall submit a proposed source test protocol to the Source Test group at least 30 days before conducting the source test. Within 60 days of the source tests, the owner/operator shall submit the results of the source tests to the District. The owner/operator shall repeat the source tests on an annual basis. The District's Source Test Group will observe the initial test to determine if testing with a single port is acceptable for these stacks. If the Source Test Group finds that a single port is not acceptable, the District may reopen the permit to require installation of a second port at each stack. [2-6-503]

6. The owner/operator shall ensure that the throughput of molten sulfur at S1001, S1002, and S1003 combined does not exceed 98,915 long tons/yr. The owner/operator shall record the throughput of molten sulfur on a monthly basis. [Cumulative Increase]

CONDITION 20773

This condition applies to tanks that are exempt from Regulation 8, Rule 5, Storage of Organic Liquids, due to the exemption in Regulation 8-5-117 for storage of organic liquids with a true vapor pressure of less than or equal to 25.8 mm Hg (0.5 psia).

1. Whenever the type of organic liquid in the tank is changed, the owner/operator shall verify that the true vapor pressure at the storage temperature is less than or equal to 25.8 mm Hg (0.5 psia). The owner/operator shall use Lab Method 28 from Volume III of the District's Manual of Procedures, Determination of the Vapor Pressure of Organic Liquids from Storage Tanks. For materials listed in Table 1 of Regulation 8 Rule 5, the owner/operator may use Table 1 to determine vapor pressure, rather than Lab Method 28. If the results are above 25.8 mm Hg (0.5 psia), the owner/operator shall report non-compliance in accordance with Standard Condition I.F and shall submit an application to the District for a new permit to operate for the tank as quickly as possible. [Basis: 8-5-117 and 2-6-409.2]

2. The results of the testing shall be maintained in a District-approved log for at least five years from the date of the record, and shall be made available to District staff upon request. [Basis: 2-6-409.2]

Following is an excerpt of Condition 20989, which contains nominal throughputs for grandfathered sources. Several sources, which will have new limits, will be deleted from this condition. The new limits will appear in new conditions.

The limits for S117, S121, S193 and S238, Tanks, are being deleted in this action because the tanks are out of service.

A new limit has been added for S464, Hydrogen Plant. This source is a grandfathered source that was included in S307, Unicracking Unit. Since hydrogen plants generally have separate permits, it has been given a separate permit and throughput limit based on its capacity.

An asterisk placed ahead of a permit condition denotes a non-federally enforceable condition.

FACILITY-WIDE REQUIREMENTS
CONDITION 20989

A. THROUGHPUT LIMITS

The following limits are imposed through this permit in accordance with Regulation 2-1-234.3. Sources require BOTH hourly/daily and annual throughput limits (except for tanks and similar liquid storage sources, and small manually operated sources such as cold cleaners which require only annual limits). Sources with previously imposed hourly/daily AND annual throughput limits are not listed below; the applicable limits are given in the specific permit conditions listed above in this section of the permit. Also, where hourly/daily capacities are listed in Table II-A, these are considered enforceable limits for sources that have a New Source Review permit. Throughput limits imposed in this section and hourly/daily capacities listed in Table II-A are not federally enforceable for grandfathered sources. Grandfathered sources are indicated with an asterisk in the source number column in the following table. Refer to Title V Standard Condition J for clarification of these limits.

In the absence of specific recordkeeping requirements imposed as permit conditions, monthly throughput records shall be maintained for each source.

source number	hourly / daily throughput limit	annual throughput limit (any consecutive 12-month period unless otherwise specified)
~~*117~~	~~NA for tank~~	~~8.76 E 5 bbl~~
~~*118~~	~~NA for tank~~	~~15,000 bbl~~
~~*121~~	~~NA for tank~~	~~3.52 E 4 bbl~~
~~*122~~	~~NA for tank~~	~~4.38 E 6 bbl~~
~~*128~~	~~NA for tank~~	~~5.1 E 6 bbl~~
~~*139~~	~~NA for tank~~	~~2.74 E 6 bbl~~
~~*140~~	~~NA for tank~~	~~2.74 E 6 bbl~~
~~*193~~	~~NA for tank~~	~~100 bbl~~
~~*238~~	~~NA for tank~~	~~1.00 E 6 bbl~~
~~306~~	~~Table II-A~~	~~7.67 E 6 bbl~~
~~307~~	~~Table II-A~~	~~1.533 E 7 bbl~~
~~*308~~	~~Table II-A~~	~~5.87 E 6 bbl~~
~~*309~~	~~Table II-A~~	~~6.11 E 6 bbl~~
~~*318~~	~~Table II-A~~	~~3.3 E 7 bbl~~
~~*339~~	~~Table II-A~~	~~5.26 E 7 bbl~~
~~432~~	~~Table II-A~~	~~2.8 E6 bbl~~
~~437~~	~~Table II-A~~	~~9.1 E 9 ft3~~
*464	Table II-A	613.2 E 9 ft3

An excerpt of Condition 21235 (NOx box condition) is shown below.

CONDITION 21235

REGULATION 9-10 COMPLIANCE
CONDITIONS FOR SOURCES S2, S3, S4, S5, S7, S8, S9, S10, S11, S12, S13, S14, S15, S16, S17, S18, S19, S20, S22, S29, S30, S31, S43, S44, S336, S337, S351, S371, S372

1. The following sources are subject to the refinery-wide NOx emission rate and CO concentration limits in Regulation 9-10: [Regulation 9-10-301 and 305]

S#	Description	NOx CEM
2	U229, B-301 Heater	No
3	U230, B-201 Heater	No
4	U231, B-101 Heater	No
5	U231, B-102 Heater	No
7	U231, B-103 Heater	No
8	U240, B-1 Boiler	Yes

S8 will be removed from service within 90 days of the date that the NOx offsets ~~pursuant to~~ for Application 13424 must be supplied pursuant to BAAQMD Regulation 2-2-410.

9	U240, B-2 Boiler	No
10	U240, B-101 Heater	Yes
11	U240, B-201 Heater	No
12	U240, B-202 Heater	No
13	U240, B-301 Heater	Yes
14	U240, B-401 Heater	Yes
15	U244, B-501 Heater	Yes
16	U244, B-502 Heater	Yes
17	U244, B-503 Heater	Yes
18	U244, B-504 Heater	Yes
19	U244, B-505 Heater	Yes
20	U244, B-506 Heater	No
22	U248, B-606 Heater	No
29	U200, B-5 Heater	No
30	U200, B-101 Heater	No
31	U200, B-501 Heater	No
43	U200, B-202 Heater	Yes
44	U200, B-201 PCT Reboil Furnace	Yes
336	U231 B-104 Heater	No
337	U231 B-105 Heater	No
351	U267 B-601/602 Tower Pre-Heaters	Yes
371	U228 B-520 (Adsorber Feed) Furnace	Yes
372	U228 B-521 (Hydrogen Plant) Furnace	Yes

CONDITION 22478
For Sources S123 (Tank 168), S124 (Tank 169), S186 (Tank 298), and S334 (Tank 107)

1. The owner/operator shall ensure that S123 contains only water and petroleum liquid with a true vapor pressure less than or equal to ~~1.5~~3.0 psia. [Cumulative Increase]

2. The owner/operator shall ensure that ~~the emissions of~~ S124 contains only water and petroleum liquid with a true vapor pressure less than or equal to 11.0 psia. ~~do not exceed 6,815 lb VOC in any consecutive 12-month period.~~ [Cumulative Increase]

3. The owner/operator shall ensure that the emissions of S186 do not exceed 2,231 lb VOC in any consecutive 12-month period. S186 shall only contain petroleum liquids. [Cumulative Increase]

4. The owner/operator shall ensure that S334 contains only crude oil or a less volatile petroleum liquid with a true vapor pressure less than or equal to 6.75 psia. [Cumulative Increase]

5. The owner/operator shall ensure that the throughput of petroleum liquids at S123 does not exceed 3,000,000 barrels/yr. [Cumulative Increase]

6. The owner/operator shall ensure that the throughput of petroleum liquids at S124 does not exceed 3,000,000 barrels/yr. [Cumulative Increase]

~~6~~7. The owner/operator shall ensure that the throughput of crude oil or other petroleum liquids at S334 does not exceed 5,000,000 barrels/yr. [Cumulative Increase]

~~7~~8. The owner/operator shall equip S123, S124, S186, and S334 with a BAAQMD approved roof with mechanical shoe primary seal and zero gap secondary seal meeting the design criteria of BAAQMD Regulation 8, Rule 5. The owner/operator shall ensure that there are no ungasketed roof penetrations, no slotted pipe guide poles unless equipped with float and wiper seals, and no adjustable roof legs unless fitted with vapor seal boots or equivalent. [BACT, cumulative increase]

~~8~~9. The owner/operator shall calculate the emissions of ~~S124 and~~ S186 on a calendar month basis using the AP-42 equations. The owner/operator shall use actual throughputs, actual vapor pressures, and actual temperature data for each month. The owner/operator shall calculate the emissions for the last 12-month period on a monthly basis. The calculations shall be complete within a calendar month after the end of each monthly period. [Cumulative increase]

Condition 22549 has been amended so that the throughput limit excludes diesel because the diesel flow is an insignificant source of emissions at the tanks. The previous throughput limit of 33 MMbbl for all fluids has been deleted from Condition 20989, part A. The facility applied for this modification in Application 10115. It was not granted at that time because it results in an increase of gasoline flow to the tanks. In this application, the facility is applying for the increase in emissions at the tanks.

The basis for part 4 was added in this action.

CONDITION 22549
Source 318, U76 Gasoline/Mid Barrel Blending Unit

1. The owner/operator shall ensure that the daily throughput of petroleum liquids, excluding diesel, at S318, U76 Gasoline/Mid Barrel Blending Unit, does not exceed 113,150 barrels/day. No daily limit is placed on diesel. [Cumulative Increase]

2. The owner/operator shall ensure that the throughput of petroleum liquids excluding diesel at S318 does not exceed 41,300,000 barrels/yr. [Cumulative increase]

~~2~~3. The owner/operator shall keep daily records of throughput of all petroleum fluids at S318, U76 Gasoline/Mid Barrel Blending Unit, in a District-approved log. These records shall be kept for at least five years and shall be made available to the District upon request. [Cumulative Increase]

4. All pressure relief devices on the process unit shall be vented to a fuel gas recovery system, furnace, or flare with a recovery/destruction efficiency of 98%. [8-28-302, BACT]

The name of S45, Heater, has been changed at the applicant's request.

The NOx and CO limits in BAAQMD Condition 22962, parts 4a, b, and e, have been amended in response to new BACT determinations made at SCAQMD. The NOx limit has been reduced to 5 ppmv @ 3% O2, dry, 3-hour limit. The CO limit has been reduced to 10 ppmv @ 3% O2, dry, 3-hour limit, and 28 ppm @ 3% O2, 3-hour limit when operating under 30 MMbtu/hr. This heater will be operated as a

trim heater for long periods of time. The lower CO limit is not feasible when operating under 30 MMbtu/hr. The hourly mass emissions will not increase. The ammonia limit in part 5 will increase to make it possible to achieve the 5 ppm NOx limit.

A basis of 40 CFR 63.52(a) has been added to the CO limits in parts 4b and 4e because, as explained in Section 5, Statement of Compliance, S45 is subject to a case-by-case MACT determination as a substitute for the standards in 40 CFR 63, Subpart DDDDD, which has been vacated. Also, part 18, which required compliance with the requirements of Subpart DDDDD, has been deleted.

The asterisk before part 5 is an indication that the condition is not federally enforceable. The reason that it is not federally enforceable is that it was imposed pursuant to BAAQMD Regulation 2, Rule 5, New Source Review for Toxic Air Contaminants, which is not a federally enforceable rule.

Part 9 of BAAQMD Condition 22962 was reorganized after public comment. The wording was also amended to make clear that the facility is not required to submit results of source tests if the District performed the tests.

The alternative monitoring plan for compliance with 40 CFR 60.104(a)(1) in part 13 has been deleted because EPA has not delegated approval of alternative monitoring plans to the District.

A requirement for an initial source test for sulfuric acid mist at S45 is being added in this action because it is needed to determine compliance with Condition 22970, parts A.2.f and A.3. The initial source test is already mentioned in Condition 22970.

An asterisk placed ahead of a permit condition denotes a non-federally enforceable condition.

CONDITION 22962
Source 45, U246 B-801~~/B-802~~ A/B Heater

1. The owner/operator of the S45 heater shall fire only refinery fuel gas and/or natural gas at this unit. [BACT, Cumulative Increase]

2. Based on refinery gas HHV, the owner/operator of S45 shall not exceed the following firing rates:

   a. 85 MMbtu/hr
   b. 744,600 MMbtu in any consecutive 12-month period. [Cumulative Increase]

3. The owner/operator of S45 shall abate emissions from S45 at the A47 SCR system whenever S45 is operated, except that S45 may operate without SCR abatement on a temporary basis for periods of planned or emergency maintenance. A District-approved NOx CEM shall monitor and record the S45 NOx emission rate whenever S45 operates without abatement. All emission limits applicable to S45 shall remain in effect even if it is operated without SCR abatement. [BACT, Cumulative Increase]

4. The owner/operator of S45 shall not exceed the following emission concentrations or rates from S45/A47 except during startups and shutdowns. Startups and shutdowns shall not exceed 48 consecutive hours. The 48 consecutive-hour startup period is in addition to heater dryout/warmup periods, which shall not exceed 24 consecutive hours.

a. NOx: 5 ppmv @ 3% oxygen (3 hr average) [BACT, Cumulative Increase]
b. CO: 28 ppmv @ 3% oxygen (3 hr average) when operating under 30 MMbtu/hr [BACT, Cumulative Increase, 40 CFR 63.52(a)]
c. POC: 5.5 lb/MM ft3 [Cumulative Increase]
d. PM10: 7.6 lb/MM ft3 [BACT, Cumulative Increase]
e. CO: 10 ppmv @ 3% oxygen (3 hr average) when operating over 30 MMbtu/hr [BACT, Cumulative Increase, 40 CFR 63.52(a)]

If the heater operates at rates below and above 30 MMbtu/hr in any 3-hour period, the CO limit shall be a weighted average.

5. *The owner/operator of S45 shall not exceed the following emission rate from S45/A47 except during startups and shutdowns. Startups and shutdowns shall not exceed 48 consecutive hours. The 48 consecutive-hour startup period is in addition to heater dryout/warmup periods, which shall not exceed 24 consecutive hours.

Ammonia: 15 ppmv @ 3% oxygen (8 hr average) [Regulation 2, Rule 5]

6. The owner/operator of S45 shall not exceed the following annual emission rates from S45/A47 including startups, shutdowns, and malfunctions.
a. NOx: 2.3 tons/yr [BACT, Cumulative Increase]
b. CO: 2.8 tons/yr [BACT, Cumulative Increase]
c. POC: 1.5 tons/yr [Cumulative Increase]
d. PM10: 2.1 tons/yr [BACT, Cumulative Increase]
e. SO2: 4.7 tons/yr [BACT, Cumulative Increase]
Year is defined as every consecutive 12-month period. Month is defined as calendar month.

7. The owner/operator shall equip S45 with a District-approved continuous fuel flow monitor and recorder in order to determine fuel consumption. A parametric monitor as defined in Regulation 1-238 is not acceptable. The owner/operator shall keep continuous fuel flow records for at least five years and shall make these records available to the District upon request. [Cumulative Increase]

8. The owner/operator shall install, calibrate, maintain, and operate District-approved continuous emission monitors and recorders for NOx and O2. The owner/operator shall keep NOx and O2 data for at least five years and shall make these records available to the District upon request. [BACT, Cumulative Increase]

9. The owner/operator shall conduct District-approved source tests two times per year to determine compliance with the CO limit. The tests shall be no less than 4 months apart and no more than 8 months apart. The source tests shall be performed on the heater in an as-found condition. CO source tests performed by the District may be substituted for semi-annual CO source tests. If the heater exceeds the limits in parts 4b or 4e more than once in any 3-year period, the owner/operator shall install, calibrate, maintain, and operate a District-approved continuous emission monitor and recorder for CO within the time period specified in the District Manual of Procedures after the second exceedance of the limits in parts 4b or 4e. The owner/operator shall keep CO data for at least five years and shall make these records available to the District upon request.

For tests conducted by the owner/operator, the owner/operator shall conduct the source tests in accordance with Part 17. The owner/operator shall submit the source test results to the Director of Compliance and Enforcement, the Source Test Manager, and the Manager of Permit Evaluation at the District no later than 60 days after the source test. [BACT, Cumulative Increase]

10. The owner/operator shall use only refinery fuel gas and/or natural gas at S45 that does not exceed 100 ppmv total sulfur, averaged over a calendar month. [BACT, Cumulative Increase]

11. The owner/operator shall test refinery fuel gas prior to combustion at S45 to determine total sulfur concentration by GC analysis or with a total sulfur analyzer (Houston Atlas or equivalent) at least once per 8-hour shift (3 times per calendar day). At least 90% of these samples shall be taken each calendar month. No readable samples or sample results shall be omitted. [BACT, Cumulative Increase]

12. To demonstrate compliance with Part 10, the owner/operator shall measure and record the daily average sulfur content. The owner/operator shall keep records of sulfur content in fuel gas for at least five years and shall make these records available to the District upon request. [BACT, Cumulative Increase]

13. ~~For the purpose of demonstrating compliance with the H2S limit in 40 CFR 60.104(a)(1), the owner/operator shall test refinery fuel gas prior to combustion at S45 to determine total H2S concentration at least once per 8 hour shift (3 times per calendar day). At least 90% of these samples shall be taken each calendar month. No readable samples or sample results shall be omitted. Records of H2S monitoring shall be kept for at least five years after the date the record was made. The owner/operator shall submit a semi-annual report regarding this monitoring to the District and to EPA. The reporting periods shall start on January 1st and July 1st of each year. The reports shall be submitted by January 31st and July 31st of each year. If the limit has not been exceeded during the reporting period, this information shall be stated in the report. If the limit has been exceeded, the owner/operator shall report the date and time that the exceedance began and the date and time that the exceedance ended. The owner/operator shall estimate and report the excess emissions during the exceedance. [40 CFR 60.13(i)]~~Deleted Application 13427

14. The owner/operator shall record the duration of all startups, shutdowns, and heater dryout/warmup periods to determine compliance with parts 4 and 5. The owner/operator shall keep the records for at least five years and shall make these records available to the District upon request. [2-6-503]

15. Prior to the commencement of construction, the owner/operator shall submit plans to the District's Source Test Manager to obtain approval of the design and location of the source test ports. The sample ports shall be installed in accordance with Manual of Procedures, Volume 4, Section 1.2.4. (basis: Regulation 1-501)

16. No later than 90 days from the startup of S45, the owner/operator shall conduct District-approved source tests to determine initial compliance with the limits in Part 4 for NOx, CO, POC, PM10 and ammonia, and the emission rate of sulfuric acid mist. For PM10, USEPA Methods 201 and 202 with the back-half ammonium sulfate subtracted shall be used. The owner/operator shall conduct the source tests in accordance with Part 17. The

owner/operator shall submit the source test results to the District staff no later than 60 days after the source test. [BACT, Cumulative Increase, Regulation 2, Rule 5]

17. The owner/operator shall comply with all applicable requirements for source tests specified in Volume IV of the District's Manual of Procedures and all applicable testing requirements for continuous emissions monitors as specified in Volume V of the District's Manual of Procedures. The owner/operator shall notify the District's Source Test Manager, in writing, of the source test protocols and projected test dates at least 7 days prior to testing. [BACT, Cumulative Increase, Regulation 2, Rule 5]

~~18. The owner/operator will ensure that S45, Heater, complies with all applicable provisions of 40 CFR 60, Subpart J. (This part will be deleted when the applicable citations from this standard are incorporated into the Major Facility Review permit.) [40 CFR 60, Subpart J]~~

The recordkeeping requirements in BAAQMD Regulation 8, Rule 5, apply to Tanks S98, S122, and S128, so no additional recordkeeping condition is necessary to ensure compliance with the vapor pressure and throughput limits. S118 is not subject to the regulation because its maximum vapor pressure is less than 0.5 psia. Condition 20773 imposes monitoring of vapor pressure for exempt tanks when the contents change. S118 was subject to Condition 20989, which imposed recordkeeping for "grandfathered" sources. Since S118 is no longer subject to Condition 20989, recordkeeping for the throughput is proposed in this action.

This statement of basis also includes Application 18744, which is associated with BAAQMD Application 18743. The purpose of this application was to incorporate a change of permit conditions for S98, Tank No. 101. The tank will have two vapor pressure limits: 11 psia during October through March and 8.5 psia during April through September, and will have separate throughput limits for each period. There will no change in annual emissions.

CONDITION 22963
For Sources S98 (Tank 101), S118 (Tank 163), S122 (Tank 167), S128 (Tank 174), S139 (Tank 204); S140 (Tank 205)

This condition was established by Application 13424 in October 2007 and amended by Application 18743 in February 2009.

1. The owner/operator shall ensure that the following tanks contain only petroleum liquids with true vapor pressures less than or equal the vapor pressures below.
   a. S98 11~~0~~ psia October through March
   b. S98 8.5 psia April through September
   ~~b~~c. S118 0.5 psia
   ~~e~~d. S122 11 psia
   ~~d~~e. S128 4.4 psia
   [Cumulative Increase]

2. The owner/operator shall ensure that the throughput of petroleum liquids at the following tanks do not exceed the following throughput limits.

a. S98 3,723,000 ~~7,446,000~~ barrels ~~per consecutive 12-month period~~October through March
b. S98 3,723,000 barrels April through September
~~b~~c. S118 900 barrels per consecutive 12-month period
~~c~~d. S122 2,000,000 barrels per consecutive 12-month period
~~d~~e. S128 5,100,000 per consecutive 12-month period
[Cumulative Increase]

3. The owner/operator shall ensure that S139 and S140 are abated by A7, Vapor Recovery System. [8-5-301, 40 CFR 61, Subpart FF]

4. The owner/operator shall equip S98, S122, and S128 with a BAAQMD approved roof with mechanical shoe primary seal and zero gap secondary seal meeting the design criteria of BAAQMD Regulation 8, Rule 5. The owner/operator shall ensure that there are no ungasketed roof penetrations, no slotted pipe guide poles unless equipped with float and wiper seals, and no adjustable roof legs unless fitted with vapor seal boots or equivalent. [BACT, cumulative increase]

5. The owner/operator shall keep records of the throughput at S118 on a monthly basis. (Cumulative Increase)

The throughput limits for S301, S302, and S303 were established in Application 5814, but were not added to the permit conditions at that time. The throughput limits were added in Application 10994, issued on October 31, 2008. (The limits were included in District Application 13424.) Monthly recordkeeping is being proposed in this action.

In the original application, S505, Sulfur Loading Rack, was abated by A424, Tail Gas Incinerator, but the facility has decided to abate it with S1010, Sulfur Recovery Unit.

S1010, Sulfur Recovery Unit, was given the designation of "S1004" in Application 13424. The designation has been changed to S1010 because S1004 had been used for another source.

Monthly recordkeeping for S465, Sulfur Pit, is also being proposed in this action.

CONDITION 22964

Sources S301, S302, S303, Sulfur Pits, S465, Sulfur Pit abated by S~~100~~41010, Sulfur Recovery Unit

1. The owner/operator shall ensure that the throughput of molten sulfur at S301, S302, and S303 combined does not exceed 98,915 long tons per consecutive 12-month period. [Cumulative Increase]

2. The owner/operator shall ensure that the throughput of molten sulfur at S465 does not exceed 73,000 long tons per consecutive 12-month period. [Cumulative Increase]

3. The owner/operator shall ensure that S465, Sulfur Pit, is controlled at all times by S~~1004~~1010, Sulfur Recovery Unit. [Cumulative increase, 40 CFR 60.104(b)]

4. The owner/operator shall ensure that S301, Molten Sulfur Pit, is abated by A8, Stretford Evaporative Cooler. [Consent Decree Case No. 05-0258, paragraph 123, DATE: 1/27/05; Consent Decree Case No. 05-0258 amendment, paragraph 123, DATE: 5/1/07; 40 CFR 60.104(a)(2)(i)]

5. The owner/operator shall ensure that S302, Molten Sulfur Pit, is abated by A9, Stretford Evaporative Cooler. [Consent Decree Case No. 05-0258, paragraph 123, DATE: 1/27/05; Consent Decree Case No. 05-0258 amendment, paragraph 123, DATE: 5/1/07; 40 CFR 60.104(a)(2)(i)]

6. The owner/operator shall ensure that S303, Molten Sulfur Pit, is abated by A10, Stretford Evaporative Cooler. [Consent Decree Case No. 05-0258, paragraph 123, DATE: 1/27/05; Consent Decree Case No. 05-0258 amendment, paragraph 123, DATE: 5/1/07; 40 CFR 60.104(a)(2)(i)]

7. Notwithstanding the requirements of parts 4-6, the owner/operator may disconnect the vent lines from S301, S302, and S303, Molten Sulfur Pits, to A8, A9, and A10, Stretford Evaporative Coolers, for periodic maintenance without penalty, as long as the owner/operator takes reasonable measures to minimize emissions while such periodic maintenance is being performed. [Consent Decree Case No. 05-0258 amendment, paragraph 123, DATE: 5/1/07]

8. The owner/operator shall maintain monthly records of throughput at S301, S302, and S303 combined. These records shall be maintained on site for a minimum of 5 years and shall be made available to District staff upon request. [Cumulative Increase]

9. The owner/operator shall maintain monthly records of throughput at S465. These records shall be maintained on site for a minimum of 5 years and shall be made available to District staff upon request. [Cumulative Increase]

CONDITION 22965

Source S307, U240 Unicracking Unit

1. The owner/operator shall ensure that the throughput of S307 does not exceed 65,000 barrels/day. [Cumulative Increase]

2. The owner/operator shall keep throughput records for this source on a daily basis. The records shall be kept on site for a period of at least 5 years and shall be made available for inspection by District staff upon request. [Cumulative Increase]

3. All pressure relief devices on the process unit shall be vented to a fuel gas recovery system, furnace, or flare with a recovery/destruction efficiency of 98% by weight. [8-28-302, BACT]

CONDITION 22966

Source S308, U244 Reforming Unit

1. The owner/operator shall ensure that the throughput of S308 does not exceed 18,500 barrels/day.

2. The owner/operator shall keep throughput records for this source on a daily basis. The records shall be kept on site for a period of at least 5 years and shall be made available for inspection by District staff upon request. [Cumulative Increase]

3. All pressure relief devices on the process unit shall be vented to a fuel gas recovery system, furnace, or flare with a recovery/destruction efficiency of 98% by weight. [8-28-302, BACT]

After public comment and at the request of the applicant, the frequency of the recordkeeping requirement in part 2 below was increased to daily.

CONDITION 22967

Source S309, U248 Unisar Unit

1. The owner/operator shall ensure that the throughput of S309 does not exceed 16,740 barrels/day.

2. The owner/operator shall keep throughput records for this source on a daily basis. The records shall be kept on site for a period of at least 5 years and shall be made available for inspection by District staff upon request. [Cumulative Increase]

CONDITION 22968

Source S339, U80 Gasoline/Mid Barrel Blending

1. The owner/operator shall ensure that the throughput of S339 does not exceed 52,600,000 barrels over any rolling 12-month period.

2. The owner/operator shall keep throughput records for this source on a daily basis. The records shall be kept on site for a period of at least 5 years and shall be made available for inspection by District staff upon request. [Cumulative Increase]

CONDITION 22969

Source S434, U246 High Pressure Reactor Train (Cracking)

1. The owner/operator shall ensure that the throughput of S434 does not exceed 8,395,000 barrels over any rolling 12-month period.

2. The owner/operator shall keep throughput records for this source on a monthly basis. The records shall be kept on site for a period of at least 5 years and shall be made available for inspection by District staff upon request. [Cumulative Increase]

3. All pressure relief devices on the process unit shall be vented to a fuel gas recovery system, furnace, or flare with a recovery/destruction efficiency of 98% by weight. [8-28-302, BACT]

Condition 22970, Part A, has been imposed to ensure that the emissions increase allowed by Application 13424 is no more than the increase for which the facility has applied. The tanks are not included in the conditions because their applicable requirements will adequately limit the emissions. The following process units are not included because they are existing units and any startup, shutdown, upset, maintenance, or malfunction emissions are considered to be included in their current permits: S307,

S308, S318, S432. The fugitive emissions from components are considered to be constant and are not included. S45, S434 and S1010 are new and are included. Condition 1440 places sufficient limits on S1007 and so it is not included. Part A states the allowable emissions limits and includes sufficient monitoring and calculations to ensure that the limits are not exceeded.

(S1010, Sulfur Recovery Unit, was given the designation of "S1004" in Application 13424. The designation has been changed to S1010 because S1004 had been used for another source.)

Also, the calculated emissions for locomotives were not included.

After the public comment period, the following changes were made:

- Part A.4 was reorganized for clarity.
- The reference to part A.1 in part A.5 has been corrected to part A.2. A.1 has a list of sources. A.2 has the emission limits.
- The limits and calculation methods in parts A.2, A.4, and A.5 only apply to sources S45, S434, and S1010 at Facility A0016. Part A.1 has been amended to make this clear.
- The time period for calculation of emissions in part A.6 has been changed from every consecutive 12-month period to annual because the offsets and reporting are on an annual basis.
- The offset reporting requirement in Part B was amended to include banked credits.
- The sources of the contemporaneous offsets were added.
- The NOx limit in part A.2.a was lowered from 14.4 tpy to 13.5 tpy.
- The SO2 limit in part A.2.b was lowered from 2.7 tpy to 2.5 tpy.
- The PM10 limit in part A.2.c was lowered from 2.7 tpy to 2.5 tpy.
- The CO limit in part A.2.e was lowered from 45.72 tpy to 40.72 tpy.
- The ammonia limit in part A.2.g was raised from 5.5 tpy to 6.35 tpy.
- An annual PM10 limit for sources in Facilities A0016 and B7419 was added to ensure that the CFEP project does not exceed PSD thresholds for PM10.

S2, Hydrogen Plant Furnace, is proposed to be added to part A.3 of this condition in this action. The 38 lb/day limit for sulfuric acid mist is for the whole project, not just the sources at the ConocoPhillips refinery. The estimate of sulfuric acid mist emissions for the hydrogen plant furnace is 806 lb/yr or 2.2 lb/day.

A correction has been made to part A.4.b. For the SRU, the calculation will use the emissions rates of POC and PM10 determined by the initial source test.

A correction has been made to part A.5. The calculation procedure is found in part 5, not 3.

The bases for parts A.1, A.2, A.4, A.5, and A.6 were added in this action. "Basis" refers to the authority cited in brackets after every condition.

A calculation method and a reporting requirement are being added to the limit in Part A.6 in this action.

CONDITION 22970

A. CFEP Project Mass Emission Limits

1. Following are the sources that are subject to Condition 22970, parts A2, A4, and A.5:
   S45, Heater (U246 B-801 A/B)
   S434, U246 High Pressure Reactor Train (Cracking)

S~~1004~~1010, U235 Sulfur Recovery Unit
[Cumulative increase, PSD]

2. The owner/operator shall ensure that the annual emissions of the above sources do not exceed the following annual emission limits, including startup, shutdown, malfunction, and upset emissions.

a.	NOx	13.5 tpy [Cumulative increase]
b.	SO2	34.4 tpy [Cumulative increase]
c.	PM10	2.5 tpy [Cumulative increase, PSD]
d.	POC	1.9 tpy [Cumulative increase]
e.	CO	40.72 tpy [Cumulative increase]
f.	Sulfuric acid mist	6.01 tpy [PSD]
g.	Ammonia	6.35 tpy [BAAQMD Regulation 2, Rule 5]

3. The owner/operator shall ensure that the daily emissions of the CFEP, including source S2 at Facility B7419, do not exceed the following daily emission limit, including startup, shutdown, malfunction, and upset emissions.

a.	Sulfuric acid mist	38 lb/day [PSD]

4. The owner/operator shall determine whether the emissions are below the allowable emissions in Part A.2, as shown below. The owner/operator shall calculate and report the emissions of NOX, SO2, PM10, POC, CO, and sulfuric acid mist on an annual basis in the following manner.
   a. For Source S45, Heater
      i. Use the mass emissions data generated by the NOx CEM at S45.
      ii. Use the emissions rates determined by semi-annual source tests for CO at S45.
      iii. Use the emissions rates determined by initial source test for POC, PM10, ammonia, and sulfuric acid mist at S45.
      iv. Use the sulfur analysis of fuel required by Condition 22862, part 11 at S45.

      [Cumulative increase, PSD, BAAQMD Regulation 2, Rule 5]
   b. For Source S~~1004~~1010, Sulfur Recovery Unit
      i. Use the mass emissions data generated by the SO2 and CO CEMs at S~~1004~~1010.
      ii. Use the emissions rates determined by annual source tests for NOx, sulfuric acid mist, and ammonia, at S~~1004~~1010.
      iii. Use the emissions rates determined by initial source test for POC and PM10 at S1010.

      [Cumulative increase, PSD, BAAQMD Regulation 2, Rule 5]
   c. For the refinery flare S296
      i. Calculate any emissions caused by venting the contents of any part of the sulfur recovery unit including S~~1004~~1010, A48, and A424 to the refinery flare.
      ii. Calculate any emissions caused by venting the contents of any part of S434~~,~~ to ~~the~~ a refinery flare.
      iii. The owner/operator shall calculate any emissions caused by venting the feed to Facility B7419, sources S1 or S2 to the refinery flare.

      [Cumulative increase, PSD, BAAQMD Regulation 2, Rule 5]

5. If the annual emissions, as determined in part ~~3~~4, are above the allowable emissions in part A.~~1~~2, the owner/operator shall supply additional offsets, where applicable, and perform additional analysis for PSD, if necessary. The results of the analysis shall be submitted to

the Director of Compliance and Enforcement on an annual basis on the anniversary of the startup of S~~1004~~1010 or S434, whichever is earlier. [Offset, PSD]

6. The annual emissions of the following sources shall not exceed 16.3 tons PM10/yr: S45, S434, and S~~1004~~1010 at Facility A0016, and S2 and S3 at Facility B7419. If the emissions exceed 16.3 tons per year~~in any consecutive 12-month period~~, the owners/operators of Facilities A0016 and B7419 shall provide contemporaneous offsets of PM10 that comply with BAAQMD Regulations 2-2-201 and 2-2-605. The owners/operators shall use the following data to calculate the annual PM10 emissions:
a. The emissions rate of PM10 determined by the initial source tests at S45 and S1010 at Facility A0016
b. The emissions rate of PM10 determined by the initial source test at S2 at Facility B7419
c. The emissions rate of PM10 calculated for venting the contents of any part of S434 to a refinery flare
d. The emissions rate of PM10 calculated for venting the contents of any part of S1010, A48, and A424 to a refinery flare
e, The emissions rate of PM10 calculated for operation of S3, Hydrogen Plant Flare, at Facility B7419
The results of the analysis shall be submitted to the Director of Compliance and Enforcement on an annual basis on the anniversary of the startup of S1010 or S434 at Facility A0016 or S2 at Facility B7419, whichever is earlier.
[1-104, 2-2-304]

B. Contemporaneous Offset Conditions

1. The owner/operator shall submit an offset report to the Director of Compliance and Enforcement and the Manager of Permit Evaluation at the end of every quarter after the initial date of startup of any of the new CFEP sources below. The report shall contain the detail of banked and contemporaneous offsets provided for each source to show compliance with the provision in BAAQMD Regulation 2-2-410 that offsets must commence no later than the initial operation of a new source or within 90 days after initial operation of a modified source. After all of the offsets required are provided, the owner/operator may submit the final report, even if all of the sources in the CFEP project are not built.

New CFEP Sources
Plant B7419, S1, Hydrogen Plant
Plant B7419, S2, Hydrogen Plant Furnace
Plant B7419, S3, Hydrogen Plant Flare
Plant A0016, S45, Heater
Plant A0016, S434, U246 High Pressure Reactor Train
Plant A0016, S~~1004~~1010, U235 Sulfur Recovery Unit

Contemporaneous Offset Sources
Plant A0016, S1007, Dissolved Air Flotation Unit (DAF)
Plant A0016, S8, Unit 240 B-1
Plant A0016, S352 – S357, Steam Power Plant Gas Turbines and HRSGs
Plant A0022, S2, Kiln K-2
[2-1-403, 2-2-410]

The facility has agreed to lower the annual SO2 emission limit in part 11a to 29.7 tons per year. Compliance will be determined with the SO2 CEM.

S1010, Sulfur Recovery Unit, was given the designation of "S1004" in Application 13424. The designation has been changed to S1010 because S1004 had been used for another source.

A correction is being made to the concentration limits in part 7 in this action. They will be on a dry basis.

Part 12, requiring the installation of sample ports, has been modified to clarify that the ports must be suitable for PM10 testing, not just filterable particulate testing. 6-inch ports are required for PM10 testing.

40 CFR 64, Compliance Assurance Monitoring, for S1010 is discussed in detail in Section C.IV of this Statement of Basis.

An averaging time of 24 hours was added to the H2S concentration limit in part 8b in this action. Concurrently, a note was added to parts 13 and 20 that compliance will be shown by source testing for three 30-minute test runs, as provided by the test method, unless the owner/operator chooses to run for 24 hours.

In this action, parts 13a, 13b, 13c, 20a, 20b, and 20c will be modified to clarify that filterable particulate testing will show compliance with both BAAQMD Regulation 6, Rule 1, and SIP Regulation 6.

An asterisk placed ahead of a permit condition denotes a non-federally enforceable condition.

CONDITION 23125

Source ~~S1004~~S1010, U235 Sulfur Recovery Unit, S503, Sulfur Storage Tank, S504, Sulfur Degassing Unit, S505, Sulfur Truck Loading Rack

For the purposes of this condition, total reduced sulfur shall mean dimethyl disulfide, dimethyl sulfide, hydrogen sulfide, and methyl mercaptan; and reduced sulfur compounds shall mean hydrogen sulfide, carbonyl sulfide, and carbon disulfide.

1. The owner/operator shall ensure that the throughput of molten sulfur at ~~S1004~~S1010 does not exceed 200 long tons/day. [Cumulative Increase]

2. The owner/operator shall ensure that the throughput of molten sulfur at S503 does not exceed 471 long tons/day. [Cumulative Increase]

3. The owner/operator shall ensure that ~~S1004~~S1010 is abated at all times of operation by A48, SRU Tail Gas Treatment Unit, and A424, Incinerator. [Cumulative Increase]

4. The owner/operator shall ensure that S503, Sulfur Storage Tank, S504, Sulfur Degassing Unit, and S505, Sulfur Truck Loading Rack, are controlled at all times of operation by the Claus reaction furnace at ~~S1004~~S1010 or S1003, Sulfur Recovery Units. [Cumulative Increase, 2-1-305]

5. All pressure relief devices on ~~S1004~~S1010 shall be vented to a fuel gas recovery system, furnace, or flare with a recovery/destruction efficiency of 98%. [8-28-302, BACT]

6. The owner/operator shall ensure that the supplemental fuel used at A424, Tail Gas Incinerator, is PUC quality natural gas. [BACT]

7. The owner/operator shall not exceed the following emission concentrations from ~~S1004~~S1010/A48/A424:
   a. SO2 50 ppmv***, dry,*** @ 0% O2, 24-hour basis. [BACT]
   b. CO 75 ppmvd, ***dry,*** @ 7% O2, 1-hour basis. [BACT]
   c. NOx 42.2 ppmv***, dry,*** @ 7% O2, 1-hour basis. [BACT]

*8. The owner/operator shall not exceed the following emission concentrations from ~~S1004~~S1010/A48/A424:
   a. NH3 12.5 ppmv @ 7% O2, 24-hour basis [Regulation 2, Rule 5]
   b. H2S: 2.5 ppmv @ 0% O2, 24-hour basis [Regulation 2, Rule 5]

9. The owner/operator shall not exceed the following hourly limits from ~~S1004~~S1010/A48/A424:
   a. NOx: 8.0 lb/hr [2-1-305]
   *b. H2S: 0.23 lb/hr [Regulation 2, Rule 5]
   *c. NH3: 0.88 lb/hr [Regulation 2, Rule 5]

10. The owner/operator shall ensure that daily emissions, including startups, shutdowns, upsets, and malfunctions, from ~~S1004~~S1010/A48/A424 do not exceed the following limits:
   a. Sulfuric acid mist: 31 lb/day [PSD]
   b. PM10: 3.36 lb/day [2-1-301]

11. The owner/operator shall ensure that that annual emissions, including startups, shutdowns, upsets, and malfunctions, from ~~S1004~~S1010/A48/A424, do not exceed the following limits per any consecutive 12-month period:
   a. SO2: 29.7 tons [BACT, Cumulative Increase]
   b. NH3: 3.85 tons [Regulation 2, Rule 5]
   c. CO: 37.9 tons [BACT, Cumulative Increase]
   d. NOx: 11.2 tons [BACT, Cumulative Increase]
   e. POC: 0.43 tons [Cumulative Increase]
   f. PM10: 0.59 tons [Cumulative Increase]
   g. Sulfuric acid mist: 5.65 tons [2-1-301]
   *h. H2S: 0.975 tons [Regulation 2, Rule 5]
   i. Total Reduced Sulfur: 10 tons [PSD]
   j. Reduced Sulfur Compounds: 10 tons [PSD]
   k. H2S: 10 tons [PSD]

12. Prior to the commencement of construction, the owner/operator shall submit plans to the District's Source Test Division to obtain approval of the design and location of the source test ports. The sample ports shall be installed in accordance with Manual of Procedures, Volume 4, Section 1.2.4. Ports for filterable particulate and PM10 testing shall be installed. [basis: Regulation 1-501]

13. No later than 90 days from the startup of ~~S1004~~S1010, the owner/operator shall conduct District-approved source tests to determine (1) initial compliance with the limits in Parts 7, 8, 9, and 13 for NOx, CO, POC, PM10, SO2, sulfuric acid mist, H2S, ammonia, (2) the BAAQMD Regulation 6 requirements below, and (3) the emission rates in lbs/dry standard

cubic foot of NOx, POC, PM10, sulfuric acid mist, NH3, H2S, and reduced sulfur compounds. The owner/operator shall conduct the source tests in accordance with Part 19. The owner/operator shall submit the source test results to the District staff no later than 60 days after the source test. During the source test, the owner/operator shall determine the temperature required to achieve an outlet concentration of 2.5 ppmv H2S @ 0% O2, mass emissions of 0.23 lb/hr of H2S, mass emissions of 2.2 lb/hr of reduced sulfur compounds, and 2.2 lb/hr of total reduced sulfur, while meeting all other limits. The temperature shall become an enforceable limit.

a. BAAQMD Regulation ~~6~~ 6-1-310 and SIP Regulation 6-310: 0.15 gr PM/dscf
b. BAAQMD Regulation ~~6~~ 6-1-311 and SIP Regulation 6-311: PM emissions based on Process Rate Weight
c. BAAQMD Regulation ~~6~~ 6-1-330 and SIP Regulation 6-330: SO3 and H2SO4 limit

Compliance with the 24-hour H2S and NH3 concentration limits shall be shown using three 30-minute runs as provided by the test method, unless the owner/operator chooses to run the test for 24 hours. If the rate of reduced sulfur compounds, including H2S, exceeds 2.2 lb/hr, or if the rate of total reduced sulfur, including H2S, exceeds 2.2 lb/hr, the District reserves the right to require additional PSD analysis or to impose a higher temperature limit for S424, Incinerator, to control total reduced sulfur and reduced sulfur compounds. [BACT, Cumulative Increase; Regulation 2, Rule 5; BAAQMD Regulation 6; PSD, 40 CFR 64.6(d)]

14. After the initial source test required in part 13 of this condition, the owner/operator shall ensure that the minimum temperature shall not be lower than the temperature determined in the initial source test. The temperature limit will be added to this part after the source test is performed. The owner/operator shall submit the source test results to District staff no later than 60 days after any source test. [Offsets, 40 CFR 64]

15. To determine compliance with the temperature limit in part 14, A48, Thermal Oxidizer, shall be equipped with a temperature measuring device capable of continuously measuring and recording the temperature in A48. The temperature monitor shall be installed prior to startup. The owner/operator shall install, and maintain in accordance with manufacturer's recommendations, a temperature measuring device that meets the following criteria: the minimum and maximum measurable temperatures with the device are (TBD) degrees F and (TBD) degrees F, respectively, and the minimum accuracy of the device over this temperature range shall be 1.0 percent of full-scale. [Regulation 1-521, 40 CFR 64.6(d)]

16. The temperature limit in part 14 shall not apply during an "Allowable Temperature Excursion", provided that the temperature controller setpoint complies with the temperature limit. For the purposes of parts 16 and 17 of this condition, a temperature excursion refers only to temperatures below the limit. An Allowable Temperature Excursion is one of the following:

a. A temperature excursion not exceeding 20 degrees F; or
b. A temperature excursion for a period or periods which when combined are less than or equal to 15 minutes in any hour; or
c. A temperature excursion for a period or periods which when combined are more than 15 minutes in any hour, provided that all three of the following criteria are met.

i. the excursion does not exceed 50 degrees F;

ii. the duration of the excursion does not exceed 24 hours; and
iii. the total number of such excursions does not exceed 12 per calendar year (or any consecutive 12 month period).

Two or more excursions greater than 15 minutes in duration occurring during the same 24-hour period shall be counted as one excursion toward the 12 excursion limit. [Regulation 2-1-403]

17. For each Allowable Temperature Excursion that exceeds 20 degrees F and 15 minutes in duration, the Permit Holder shall keep sufficient records to demonstrate that they meet the qualifying criteria described above. Records shall be retained for a minimum of five years from the date of entry, and shall be made available to the District upon request. Records shall include at least the following information:

a. Temperature controller setpoint;
b. Starting date and time, and duration of each Allowable Temperature Excursion;
c. Measured temperature during each Allowable Temperature Excursion;
d. Number of Allowable Temperature Excursions per month, and total number for the current calendar year; and
e. All strip charts or other temperature records.
[Regulation 2-1-403]

18. For the purposes of parts 16 and 17 of this condition, a temperature excursion refers only to temperatures below the limit. (Basis: Regulation 2-1-403)

19. The owner/operator shall submit protocols for all source test procedures to the District's Source Test Section at least three weeks prior to conducting any tests. The owner/operator shall comply with all applicable testing requirements for continuous emissions monitors as specified in Volume V of the District's Manual of Procedures. The owner/operator shall notify the District's Source Test Section, in writing, of the projected test dates at least 7 days prior to testing.
[BACT, Cumulative Increase; Regulation 2, Rule 5]

20. The owner/operator shall perform an annual District-approved source test to verify compliance with the following requirements. A copy of the source test results shall be provided to the District Director of Compliance and Enforcement within 60 days of the test.
    a. BAAQMD Regulation ~~6~~ 6-1-310 and SIP Regulation 6-310: 0.15 gr PM/dscf
    b. BAAQMD Regulation ~~6~~ 6-1-311 and SIP Regulation 6-311: PM emissions based on Process Rate Weight
    c. BAAQMD Regulation ~~6~~ 6-1-330 and SIP Regulation 6-330: SO3 and H2SO4 limit
    d. Emission rates in parts 7c, 8a, 8b, 9a, 9b, and 9c of this condition.
    e. Emission rates of sulfuric acid mist, total reduced sulfur, and reduced sulfur compounds

Compliance with the 24-hour H2S concentration limit shall be shown using three 30-minute runs as provided by the test method, unless the owner/operator chooses to run the test for 24 hours. [BACT;~~,~~ BAAQMD Regulation 6, Rule ; SIP Regulation 6;~~,~~ PSD; Regulation 2, Rule 5; Cumulative increase]

21. The owner/operator shall install, calibrate, maintain, and operate a District-approved continuous emission monitor (CEM) and recorder for exhaust gas flowrate, SO2 and O2. The CEM shall be installed prior to startup. The owner/operator shall keep exhaust gas flow, SO2 and O2 data for at least five years and shall make these records available to the District upon request. The owner/operator shall measure SO2 concentration and mass emissions on a clock-hour basis. The monitors shall comply with the requirements of 40 CFR 60.105, 40 CFR 63.1572, and the District's Manual of Procedures, Volume 5. [BACT, Cumulative Increase, 40 CFR 60.105a; 40 CFR 64.6(c)(1), (c)(3), and (d); 40 CFR 63.1568(a)(1)(i)]

22. The owner/operator shall install, calibrate, maintain, and operate a District-approved continuous emission monitor ***(CEM)*** and recorder for exhaust gas flow and CO. The CEM shall be installed prior to startup. The CEM shall complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each successive 15-minute period. The owner/operator shall keep flow and CO data for at least five years and shall make these records available to the District upon request. The owner/operator shall measure CO concentration and mass emissions on a clock-hour basis. The monitors shall comply the requirements of the District's Manual of Procedures, Volume 5. [BACT, Cumulative Increase; 40 CFR 64.6(c)(1) and (d)]

~~23. The owner/operator will ensure that S1004, SRU, complies with all applicable provisions of 40 CFR 60, Subpart J, and 40 CFR 63, Subpart UUU. This provision will be deleted when the applicable citations from these standards are incorporated into the Major Facility Review permit. [40 CFR 60, Subpart J; 40 CFR 63, Subpart UUU]~~

23. Deleted Application 13427

24. The owner/operator shall keep throughput records for sources ~~S1004~~S1010 and S503 on a daily basis. The records shall be kept on site for a period of at least 5 years and shall be made available for inspection by District staff upon request. [Cumulative Increase]

25. The owner/operator shall use the source tests required in parts 13 and 20 to determine compliance with the daily limit in part 10 and the annual limits in parts 11b, 11d, 11e, 11f, 11h, and 11i. At the end of every month, the owner/operator shall summarize the exhaust gas flow in dry standard cubic feet for the month and shall calculate the estimated emissions of each pollutant for the previous consecutive 12-month period and for H2S for each day of the month using the emission rate determined in the last source test. The summaries and calculations shall be completed within 60 days of the end of each month. Alternately, the owner/operator may establish a daily and monthly exhaust gas flow level after each source test that will ensure compliance with the daily and annual limits. In this case, the owner/operator will log the daily and monthly exhaust gas flows from ~~S1004~~S1010/A48/A424. [Cumulative increase; Regulation 2, Rule 5; Cumulative Increase, PSD]

26. The Owner/Operator shall perform a visible emissions check on Source ~~S1004~~S1010 on a monthly basis. The visible emissions check shall take place while the equipment is operating and during daylight hours. If any visible emissions are detected, the owner/operator shall have a CARB-certified smoke reader determine compliance with the opacity standard, using EPA Method 9 or the procedures outlined in the CARB manual, "Visible Emissions Evaluation" for six (6) minutes within three (3) days and record the results of the reading. If the reading is in compliance with the Ringelmann 1.0 limit in

BAAQMD Regulation ~~6~~ 6-1-301, the reading shall be recorded and the owner/operator shall continue to perform a visible emissions check on a monthly basis. If the reading is not in compliance with the Ringelmann 1.0 limit in BAAQMD Regulation ~~6~~ 6-1-301, the owner/operator shall take corrective action and report the violation in accordance with Standard Condition 1.F of the Title V permit. The certified smoke-reader shall continue to conduct the Method 9 or CARB Visible Emission Evaluation on a daily basis until the daily reading shows compliance with the applicable limit or until the equipment is shut down. Records of visible emissions checks and opacity readings made by a CARB-certified smoke reader shall be kept for a period of at least 5 years from date of entry and shall be made available to District staff upon request. [Basis: BAAQMD Regulations ~~6~~ 6-1-301, 2-1-403; SIP Regulation 6]

Additional CAM conditions:

27. The owner/operator shall develop specifications for the location and installation of the temperature monitor to ensure that the temperature data is representative of the concentration of H2S, reduced sulfur compounds, and total reduced sulfur. [40 CFR 64.3(b)(1)]

28. The owner/operator shall develop verification procedures to confirm the operational status of the temperature monitoring prior to the date that monitoring must be conducted. [40 CFR 64.3(b)(2)]

29. The owner/operator shall develop quality assurance and control practices for the temperature monitoring. [40 CFR 64.3(b)(3)]

30. The owner/operator shall record the temperature at least 4 times per hour in a computerized data acquisition system, except during times of temperature monitor malfunction that comply with BAAQMD Regulation 1-523. [40 CFR 64.3(b)(4)]

31. The owner/operator shall determine that an exceedance of the temperature limit has occurred when the temperature drops below the limit set in accordance with part 13 of this condition; except that a limited number of excursions may occur without penalty in accordance with parts 16 through 18 of this condition. [40 CFR 64.6(c)(2)]

Members of the public commented on odors originating at the ConocoPhillips refinery. In response to those comments, the CEQA documents state that a fourth odor abatement compressor will be installed. To ensure that A7, Odor Abatement System, is properly operated, and that the new compressor is installed, the District has imposed the following permit condition. The condition requires pressure monitoring at the tanks that are controlled by the odor abatement system so that the tanks operate below the set pressure of the pressure/vacuum valves that can relieve to atmosphere.

ConocoPhillips submitted the minimum set pressures for Tanks S139, S140, S182, S360, S445, and S449 in a letter of December 14, 2007. The minimum set pressures will be included in this action. The deadline for determining pressure limits for Tanks S139, S140, S182, S360, S445, and S449 in part 3 has been deleted because the facility has complied with this condition. The date of the last deadlines for installing pressure monitoring and for determining pressure limits

has been added to part 3 since it was fixed by issuance of the District permit on October 5, 2007. Part 8 has also been amended to reflect the setting of the deadlines.

S158 has been replaced by S506. This replacement was reviewed in Application 16940.

At the applicant's request, part 7.a has been amended to allow periods of inoperation as allowed by BAAQMD Regulation 1-523. These sources are not subject to CAM (40 CFR 64) and therefore are not subject to CAM requirements.

Part 1a and 1b are being amended in this action to allow a transition time for construction to be completed.

CONDITION 23724
For Sources S135 (Tank 200), S137 (Tank 202), S139 (Tank 204), S140 (Tank 205), ~~S158 (Tank 258),~~ S168 (Tank 269), S173 (Tank 280), S174 (Tank 281), S175 (Tank 284), S182 (Tank 294), S360 (Tank 223), S445 (Tank 271), S449 (Tank 285), S506 (Tank 257), Tank 235, and Tank 236.

This condition was imposed by Application 13424 and amended by Application 16940 in January 2008, and Application 13427 in 2009.

~~1a. The owner/operator shall ensure that all sources subject to this permit condition are abated by A7, Vapor Recovery System except for S168, S173, S174, which shall be abated prior to startup of S434. [Basis: Regulation 2-1-403]~~

1a. The owner/operator shall ensure that all sources subject to this permit condition are abated by A7, Vapor Recovery System at all times of operation except for the following sources, which shall be controlled according to the schedule below:
1. S168
2. S173
3. S174
4. S506

S168 shall be abated by A7 and subject to the terms of this condition prior to the startup of S434.
S173 and S174 shall be abated when blanketing is required to preserve product or feed.
S506 shall be abated by A7 and subject to the terms of this condition upon the date of startup.
[Basis: Regulation 2-1-403]

~~1b. The owner/operator shall ensure that a fourth compressor is added to A7, Odor Abatement System, before the following sources are controlled by A7: S168, S173, S174. [Basis: Regulation 2-1-301, 2-1-305, 2-1-403, CEQA]~~

1b. The owner/operator shall ensure that a fourth compressor is added to A7, Odor Abatement System, before more than two of the following sources are controlled by A7: S168, S173, S174, S175, S506. [Basis: Regulation 2-1-301, 2-1-305, 2-1-403, CEQA]

1c. The new odor abatement compressor, or a dedicated compressor, shall be designed and installed to supplement G-503, Flare Gas Recovery Compressor. [CEQA]

2. The owner/operator shall ensure that all tanks subject to this permit condition are blanketed by utility-grade natural gas. [Basis: Regulation 2-1-403]

3. ~~Within 21 months of issuance of the Authority to Construct~~By July 5, 2009, the owner/operator shall equip all tanks subject to this permit condition ***except S506*** with District-approved pressure monitoring devices. ~~Within 3 months of issuance of the Authority to Construct, the owner/operator shall equip the following tanks with District-approved pressure monitoring devices: S139, S140, S182, S360, S445, and S449.~~ Upon startup, the owner/operator shall equip S506 with a District-approved pressure-monitoring device. [Basis: Regulation 2-1-403]

4. After the pressure monitoring devices are installed, the owner/operator shall ensure that tanks listed below operate at all times below their respective minimum set pressures, as shown in 4a and 4b of this condition. Any recorded pressure in excess of the minimum pressure shall be reported to the District's Enforcement and Engineering Divisions within 10 days of the pressure excess. The owner/operator must conduct an investigation of the incident to determine if the pressure excess resulted in the pressure/vacuum (PV) valve lifting to atmosphere and if so, why there was a pressure excess that resulted in the PV valve lifting to atmosphere. Results of the investigation must be reported to the District's Enforcement and Engineering Division within 30 days of the initial report. Any recorded pressure in excess of the minimum set pressure shall be considered an indication of a valve lift to atmosphere unless a District approved tell-tale indicator on the PV valve shows that the valve did not lift, or the owner/operator demonstrates to the satisfaction of the APCO that the recorded pressure excess was the result of a monitoring, recording or other malfunction.

The minimum set pressure for each storage tank, except S139, S140, S182, S360, S445, S449, must be submitted in a report to the District's Enforcement and Engineering Divisions within 21 months of issuance of the Authority to Construct ~~and within 3 months of issuance of the Authority to Construct for the following tanks: S139, S140, S182, S360, S445, S449~~.

a.

Source Number	Minimum Set Pressure (inches H2O)
135	TBD
137	TBD
139	~~TBD~~1.9
140	~~TBD~~1.9
168	TBD
182	~~TBD~~1.5
360	~~TBD~~1.9
445	~~TBD~~1.9
449	~~TBD~~1.5
506	2.2

The owner/operator shall submit an accelerated permit application to include any change to any of the pressures above. Any amendment to the Title V permit to include the pressures above shall be submitted as a minor revision to the Title V permit.
[Basis: Regulation 8, Rule 5]

b. Source Number Minimum Set Pressure (inches H2O)

~~158~~	~~TBD~~
173	TBD
174	TBD
175	TBD
Tank 235	TBD
Tank 236	TBD

The owner/operator shall submit an accelerated permit application to include any change to any of the pressures above. Any amendment to the Title V permit to include the pressures above shall be submitted as a minor revision to the Title V permit.
[Basis: Regulation 2-1-403]

5. The owner/operator shall ensure that each pressure relief valve for each tank must be set at or above its nominal set pressure listed in Part 4 of this permit condition. [Basis: Regulation 2-1-403]

6. Corrective Plan

The corrective plan is a means for ConocoPhillips to correct occasional exceedances, to stay within the working pressure limits and thus to remain in compliance with District Regulations. If a PV valve has been determined to have lifted three times in a 12 month period, ConocoPhillips shall implement abatement measures to prevent the recurrence of the type of incident which caused the valve to lift. This plan is intended to provide a mechanism for bringing ConocoPhillips back into compliance should a temporary exceedance occur. This plan does not constitute an alternative means of compliance. [Basis: Regulation 2-1-403]

a. If, during any consecutive 12-month period, more than three instances of a PV valve release to atmosphere attributed to a storage tank subject to this permit condition are reported, ConocoPhillips shall propose a method to correct the exceedance and to ensure compliance with District regulations and permit conditions. The proposed method is subject to approval by the Air Pollution Control Officer. Potential methods include but are not limited to increasing the nominal set pressure of the pressure/vacuum valve, bladder tank(s) for additional short-term vapor storage capacity, dedicated vapor recovery flare, pilot control on pressure relief valves, flow meters on vapor recovery tanks to monitor blanket gas flows, replacement of tanks, and naphtha degassers. [Basis: Regulation 2-1-403]

7. To determine compliance with the above conditions, the owner/operator shall maintain the following records and provide all of the data necessary to evaluate compliance with the above parts, including, but not necessarily limited to the following information:

a. Pressure measurements from tanks listed in part 4 of this condition. Pressure shall be recorded at least for one-minute interval for each tank, except as allowed in BAAQMD Regulation 1-523 for parametric monitors. The owner/operator shall maintain a reasonable stock of spare parts for the components of the monitoring system to ensure that repairs are completed as quickly as possible.

All records shall be retained on site for five years, from the date of entry and made available for inspection by the District staff upon request. These recordkeeping requirements shall not replace

the recordkeeping requirements contained in any applicable District regulation. [Basis: Regulation 2-1-403]

8. The requirement to report pressures in excess of the minimum pressure as described in part 4 of this permit condition, shall start on July 5, 2009 ~~after 21 months of issuance of the Authority to Construct~~ for all tanks in this condition except S139, S140, S182, S360, S445, S449. The requirement to report pressures in excess of the minimum pressure as described in part 4 of this permit condition, shall start on January 5, 2008 ~~and 3 months after issuance of the Authority to Construct~~ for the following tanks: S139, S140, S182, S360, S445, S449. [Basis: 2-1-403]

9. The permit to operate is contingent upon compliance with Regulation 1-301, Standard for Public Nuisance, and Regulation 7, Odorous Substances. Upon receipt of a violation for either of these regulations, the Air Pollution Control Officer may require the owner/operator to install additional emission control measures as stated in Part 6 of this permit condition. [Basis: Regulations 1-301, 7-301, 7-302]

Condition 23725 replaces Condition 21099 for fugitive components because the BACT determination has been updated. The leak standard is explicit in addition to the required technology. A requirement for leak detection for pumps in heavy liquid service has been added. An annual limit of 6.1 tons per year of POC, which is equivalent to the calculated emissions assuming a leak rate of 100 ppm, has been added. This annual rate is 0.2 tons per year less than rate that was in the final application.

The facility estimates that there will be up to 100 valves in high pressure high temperature gaseous service that will not be any of the types listed in part 1a of the condition because the valves are not available for this service. The District expects the facility to demonstrate that the leak rates of the valves that are installed are equivalent to the valves specified before installation. A manufacturers guarantee may be used to demonstrate equivalency.

CONDITION 23725

CONDITIONS FOR CLEAN FUELS EXPANSION PROJECT (CFEP) FUGITIVE COMPONENTS

1. Fugitive Equipment

   a. The owner/operator shall as part of the CFEP install only the following types of valves in light hydrocarbon service where the hydrocarbon has an initial boiling point less than or equal to 302 degree F: (1) bellows sealed, (2) live loaded, (3) graphite packed, (4) quarter-turn (e.g., ball valves or plug valves), or equivalent as determined by the APCO. [Basis: BACT]

   b. The owner/operator shall comply with a leak standard of 100 ppm of TOC (measured as C1) at any valve installed as part of the CFEP in hydrocarbon service. The owner/operator shall not be considered in violation of the leak standard if the owner/operator complies with the applicable minimization and repair provisions

contained in Regulation 8, Rule 18. Valves that are not of a type listed in part 1 (a) and for which a leak greater than 100 ppm (measured as C1) has been determined, shall become subject to the inspection provisions contained in Regulation 8-18. If the leak remains greater than 100 ppm (measured as C1) after repair, or if the valve is determined to have a leak greater than 100 ppm (measured as C1) a second time within a 5-year period, the owner/operator shall replace the valve with a type listed in part 1 (a) within 5 years or at the next scheduled turnaround, whichever is sooner. [Basis: BACT, Regulation 8, Rule 18]

c. The owner/operator shall install graphitic-based gaskets on all flanges or connectors (gasketed) installed as part of the CFEP in light hydrocarbon service unless the owner/operator demonstrates to the satisfaction of the APCO that the service requirements prevent this gasket material from being used. [Basis: BACT]

d. The owner/operator shall install double mechanical seals with barrier fluid; or gas seal system vented to a thermal oxidizer or other District approved equivalent control device or technology as determined by the APCO on all compressors installed as part of the CFEP. [Basis: BACT]

e. The owner/operator shall comply with a leak standard of 100 ppm of TOC (measured as C1) at any pumps and/or compressors installed as part of the CFEP in hydrocarbon service. The owner/operator shall not be considered in violation of the leak standard if the owner/operator complies with the applicable minimization and repair provisions contained in Regulation 8-18. All pumps and/or compressors subject to the leak standard of 100 ppm TOC shall be included in the total number of pumps and compressors used in Regulation 8-18-306.2 to determine the total number of non-repairable pumps and compressors allowed. [Basis: BACT]

f. The owner/operator shall install double mechanical seals with barrier fluid; dual nitrogen gas purge seals; magnetically coupled pumps; canned pumps; magnetic fluid sealing technology; gas seal system vented to thermal oxidizer, or other BAAQMD approved equivalent control device; or District approved control technology as determined by the APCO on all pumps installed as part of the CFEP in light hydrocarbon service where the hydrocarbon has an initial boiling point less than or equal to 302 degree F. The owner/operator shall install double mechanical seals or District approved equivalent technology on all pumps in heavy hydrocarbon service where the hydrocarbon has an initial boiling point greater than 302 degree F and flash point less than 250 degree F. [Basis: BACT]

g. Unless the equipment exclusively handles material(s) with a flash point greater than or equal to 250 degree F, the owner/operator shall identify all new pumps and compressors installed as part of the CFEP in hydrocarbon service with a unique permanent identification code and shall include all new and replaced fugitive equipment in the Regulation 8, Rule 18 fugitive equipment monitoring and repair program. The owner/operator shall monitor all repaired equipment within 24 hours of the repair. [Basis: Cumulative Increase, BACT]

2. The Owner/Operator shall submit a count of installed pumps, compressors, valves, pressure relief devices, and flanges/connectors every 180 days after startup of the first unit until

completion of the CFEP project. The owner/operator has been permitted to install the following number of fugitive components for the Clean Fuels Expansion Project:

Pumps: 16 [As identified in part 1 (g)]
Compressors: 3
Valves: 1,730
Connectors (No Flanges): 1,961
Flanges: 3,450
Pressure Relief Devices: 118 non-atmospheric

The owner/operator shall not exceed 6.1 tons per year of POC emissions measured as C1 from the total fugitive component count installed in TOC services as part of the CFEP. Compliance with this provision shall be verified quarterly using methods described in Part 3. The results shall be submitted to the District on a quarterly basis for two years commencing with start-up. Documentation of results shall be kept on site for five years.

If there is an increase in the total fugitive component counts, the plant's cumulative emissions for the project shall be adjusted, subject to APCO approval, to reflect the difference between emissions based on predicted component counts versus actual component counts. The owner/operator may have enough remaining contemporaneous emissions reduction credits (ERCs) to cover any increase in POC fugitive emissions beyond the original projection. If not, the owner/operator shall provide to the District all additional required offsets at an offset ratio of 1.15:1 no later than 21 days after the submittal of the final POC fugitive equipment count. If the actual component count is less than the predicted count, at the completion of the project, the total will be adjusted accordingly. Any ERCs applied by the facility in excess of the actual total fugitive emissions estimate based on actual counts as opposed to estimated will be credited back to the owner/operator. [Basis: Cumulative Increase, Offsets, Regulation 2, Rule 5]

3. The owner/operator shall calculate fugitive emissions from CFEP fugitive components utilizing District approved methods. [Basis: Cumulative Increase, BACT, Offsets]

4. Inspections

   a. The owner/operator shall conduct inspections of CFEP fugitive components in light hydrocarbon service with an initial boiling point less than or equal to 302 degree F in accordance with the frequency listed below:

Pumps: Quarterly
Compressors: Quarterly
Valves: Quarterly
Connectors (Not Flanges): Annual
Flanges: Annual
[Basis: BACT, Regulation 8, Rule 18]

   b. The owner/operator shall conduct quarterly inspections of all CFEP pumps in hydrocarbon service with a flash point less than 250 degree F. [Basis: BACT]

This condition was imposed through Application 16940.

CONDITION 23843
For S506 (Tank 257)

1. The owner/operator shall ensure that S506 stores only petroleum products with a true vapor pressure less than or equal to 1.5 psia. [Basis: Cumulative Increase]

2. The owner/operator shall ensure that S158 (Tank #258) is taken out of service and dismantled once S506 becomes operational. [Basis: Regulation 2-1-403]

VII. Applicable Limits and Compliance Monitoring Requirements

This section of the permit is a summary of numerical limits and related monitoring requirements for each source. The summary includes a citation for each monitoring requirement, frequency of monitoring, and type of monitoring. The applicable requirements for monitoring are completely contained in Sections IV, Source-Specific Applicable Requirements, and VI, Permit Conditions, of the permit.

In the case of a conflict between Section VII and the other sections of the permit, the other sections govern.

Changes to permit:
The changes to Section VII will be presented in the following order.

- Citations for S45, Heater
- Citations for S434, U246 High Pressure Reactor Train, and associated sources: S307, S308, S309, S318, S339, S464, S432, S437
- Citations for S1010, Sulfur Recovery Unit and associated sources: S465, Molten Sulfur Pit, S503, Sulfur Storage Tank, S504, Sulfur Degassing, S505, Sulfur Truck Loading Rack. S1001-S1003, Sulfur Recovery Units, S301-S303, Sulfur Pits
- Citations for S1007, Dissolved Air Flotation Unit
- Citations for S352-S357, Turbines and Duct Burners
- Citations for Fugitive Components
- Citations for Tanks
- S8, Heater
- Additional changes pursuant to appeal of permit to remove 40 CFR 60, Subpart QQQ from various sources

Following are the proposed additions in Section VII for S45, Heater and a discussion of monitoring:

The new heater is subject to the annual NOx, CO, POC, PM10, ammonia, SO2, and sulfuric acid mist limits for the CFEP project.

A continuous emissions monitor for NOx was required in Application 13424 because CEMs are generally used to ensure that the selective catalytic reduction unit meets the NOx limit. It will be

used to show compliance with the BACT limits and the "bubble" in Condition 22970, part A.2.a. Unfortunately, the new refinery NSPS, Subpart Ja, does not allow use of a CEM to show compliance with its NOx limit if the unit is smaller than 100 MMbtu/hr and has low-NOx CEMs. The facility may ask EPA for an alternative monitoring plan to allow use of the CEM instead of source tests every other year.

Application 13424 allowed the use of an alternative monitoring plan that has been approved for Sources S36 and S461 in Application 11626 for compliance with the H2S limit in NSPS Subpart J. The source of the refinery fuel gas for S45 is the Merichem unit, which takes treated refinery fuel gas and takes additional sulfur out by use of caustic scrubbing. This gas has a lower sulfur content than the rest of the fuel gas and usually has a H2S content of less than 6 ppmv, the limit of detection for the H2S analyzer.

Unfortunately, the alternative monitoring plan is not approved for the new limits of 162 ppmv on a 3-hr rolling basis and 60 ppmv determined daily on a 365-calendar day rolling average basis. The authority to approve an alternative monitoring plan for this standard has not been delegated to the District. Again, the facility may ask EPA for an alternative monitoring plan to allow them to use the existing monitoring at the Merichem unit for the fuel gas used at S45.

CO will be monitored with source tests twice per year, which is appropriate considering that the annual emissions are expected to be 2.8 tons per year or less. If the heater exceeds the concentration limits during the source tests more than twice in a 5-year period, the facility will be required to install a CO CEM.

The emissions of POC, PM10, NH3, and sulfuric acid mist at S45 are expected to less than 1.5 tons per year, 2.1 tons per year, 6.35 tons per year, and 0.36 tons per year, respectively, therefore no monitoring has been required beyond initial source tests.

No monitoring for BAAQMD Regulations 6-1-301, 6-1-305, 6-1-310.3, or SIP Regulations 6-301, 6-305, 6-310.3, which deal with particulate, is required for gaseous-fueled combustion sources because these sources will not exceed these particulate limits. Visible emissions are normally not associated with combustion of gaseous fuels. S45 will burn gaseous fuels exclusively, therefore, per the EPA's June 24, 1999 agreement with CAPCOA and ARB titled "Summary of Periodic Monitoring Recommendations for Generally Applicable Requirements in SIP", no monitoring is required to assure compliance with this limit for this source.

To ensure compliance with the SO2 limit and with the limit on total sulfur in fuel, the facility will monitor total sulfur 3 times per day.

The facility will use a fuel flow monitor to determine compliance with the heat input limits and recordkeeping to determine compliance with the limits on the duration of startup, shutdown, and heater dryout/warmup periods.

Table VII – A.36
Applicable Limits and Compliance Monitoring Requirements
S45 – UNIT 246 B-801 A/B, HEATER

Type of Limit	*Citation of Limit*	*FE Y/N*	*Future Effective Date*	*Limit*	*Monitoring Requirement Citation*	*Monitoring Frequency (P/C/N)*	*Monitoring Type*
NOx	BAAQMD Condition 22962, Part 4a	Y		5 ppmv NOx at 3% O2 (3 hour average), except startups and shutdowns	BAAQMD Condition 22962, Part 8	C	CEM
NOx	BAAQMD Condition 22962, Part 6a	Y		2.3 tons/yr	BAAQMD Condition 22962, Part 8	C	CEM
NOx	BAAQMD Condition 22970, Part A.2.a	Y		13.5 tons per any consecutive 12 months for S45, S434, and S1010 combined	BAAQMD Condition 22970, Part A.4	P/A	CEMS, source tests, and calculations
O2		Y		No limit	BAAQMD Condition 22962, Part 8	C	O2 Monitor
CO	BAAQMD Condition 22962, Part 4b and 4e	Y		10 ppmv CO @ 3% O2 (3-hr average) when operating over 30 MMbtu/hr except startups and shutdowns; 28 ppmv CO at 3% O2 (3-hr average) when operating below 30 MMbtu/hr, except startups and shutdowns	BAAQMD Condition 22962, Part 9	P/SA	source test
CO	BAAQMD Condition 22962, Part 6b			2.8 tons/yr	BAAQMD Condition 22962, Part 9	P/SA	source test
CO	BAAQMD Condition 22970, Part A.2.e	Y		40.72 tons per any consecutive 12 months for S45, S434, and S1010 combined	BAAQMD Condition 22970, Part A.4	P/A	Source tests, and calculations
POC	BAAQMD Condition 22962, Part 4c	Y		5.5 lb POC per MM ft3 of fuel	None	N	None

Table VII – A.36
Applicable Limits and Compliance Monitoring Requirements
S45 – UNIT 246 B-801 A/B, HEATER

Type of Limit	*Citation of Limit*	*FE Y/N*	*Future Effective Date*	*Limit*	*Monitoring Requirement Citation*	*Monitoring Frequency (P/C/N)*	*Monitoring Type*
POC	BAAQMD Condition 22962, Part 6c	Y		1.5 tons/yr	None	N	None
POC	BAAQMD Condition 22970, Part A.2.d	Y		1.9 tons per any consecutive 12 months for S45, S434, and S1010 combined	BAAQMD Condition 22970, Part A.4	P/A	Source tests, and calculations
PM10	BAAQMD Condition 22962, Part 4d	Y		7.6 lb PM10 per MM ft3 of fuel	None	N	None
PM10	BAAQMD Condition 22962, Part 6d	Y		2.1 tons/yr	None	N	None
PM10	BAAQMD Condition 22970, Part A.2.c	Y		2.5 tons per any consecutive 12 months for S45, S434, and S1010 combined	BAAQMD Condition 22970, Part A.4	P/A	calculations
PM10	BAAQMD Condition 22970, Part A.6	Y		16.3 tons per any consecutive 12 months for S45, S434, and S1010 at Facility A0016 and S2 and S3 at Facility B7419, combined	BAAQMD Condition 22970, Part A.6	P/A	Source tests, and calculations
ammonia	BAAQMD Condition 22962, Part 5	N		15 ppmv ammonia at 3% O2 (8 hour average), except startups and shutdowns	None	N	None
Ammonia	BAAQMD Condition 22970, Part A.2.g	Y		6.35 tons per any consecutive 12 months for S45, S434, and S1010 combined	BAAQMD Condition 22970, Part A.4	P/A	Source tests and calculations

Table VII – A.36
Applicable Limits and Compliance Monitoring Requirements
S45 – UNIT 246 B-801 A/B, HEATER

Type of Limit	*Citation of Limit*	*FE Y/N*	*Future Effective Date*	*Limit*	*Monitoring Requirement Citation*	*Monitoring Frequency (P/C/N)*	*Monitoring Type*
Opacity	BAAQMD 6-1-301	N		Ringelmann 1 for no more than 3 minutes in any hour	None for gaseous-fueled sources	N	None
Opacity	SIP 6-301	Y		Ringelmann 1 for no more than 3 minutes in any hour	None for gaseous-fueled sources	N	None
FP	BAAQMD 6-1-305	N		Prohibition of nuisance	None for gaseous-fueled sources	N	None
FP	SIP 6-305	Y		Prohibition of nuisance	None for gaseous-fueled sources	N	None
FP	BAAQMD 6-1-310.3	N		0.15 grain/dscf @ 6% O2	None for gaseous-fueled sources	N	None
FP	SIP 6-310.3	Y		0.15 grain/dscf @ 6% O2	None for gaseous-fueled sources	N	None
SO2	BAAQMD Condition 22962, Part 6e	Y		4.7 tons/yr	BAAQMD Condition 22962, Part 11	P/3 times/day	Total sulfur analysis
SO2	BAAQMD Condition 22970, Part A.2.b	Y		34.4 tons per any consecutive 12 months for S45, S434, and S1010 combined	BAAQMD Condition 22970, Part A.4	P/A	Source tests, and calculations
H2S	40 CFR 60 Subpart J 60.104(a)(1)	Y		fuel gas H2S concentration limited to 230 mg/dscm (0.10 gr/dscf) except for gas burned as a result of process upset	40 CFR 60.13(i); Condition 22962, part 13	P/3 times/day	H2S analysis

Table VII – A.36
Applicable Limits and Compliance Monitoring Requirements
S45 – UNIT 246 B-801 A/B, HEATER

Type of Limit	*Citation of Limit*	*FE Y/N*	*Future Effective Date*	*Limit*	*Monitoring Requirement Citation*	*Monitoring Frequency (P/C/N)*	*Monitoring Type*
S in fuel gas	BAAQMD Condition 22962, Part 10	Y		100 ppmv total sulfur in fuel, monthly average	BAAQMD Condition 22962, Part 11 and 12	P/3 times per day	Sulfur analysis
Sulfuric Acid Mist	BAAQMD Condition 22970, Part A.2.f	Y		6.01 tons per any consecutive 12 months for S45, S434, and S1010 combined	BAAQMD Condition 22970, Part A.4	P/A	Source tests and calculations
	BAAQMD Condition 22970, Part A.3	Y		38 lb/day for S45, S434, and S1010 at Facility A0016 and S2 at Facility B7419 combined	BAAQMD Condition 22970, Part A.4	P/A	Source tests and calculations
Heat input	BAAQMD Condition 22962, Part 2	Y		85 MMbtu/hr; 744,600 MMbtu/12-month period	BAAQMD Condition 22962, Part 7	C	Continuous fuel flow monitor
Duration of startup	BAAQMD Condition 22962, Part 4	Y		48 consecutive hours	Condition 22962, part 14	P/E	Records
Duration of shutdown	BAAQMD Condition 22962, Part 4	Y		48 consecutive hours	Condition 22962, part 14	P/E	Records
Duration of heater dryout/ warmup periods	BAAQMD Condition 22962, Part 4	Y		24 consecutive hours	Condition 22962, part 14	P/E	records

Following are the proposed changes in Section VII for S434, U246 High Pressure Reactor Train, and associated sources: S307, S308, S309, S318, S339, S464, S432, S437.

S339, U80 Refined Oil Shipping Unit, has been added to Table VII-N. Up to now, S339 has only been mentioned in Table IIA, Permitted Sources, and in Permit Condition 20989.

Condition 6671 and BAAQMD Regulation 8, Rule 2, do not apply to S307, but rather a hydrogen plant that is associated with S307. The hydrogen plant has been given a separate designation, S464. Its requirements are now in Table IV-Nc.

S306, U-231 Platforming Unit, and S308, U-244 Reforming Unit, have been moved to a separate table, VII-Nb, because they are the only units in the table that are subject to NSPS, Subpart UUU.

Various units have new throughput limits. Therefore, their throughput limits have been deleted from Condition 20989, which is the condition that has throughput conditions for "grandfathered" sources. These sources are no longer "grandfathered."

The new process unit, S434, High Pressure Reactor Train (Cracking), is subject to the annual NOx, CO, POC, PM10, ammonia, SO2, and sulfuric acid mist limits for the CFEP project. S434 will not normally have emissions of these pollutants. The quantities of these pollutants, except for ammonia, which does not contain ammonia , will be calculated if the process unit is vented to the flare. The facility is using an extra-high pressure reactor vessel and does not expect frequent venting to the flare.

S434, U246 High Pressure Reactor Train (Cracking) and S1010, Sulfur recovery Unit, will have new individual drain systems that drain water from the units to the wastewater system. These systems are subject to 40 CFR 60, Subpart QQQ, Standards of Performance for VOC Emissions from Petroleum Refinery Wastewater Systems. The requirements of this standard have been included in a new table, Table VII-I.1, which will be located in the wastewater section of the permit. In this statement of basis, the table follows Table VII-Na, which also contains a reference to Table VII-I.1 and vice versa.

The monitoring for the throughputs at these sources is recordkeeping. The monitoring for the components is in the component table and will not change for the existing components. The monitoring for the new components is more stringent because quarterly inspections are required; the components will not be included in alternate inspection schedules pursuant to BAAQMD Regulation 8-18-404.

Table VII – Na
Applicable Limits and Compliance Monitoring Requirements
S304 –U-229 LIGHT NAPHTHA HYDROTREATER;
S305 – U-230 PREFRACTIONATOR / NAPHTHA HYDROTREATER;
S307 – U-240 UNICRACKING UNIT; S309 – U-248 UNISAR UNIT;
S318 – U-76 GASOLINE / MID-BARREL BLENDING UNIT;
S319 – U-215 GASOLINE FRACTIONATING UNIT;
S322 – U-40 RAW MATERIALS RECEIVING; S339, U80 REFINED OIL SHIPPING UNIT; S434, U246 HIGH PRESSURE REACTOR TRAIN (CRACKING); S435 – REFORMATE SPLITTER;
S436 – DEISOPENTANIZER; ~~S437 – HYDROGEN PLANT;~~
S460 – U-250 ULSD HYDROTREATER

Type of Limit	Citation of Limit	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type
	For additional requirements for S434, see Table VII-I.1.						
POC	BAAQMD 8-10-301	Y		abatement of emissions from process vessel depressurization is required until pressure is reduced to less than 1000 mm Hg (4.6 psig)	BAAQMD 8-10-501 & 8-10-502	P/E	Records
POC	SIP 8-10-301	Y		abatement of emissions from process vessel depressurization is required until pressure is reduced to less than 1000 mm Hg (4.6 psig)	SIP 8-10-401.2	P/E	Records
~~VOC (S307 only)~~	~~BAAQMD Condition 6671, Part 2 and 8-2-301~~	~~Y~~		~~emission streams with 15 lb/day AND 300 ppm total carbon on a dry basis prohibited~~	~~BAAQMD Condition 6671, Part 4~~ ~~BAAQMD Condition 6671, Part 6~~	~~P/D~~ ~~P/A~~	~~visual inspection~~ ~~source test~~
~~throughput (S304 only)~~	~~BAAQMD Condition 21095, Part 1~~	~~Y~~		~~12,198 bbl/day (monthly average)~~ (citation moved 5 lines down)	~~BAAQMD Condition 21095, Part 2~~	~~P/D~~	~~records~~
~~throughput (S460 only)~~	~~BAAQMD Condition 21094, Part 1~~	~~Y~~		~~35,000 bbl/day (monthly average)~~ (citation moved 3 lines down)	~~BAAQMD Condition 21094, Part 2~~	~~P/D~~	~~records~~

Table VII – Na
Applicable Limits and Compliance Monitoring Requirements
S304 –U-229 LIGHT NAPHTHA HYDROTREATER;
S305 – U-230 PREFRACTIONATOR / NAPHTHA HYDROTREATER;
S307 – U-240 UNICRACKING UNIT; S309 – U-248 UNISAR UNIT;
S318 – U-76 GASOLINE / MID-BARREL BLENDING UNIT;
S319 – U-215 GASOLINE FRACTIONATING UNIT;
S322 – U-40 RAW MATERIALS RECEIVING; S339, U80 REFINED OIL SHIPPING UNIT; S434, U246 HIGH PRESSURE REACTOR TRAIN (CRACKING); S435 – REFORMATE SPLITTER;
S436 – DEISOPENTANIZER; ~~S437 – HYDROGEN PLANT;~~
S460 – U-250 ULSD HYDROTREATER

Type of Limit	Citation of Limit	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type
throughput	BAAQMD Condition 20989, Part A	Y		S305: 9.23 E 6 bbl/yr ~~S306: 5.66 E 6 bbl/yr~~ ~~S307: 1.39 E 7 bbl/yr~~ S435: 6.6 E 6 bbl/yr S436: 4.7 E 6 bbl/yr S437: 10.4 E 9 ft3/yr	BAAQMD Condition 20989, Part A	P/M	records
throughput	BAAQMD Condition 20989, Part A	N		~~S308: 5.11 E 6 bbl/yr~~ ~~S309: 6.6 E 8 bbl/yr~~ ~~S318: 3.3 E 7 bbl/yr~~ S319: 3.51 E 6 bbl/yr	BAAQMD Condition 20989, Part A	P/M	records
throughput (S460 only)	BAAQMD Condition 21094, Part 1	Y		35,000 bbl/day (monthly average)	BAAQMD Condition 21094, Part 2	P/D	records
throughput (S304 only)	BAAQMD Condition 21095, Part 1	Y		12,198 bbl/day (monthly average)	BAAQMD Condition 21095, Part 2	P/D	records
throughput (S318 only)	BAAQMD Condition 22549, Part 1	Y		~~S318: –~~113,150 bbl/day (except for diesel, which does not have a daily limit)	BAAQMD Condition 22549, Part 2	P/D	records
throughput (S318 only)	BAAQMD Condition 22549, Part 2	Y		41,300,000 bbl/yr excluding diesel	BAAQMD Condition 22549, Part 3	P/D	records

Table VII – Na
Applicable Limits and Compliance Monitoring Requirements
S304 –U-229 LIGHT NAPHTHA HYDROTREATER;
S305 – U-230 PREFRACTIONATOR / NAPHTHA HYDROTREATER;
S307 – U-240 UNICRACKING UNIT; S309 – U-248 UNISAR UNIT;
S318 – U-76 GASOLINE / MID-BARREL BLENDING UNIT;
S319 – U-215 GASOLINE FRACTIONATING UNIT;
S322 – U-40 RAW MATERIALS RECEIVING; S339, U80 REFINED OIL SHIPPING UNIT; S434, U246 HIGH PRESSURE REACTOR TRAIN (CRACKING); S435 – REFORMATE SPLITTER;
S436 – DEISOPENTANIZER; ~~S437 – HYDROGEN PLANT;~~
S460 – U-250 ULSD HYDROTREATER

Type of Limit	Citation of Limit	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type
throughput (S307 only)	BAAQMD Condition 22965, Part 1	Y		65,000 bbl/day	BAAQMD Condition 22965, Part 2	P/D	records
throughput (S308 only)	BAAQMD Condition 22966, Part 1	Y		18.500 bbl/day	BAAQMD Condition 22966, Part 2	P/D	records
throughput (S309 only)	BAAQMD Condition 22967, Part 1	Y		16,740 bbl/day	BAAQMD Condition 22967, Part 2	P/D	Records
throughput (S339 only)	BAAQMD Condition 22968, Part 1	Y		52,600,000 bbl/12-month period	BAAQMD Condition 22968, Part 2	P/D	Records
throughput (S434 only)	BAAQMD Condition 22969, Part 1	Y		8,395,500 bbl/12-month period	BAAQMD Condition 22969, Part 2	P/M	Records
NOX (S434 only)	BAAQMD Condition 22970, Part A.2.a	Y		13.5 tons per any consecutive 12 months for S45, S434, and S1010 combined	BAAQMD Condition 22970, Part A.4	P/A	CEMS, source tests, and calculations
CO (S434 only)	BAAQMD Condition 22970, Part A.2.e	Y		40.72 tons per any consecutive 12 months for S45, S434, and S1010 combined	BAAQMD Condition 22970, Part A.4	P/A	CEMS, source tests, and calculations

Table VII – Na
Applicable Limits and Compliance Monitoring Requirements
S304 –U-229 LIGHT NAPHTHA HYDROTREATER;
S305 – U-230 PREFRACTIONATOR / NAPHTHA HYDROTREATER;
S307 – U-240 UNICRACKING UNIT; S309 – U-248 UNISAR UNIT;
S318 – U-76 GASOLINE / MID-BARREL BLENDING UNIT;
S319 – U-215 GASOLINE FRACTIONATING UNIT;
S322 – U-40 RAW MATERIALS RECEIVING; S339, U80 REFINED OIL SHIPPING UNIT; S434, U246 HIGH PRESSURE REACTOR TRAIN (CRACKING); S435 – REFORMATE SPLITTER;
S436 – DEISOPENTANIZER; ~~S437 – HYDROGEN PLANT;~~
S460 – U-250 ULSD HYDROTREATER

Type of Limit	Citation of Limit	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type
POC (S434 only)	BAAQMD Condition 22970, Part A.2.d	Y		1.9 tons per any consecutive 12 months for S45, S434, and S1010 combined	BAAQMD Condition 22970, Part A.4	P/A	Source tests and calculations
PM10 (S434 only)	BAAQMD Condition 22970, Part A.2.c	Y		2.5 tons per any consecutive 12 months for S45, S434, and S1010 combined	None	N	None
PM10 (S434 only)	BAAQMD Condition 22970, Part A.6	Y		16.3 tons per any consecutive 12 months for S45, S434, and S1010 at Facility A0016 and S2 and S3 at Facility B7419, combined	BAAQMD Condition 22970, Part A.6	P/A	Source tests and calculations
Ammonia (S434 only)	BAAQMD Condition 22970, Part A.2.g	Y		6.35 tons per any consecutive 12 months for S45, S434, and S1010 combined	BAAQMD Condition 22970, Part A.4	P/A	Source tests and calculations
SO2 (S434 only)	BAAQMD Condition 22970, Part A.2.b	Y		34.4 tons per any consecutive 12 months for S45, S434, and S1010 combined	BAAQMD Condition 22970, Part A.4	P/A	CEMS, source tests, and calculations
Sulfuric Acid Mist (S434 only)	BAAQMD Condition 22970, Part A.2.f	Y		6.01 tons per any consecutive 12 months for S45, S434, and S1010 combined	BAAQMD Condition 22970, Part A.4	P/A	Source tests, and calculations

Table VII – Na
Applicable Limits and Compliance Monitoring Requirements
S304 –U-229 LIGHT NAPHTHA HYDROTREATER;
S305 – U-230 PREFRACTIONATOR / NAPHTHA HYDROTREATER;
S307 – U-240 UNICRACKING UNIT; S309 – U-248 UNISAR UNIT;
S318 – U-76 GASOLINE / MID-BARREL BLENDING UNIT;
S319 – U-215 GASOLINE FRACTIONATING UNIT;
S322 – U-40 RAW MATERIALS RECEIVING; S339, U80 REFINED OIL SHIPPING UNIT; S434, U246 HIGH PRESSURE REACTOR TRAIN (CRACKING); S435 – REFORMATE SPLITTER;
S436 – DEISOPENTANIZER; ~~S437 – HYDROGEN PLANT;~~
S460 – U-250 ULSD HYDROTREATER

Type of Limit	Citation of Limit	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type
Sulfuric Acid Mist (S434 only)	BAAQMD Condition 22970, Part A.3	Y		38 lb/day for S45, S434, and S1010 at Facility A0016 and S2 at Facility B7419 combined	BAAQMD Condition 22970, Part A.4	P/A	Source tests and calculations

Table VII – I.1
Applicable Limits and Compliance Monitoring Requirements
WASTEWATER-INDIVIDUAL DRAIN SYSTEMS
APPLIES TO S434, CRACKING AND S1010, SULFUR RECOVERY UNIT

Type of Limit	Citation of Limit	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type
	For additional requirements for S434, see Table VII-Na.						
	For additional requirements for S1010, see Table VII-Ub.						
VOC	40 CFR 60.692-2(a)(1)	Y		Drains (in active service) must have water seals.	40 CFR 60.692-2(a)(2)	P/SA	Visual /Physical inspection
VOC	40 CFR 60.692-2(a)(1)	Y		Drains (out of active service) must have water seals.	40 CFR 60.692-2(a)(3)	P/Weekly	Visual /Physical inspection
VOC	40 CFR 60.692-2(a)(4)	Y		Alternative for drains (out of active service): must have cap or plug.	40 CFR 60.692-2(a)(4)	P/SA	Visual inspection
VOC	40 CFR 60.692-2(b)(2)	Y		Junction box cover tight seal requirements.	40 CFR 60.692-2(b)(3)	P/SA	Visual inspection

Table VII – I.1
Applicable Limits and Compliance Monitoring Requirements
WASTEWATER-INDIVIDUAL DRAIN SYSTEMS
APPLIES TO S434, CRACKING AND S1010, SULFUR RECOVERY UNIT

Type of Limit	Citation of Limit	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type
VOC	40 CFR 60.692-2(c)(1)	Y		Sewer line no visible gaps or cracks requirements.	40 CFR 60.692-2(c)(2)	P/SA	Visual inspection

Table VII – Nb
Applicable Limits and Compliance Monitoring Requirements
S306 – U-231 PLATFORMING UNIT; S308 – U-244 REFORMING UNIT;

Type of Limit	Citation of Limit	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type
POC	BAAQMD 8-10-301	Y		abatement of emissions from process vessel depressurization is required until pressure is reduced to less than 1000 mm Hg (4.6 psig)	BAAQMD 8-10-501 & 8-10-502	P/E	Records
POC	SIP 8-10-301	Y		abatement of emissions from process vessel depressurization is required until pressure is reduced to less than 1000 mm Hg (4.6 psig)	SIP 8-10-401.2	P/E	Records
TOC	40 CFR 63.1566(a)(1)(i) or (1)(ii) as shown below	Y		Vent to flare meeting control device requirements in 40 CFR 63.11(b)	40 CFR 63.11(b)(5)	C	Thermo-couple to detect presence of flame

Table VII – Nb
Applicable Limits and Compliance Monitoring Requirements
S306 – U-231 PLATFORMING UNIT; S308 – U-244 REFORMING UNIT;

Type of Limit	Citation of Limit	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type
TOC	40 CFR 63.1566(a)(1)(ii) or (1)(i) as shown above	Y		98% control of non-methane TOC by weight or concentration of 20 ppmw as hexane, dry @ 3% O2, whichever is less stringent	Monitoring to be determined during initial compliance demon-stration for chosen control and according to Tables 17 & 18 of 40 CFR 63, Subpart UUU.	TBD	TBD
HCl	40 CFR 63.1567(a)(1)	Y		92% reduction or to concentration of 30 ppmv, dry @ 3% O2	40 CFR 63.1572(c)(1) and (2) or Monitoring to be determined during initial compliance demon-stration	P/E	Color-metric monitoring
throughput	BAAQMD Condition 20989, Part A	Y		S306: 5.66 E 6 bbl/yr	BAAQMD Condition 20989, Part A	P/M	records
~~throughput~~	~~BAAQMD Condition 20989, Part A~~	~~N~~		~~S308: 5.11 E 6 bbl/yr~~	~~BAAQMD Condition 20989, Part A~~	~~P/M~~	~~records~~
throughput	BAAQMD Condition 22966, Part 1	Y		Applies to S308 18,500 bbl/day	BAAQMD Condition 22966, Part 2	P/D	Records

Table VII – Nc
Applicable Limits and Compliance Monitoring Requirements
S437 – HYDROGEN PLANT; S464, HYDROGEN PLANT

Type of Limit	Citation of Limit	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type
VOC	BAAQMD 8-2-301	Y		S437 emission streams with 15 lb/day AND 300 ppm total carbon on a dry basis prohibited	None	N	None
VOC	BAAQMD 8-2-301	Y		S464 emission streams with 15 lb/day AND 300 ppm total carbon on a dry basis prohibited	BAAQMD Condition 6671, Part 4 BAAQMD Condition 6671, Part 6	P/D P/A	visual inspection source test
POC	BAAQMD 8-10-301	Y		abatement of emissions from process vessel depressurization is required until pressure is reduced to less than 1000 mm Hg	8-10-401.2 (SIP) and 8-10-501 & 502 (non-SIP)	P/E	Records
VOC (S464 only)	BAAQMD Condition 6671, Part 2	Y		emission streams with 15 lb/day AND 300 ppm total carbon on a dry basis prohibited	BAAQMD Condition 6671, Part 4 BAAQMD Condition 6671, Part 6	P/D P/A	visual inspection source test
throughput	BAAQMD Condition 20989, Part A	Y		S437: 10.4 E 9 ft3/yr	BAAQMD Condition 20989, Part A	P/M	records

Table VII – P
Applicable Limits and Compliance Monitoring Requirements
S432 – U-215 DEISOBUTANIZER

Type of Limit	Citation of Limit	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type
POC	BAAQMD 8-10-301	Y		abatement of emissions from process vessel depressurization is required until pressure is reduced to less than 1000 mm Hg	8-10-401.2 (SIP) and 8-10-501 & 502 (non-SIP)	P/E	Records
throughput	BAAQMD Condition ~~20989, Part A~~ 6725, Part 4	Y		~~2.8 E 6 bbl/yr~~10,200 bbl/day	BAAQMD Condition ~~20989, Part A~~ 6725, Part 6	P/D~~M~~	records

Following are the proposed changes in Section VII for S1010, Sulfur Recovery Unit and associated sources: S465, Molten Sulfur Pit, S503, Sulfur Storage Tank, S504, Sulfur Degassing, S505, Sulfur Truck Loading Rack. S1001-S1003, Sulfur Recovery Units, S301-S303, Sulfur Pit.

S1010, Sulfur Recovery Unit, was given the designation of "S1004" in Application 13424. The designation has been changed to S1010 because S1004 had been used for another source.

The District made a determination in Application 12433, issued November 20, 2006, that monitoring of the inlet ammonia and H2S to determine compliance with BAAQMD Regulation 9-1-313.2 is not feasible. The copy of the discussion is attached in Appendix E. However, compliance with the H2S limit can be assumed due to the low H2S outlet limits of 2.5 ppmv @ 0% O2 and 0.23 lb/hr. The monitoring for this limit will be continuous temperature monitoring. If the temperature in the incinerator is high enough, almost all of the H2S that remains will be converted to SO2. The continuous SO2 monitor will ensure that the SO2 limits are not exceeded.

The ammonia generated by the facility is stripped from the sour water along with the H2S and destroyed by the sulfur recovery units. Ammonia limits of 12.5 ppmv @ 7% O2 and 0.88 lb/hr have been imposed in parts 8a and 9c of Condition 23125. The facility will conduct annual source testing for the ammonia limits. The facility generates and destroys an estimated 30,000 lb/day of ammonia. S1010 is allowed to emit up to 22 lb/day. If all four SRUs have similar emissions, the amount of ammonia emitted by the SRUs would be about 100 lb/day, equivalent to about 99.5% control. BAAQMD Regulation 9-1-313.2 requires 95% control. Source tests

performed in 2005 on the three existing SRUs show that the concentration of ammonia at the outlet was below 10 ppmv.

The monitoring for the visible emission standards, BAAQMD Regulation 6-1-301 and SIP Regulation 6-301 is the same as the monitoring for the existing SRUs.

No monitoring is done for BAAQMD Regulation 6-1-305 and SIP Regulation 6-305 unless there is a complaint about visible particles.

Annual source testing has been imposed as monitoring for the following limits:

- Filterable particulate limit in BAAQMD Regulation 6-1-310 and SIP Regulation 6-310
- Filterable particulate limit in BAAQMD Regulation 6-1-311 and SIP Regulation 6-311
- SO3 and H2SO4 limit BAAQMD Regulation 6-1-330 and SIP Regulation 6-330
- NOx limits in BAAQMD Condition 23125, parts 7c and 9a
- NH3 limits in BAAQMD Condition 23125, parts 8a, 9c, and 11b
- H2S limits in BAAQMD Condition 23125, parts 8b, 9b, and 11h
- SAM limits in BAAQMD Condition 23125, parts 10a and 11g
- Total Reduced Sulfur limit in BAAQMD Condition 23125, part 11i
- Reduced Sulfur Compounds limit in BAAQMD Condition 23125, part 11j

Continuous temperature monitoring will be used to monitor the H2S, total reduced sulfur, and reduced sulfur compound limits.

Continuous Emission Monitors will be used to monitor emissions of SO2 and CO.

An initial source test, but no periodic monitoring has been imposed for PM10 and POC. The emission estimates for PM10 and POC are 0.59 tons and 0.43 tons per year, respectively. If the District notes that the emissions are close to the limit after the initial source test results are submitted, the District may reopen the permit to impose periodic monitoring.

S1010 is subject to the annual NOx, CO, POC, PM10, ammonia, SO2, and sulfuric acid mist limits for the CFEP project, which includes emissions caused by venting to the flare. The facility has stated that because they have 3 existing SRUs, venting to the flare is not expected. In fact, the facility does not have a recent history of venting the SRUs to the flare.

S434, U246 High Pressure Reactor Train (Cracking) and S1010, Sulfur recovery Unit, will have new individual drain systems that drain water from the units to the wastewater system. These systems are subject to 40 CFR 60, Subpart QQQ, Standards of Performance for VOC Emissions from Petroleum Refinery Wastewater Systems. The requirements of this standard have been included in a new table, Table VII-I.1, which will be located in the wastewater section of the permit. In this statement of basis, the table follows Table VII-Na, which also contains a reference to Table VII-I.1 and vice versa.

Table VII – Ub
Applicable Limits and Compliance Monitoring Requirements
S465, MOLTEN SULFUR PIT; S1010 – U235 SULFUR PLANT UNIT

Type of Limit	Citation of Limit	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type
	For additional requirements for S1010, see Table VII-I.1.						
(H2S, ammonia)	BAAQMD 9-1-313.2 and SIP 9-1-313.2	N Y		95% of H2S in refinery fuel gas is removed and recovered on a refinery-wide basis AND 95% of H2S in process water streams is removed and recovered on a refinery-wide basis AND 95% of ammonia in process water streams is removed	BAAQMD Condition 23125, part 20	P/A	Source test
Opacity	BAAQMD 6-1-301	N		Ringelmann No. 1 for no more than 3 minutes/hour	BAAQMD Condition 23125, part 26	P/M	Visible emissions check
	SIP 6-301	Y		Ringelmann No. 1 for no more than 3 minutes/hour	BAAQMD Condition 23125, part 26	P/M	Visible emissions check
FP	BAAQMD 6-1-305	N		Prohibition of nuisance	None	N	None
FP	SIP 6-305	Y		Prohibition of nuisance	None	N	None
FP	BAAQMD 6-1-310	N		0.15 grain/dscf	BAAQMD Condition 23125, part 20	P/A	Source test
FP	SIP 6-310	Y		0.15 grain/dscf	BAAQMD Condition 23125, part 20	P/A	Source test
FP	BAAQMD 6-1-311	N		$4.10P^{0.67}$ lb/hr, where P is process weight, ton/hr	BAAQMD Condition 23125, part 20	P/A	Source test
FP	SIP 6-311	Y		$4.10P^{0.67}$ lb/hr, where P is process weight, ton/hr	BAAQMD Condition 23125, part 20	P/A	Source test

Table VII – Ub
Applicable Limits and Compliance Monitoring Requirements
S465, MOLTEN SULFUR PIT; S1010 – U235 SULFUR PLANT UNIT

Type of Limit	Citation of Limit	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type
PM10	BAAQMD Condition 22970, Part A.2.c	Y		2.5 tons per any consecutive 12 months for S45, S434, and S1010 combined	BAAQMD Condition 22970, Part A.4	P/A	Calculations
PM10	BAAQMD Condition 22970, Part A.6	Y		16.3 tons per any consecutive 12 months for S45, S434, and S1010 at Facility A0016 and S2 and S3 at Facility B7419, combined	BAAQMD Condition 22970, Part A.6	P/A	Source tests and calculations
PM10	BAAQMD Condition 23125, part 10b			3.36 lb/day	None	N	None
PM10	BAAQMD Condition 23125, part 11f	Y		0.59 tons per any consecutive 12 months	None	N	None
SO3, H2SO4	BAAQMD 6-1-330	N		0.08 grain/dscf exhaust concentration of SO3 and H2SO4, expressed as 100% H2SO4	BAAQMD Condition 23125, part 20	P/A	Source test
SO3, H2SO4	SIP 6-330	Y		0.08 grain/dscf exhaust concentration of SO3 and H2SO4, expressed as 100% H2SO4	BAAQMD Condition 23125, part 20	P/A	Source test
SAM	BAAQMD Condition 22970, Part A.2.f	Y		6.01 tons per any consecutive 12 months for S45, S434, and S1010 combined	BAAQMD Condition 22970, Part A.4	P/A	Source tests, and calculations
SAM	BAAQMD Condition 22970, Part A.3	Y		38 lb/day for S45, S434, and S1010 at Facility A0016 and S2 at Facility B7419 combined	BAAQMD Condition 22970, Part A.4	P/A	Source tests and calculations

Table VII – Ub
Applicable Limits and Compliance Monitoring Requirements
S465, MOLTEN SULFUR PIT; S1010 – U235 SULFUR PLANT UNIT

Type of Limit	Citation of Limit	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type
SAM	BAAQMD Condition 23125, part 10a	Y		31 lb/day	BAAQMD Condition 23125, part 20	P/A	Source test
SAM	BAAQMD Condition 23125, part 11g			5.65 tons per any consecutive 12 months	BAAQMD Condition 23125, part 20	P/A	Source test
SO2	BAAQMD 9-1-307	Y		250 ppmv, dry, @ 0% O2	BAAQMD 1-520.4 & 9-1-502	C	CEM
SO2	40 CFR 60.102a(f)(1)	Y		250 ppm at 0% excess air, dry, 12-hr rolling average	40 CFR 60.106a	C	CEM on thermal oxidizer stack
SO2	40 CFR 63.1568(a)(1)(i)	Y		250 ppm at 0% excess air, 12-hr rolling average	40 CFR 63.1572	C	CEM
SO2	BAAQMD Condition 22970, Part A.2.b	Y		34.4 tons per any consecutive 12 months for S45, S434, and S1010 combined	BAAQMD Condition 22970, Part A.4	P/A	CEMS, source tests, and calculations
SO2	BAAQMD Condition 23125, part 7a	Y		50 ppmv***d*** @ 0% O2, 24-hr average	BAAQMD Condition 23125, part 21	C	CEM
SO2	BAAQMD Condition 23125, part 11g	Y		29.7 tons per any consecutive 12 months	BAAQMD Condition 23125, part 21	C	CEM
O2				None	BAAQMD Condition 23125, part 21	C	CEM
CO	BAAQMD Condition 22970, Part A.2.e	Y		40.72 tons per any consecutive 12 months for S45, S434, and S1010 combined	BAAQMD Condition 22970, Part A.4	P/A	CEMS, source tests, and calculations

Table VII – Ub
Applicable Limits and Compliance Monitoring Requirements
S465, MOLTEN SULFUR PIT; S1010 – U235 SULFUR PLANT UNIT

Type of Limit	Citation of Limit	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type
CO	BAAQMD Condition 23125, part 7b	Y		75 ppmvd @ 7% O2, 1-hr average	BAAQMD Condition 23125, part 22	C	CEM
	BAAQMD Condition 23125, part 11c			37.9 tons per any consecutive 12 months	BAAQMD Condition 23125, part 22	C	CEM
NOx	BAAQMD Condition 22970, Part A.2.a	Y		13.5 tons per any consecutive 12 months for S45, S434, and S1010 combined	BAAQMD Condition 22970, Part A.4	P/A	CEMS, source tests, and calculations
NOx	BAAQMD Condition 23125, part 7c	Y		42.2 ppmv***d*** @ 7% O2, 1-hr average	BAAQMD Condition 23125, part 20	P/A	Source test
NOx	BAAQMD Condition 23125, part 9a	Y		8.0 lb/hr	BAAQMD Condition 23125, part 20	P/A	Source test
NOx	BAAQMD Condition 23125, part 11d			11.2 tons per any consecutive 12 months	BAAQMD Condition 23125, part 20	P/A	Source test
NH3	BAAQMD Condition 22970, Part A.2.g	Y		6.35 tons per any consecutive 12 months for S45, S434, and S1010 combined	BAAQMD Condition 22970, Part A.4	P/A	Source tests and calculations
NH3	BAAQMD Condition 23125, part 8a	N		12.5 ppmv @ 7% O2, 24-hr basis	BAAQMD Condition 23125, part 20	P/A	Source test
NH3	BAAQMD Condition 23125, part 9c			0.88 lb/hr	BAAQMD Condition 23125, part 20	P/A	Source test

Table VII – Ub
Applicable Limits and Compliance Monitoring Requirements
S465, MOLTEN SULFUR PIT; S1010 – U235 SULFUR PLANT UNIT

Type of Limit	Citation of Limit	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type
NH3	BAAQMD Condition 23125, part 11b			3.85 tons per any consecutive 12 months	BAAQMD Condition 23125, part 20	P/A	Source test
POC	BAAQMD Condition 22970, Part A.2.d	Y		1.9 tons per any consecutive 12 months for S45, S434, and S1010 combined	BAAQMD Condition 22970, Part A.4	P/A	CEMS, source tests, and calculations
POC	BAAQMD Condition 23125, part 11e			0.43 tons per any consecutive 12 months	None	N	None
H2S	BAAQMD Condition 23125, part 8b	N		2.5 ppmv @ 0% O2	BAAQMD Condition 23125, part 20	P/A	Source test
H2S	BAAQMD Condition 23125, part 8b	N		2.5 ppmv @ 0% O2	BAAQMD Condition 23125, parts 14-18	C	Temperature monitoring
H2S	BAAQMD Condition 23125, part 9b			0.23 lb/hr	BAAQMD Condition 23125, part 20	P/A	Source test
H2S	BAAQMD Condition 23125, part 11h			0.975 tons per any consecutive 12 months	BAAQMD Condition 23125, parts 14-18	C	Temperature monitoring
H2S	BAAQMD Condition 23125, part 11k			10 tons per any consecutive 12 months	BAAQMD Condition 23125, parts 14-18	C	Temperature monitoring
Total Reduced Sulfur	BAAQMD Condition 23125, part 11i			10 tons per any consecutive 12 months	BAAQMD Condition 23125, part 20	P/A	Source test

Table VII – Ub
Applicable Limits and Compliance Monitoring Requirements
S465, MOLTEN SULFUR PIT; S1010 – U235 SULFUR PLANT UNIT

Type of Limit	Citation of Limit	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type
Total Reduced Sulfur	BAAQMD Condition 23125, part 13			2.2 lb/hr	BAAQMD Condition 23125, part 20	P/A	Source test
Reduced Sulfur Com-pounds	BAAQMD Condition 23125, part 11j			10 tons per any consecutive 12 months	BAAQMD Condition 23125, part 20	P/A	Source test
Reduced Sulfur Com-pounds	BAAQMD Condition 23125, part 13			2.2 lb/hr	BAAQMD Condition 23125, part 20	P/A	Source test
throughput	BAAQMD Condition 22964, part 2	N		73,000 long tons/yr (S465 only)	BAAQMD Condition 22964, part 5	P/M	records
throughput	BAAQMD Condition 23125, part 1	N		200 long ton/day (S1010 only)	BAAQMD Condition 23125, part 4	P/D	Records
Tempe-rature	BAAQMD Condition 23125, part 13	Y		TBD	BAAQMD Condition 23125, parts 14-18	C	Temperature monitoring
Mainte-nance allowance for sulfur pit	40 CFR 60.102a(f) (3)	Y		S465 only: 40 CFR 60.102a(f)(1) shall not apply to the sulfur pit for 240 hours/yr during maintenance	40 CFR 60.102a(f) (3)	P/E	records

Sources S503, S504, and S505 are controlled by S1003 or S1010, Sulfur Recovery Units, so they will not have significant emissions of particulate.

Table VII – Uc
Applicable Limits and Compliance Monitoring Requirements
S503, SULFUR STORAGE TANK; S504, SULFUR DEGASSING UNIT; AND S505, SULFUR LOADING RACK

Type of Limit	Citation of Limit	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type
Opacity	BAAQMD 6-1-301	N		Ringelmann No. 1 for no more than 3 minutes/hour	None	N	None
	SIP 6-301	Y		Ringelmann No. 1 for no more than 3 minutes/hour	None	N	None
FP	BAAQMD 6-1-305	N		Prohibition of nuisance	None	N	None
FP	SIP 6-305	Y		Prohibition of nuisance	None	N	None
FP	BAAQMD 6-1-310	N		0.15 grain/dscf	None	N	None
FP	SIP 6-310	Y		0.15 grain/dscf	None	N	None
FP	BAAQMD 6-1-311	N		$4.10P^{0.67}$ lb/hr, where P is process weight, ton/hr	None	N	None
FP	SIP 6-311	Y		$4.10P^{0.67}$ lb/hr, where P is process weight, ton/hr	None	N	None
throughput	BAAQMD Condition 23125, part 2	N		471 long ton/day (S503 only)	BAAQMD Condition 23125, part 24	P/D	records

The monitoring for BAAQMD Regulation 6-1-305 and SIP Regulation 6-305 has been deleted because a source test is not proper monitoring for visible particles.

The frequency of the source tests for BAAQMD Regulations 6-1-310 and 6-1-311, and SIP Regulations 6-310 and 6-311 has been corrected to annual, which reflects the actual text of the Condition 19278, part 5.

The citation of Condition 19278, part 6, has been corrected. It only applies to sources S1001-S1003.

A citation of Condition 22964, part 1, which was mistakenly omitted in Application 10994, has been added. It contains the throughput limit for S301-S303.

The flow to the new sulfur recovery unit, S1010, will be manifolded together with the flow to the old sulfur recovery units, S1001-S1003. In this case, NSPS Subpart Ja will apply to all of the sulfur recovery units instead of the NSPS Subpart J requirements. The table will show that applicability of Subpart J will end after startup of S1010.

Table VII – U<u>a</u>
Applicable Limits and Compliance Monitoring Requirements
S1001 - SULFUR PLANT UNIT 234; S1002 - SULFUR PLANT UNIT 236;
S1003 - SULFUR PLANT UNIT 238; S301 - MOLTEN SULFUR PIT 234;
S302 - MOLTEN SULFUR PIT 236; S303 - MOLTEN SULFUR PIT 238

Type of Limit	Citation of Limit	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type
(H2S, ammonia)	BAAQMD 9-1-313.2 and SIP 9-1-313.2	N Y		95% of H2S in refinery fuel gas is removed and recovered on a refinery-wide basis AND 95% of H2S in process water streams is removed and recovered on a refinery-wide basis AND 95% of ammonia in process water streams is removed	None	N	None
Opacity	BAAQMD ~~6~~-6-1-301	~~Y~~N		Ringelmann No. 1 for no more than 3 minutes/hour	BAAQMD Condition 19278 Part 4	Y	Visible emissions inspection

Table VII – Ua
Applicable Limits and Compliance Monitoring Requirements
S1001 - SULFUR PLANT UNIT 234; S1002 - SULFUR PLANT UNIT 236; S1003 - SULFUR PLANT UNIT 238; S301 - MOLTEN SULFUR PIT 234; S302 - MOLTEN SULFUR PIT 236; S303 - MOLTEN SULFUR PIT 238

Type of Limit	Citation of Limit	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type
Opacity	~~BAAQMD~~ SIP 6-301	Y		Ringelmann No. 1 for no more than 3 minutes/hour	BAAQMD Condition 19278 Part 4	Y	Visible emissions inspection
FP	BAAQMD ~~6~~-6-1-305	~~Y~~N		Prohibition of nuisance	None ~~BAAQMD Condition 19278 Part 5~~	N~~Y/annual or every 5 years~~	None~~Source test on thermal oxidizer stack~~
FP	~~BAAQMD~~ SIP 6-305	Y		Prohibition of nuisance	None ~~BAAQMD Condition 19278 Part 5~~	N~~Y/annual or every 5 years~~	None~~Source test on thermal oxidizer stack~~
FP	BAAQMD ~~6~~-6-1-310	~~Y~~N		0.15 grain/dscf	BAAQMD Condition 19278 Part 5	Y/A~~annual or every 5 years~~	Source test on thermal oxidizer stack
FP	~~BAAQMD~~ SIP 6-310	Y		0.15 grain/dscf	BAAQMD Condition 19278 Part 5	Y/~~annual or every 5 years~~	Source test on thermal oxidizer stack
SO3, H2SO4	BAAQMD ~~6~~-6-1-330	~~Y~~N		0.08 grain/dscf exhaust concentration of SO3 and H2SO4, expressed as 100% H2SO4	BAAQMD Condition 19278 Part 2	P/A	Source Test
SO3, H2SO4	~~BAAQMD~~ SIP 6-330	Y		0.08 grain/dscf exhaust concentration of SO3 and H2SO4, expressed as 100% H2SO4	BAAQMD Condition 19278 Part 3	P/A	Source Test
SO2	40 CFR 60.104(a)(2)	Y	NA upon startup of S1010	250 ppm at 0% excess air, 12-hr rolling average	40 CFR 60.105(a)(5)	C	CEM on thermal oxidizer stack
SO2	40 CFR 60.102a(f)(1)	Y	Applies upon startup of S1010	250 ppm at 0% excess air, dry, 12-hr rolling average	40 CFR 60.106a	C	CEM on thermal oxidizer stack

Table VII – Ua
Applicable Limits and Compliance Monitoring Requirements
S1001 - SULFUR PLANT UNIT 234; S1002 - SULFUR PLANT UNIT 236;
S1003 - SULFUR PLANT UNIT 238; S301 - MOLTEN SULFUR PIT 234;
S302 - MOLTEN SULFUR PIT 236; S303 - MOLTEN SULFUR PIT 238

Type of Limit	Citation of Limit	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type
SO2	40 CFR 63.1568(a)(1)(i)	Y		250 ppm at 0% excess air, 12-hr rolling average	40 CFR 63.1572	C	CEM on thermal oxidizer stack
throughput	BAAQMD Condition 19278, , part 6	Y		98,915 long ton/yr for S1001, S1002, S1003~~, S301, S302, S303~~	BAAQMD Condition 19278, Part 6	P/M	records
throughput	BAAQMD Condition 22964, Part 1	N		98,915 long ton/yr for S301, S302, S303	BAAQMD Condition 22964, Part 4	P/M	records
Mainte-nance allowance for sulfur pit	40 CFR 60.102a(f)(3)	Y		S301-S303 only: 40 CFR 60.102a(f)(1) shall not apply to the sulfur pit for 240 hours/yr during maintenance	40 CFR 60.102a(f)(3)	P/E	records

Following are the proposed changes in Section VII for S1007, Dissolved Air Flotation Unit.

The source will be subject to BAAQMD Regulation 8-8-307.2 when the unit is controlled with a thermal oxidizer or carbon unit. When the unit is controlled with a thermal oxidizer, which is expected to be 95% of the time, the facility will monitor the oxidizer temperature continuously. When the unit is controlled by carbon, the facility will monitor for POC at the outlet on a daily basis with an FID or PID. After two months of daily monitoring, the facility may propose weekly monitoring, based on actual measurements.

Conoco has elected to use the new thermal oxidizer, A49, and new carbon bed, A51, as control devices for the Benzene Waste NESHAPS in 40 CFR 61, Subpart FF (BWON). This proposal was not originally part of the CFEP project. Moreover, Conoco has elected to have an alternate operating scenario where they will either comply with the control device provisions or track the benzene emitted as allowed by Section 61.342(e).

Because the requirements for S1007, A49, and A51 are different, a separate table has been created to each control device.

Monitoring for the standards in BAAQMD Regulation 6, Rule 1, and SIP Regulation 6 are not required for gaseous fueled sources.

Table VII – D
Applicable Limits and Compliance Monitoring Requirements
S1007 DISSOLVED AIR FLOTATION UNIT

Type of Limit	Citation of Limit	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type
VOC	BAAQMD 8-8-307.1	Y		Roof seals, access doors, and other openings shall be checked by visual inspection initially and semiannually thereafter to ensure that no cracks or gaps greater than 0.32 cm (0.125 inch) occur in the roof or between the roof and wall; and that the access doors and other openings are closed and gasketed properly (Standard applies when unit not controlled by organic compound vapor recovery system)	BAAQMD 8-8-307.1	P/SA	visual
VOC	BAAQMD 8-8-307.2	N		For control by thermal oxidizer: organic compound vapor recovery system with a combined collection and destruction efficiency of at least 70 percent, by weight (Standard applies when unit controlled by organic compound vapor recovery system)	BAAQMD Condition 1440, Part 7b(iii)	C	Temperature monitoring

Table VII – D
Applicable Limits and Compliance Monitoring Requirements
S1007 DISSOLVED AIR FLOTATION UNIT

Type of Limit	Citation of Limit	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type
VOC	BAAQMD 8-8-307.2	N		For control by carbon: organic compound vapor recovery system with a combined collection and destruction efficiency of at least 70 percent, by weight (Standard applies when unit controlled by organic compound vapor recovery system)	BAAQMD Condition 1440, Part 7.c	P/Daily, then weekly	PID or FID
VOC	SIP 8-8-307.2	Y		organic compound vapor recovery system with a combined collection and destruction efficiency of at least 70 percent, by weight (Standard applies when unit not controlled by organic compound vapor recovery system)	BAAQMD Condition 1440, Part 7b(iii)	C	Temperature monitoring
VOC	SIP 8-8-307.2	Y		For control by carbon: organic compound vapor recovery system with a combined collection and destruction efficiency of at least 70 percent, by weight (Standard applies when unit controlled by organic compound vapor recovery system)	BAAQMD Condition 1440, Part 7.c	P/Daily, then weekly	PID or FID
VOC	BAAQMD Condition 1440, Part 4.b	Y		no detectable VOC emissions	BAAQMD Condition 1440, Part 5	P/SA	VOC analyzer
POC	BAAQMD Condition 1440, Part 7a	Y		For control by thermal oxidizer: Reduction of 44 tons POC per year	BAAQMD Condition 1440, Part 7b(iii)	C	Temperature monitoring

Table VII – D
Applicable Limits and Compliance Monitoring Requirements
S1007 DISSOLVED AIR FLOTATION UNIT

Type of Limit	Citation of Limit	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type
POC	BAAQMD Condition 1440, Part 7a	Y		For control by carbon: Reduction of 44 tons POC per year	BAAQMD Condition 1440, Part 7.c	P/Daily, then weekly	PID or FID
Benzene	40 CFR 61.343(a)(1)(i)(A)	Y		No detectable emissions over 500 ppmv above background (Standard applies when unit controlled by organic compound vapor recovery system)	40 CFR 61.355(h)	P/A	Method 21 testing
Opacity	BAAQMD 6-1-301	N		Ringelmann No. 1 for no more than 3 minutes/hour	None for gaseous-fueled sources	N	None
Opacity	SIP 6-301	Y		Ringelmann No. 1 for no more than 3 minutes/hour	None for gaseous-fueled sources	Y	None
FP	BAAQMD 6-1-305	N		Prohibition of nuisance	None for gaseous-fueled sources	N	None
FP	SIP 6-305	Y		Prohibition of nuisance	None for gaseous-fueled sources	N	None
FP	BAAQMD 6-1-310	N		0.15 grain/dscf	None for gaseous-fueled sources	N	None
FP	SIP 6-310	Y		0.15 grain/dscf	None for gaseous-fueled sources	N	None

Table VII – D
Applicable Limits and Compliance Monitoring Requirements
S1007 DISSOLVED AIR FLOTATION UNIT

Type of Limit	Citation of Limit	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type
~~H2S~~	~~40 CFR 60.102a(g)(1)(ii)~~	~~Y~~		~~fuel gas H2S concentration limited to 162 ppmv determined hourly on a 3-hour rolling average basis~~	~~40 CFR 60.107a(a)(2)~~	~~C~~	~~CEM~~
~~H2S~~	~~40 CFR 60.102a(g)(1)(ii)~~	~~Y~~		~~fuel gas H2S concentration limited to 60 ppmv determined daily on a 365 calendar day rolling average basis~~	~~40 CFR 60.107a(a)(2)~~	~~C~~	~~CEM~~
~~Tempe-rature~~	~~BAAQMD Condition 1440, Part 7b(ii)~~	~~Y~~		~~Temperature limit TBD~~	~~BAAQMD Condition 1440, Part 7b(iii)~~	~~C~~	~~Temperature monitoring~~
Pressure	40 CFR 61.353(a)(1)(i)(C)	*Y*		Pressure of head space less than atmospheric in S1007 (Standard applies when unit controlled by organic compound vapor recovery system)	*40 CFR 61.354(g)*	*C*	*Pressure Monitoring*
through-put	BAAQMD Condition 1440, Part 6	Y		maximum design throughput - 7,500 gpm during media filter backwash and 7,000 gpm during all other times	None	N	None
throughput	BAAQMD Condition 20989, Part A	Y		3.68 E 9 gal/yr	BAAQMD Condition 20989, Part A	P/M	records

Table VII – Da
Applicable Limits and Compliance Monitoring Requirements
A49 DAF THERMAL OXIDIZER

Type of Limit	Citation of Limit	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type
VOC	BAAQMD 8-8-307.2	N		For control by thermal oxidizer: organic compound vapor recovery system with a combined collection and destruction efficiency of at least 70 percent, by weight (Standard applies when unit controlled by organic compound vapor recovery system)	BAAQMD Condition 1440, Part 7b(iii)	C	Temperature monitoring
Benzene	40 CFR 61.349(a)(2)(i)(A)	Y		95% control of organic emissions	40 CFR 61.354(c)(1)	C	Temperature Monitoring
Benzene	40 CFR 61.349(a)(2)(i)(A)	Y		Temperature TBD	40 CFR 61.356(f)(3)(i)	C	Temperature Monitoring
Benzene	61.349(a)(1)(i)	Y		CVS leak tightness standards (<500 ppmw)	40 CFR 61.349(a)(1)(i)	P/A	Method 21
Benzene	61.349(a)(1)(ii)(B)	Y		CVS with bypass line car-seal closed	40 CFR 61.354(f)(1)	P/M	Visual Inspection
Benzene	61.349(a)(2)(i)(A)	Y		CVS and control device evidence of visual defects	40 CFR 61.349(f)	P/Q	Visual Inspection
POC	BAAQMD Condition 1440, Part 7a	Y		For control by thermal oxidizer: Reduction of 44 tons POC per year	BAAQMD Condition 1440, Part 7b(iii)	C	Temperature monitoring
POC	BAAQMD Condition 1440, Part 7a, 40 CFR 61.349(a)(2)(ii)	Y		For control by carbon: Reduction of 44 tons POC per year	BAAQMD Condition 1440, Part 7.c, 40 CFR 61.354(d)	P/Daily, then weekly	PID or FID

Table VII – Da
Applicable Limits and Compliance Monitoring Requirements
A49 DAF THERMAL OXIDIZER

Type of Limit	Citation of Limit	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type
Tempe-rature	BAAQMD Condition 1440, Part 7b(ii)	Y		Temperature limit TBD	BAAQMD Condition 1440, Part 7b(iii)	C	Temperature monitoring
Opacity	BAAQMD 6-1-301	N		Ringelmann No. 1 for no more than 3 minutes/hour	None for gaseous-fueled sources	N	None
Opacity	SIP 6-301	Y		Ringelmann No. 1 for no more than 3 minutes/hour	None for gaseous-fueled sources	Y	None
FP	BAAQMD 6-1-305	N		Prohibition of nuisance	None for gaseous-fueled sources	N	None
FP	SIP 6-305	Y		Prohibition of nuisance	None for gaseous-fueled sources	N	None
FP	BAAQMD 6-1-310	N		0.15 grain/dscf	None for gaseous-fueled sources	N	None
FP	SIP 6-310	Y		0.15 grain/dscf	None for gaseous-fueled sources	N	None
~~H2S~~	~~40 CFR 60.102a(g)(1)(ii)~~	~~Y~~		~~fuel gas H2S concentration limited to 162 ppmv determined hourly on a 3-hour rolling average basis~~	~~40 CFR 60.107a(a)(2)~~	~~C~~	~~CEM~~
~~H2S~~	~~40 CFR 60.102a(g)(1)(ii)~~	~~Y~~		~~fuel gas H2S concentration limited to 60 ppmv determined daily on a 365 calendar-day rolling average basis~~	~~40 CFR 60.107a(a)(2)~~	~~C~~	~~CEM~~

Table VII – Da
Applicable Limits and Compliance Monitoring Requirements
A51, DAF CARBON BED

Type of Limit	Citation of Limit	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type
VOC	BAAQMD 8-8-307.2	N		organic compound vapor recovery system with a combined collection and destruction efficiency of at least 70 percent, by weight (Standard applies when unit not controlled by organic compound vapor recovery system)	BAAQMD Condition 1440, Part 7c(iii)-(iv)	C	Break-through monitoring
VOC	SIP 8-8-307.2	Y		organic compound vapor recovery system with a combined collection and destruction efficiency of at least 70 percent, by weight (Standard applies when unit not controlled by organic compound vapor recovery system)	BAAQMD Condition 1440, Part 7c(iii)-(iv)	C	Break-through monitoring
Benzene	40 CFR 61.349(a)(2)(ii)	Y		95% control of organic emissions	40 CFR 61.354(d)	Daily or at intervals no greater than 20% of design replacement interval	Break-through monitoring
Benzene	61.349(a)(1)(i)	Y		CVS leak tightness standards (<500 ppmw)	40 CFR 61.349(a)(1)(i)	P/A	Method 21
Benzene	61.349(a)(1)(ii)(B)	Y		CVS with bypass line car-seal closed	40 CFR 61.354(f)(1)	P/M	Visual Inspection
Benzene	61.349(a)(2)(i)(A)	Y		CVS and control device evidence of visual defects	40 CFR 61.349(f)	P/Q	Visual Inspection

Table VII – Da
Applicable Limits and Compliance Monitoring Requirements
A51, DAF CARBON BED

Type of Limit	Citation of Limit	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type
POC	BAAQMD Condition 1440, Part 7a, 40 CFR 61.349(a)(2)(ii)	Y		For control by carbon: Reduction of 44 tons POC per year	BAAQMD Condition 1440, Part 7.c, 40 CFR 61.354(d)	P/Daily, then weekly	PID or FID
Opacity	BAAQMD 6-1-301	N		Ringelmann No. 1 for no more than 3 minutes/hour	None for gaseous-fueled sources	N	None
Opacity	SIP 6-301	Y		Ringelmann No. 1 for no more than 3 minutes/hour	None for gaseous-fueled sources	Y	None
FP	BAAQMD 6-1-305	N		Prohibition of nuisance	None for gaseous-fueled sources	N	None
FP	SIP 6-305	Y		Prohibition of nuisance	None for gaseous-fueled sources	N	None
FP	BAAQMD 6-1-310	N		0.15 grain/dscf	None for gaseous-fueled sources	N	None
FP	SIP 6-310	Y		0.15 grain/dscf	None for gaseous-fueled sources	N	None
~~H2S~~	~~40 CFR 60.102a(g)(1)(ii)~~	~~Y~~		~~fuel gas H2S concentration limited to 162 ppmv determined hourly on a 3-hour rolling average basis~~	~~40 CFR 60.107a(a)(2)~~	~~C~~	~~CEM~~

Table VII – Da
Applicable Limits and Compliance Monitoring Requirements
A51, DAF CARBON BED

Type of Limit	Citation of Limit	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type
~~H2S~~	~~40 CFR 60.102a(g)(1)(ii)~~	~~Y~~		~~fuel gas H2S concentration limited to 60 ppmv determined daily on a 365 calendar day rolling average basis~~	~~40 CFR 60.107a(a)(2)~~	~~C~~	~~CEM~~
Tempe-rature	BAAQMD Condition 1440, Part 7b(ii)	Y		Temperature limit TBD	BAAQMD Condition 1440, Part 7b(iii)	C	Temperature monitoring

Following are the proposed changes in Section VII for S352-S357, Turbines and Duct Burners.

The new limit in BAAQMD Regulation 9, Rule 9, has been added.

The annual NOx limit has been lowered to provide offsets for the CFEP project. NOx CEMs assure compliance with all NOx limits.

No monitoring for BAAQMD Regulations 6-1-301, 6-1-305, 6-1-310.3, or SIP Regulations 6-301, 6-305, 6-310.3, which deal with particulate, is required for gaseous-fueled combustion sources because these sources will not exceed these particulate limits.

The "monitoring type" column has been corrected for monitoring of throughput. The facility uses fuel meters to assure compliance with the throughput limits.

NSPS Subpart GG for turbines and NSPS Subpart J for refineries no longer require monitoring for sulfur in commercial grade natural gas.

An alternative monitoring plan for U240 Sweet Unicracker Gas that is burned at the Steam Power Plant (Sources S352-S357) has been added to the table.

Table VII – Q.1
Applicable Limits and Compliance Monitoring Requirements
S352 - COMBUSTION TURBINE
S353 - COMBUSTION TURBINE
S354 - COMBUSTION TURBINE

Type of Limit	Citation of Limit	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type
NOx	BAAQMD 9-9-301.1.3	Y		9 ppmv (note 1) @15% O_2 (dry)	BAAQMD 9-9-501, Condition 12122, Part 9cb	C	CEM
NOx	BAAQMD 9-9-301.2	N	2/1/10	< 9 ppmv (note 1) @15% O_2 (dry) or < 0.43 lb/MWhr	BAAQMD 9-9-501, Condition 12122, Part 9c	C	CEM

Table VII – Q.1
Applicable Limits and Compliance Monitoring Requirements
S352 - COMBUSTION TURBINE
S353 - COMBUSTION TURBINE
S354 - COMBUSTION TURBINE

Type of Limit	Citation of Limit	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type
NOx	40 CFR 60.332 (a)(2)	Y		110 ppmv @15% O_2 (dry)	BAAQMD 9-9-501, Condition 12122, Part 9~~b~~c BAAQMD Condition 18629, Part IX.G.1.a	C	CEM
NOx	BAAQMD Condition 12122, Part 9a	Y		66 lb/hr and 167 ton/yr for all sources; 528 lb/day for each turbine/duct burner set (condition invalid after emissions reduced to provide offsets pursuant to Application 13424)	BAAQMD Condition 12122, Part 9~~b~~c	C	CEM
NOx	BAAQMD Condition 12122, Part 9b	Y		66 lb/hr and 79.8 ton/yr for all sources; 528 lb/day for each turbine/duct burner set (condition in force after emissions reduced to provide offsets pursuant to Application 13424)	BAAQMD Condition 12122, Part 9c	C	CEM
NOx	BAAQMD Condition 18629, Part IX.E	Y		664 lb/day per turbine/duct burner set AND 83 lb/hr total or 25 ppmv at 15% O2 (3 hr average)	BAAQMD Condition 18629, Part IX.G.1.a	C	CEM
CO	BAAQMD Condition 12122, Part 7	Y		39 ppmv @ 15% O2	BAAQMD Condition 12122, Part 10b	C	CEM

Table VII – Q.1
Applicable Limits and Compliance Monitoring Requirements
S352 - COMBUSTION TURBINE
S353 - COMBUSTION TURBINE
S354 - COMBUSTION TURBINE

Type of Limit	Citation of Limit	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type
CO	BAAQMD Condition 12122, Part 10a	Y		200 ton/yr	BAAQMD Condition 12122, Part 10b	C	CEM
POC	BAAQMD Condition 12122, Part 8	Y		6 ppmv @ 15% O2	BAAQMD Condition 12122, Part 14	P/A	source test
POC	BAAQMD Condition 12122, Part 11	Y		8.3 lb/hr, 30.5 ton/yr	BAAQMD Condition 12122, Part 14	P/A	source test
Opacity	BAAQMD 6-1-301	N		Ringelmann No. 1 for no more than 3 minutes/hour	None for gaseous-fueled sources	N	None
Opacity	~~BAAQMD~~ SIP 6-301	Y		Ringelmann No. 1 for no more than 3 minutes/hour	None for gaseous-fueled sources	N	None
FP	BAAQMD 6-1-305	N		Prohibition of nuisance	None for gaseous-fueled sources	N	None
FP	~~BAAQMD~~ SIP 6-305	Y		Prohibition of nuisance	None for gaseous-fueled sources	N	None
FP	BAAQMD 6-1-310	N		0.15 grain/dscf	None for gaseous-fueled sources	N	None
FP	~~BAAQMD~~ SIP 6-310	Y		0.15 grain/dscf	None for gaseous-fueled sources	N	None
FP	BAAQMD 6-1-310.3	N		0.15 grain/dscf @ 6% O2	None for gaseous-fueled sources	N	None
FP	SIP 6-310.3	Y		0.15 grain/dscf @ 6% O2	None for gaseous-fueled sources	N	None

Table VII – Q.1
Applicable Limits and Compliance Monitoring Requirements
S352 - COMBUSTION TURBINE
S353 - COMBUSTION TURBINE
S354 - COMBUSTION TURBINE

Type of Limit	Citation of Limit	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type
~~Through-put~~	~~BAAQMD Condition 18629, Part IX.D.2~~	~~Y~~		~~466 MMbtu/hr at each turbine/duct burner set~~ (Moved to bottom of table)	~~BAAQMD Condition 18629, Part IX.D.4~~	~~P/M~~	~~records~~
~~Through-put~~	~~BAAQMD Condition 18629, Part IX.D.3~~	~~Y~~		~~1048 MMbtu/hr total~~ (Moved to bottom of table)	~~BAAQMD Condition 18629, Part IX.D.4~~	~~P/M~~	~~records~~
~~SO2~~	~~40 CFR 60.333(b)~~	~~Y~~		~~0.8 % sulfur in fuel by weight~~	~~Condition 12122, Part 12~~	~~P/3 times per day~~	~~TRS analysis~~
SO2	40 CFR 60.333(b)	Y		0.8 % sulfur in fuel by weight (refinery fuel gas only)	40 CFR 60.334(h)(1) and 60.334(h)(4)(i)(2)	P/D, then reduced frequency according to custom schedule	Sulfur analysis
SO2	40 CFR 60.333(b)	Y		0.8 % sulfur in fuel by weight (natural gas only)	40 CFR 60.334(h)(3)(i)	N	None
SO2	BAAQMD Condition 18629, Part IX.F	Y		15.6 lb/hr at each turbine/duct burner set AND 44 lb/hr total (3-hr average); 34 lb/hr total (3-hr average) for more than 36 days per year AND 153 ton/yr total	BAAQMD Condition 18629, Part IX.G.1.a	C/P	H2S CEM for fuel gas AND daily total sulfur sampling of fuel gas

Table VII – Q.1
Applicable Limits and Compliance Monitoring Requirements
S352 - COMBUSTION TURBINE
S353 - COMBUSTION TURBINE
S354 - COMBUSTION TURBINE

Type of Limit	Citation of Limit	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type
H2S	40 CFR 60.104(a)(1)	Y		fuel gas H2S concentration limited to 230 mg/dscm (0.10 gr/dscf) except for gas burned as a result of process upset or gas burned at flares from relief valve leaks or other emergency malfunctions (not applicable to natural gas)	40 CFR 60.105(a)(4) BAAQMD Condition 12122, Part 16	C	H2S analyzer
H2S	40 CFR 60.104(a)(1)	Y		Natural gas only: fuel gas H2S concentration limited to 230 mg/dscm (0.10 gr/dscf) except for gas burned as a result of process upset or gas burned at flares from relief valve leaks or other emergency malfunctions	40 CFR 60.105(a)(4)(iv)	N	None
H2S	40 CFR 60.104(a)(1)	Y		Unit 240 Sweet Unicracker Gas: fuel gas H2S concentration limited to 230 mg/dscm (0.10 gr/dscf) except for gas burned as a result of process upset or gas burned at flares from relief valve leaks or other emergency malfunctions	40 CFR 60.13(i) and BAAQMD Condition 12122, part 16	C Additional periodic monitoring under certain circum-stances	Use of process analyzer

Table VII – Q.1
Applicable Limits and Compliance Monitoring Requirements
S352 - COMBUSTION TURBINE
S353 - COMBUSTION TURBINE
S354 - COMBUSTION TURBINE

Type of Limit	Citation of Limit	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type
Through-put	BAAQMD Condition 18629, Part IX.D.2	Y		466 MMbtu/hr at each turbine/duct burner set (moved from 8 rows above)	BAAQMD Conditions 12122, part 9d; 18629, Part IX.D.4	P/M	Fuel meter, records
Through-put	BAAQMD Condition 18629, Part IX.D.3	Y		1048 MMbtu/hr total (moved from 8 rows above)	BAAQMD Conditions 12122, part 9d; 18629, Part IX.D.4	P/M	Fuel meter, records

1 BAAQMD Regulation 9-9-301.2, 9-9-301.3, 9-9-303, and 9-9-305 emission limits may be adjusted pursuant to BAAQMD Regulation 9-9-401.

The "monitoring type" column has been corrected for monitoring of throughput. The facility uses fuel meters to assure compliance with the throughput limits.

Table VII – Q.2
Applicable Limits and Compliance Monitoring Requirements
S355 – SUPPLEMENTAL DUCT BURNERS FOR S352
S356 – SUPPLEMENTAL DUCT BURNERS FOR S353
S357 – SUPPLEMENTAL DUCT BURNERS FOR S354

Type of Limit	Citation of Limit	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type
NOx	BAAQMD Condition 12122, Part 9a	Y		66 lb/hr and 167 ton/yr for all sources; 528 lb/day for each turbine/duct burner set (condition invalid after emissions reduced to provide offsets pursuant to Application 13424)	BAAQMD Condition 12122, Part 9~~b~~c	C	CEM

Table VII – Q.2
Applicable Limits and Compliance Monitoring Requirements
S355 – SUPPLEMENTAL DUCT BURNERS FOR S352
S356 – SUPPLEMENTAL DUCT BURNERS FOR S353
S357 – SUPPLEMENTAL DUCT BURNERS FOR S354

Type of Limit	Citation of Limit	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type
NOx	BAAQMD Condition 12122, Part 9b	Y		66 lb/hr and 79.8 ton/yr for all sources; 528 lb/day for each turbine/duct burner set (condition in force after emissions reduced to provide offsets pursuant to Application 13424)	BAAQMD Condition 12122, Part 9c	C	CEM
NOx	40 CFR 60.44b(a)(4)(i)	Y		0.20 lb/MMbtu for natural gas-firing only conditions	40 CFR 60.48b(h) – Exempt from NOx CEM during natural gas firing only conditions	N	None
NOx	40 CFR 60.44b(f)	Y		25 ppmv @ 15% O2 (3-hr average) (based on PSD Permit Condition 18629, Part IX.E)	40 CFR 60.48b(b)(l) and BAAQMD Condition 18629, Part IX.G.1.a	C	CEM
NOx	BAAQMD Condition 18629, Part IX.E	Y		664 lb/day per turbine/duct burner set AND 83 lb/hr total or 25 ppmv at 15% O2 (3 hr average)	BAAQMD Condition 18629, Part IX.G.1.a	C	CEM
CO	BAAQMD Condition 12122, Part 7	Y		39 ppmv @ 15% O2	BAAQMD Condition 12122, Part 10b	C	CEM
CO	BAAQMD Condition 12122, Part 10a	Y		200 ton/yr	BAAQMD Condition 12122, Part 10b	C	CEM

Table VII – Q.2
Applicable Limits and Compliance Monitoring Requirements
S355 – SUPPLEMENTAL DUCT BURNERS FOR S352
S356 – SUPPLEMENTAL DUCT BURNERS FOR S353
S357 – SUPPLEMENTAL DUCT BURNERS FOR S354

Type of Limit	Citation of Limit	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type
POC	BAAQMD Condition 12122, Part 8	Y		6 ppmv @ 15% O2	BAAQMD Condition 12122, Part 14	P/A	source test
POC	BAAQMD Condition 12122, Part 11	Y		8.3 lb/hr, 30.5 ton/yr	BAAQMD Condition 12122, Part 14	P/A	source test
Opacity	BAAQMD ~~6~~ 6-1-301	~~Y~~N		Ringelmann No. 1 for no more than 3 minutes/hour	None for gaseous-fueled sources	N	None
Opacity	SIP 6-301	Y		Ringelmann No. 1 for no more than 3 minutes/hour	None for gaseous-fueled sources	N	None
FP	BAAQMD ~~6~~ 6-1-305	~~Y~~N		Prohibition of nuisance	None for gaseous-fueled sources	N	None
FP	SIP 6-1-305	Y		Prohibition of nuisance	None for gaseous-fueled sources	N	None
FP	BAAQMD ~~6~~ 6-1-310	N~~Y~~		0.15 grain/dscf	None for gaseous-fueled sources	N	None
FP	SIP 6-310	Y		0.15 grain/dscf	None for gaseous-fueled sources	N	None
FP	BAAQMD 6-1-310.3	N		0.15 grain/dscf @ 6% O2	None for gaseous-fueled sources	N	None
FP	SIP 6-310.3	Y		0.15 grain/dscf @ 6% O2	None for gaseous-fueled sources	N	None
Through-put	BAAQMD Condition 12122, Part 6	Y		2.42 E 12 btu/yr at S355, S356, S357 (combined)	BAAQMD Condition 12122, Part 15	P/D	Fuel meter, records

Table VII – Q.2
Applicable Limits and Compliance Monitoring Requirements
S355 – SUPPLEMENTAL DUCT BURNERS FOR S352
S356 – SUPPLEMENTAL DUCT BURNERS FOR S353
S357 – SUPPLEMENTAL DUCT BURNERS FOR S354

Type of Limit	Citation of Limit	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type
~~Through-put~~	~~BAAQMD Condition 18629, Part IX.D.2~~	~~Y~~		~~466 MMbtu/hr at each turbine/duct burner set~~ (moved to bottom of table)	~~BAAQMD Condition 18629, Part IX.D.4~~	~~P/M~~	~~records~~
~~Through-put~~	~~BAAQMD Condition 18629, Part IX.D.3~~	~~Y~~		~~1048 MMbtu/hr total~~ (moved to bottom of table)	~~BAAQMD Condition 18629, Part IX.D.4~~	~~P/M~~	~~records~~
SO2	BAAQMD Condition 18629, Part IX.F	Y		15.6 lb/hr at each turbine/duct burner set AND 44 lb/hr total (3-hr average); 34 lb/hr total (3-hr average) for more than 36 days per year AND 153 ton/yr total	BAAQMD Condition 18629, Part IX.G.1.a	C/P	H2S CEM for fuel gas AND daily total sulfur sampling of fuel gas
H2S	40 CFR 60.104(a)(1)	Y		fuel gas H2S concentration limited to 230 mg/dscm (0.10 gr/dscf) except for gas burned as a result of process upset or gas burned at flares from relief valve leaks or other emergency malfunctions	40 CFR 60.105(a)(4)	C	H2S analyzer

Table VII – Q.2
Applicable Limits and Compliance Monitoring Requirements
S355 – SUPPLEMENTAL DUCT BURNERS FOR S352
S356 – SUPPLEMENTAL DUCT BURNERS FOR S353
S357 – SUPPLEMENTAL DUCT BURNERS FOR S354

Type of Limit	Citation of Limit	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type
H2S	40 CFR 60.104(a)(1)	Y		Natural gas only: fuel gas H2S concentration limited to 230 mg/dscm (0.10 gr/dscf) except for gas burned as a result of process upset or gas burned at flares from relief valve leaks or other emergency malfunctions	40 CFR 60.105(a)(4)(iv)	N	None
H2S	40 CFR 60.104(a)(1)	Y		Unit 240 Sweet Unicracker Gas: fuel gas H2S concentration limited to 230 mg/dscm (0.10 gr/dscf) except for gas burned as a result of process upset or gas burned at flares from relief valve leaks or other emergency malfunctions	40 CFR 60.13(i) and BAAQMD Condition 12122, part 16	C Additional periodic monitoring under certain circum-stances	Use of process analyzer
Through-put	BAAQMD Condition 18629, Part IX.D.2	Y		466 MMbtu/hr at each turbine/duct burner set (moved from 2 rows above)	BAAQMD Condition 18629, Part IX.D.4	P/M	Fuel meter, records
Through-put	BAAQMD Condition 18629, Part IX.D.3	Y		1048 MMbtu/hr total (moved from 2 rows above)	BAAQMD Condition 18629, Part IX.D.4	P/M	Fuel meter, records

Following are the proposed changes in Section VII for Fugitive Components.

The monitoring will not change for the existing components. The monitoring for the new valves, pumps, and compressors is more stringent because quarterly inspections are required and the components will not be included in alternate inspection schedules pursuant to BAAQMD Regulation 8-18-404.

The citations for 40 CFR 60, Subpart VV, Section 482-4 were deleted because the facility complies with the closed vent and control provisions of the standard instead of the provisions to measure fugitive emission after use of the pressure relief device pursuant to 40 CFR 60.482-4(a) and (b). This means that the facility must comply with inspection requirements for the fuel gas recovery system and that the flares are considered to be a control device for the purposes of the standard. The additional provisions that apply to the flares will be shown following the tables for the fugitive components.

Table VII – AB
Applicable Limits and Compliance Monitoring Requirements
COMPONENTS

Type of Limit	Citation of Limit	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type
POC	BAAQMD 8-18-301	Y		General equipment leak ≤ 100 ppm	BAAQMD 8-18-401.2	P/Q	Inspection
POC	BAAQMD 8-18-302	Y		Valve leak ≤ 100 ppm	BAAQMD 8-18-401.2	P/Q	Inspection
POC	BAAQMD 8-18-303	Y		Pump and compressor leak ≤ 500 ppm	BAAQMD 8-18-401.2	P/Q	Inspection
POC	BAAQMD 8-18-304	~~Y~~N		Connection leak ≤ 100 ppm	BAAQMD 8-18-401.2e	P/Q	Inspection
POC	SIP 8-18-304	Y		Connection leak < 100 ppm	BAAQMD 8-18-401.2e	P/Q	Inspection
POC	BAAQMD 8-18-305	Y		Pressure relief valve leak ≤ 500 ppm	BAAQMD 8-18-401.2	P/Q	Inspection
POC	BAAQMD 8-18-306.1	Y		Valve, pressure relief, pump or compressor must be repaired within 5 years or at the next scheduled turnaround	BAAQMD 8-18-502.4	P/quarterly	report
POC	BAAQMD 8-18-306.2	Y		Awaiting repair Valves ≤ 0.5% Pressure Relief ≤ 1% Pump and Connector ≤ 1%	BAAQMD 8-18-401.5	P/within 24 hours	Inspection

Table VII – AB
Applicable Limits and Compliance Monitoring Requirements
COMPONENTS

Type of Limit	Citation of Limit	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type
POC	BAAQMD 8-18-306.3.2	Y		Mass emissions & non-repairable equipment allowed Valve ≤ 0.1 lb/day & ≤1.0% Pressure Relief ≤ 0.2 lb/day & ≤ 5% Pump and Connector ≤ 0.2 lb/day & ≤ 5%	BAAQMD 8-18-401.3	P/D	Inspection
POC	BAAQMD 8-18-306.3.3	Y		Total valve, pressure relief, pump or compressor leaks ≥ 15 lb/day, they must be repaired within 7 days	BAAQMD 8-18-502.4	P/Q	sampling or equivalent
POC	BAAQMD 8-28-303	Y		Vent Pressure Relief Devices to an Abatement Device with at least 95% by weight control efficiency or Meet Prevention Measures Procedures	BAAQMD 8-28-405	P/turn-around	None
POC	BAAQMD 8-28-304	Y		PHA within 90 days and meet Prevention Measures Procedures. After 2nd release Vent Pressure Relief Devices to an Abatement Device with at least 95% by weight control efficiency.	BAAQMD 8-28-405	P/release per 5 calendar year	None
60; Subpart VV							
POC	40 CFR 60.482-2 (b)(1)	Y		Pump leak: 10,000 ppm	40 CFR 60.482-2 (a)(1)	P/M	Measure for leaks
POC	40 CFR 60.482-2 (b)(2)	Y		Pump leak Indicated by dripping liquid	40 CFR 60.482-2 (a)(2)	P/W	Visual Inspection
POC	40 CFR 60.482-2(e)	Y		Designated "No detectable emissions": 500 ppm	40 CFR 60.482-2(e)(3)	P/A	Measure for leaks

Table VII – AB
Applicable Limits and Compliance Monitoring Requirements
COMPONENTS

Type of Limit	Citation of Limit	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type
POC	40 CFR 60.482-8 (b)	Y		Pump leak : 10,000 ppm	40 CFR 60.482-8 (a)	P/5 days	Visual, audible, olfactory Inspection; Measure for leaks
~~POC~~	~~40 CFR 60.482-4(b)~~	~~Y~~		~~Pressure relief valve (gas/vapor) leak: 500 ppm within 5 days after a pressure release event~~	~~40 CFR 60.482-4(b)~~	~~P/E~~	~~Measure for leaks within 5 days after release~~
POC	40 CFR 60.482-7(b)	Y		Valve leak: 10,000 ppm	40 CFR 60.482-7(a)	P/M	Measure for leaks
POC	40 CFR 60.482-7(b)	Y		Valve leak: 10,000 ppm; 2 successive months w/o leaking	40 CFR 60.482-7(c)	P/Q	Measure for leaks
POC	40 CFR 60.482-7(f)	Y		Designated "No detectable emissions": 500 ppm	40 CFR 60.482-7 (f)(3)	P/A	Measure for leaks
POC	40 CFR 60.482-8(a)	Y		Pumps and valves in heavy liquid service, Pressure Relief devices (light or heavy liquid), Flanges, Connectors leak shall be measured for leak in 5 days if detected by inspection	40 CFR 60.482-8(a)	P/E	Visible, Audible, or olfactory Inspection
POC	40 CFR 60.482-8(b)	Y		Pressure Relief devices (liquid), Flanges, Connectors leak: 10,000 ppm	40 CFR 60.482-8(a)	P/E	Measure for leaks
POC	40 CFR 60.483 and BAAQMD 8-18-404.1	Y		Individual valve that measures <100 ppm for 5 consecutive quarters may be monitored annually, if in a process unit with 5 consecutive quarters <2% valves leaking: 10,000 ppm.	same as limit	P/Q P/A	Measure for leaks
<u>60; Subpart VVa</u>							

Table VII – AB
Applicable Limits and Compliance Monitoring Requirements
COMPONENTS

Type of Limit	Citation of Limit	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type
POC	40 CFR 60.482-2a (b)(1)	Y		Pump leak □ 2,000 ppm	40 CFR 60.482-2a (a)(1)	P/M	Measure for leaks
POC	40 CFR 60.482-2a (b)(2)	Y		Pump leak Indicated by dripping liquid	40 CFR 60.482-2a (a)(2)	P/W	Visual Inspection
POC	40 CFR 60.482-2a (e)	Y		Designated "No detectable emissions" □ 500 ppm	40 CFR 60.482-2(e)(3)	P/A	Measure for leaks
POC	40 CFR 60.482-3a (f)	Y		Leak is failure of seal or barrier system	40 CFR 60.482-3a(d)-(f)	C	Sensor for detection of seal or barrier system failure
POC	40 CFR 60.482-7a (b)	Y		Valve leak > 500 ppm	40 CFR 60.482-7a (a)(1)	P/M unless 2 successive months w/o leak	Measure for leaks
POC	40 CFR 60.482-7a (c)(1)(i)	Y		Valve leak < 500 ppm; 2 successive months w/o leaking	40 CFR 60.482-7(c)	P/Q unless leak found, then monthly monitoring	Measure for leaks
POC	40 CFR 60.482-7(f)	Y		Designated "No detectable emissions" □ 500 ppm	40 CFR 60.482-7 (f)(3)	P/A	Measure for leaks
POC	40 CFR 60.482-8a(a)	Y		Pumps and valves in heavy liquid service, Pressure Relief devices (light or heavy liquid), Flanges, Connectors leak shall be measured for leak in 5 days if detected by inspection	40 CFR 60.482-8a(a)	P/E	Visible, Audible, or olfactory Inspection
POC	40 CFR 60.482-8a(b)	Y		Pressure Relief devices (liquid), Flanges, Connectors leak > 10,000 ppm	40 CFR 60.482-8a(a)	P/E	Measure for leaks
61; Subpart FF							

Table VII – AB
Applicable Limits and Compliance Monitoring Requirements
COMPONENTS

Type of Limit	Citation of Limit	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type
POC	40 CFR 61.342 (a)	Y		Exemption for facilities with less than 10 Mg/yr of benzene in waste	40 CFR 61.357 (c)	P/A	report
BAAQMD Condition 23725							
POC	Condition 23725, part 1b	Y		Valve leak for CFEP < 100 ppm	Condition 23725, part 4	P/Q	Inspection
POC	Condition 23725, part 1b	Y		Pump and compressor leak for CFEP < 100 ppm	Condition 23725, part 4	P/Q	Inspection
POC	BAAQMD 8-18-304	N		Connection leak < 100 ppm	BAAQMD 8-18-401.2e	P/A	Inspection
POC	Condition 23725, part 2	Y		Emissions from CFEP components < 6.1 tons per year	None Deter-mination made once upon completion		

Flares

The flares are control devices for the purposes for 40 CFR 60, Subparts VV, VVa, GGG, and GGGa because the facility complies with the control requirements in Sections 60.482-4(c) and 60.482a-4(c) instead of the fugitive inspection requirements of Sections 60.482-4(a) and (b) and 60.482a-4(a) and (b). Section 60.482-10a requires that such control devices comply with the control device requirements in 40 CFR 60.18.

The additional provisions that apply to the flares will be shown in the following tables.

Table VII – L
Applicable Limits and Compliance Monitoring Requirements
S296 – C-1 FLARE
S398 – MP-30 FLARE
[Flares that are visually inspected upon release, with no remote viewing system]

Type of Limit	Citation of Limit	FE Y/N	Future Effective Date	Emission Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type
VE	40 CFR 60.18(c)(1)	Y		No visible emissions except for 5 min in any two hours	40 CFR 60.18(f)(1)	P/E	Method 22
Presence of flame	40 CFR 60.18(c)(2)	Y		Flame present at all times	40 CFR 60.18(f)(2)	C	Thermo-couple or eq. device
Velocity and heat content require-ments	40 CFR 60.18(c)(3)(ii) & (c)(4)(i) or 40 CFR 60.18(c)(3)(ii) & (c)(4)(ii)			Net heating value of gas greater than 300 btu/scf and less than 1000 btu/scf and velocity less than 60 ft/sec or Net heating value of gas greater than 1000 btu/scf and velocity greater than 60 ft/sec and less than 400 ft/sec	40 CFR 60.18(f)(3), (4), and 5	C	Volume measure-ments gas analysis

Following are the proposed changes in Section VII for Tanks.

Tanks S98, S168, S173, and S174 will be permitted tanks and will be deleted from Table IV-BB.21.

In general, the monitoring for tanks is appropriate for the standards to which the tanks are subject. Additional monitoring was added during the last amendments to BAAQMD Regulation 8, Rule 5, Storage of Organic Liquids. An enhanced monitoring provision in Section 8-5-411 that requires monitoring of floating roof tanks every quarter (previously twice per year) in exchange for allowing a repair period if the facility finds an out-of compliance component during inspection. This increase in monitoring will lead to lower emissions.

Table VII – BB.21
Applicable Limits and Compliance Monitoring Requirements
EXEMPT TANKS SUBJECT TO MACT RECORDKEEPING
S91 (TANK 73), S94 (TANK 78), ~~S98 (TANK 101),~~ S99 (TANK 102), S103 (TANK 106), S120 (TANK 165), S130 (TANK 188), S131 (TANK 189), S132 (TANK 191), S136 (TANK 201), S138 (TANK 203), S141 (TANK 213), S142 (TANK 214), S143 (TANK 215), S144 (TANK 216), S145 (TANK 217), S148 (TANK 231), S149 (TANK 232), S157 (TANK 252), S162 (TANK 262), S164 (TANK 264), S165 (TANK 265), S166 (TANK 266), S167 (TANK 268), S168 (TANK 269), S169 (TANK 270), S171 (TANK 273), S172 (TANK 279), S173 (TANK 280), S174 (TANK 281), S179 (TANK 291), S180 (TANK 292), S187 (TANK 299), S191 (TANK 303), S192 (TANK 304), S202 (TANK 521), S204 (TANK 528), S205 (TANK 529), S206 (TANK 530), S207 (TANK 531), S209 (TANK 674), S224 (TANK 746), S225 (TANK 747), S226 (TANK 748), S227 (TANK 749), S228 (TANK 750), S229 (TANK 751), S230 (TANK 752), S231 (TANK 753), S236 (TANK 770), S237 (TANK 771), , S239 (TANK 212), S240 (TANK 774), S241 (TANK 775), S260 (TANK 1009), S262 (TANK 1011), S263 (TANK 1012), S266 (TANK 1345), S267 (TANK 1346), S286 (F3), S287 (F10), S293 (F805)

Type of Limit	Emission Limit Citation	FE Y/N	Future Effective Date	Emission Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type
Tank S168 will be subject to the requirements of Table VII-BB.21 until it is controlled by A7, Odor Abatement System. Tank S168 will be subject to the requirements in Table VII-15a when controlled by A7.							
Tanks S173 and S174 will be subject to the requirements in Table VII-BB.21 until they are controlled by A7, Odor Abatement System. S173 and S174 will be subject to the requirements in Table VII-4 when controlled by A7.							
	BAAQMD Regulation 8, Rule 5 - Organic Compounds - STORAGE OF ORGANIC LIQUIDS Exempt per 8-5-117. Low vapor pressure						
POC	BAAQMD 8-5-117 & Condition 20773, Part 1	~~Y~~N		Exemption from Regulation 8-5 when true vapor pressure is less than 25.8 mm Hg (0.5 psia).	BAAQMD 2-6-409.2 & Condition 20773, Part 2	P/E	Vapor pressure determination upon material change
POC	SIP 8-5-117 & Condition 20773, Part 1	Y		Exemption from Regulation 8-5 when true vapor pressure is less than 25.8 mm Hg (0.5 psia).	BAAQMD 2-6-409.2 & Condition 20773, Part 2	P/E	Vapor pressure determination upon material change
	40 CFR 63, Subpart CC – NESHAP for Petroleum Refineries MONITORING FOR RECORDKEEPING ONLY						
HAP	40 CFR 63.641	Y		Retain weight percent total organic HAP in stored liquid for Group 2 determination.	40 CFR 63.654(i)(1)(iv)	periodic initially and upon change in service	Records
	BAAQMD PERMIT CONDITIONS						
throughput	BAAQMD Condition 20989, Part A	N		S239: 8.76 E 6 bbl/yr	BAAQMD Condition 20989, Part A	P/M	Records

A correction has been made to the throughput for S123 so that it matches the throughput in the permit condition.

Table VII – BB.13
Applicable Limits and Compliance Monitoring Requirements
MACT ZERO-GAP EXTERNAL FLOATING-ROOF TANKS
S97 (TANK 100), S98, (TANK 101), S100 (TANK 103), S107 (TANK 150), S110 (TANK 155), S111 (TANK 156), S112 (TANK 157), S114 (TANK 159), S115 (TANK 160), S122 (TANK 167), S123 (TANK 168), S124 (TANK 169), S128 (TANK 174), S129 (TANK 180), S150 (TANK 241), S151 (TANK 242), S177 (TANK 287), S178 (TANK 288), S186 (TANK 298), S254 (TANK 1001), S255 (TANK 1002), S256 (TANK 1003), S259 (TANK 1006)

Type of Limit	Emission Limit Citation	FE Y/N	Future Effective Date	Emission Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type
	BAAQMD Regulation 8, Rule 5, Organic Compounds - STORAGE OF ORGANIC LIQUIDS LIMITS AND MONITORING FOR EXTERNAL FLOATING-ROOF TANKS						
VOC	BAAQMD 8-5-301	Y		Record of liquids stored and true vapor pressure	BAAQMD 8-5-501.1	periodic initially and upon change of service	Records
VOC	BAAQMD 8-5-320	Y		Floating roof fitting closure standards; includes gasketed covers	BAAQMD 8-5-401.2	P/SA	Measurement and visual inspection
VOC	BAAQMD 8-5-320.3, 8-5-320.4.2, 320.4.3, 320.5.2 (gaps only), 320.5.3, 8-5-320.6	N		Applies to list of tanks chosen by facility Floating roof fitting closure standards; includes gasketed covers	BAAQMD 8-5-401.2 and 8-5-411	P/Q	Measurement and visual inspection
VOC	BAAQMD 8-5-321	Y		Primary rim-seal standards; includes gap criteria	BAAQMD 8-5-401.1	P/SA and every time a seal is replaced	Seal inspection
VOC	BAAQMD 8-5-321.1, 8-5-321.3.1, 8-5-321.3.2, 8-5-321.3.3, 8-5-321.4	N		Applies to list of tanks chosen by facility Primary rim-seal standards; includes gap criteria	BAAQMD 8-5-401.1 and 8-5-411	P/Q and every time a seal is replaced	Seal inspection
VOC	BAAQMD 8-5-322	Y		Applies to list of tanks chosen by facility Secondary rim-seal standards; includes gap criteria	BAAQMD 8-5-401.1 and 8-5-411	P/~~SA~~Q and every time a seal is replaced	Seal inspection

Table VII – BB.13
Applicable Limits and Compliance Monitoring Requirements
MACT ZERO-GAP EXTERNAL FLOATING-ROOF TANKS
S97 (TANK 100), S98, (TANK 101), S100 (TANK 103), S107 (TANK 150), S110 (TANK 155), S111 (TANK 156), S112 (TANK 157), S114 (TANK 159), S115 (TANK 160), S122 (TANK 167), S123 (TANK 168), S124 (TANK 169), S128 (TANK 174), S129 (TANK 180), S150 (TANK 241), S151 (TANK 242), S177 (TANK 287), S178 (TANK 288), S186 (TANK 298), S254 (TANK 1001), S255 (TANK 1002), S256 (TANK 1003), S259 (TANK 1006)

Type of Limit	Emission Limit Citation	FE Y/N	Future Effective Date	Emission Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type
VOC	BAAQMD 8-5-322.1, 8-5-322.2, 8-5-322.3, 8-5-322.4, 8-5-322.5	Y		Secondary rim-seal standards; includes gap criteria	BAAQMD 8-5-401.1	P/SA and every time a seal is replaced	Seal inspection
VOC	BAAQMD 8-5-328.1.2	Y		Concentration of < 10,000 ppm as methane after degassing	BAAQMD 8-5-503	periodic each time emptied & degassed	Portable hydrocarbon detector
VOC		Y		Certification reports on tank inspections and source tests	BAAQMD 8-5-404 8-5-405	periodic after each tank inspection and source test	Reports
VOC		Y		Records of tank seal replacement	BAAQMD 8-5-501.2	periodic after each tank seal replacement	Records
VOC		Y		Determination of applicability	BAAQMD 8-5-604	P/E	look-up table or sample analysis
The following apply only to S107 (Tank 150), S110 (Tank 155), S115 (Tank 160), S123 (Tank 168), S128 (Tank 174), S129 (Tank 180), and S178 (Tank 288)							
VOC	BAAQMD 8-5-303.1	Y		Pressure vacuum valve set pressure within 10% of maximum allowable working pressure of the tank, or at least 0.5 psig	BAAQMD 8-5-403	P/SA	visual inspection
VOC	BAAQMD 8-5-303.1	N		Applies to list of tanks chosen by facility Good operating condition only	BAAQMD 8-5-403 and 8-5-411	P/Q	visual inspection
VOC	BAAQMD 8-5-303.2	Y		Pressure vacuum valve must be gas-tight: < 500 ppm (as methane) above background	BAAQMD 8-5-403 8-5-503 8-5-605	P/SA	Method 21 portable hydrocarbon detector

Table VII – BB.13
Applicable Limits and Compliance Monitoring Requirements
MACT ZERO-GAP EXTERNAL FLOATING-ROOF TANKS
S97 (TANK 100), S98, (TANK 101), S100 (TANK 103), S107 (TANK 150), S110 (TANK 155), S111 (TANK 156), S112 (TANK 157), S114 (TANK 159), S115 (TANK 160), S122 (TANK 167), S123 (TANK 168), S124 (TANK 169), S128 (TANK 174), S129 (TANK 180), S150 (TANK 241), S151 (TANK 242), S177 (TANK 287), S178 (TANK 288), S186 (TANK 298), S254 (TANK 1001), S255 (TANK 1002), S256 (TANK 1003), S259 (TANK 1006)

Type of Limit	Emission Limit Citation	FE Y/N	Future Effective Date	Emission Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type
VOC	BAAQMD 8-5-303.2	Y		Applies to list of tanks chosen by facility Gas tight requirement only	BAAQMD 8-5-403 8-5-411 8-5-503 8-5-605	P/Q	Method 21 portable hydrocarbon detector
The following apply only to S107 (Tank 150), S110 (Tank 155), S115 (Tank 160), S123 (Tank 168), S128 (Tank 174), S129 (Tank 180), and S178 (Tank 288)							
	40 CFR 63, Subpart G – SOCMI HON **40 CFR 63 Subpart CC – NESHAPS for Petroleum Refineries** **LIMITS AND MONITORING FOR EXTERNAL FLOATING ROOF TANKS**						
HAP	40 CFR 63.646(f)	Y		Deck fitting closure standards	40 CFR 63.646 (a) & (e) 63.120 (b)(10)	periodic initially & each time emptied & degassed	visual inspection
HAP	40 CFR 63.646(a) 63.120 (b)(3)&(5)	Y		Primary rim-seal standards; includes gap criteria	40 CFR 63.646(a) 63.120 (b)(1) & (2)	periodic initially & at 5 yr intervals	measurement and visual inspection
HAP	40 CFR 63.646(a) 63.120 (b)(4)&(6)	Y		Secondary rim-seal standards; includes gap criteria	40 CFR 63.646(a) 63.120 (b)(1) & (2)	periodic initially & annually	measurement and visual inspection
	BAAQMD PERMIT CONDITIONS						
~~VOC~~	~~BAAQMD Condition 22478, Part 2~~	~~Y~~		~~S124: 6,815 lb/12-month period~~	~~BAAQMD Condition 22478, Part 8~~	~~P/M~~	~~Records and calculations~~
VOC	BAAQMD Condition 22478, Part 3	Y		S186: 2,231 lb/12-month period	BAAQMD Condition 22478, Part 8	P/M	Records and calculations

Table VII – BB.13
Applicable Limits and Compliance Monitoring Requirements
MACT ZERO-GAP EXTERNAL FLOATING-ROOF TANKS
S97 (TANK 100), S98, (TANK 101), S100 (TANK 103), S107 (TANK 150), S110 (TANK 155), S111 (TANK 156), S112 (TANK 157), S114 (TANK 159), S115 (TANK 160), S122 (TANK 167), S123 (TANK 168), S124 (TANK 169), S128 (TANK 174), S129 (TANK 180), S150 (TANK 241), S151 (TANK 242), S177 (TANK 287), S178 (TANK 288), S186 (TANK 298), S254 (TANK 1001), S255 (TANK 1002), S256 (TANK 1003), S259 (TANK 1006)

Type of Limit	Emission Limit Citation	FE Y/N	Future Effective Date	Emission Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type
throughput	BAAQMD Condition 20989, Part A	N		S97: 1.1 E 7 bbl/yr S100: 4.38 E 6 bbl/yr S107: 8.76 E 6 bbl/yr S110: 1.40 E 7 bbl/yr S111: 1.31 E 7 bbl/yr S112: 1.49 E 7 bbl/yr S114: 1.31 E 7 bbl/yr S115: 4.38 E 6 bbl/yr ~~S122: 4.38 E 6 bbl/yr~~ ~~S128: 5.1 E 6 bbl/yr~~ S177: 2.63 E 7 bbl/yr S254: 7.01 E 7 bbl/yr S255: 7.01 E 7 bbl/yr S256: 7.01 E 7 bbl/yr S259: 7.01 E 7 bbl/yr	BAAQMD Condition 20989, Part A	P/M	Records
throughput	BAAQMD Condition 20989, Part A	Y		S129: 4.6 E 6 bbl/yr S150: 4.38 E 7 bbl/yr S151: 4.38 E 7 bbl/yr S178: 3.50 E 7 bbl/yr	BAAQMD Condition 20989, Part A	P/M	records
throughput	BAAQMD Condition 22478, Part 5	Y		S123: ~~5.~~3.0~~1~~ E 6 bbl/yr	BAAQMD 8-5-501.1	periodic initially and upon change of service	Records
throughput	BAAQMD Condition 22478, Part 6	Y		S124: 3.0 E 6 bbl/yr	BAAQMD 8-5-501.1	periodic initially and upon change of service	Records
throughput	BAAQMD Condition 22963, Part 2a	Y		S98: 3.723 E 6 bbl for period October through March	BAAQMD 8-5-501.1	periodic initially and upon change of service	Records

Table VII – BB.13
Applicable Limits and Compliance Monitoring Requirements
MACT ZERO-GAP EXTERNAL FLOATING-ROOF TANKS
S97 (TANK 100), S98, (TANK 101), S100 (TANK 103), S107 (TANK 150), S110 (TANK 155), S111 (TANK 156), S112 (TANK 157), S114 (TANK 159), S115 (TANK 160), S122 (TANK 167), S123 (TANK 168), S124 (TANK 169), S128 (TANK 174), S129 (TANK 180), S150 (TANK 241), S151 (TANK 242), S177 (TANK 287), S178 (TANK 288), S186 (TANK 298), S254 (TANK 1001), S255 (TANK 1002), S256 (TANK 1003), S259 (TANK 1006)

Type of Limit	Emission Limit Citation	FE Y/N	Future Effective Date	Emission Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type
throughput	BAAQMD Condition 22963, Part 2b	Y		S98: 3.723 E 6 bbl for period April through September	BAAQMD 8-5-501.1	periodic initially and upon change of service	Records
throughput	BAAQMD Condition 22963, Part 2d	Y		S122: 2.0 E 6 bbl/yr	BAAQMD 8-5-501.1	periodic initially and upon change of service	Records
throughput	BAAQMD Condition 22963, Part 2e	Y		S128: 5.1 E 6 bbl/yr	BAAQMD 8-5-501.1	periodic initially and upon change of service	Records
Vapor pressure	BAAQMD Condition 22478, Part 1	Y		S123: ≤ ~~3.4~~3.0 psia	BAAQMD 8-5-501.1	periodic initially and upon change of service	Records
Vapor pressure	BAAQMD Condition 22478, Part 2	Y		S124: < 11.0 psia	BAAQMD 8-5-501.1	periodic initially and upon change of service	Records
Vapor pressure	BAAQMD Condition 22963, Part 1a			S98: < 11 psia for period October through March	BAAQMD 8-5-501.1	periodic initially and upon change of service	Records
Vapor pressure	BAAQMD Condition 22963, Part 1b			S98: < 8.5 psia for period April through September	BAAQMD 8-5-501.1	periodic initially and upon change of service	Records
Vapor pressure	BAAQMD Condition 22963, Part 1d			S122: < 11 psia	BAAQMD 8-5-501.1	periodic initially and upon change of service	Records

Table VII – BB.13
Applicable Limits and Compliance Monitoring Requirements
MACT ZERO-GAP EXTERNAL FLOATING-ROOF TANKS
S97 (TANK 100), S98, (TANK 101), S100 (TANK 103), S107 (TANK 150), S110 (TANK 155), S111 (TANK 156), S112 (TANK 157), S114 (TANK 159), S115 (TANK 160), S122 (TANK 167), S123 (TANK 168), S124 (TANK 169), S128 (TANK 174), S129 (TANK 180), S150 (TANK 241), S151 (TANK 242), S177 (TANK 287), S178 (TANK 288), S186 (TANK 298), S254 (TANK 1001), S255 (TANK 1002), S256 (TANK 1003), S259 (TANK 1006)

Type of Limit	Emission Limit Citation	FE Y/N	Future Effective Date	Emission Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type
Vapor pressure	BAAQMD Condition 22963, Part 1e			S128: < 4.4 psia	BAAQMD 8-5-501.1	periodic initially and upon change of service	Records

S238, Tank, is being deleted in this action because it is no longer in service.

Tank S239 is being deleted from Table BB.4, Low Vapor Pressure Permitted Tanks Vented to Fuel Gas, because it was never vented to the fuel gas system. It will be added to Table BB.21.

Table VII – BB.4
Applicable Limits and Compliance Monitoring Requirements
LOW VAPOR PRESSURE PERMITTED TANKS
VENTED TO FUEL GAS
S173 (Tank 280), S174 (Tanks 281)~~S238 (TANK 211), S239 (TANK 212)~~

Type of Limit	Emission Limit Citation	FE Y/N	Future Effective Date	Emission Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type
Tanks S173 and S174 will be subject to the requirements in Table VII-BB.21 until they are controlled by A7, Odor Abatement System. S173 and S174 will be subject to the requirements in Table VII-4 when controlled by A7.							
	BAAQMD Regulation 8, Rule 5 - Organic Compounds - STORAGE OF ORGANIC LIQUIDS **Exempt per 8-5-117. Low vapor pressure**						
POC	BAAQMD 8-5-117 & Condition 20773, Part 1	Y		Exemption from Regulation 8, Rule 5 when true vapor pressure is less than 25.8 mm Hg (0.5 psia).	BAAQMD 2-6-409.2 & Condition 20773, Part 2	P/E	Vapor pressure determination upon material change
NONE	**63 Subpart CC – NESHAPS for Petroleum Refineries** **Exempt per 63.640(d)(5). Emission point routed to fuel gas system.**						
	BAAQMD PERMIT CONDITIONS						
~~throughput~~	~~BAAQMD Condition 20989, Part A~~	~~N~~		~~S238: 1.0 E 6 bbl/yr~~ ~~S239: 8.76 E 6 bbl/yr~~	~~BAAQMD Condition 20989, Part A~~	~~P/M~~	~~Records~~
VOC	Condition #23724, part 4b	Y	7/5/09	Applies to S173 TBD	Condition #23724, part 3	C	Pressure monitoring
	Condition #23724, part 4b	Y	7/5/09	Applies to S174 TBD	Condition #23724, part 3	C	Pressure monitoring

Table VII – BB.14
Applicable Limits and Compliance Monitoring Requirements
NSPS K AND NSPS KA ZERO-GAP EXTERNAL FLOATING ROOF TANKS
NSPS K - S334 (TANK 107),
NSPS KA - S341 (TANK 208), S342 (TANK 209), S343 (TANK 210)

Type of Limit	Emission Limit Citation	FE Y/N	Future Effective Date	Emission Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type
	BAAQMD Regulation 8, Rule 5, Organic Compounds - STORAGE OF ORGANIC LIQUIDS LIMITS AND MONITORING FOR EXTERNAL FLOATING-ROOF TANKS						
VOC	BAAQMD 8-5-301	Y		Record of liquids stored and true vapor pressure	BAAQMD 8-5-501.1	periodic initially and upon change of service	Records
VOC	BAAQMD 8-5-320	Y		Floating roof fitting closure standards; includes gasketed covers	BAAQMD 8-5-401.2	P/SA	Measurement and visual inspection
VOC	BAAQMD 8-5-321	Y		Primary rim-seal standards; includes gap criteria	BAAQMD 8-5-401.1	P/SA and every time a seal is replaced	Seal inspection
VOC	BAAQMD 8-5-322	Y		Secondary rim-seal standards; includes gap criteria	BAAQMD 8-5-401.1	P/SA and every time a seal is replaced	Seal inspection
VOC	BAAQMD 8-5-328.1.2	Y		Concentration of < 10,000 ppm as methane after degassing	BAAQMD 8-5-503	periodic each time emptied & degassed	Portable hydrocarbon detector
VOC		Y		Certification reports on tank inspections and source tests	BAAQMD 8-5-404 8-5-405	periodic after each tank inspection and source test	Reports
VOC		Y		Records of tank seal replacement	BAAQMD 8-5-501.2	periodic after each tank seal replacement	Records
VOC		Y		Determination of applicability	BAAQMD 8-5-604	P/E	look-up table or sample analysis
	40 CFR 60, Subpart K – NSPS for Petroleum Storage Vessels (note 2) **40 CFR 60, Subpart Ka – NSPS for Petroleum Storage Vessels (note 3)** **40 CFR 63, Subpart G – SOCMI HON** **40 CFR 63, Subpart CC – NESHAPS for Petroleum Refineries** **LIMITS AND MONITORING FOR EXTERNAL FLOATING ROOF TANKS**						

Table VII – BB.14
Applicable Limits and Compliance Monitoring Requirements
NSPS K AND NSPS KA ZERO-GAP EXTERNAL FLOATING ROOF TANKS
NSPS K - S334 (TANK 107),
NSPS KA - S341 (TANK 208), S342 (TANK 209), S343 (TANK 210)

Type of Limit	Emission Limit Citation	FE Y/N	Future Effective Date	Emission Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type
HAP	40 CFR 63.640(n)(5) 63.646(f)	Y		Deck fitting closure standards	40 CFR 63.640(n)(5) 63.646 (a) & (e) 63.120 (b)(10)	periodic initially & each time emptied & degassed	visual inspection
HAP	40 CFR 63.640(n)(5) 63.646(a) 63.120 (b)(3)&(5)	Y		Primary rim-seal standards; includes gap criteria	40 CFR 63.640(n)(5) 63.646(a) 63.120 (b)(1) & (2)	periodic initially & at 5 yr intervals	measurement and visual inspection
HAP	40 CFR 63.640(n)(5) 63.646(a) 63.120 (b)(4)&(6)	Y		Secondary rim-seal standards; includes gap criteria	40 CFR 63.640(n)(5) 63.646(a) 63.120 (b)(1) & (2)	periodic initially & annually	measurement and visual inspection
	BAAQMD PERMIT CONDITIONS						
throughput	BAAQMD Condition 20989, Part A	Y		S341: 4.38 E 7 bbl/yr S342: 4.38 E 7 bbl/yr S343: 4.38 E 7 bbl/yr	BAAQMD Condition 20989, Part A	P/M	Records
throughput	BAAQMD Condition 22478, Part ~~8~~7	Y		S334: 6.51 E 6 bbl/yr	BAAQMD 8-5-501.1	periodic initially and upon change of service	Records
Vapor pressure	BAAQMD Condition 22478, Part 4	Y		S334: $\leq$ 5.8 psia	BAAQMD 8-5-501.1	periodic initially and upon change of service	Records

2. Tanks subject to 63 Subpart CC (MACT) and NSPS K are subject only to MACT per 63.640(n)(5). Source S334 (Tank 107) is subject to NSPS K and MACT.
3. Tanks subject to 63 Subpart CC (MACT) and NSPS Ka are subject only to MACT per 63.640(n)(5). Sources S341 (Tank 208), S342 (Tank 209), and S343 (Tank 210) are subject to NSPS Ka and MACT.

The recordkeeping requirements in BAAQMD Regulation 8, Rule 5, do not apply to S118 because its maximum vapor pressure is less than 0.5 psia, so an additional recordkeeping condition is necessary to ensure compliance with the throughput limit. S118 was subject to Condition 20989, which imposed recordkeeping for "grandfathered" sources. Since S118 is no longer subject to Condition 20989, recordkeeping for the throughput is proposed in this action.

Condition 20773 imposes monitoring of vapor pressure for exempt tanks when the contents change, so no additional condition is required for vapor presssure.

Table VII – BB.2
Applicable Limits and Compliance Monitoring Requirements
LOW VAPOR PRESSURE PERMITTED TANKS
SUBJECT TO MACT RECORDKEEPING
S118 (TANK 163)

Type of Limit	Emission Limit Citation	FE Y/N	Future Effective Date	Emission Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type
	BAAQMD Regulation 8, Rule 5 - Organic Compounds - STORAGE OF ORGANIC LIQUIDS Exempt per 8-5-117. Low vapor pressure						
POC	BAAQMD 8-5-117 & Condition 20773, Part 1	Y		Exemption from Regulation 8-5 when true vapor pressure is less than 25.8 mm Hg (0.5 psia).	BAAQMD 2-6-409.2 & Condition 20773, Part 2	P/E	Vapor pressure determination upon material change
	40 CFR 63, Subpart CC – NESHAP for Petroleum Refineries MONITORING FOR RECORDKEEPING ONLY						
HAP	40 CFR 63.641	Y		Retain weight percent total organic HAP in stored liquid for Group 2 determination.	40 CFR 63.654(i)(1)(iv)	periodic initially and upon change in service	Records
	BAAQMD PERMIT CONDITIONS						
~~throughput~~	~~BAAQMD Condition 20989, Part A~~	~~N~~		~~15,000 bbl/yr~~	~~BAAQMD Condition 20989, Part A~~	~~P/M~~	~~Records~~
throughput	BAAQMD Condition 22963, Part 2c	Y		S118: 900 bbl/12-month period	BAAQMD Condition 22963, part 5	P/M	Records
Vapor pressure	BAAQMD Condition 22963, Part 1c			S118: < 0.5 psia	BAAQMD Condition 20773	P/E	Analysis and records

S137 has been moved to Table VII-BB.15b from Table VII-BB.15a because it does not contain wastewater.

Table VII – BB.15a
Applicable Limits and Compliance Monitoring Requirements
MACT FIXED ROOF TANKS WITH VAPOR RECOVERY TO FUEL GAS
~~S137 (Tank 202),~~ S139 (Tank 204), S140 (Tank 205), S168 (Tank 269), S182 (Tank 294)

Type of Limit	Emission Limit Citation	FE Y/N	Future Effective Date	Emission Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type
Tank S168 will be subject to the requirements of Table BB.21 until it is controlled by A7, Odor Abatement System. Tank S168 will be subject to the requirements in Table IV-15a when controlled by A7.							
	BAAQMD Regulation 8, Rule 5, Organic Compounds - STORAGE OF ORGANIC LIQUIDS LIMITS AND MONITORING FOR CVS & CONTROL DEVICES						
VOC	BAAQMD 8-5-301	Y		Record of liquids stored and true vapor pressure	BAAQMD 8-5-501.1	periodic initially and upon change of service	records
VOC	BAAQMD 8-5-303.1	Y		Pressure vacuum valve set pressure within 10% of maximum allowable working pressure of the tank, or at least 0.5 psig	BAAQMD 8-5-403	P/SA	visual inspection
VOC	BAAQMD 8-5-303.2	Y		Pressure vacuum valve must be gas-tight: < 500 ppm (as methane) above background	BAAQMD 8-5-403 8-5-503 8-5-605	P/SA	Method 21 portable hydrocarbon detector
VOC	BAAQMD 8-5-306	Y		Control device standards; includes 95% efficiency requirement	BAAQMD 8-5-603.1	not specified	MOP Volume IV ST-4
VOC	BAAQMD 8-5-328.1.2	Y		Organic concentration in tank <10,000 ppm as methane after cleaning	BAAQMD 8-5-503	periodic each time emptied & degassed	portable hydrocarbon detector
VOC		Y		Determination of applicability	BAAQMD 8-5-604	P/E	look-up table or sample analysis
	BAAQMD Regulation 8, Rule -8 – Organic Compounds – Wastewater (Oil Water Separators)						
VOC	BAAQMD 8-8-302.3		Y	95% collection and destruction of VOC, by weight		N	
NONE	**40 CFR 63 Subpart CC – NESHAPS for Petroleum Refineries Exempt per 63.640(d)(5). Emission point routed to fuel gas system.**						
	BAAQMD PERMIT CONDITIONS						
~~The following applies to S137 only~~							

Table VII – BB.15a
Applicable Limits and Compliance Monitoring Requirements
MACT FIXED ROOF TANKS WITH VAPOR RECOVERY TO FUEL GAS
~~S137 (Tank 202),~~ S139 (Tank 204), S140 (Tank 205), S168 (Tank 269), S182 (Tank 294)

Type of Limit	Emission Limit Citation	FE Y/N	Future Effective Date	Emission Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type
~~VOC~~	~~BAAQMD Condition 22518, Part 2~~	~~Y~~		~~Vapor pressure < 11 psia~~	~~BAAQMD 8-5-501.1~~	~~periodic initially and upon change of service~~	~~records~~
VOC	BAAQMD Condition 13184, Part 1	Y		Applies to S182 only Requirement to vent working emissions to fuel gas system		N	
	~~BAAQMD Condition 22518, Part 3~~	~~Y~~		~~10 E 6 bbl/yr~~	~~BAAQMD 8-5-501.1~~	~~P/E~~	~~Records~~
~~**The following applies to S139 and S140 only**~~							
~~throughput~~	~~BAAQMD Condition 20989, Part A~~	~~N~~		~~S139: 2.74 E 6 bbl/yr S140: 2.74 E 6 bbl/yr~~	~~BAAQMD Condition 20989, Part A~~	~~P/M~~	~~records~~
	Condition #23724, part 4a	Y		Applies to S139 1.9 inches of water	Condition #23724, part 3	C	Pressure monitoring
	Condition #23724, part 4a	Y		Applies to S140 1.9 inches of water	Condition #23724, part 3	C	Pressure monitoring
	Condition #23724, part 4a	Y	7/5/09	Applies to S168 TBD	Condition #23724, part 3	C	Pressure monitoring
	Condition #23724, part 4a	Y	7/5/09	Applies to S182 1.5 inches of water	Condition #23724, part 3	C	Pressure monitoring

S137 has been moved to Table VII-BB.15b from Table VII-BB.15a because it does not contain wastewater.

Table VII – BB.15b
Applicable Limits and Compliance Monitoring Requirements
MACT FIXED ROOF TANKS WITH VAPOR RECOVERY TO FUEL GAS
S137 (Tank 202)~~S182 (Tank 294)~~

Type of Limit	Emission Limit Citation	FE Y/N	Future Effective Date	Emission Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type
	BAAQMD Regulation 8, Rule 5, Organic Compounds - STORAGE OF ORGANIC LIQUIDS LIMITS AND MONITORING FOR CVS & CONTROL DEVICES						
VOC	BAAQMD 8-5-301	Y		Record of liquids stored and true vapor pressure	BAAQMD 8-5-501.1	periodic initially and upon change of service	records
VOC	BAAQMD 8-5-303.1	Y		Pressure vacuum valve set pressure within 10% of maximum allowable working pressure of the tank, or at least 0.5 psig	BAAQMD 8-5-403	P/SA	visual inspection
VOC	BAAQMD 8-5-303.2	Y		Pressure vacuum valve must be gas-tight: < 500 ppm (as methane) above background	BAAQMD 8-5-403 8-5-503 8-5-605	P/SA	Method 21 portable hydrocarbon detector
VOC	BAAQMD 8-5-306	Y		Control device standards; includes 95% efficiency requirement	BAAQMD 8-5-603.1	not specified	MOP Volume IV ST-4
VOC	BAAQMD 8-5-328.1.2	Y		Organic concentration in tank <10,000 ppm as methane after cleaning	BAAQMD 8-5-503	periodic each time emptied & degassed	portable hydrocarbon detector
VOC		Y		Determination of applicability	BAAQMD 8-5-604	P/E	look-up table or sample analysis
NONE	**40 CFR 63 Subpart CC – NESHAPS for Petroleum Refineries Exempt per 63.640(d)(5). Emission point routed to fuel gas system.**						
	BAAQMD PERMIT CONDITIONS						
~~VOC~~	~~BAAQMD Condition 13184, Part 1~~	~~Y~~		~~Requirement to vent working emissions to fuel gas system~~		~~N~~	
VOC	BAAQMD Condition 22518, Part 2	Y		S137 Vapor pressure < 11 psia	BAAQMD 8-5-501.1	periodic initially and upon change of service	records

Table VII – BB.15b
Applicable Limits and Compliance Monitoring Requirements
MACT FIXED ROOF TANKS WITH VAPOR RECOVERY TO FUEL GAS
S137 (Tank 202)~~S182 (Tank 294)~~

Type of Limit	Emission Limit Citation	FE Y/N	Future Effective Date	Emission Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type
	Condition #23724, part 4a	Y	7/5/09	Applies to S137 TBD	Condition #23724, part 3	C	Pressure monitoring

Table VII – BB.11
Applicable Limits and Compliance Monitoring Requirements
NSPS KB FIXED ROOF TANKS WITH VAPOR RECOVERY TO FUEL GAS
S135 (TANK 200), S360 (TANK 223), S445 (TANK 271), S449 (TANK 285)
S506 (TANK 257)

Type of Limit	Emission Limit Citation	FE Y/N	Future Effective Date	Emission Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type
Tank S506 will be subject to the requirements in Table VII-BB.11 upon startup.							
	BAAQMD Regulation 8, Rule 5, Organic Compounds - STORAGE OF ORGANIC LIQUIDS LIMITS AND MONITORING FOR CVS & CONTROL DEVICES						
VOC	BAAQMD 8-5-301	Y		Record of liquids stored and true vapor pressure	BAAQMD 8-5-501.1	periodic initially and upon change of service	records
VOC	BAAQMD 8-5-303.1	Y		Pressure vacuum valve set pressure within 10% of maximum allowable working pressure of the tank, or at least 0.5 psig	BAAQMD 8-5-403	P/SA	visual inspection
VOC	BAAQMD 8-5-303.2	Y		Pressure vacuum valve must be gas-tight: < 500 ppm (as methane) above background	BAAQMD 8-5-403 8-5-503 8-5-605	P/SA	Method 21 portable hydrocarbon detector
VOC	BAAQMD 8-5-306	Y		Control device standards; includes 95% efficiency requirement	BAAQMD 8-5-603.1	not specified	MOP Volume IV ST-4
VOC	BAAQMD 8-5-328.1.2	Y		Organic concentration in tank <10,000 ppm as methane after cleaning	BAAQMD 8-5-503	periodic each time emptied & degassed	portable hydrocarbon detector
VOC		Y		Determination of applicability	BAAQMD 8-5-604	P/E	look-up table or sample analysis
NONE	**40 CFR 63 Subpart CC – NESHAPS for Petroleum Refineries Exempt per 63.640(d)(5). Emission point routed to fuel gas system.**						

Table VII – BB.11
Applicable Limits and Compliance Monitoring Requirements
NSPS Kb Fixed Roof Tanks with Vapor Recovery to Fuel Gas
S135 (Tank 200), S360 (Tank 223), S445 (Tank 271), S449 (Tank 285)
S506 (Tank 257)

Type of Limit	Emission Limit Citation	FE Y/N	Future Effective Date	Emission Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type
	40 CFR 60 Subpart Kb – NSPS for VOL Storage Vessels LIMITS AND MONITORING FOR CVS & CONTROL DEVICES (NOT A FLARE)						
VOC	40 CFR 60.112b (a)(3)(i)	Y		Closed vent system leak tightness standards (< 500 ppmw)	40 CFR 60.112b (a)(3)(i)	as required in 60.485(b) [Subpart VV]	Method 21
VOC	40 CFR 60.112b (a)(3)(ii)	Y		Control device standards; includes 95% efficiency requirement	40 CFR 60.113b (c)(2)	as approved	specified parameter
	BAAQMD PERMIT CONDITIONS						
The following applies to S135 only							
VOC	BAAQMD Condition 22518, Part 1	Y		Vapor pressure < 11 psia	BAAQMD 8-5-501.1	periodic initially and upon change of service	records
	BAAQMD Condition 22518, Part 3	Y		10 E 6 bbl/yr	BAAQMD 8-5-501.1	P/E	Records
The following applies to S445 only.							
VOC	BAAQMD Condition 12130, Part 1	Y		Requirement to vent working emissions to fuel gas system	None	N	None
The following applies to S449 only.							
VOC	BAAQMD Condition 11219, Part 1	Y		Requirement to vent working emissions to fuel gas system	None	N	None
The following applies to S360 only.							
throughput	BAAQMD Condition 20989, Part A	Y		2.78 E 6 bbl/yr	BAAQMD Condition 20989, Part A	P/M	records
The following applies to S135, S360, S445, and S449.							
	Condition #23724, part 4a	Y	7/5/09	Applies to S135 TBD	Condition #23724, part 3	C	Pressure monitoring
	Condition #23724, part 4a	Y	7/5/09	Applies to S360 1.9 inches of water	Condition #23724, part 3	C	Pressure monitoring

Table VII – BB.11
Applicable Limits and Compliance Monitoring Requirements
NSPS Kb Fixed Roof Tanks with Vapor Recovery to Fuel Gas
S135 (Tank 200), S360 (Tank 223), S445 (Tank 271), S449 (Tank 285)
S506 (Tank 257)

Type of Limit	Emission Limit Citation	FE Y/N	Future Effective Date	Emission Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type
	Condition #23724, part 4a	Y	7/5/09	Applies to S445 1.9 inches of water	Condition #23724, part 3	C	Pressure monitoring
	Condition #23724, part 4a	Y	7/5/09	Applies to S449 1.5 inches of water	Condition #23724, part 3	C	Pressure monitoring
The following applies to S506 only							
VOC	Condition #23724, part 4a	Y	Upon startup	Applies to S506 2.2 inches of water	Condition #23724, part 3	C	Pressure monitoring
	BAAQMD Condition 23843, Part 1	Y	Upon startup	Vapor pressure < 1.5 psia	BAAQMD 8-5-501.1	periodic initially and upon change of service	records

S158 has been replaced by S506. This change was evaluated in Application 16940, attached.

Table VII – BB.22
Applicable Limits and Compliance Monitoring Requirements
Exempt Fixed Roof Tanks with Vapor Recovery to Fuel Gas
~~S158 (Tank 258),~~ S175 (Tank 284)

Type of Limit	Emission Limit Citation	FE Y/N	Future Effective Date	Emission Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type
	BAAQMD Regulation 8, Rule 5 - Organic Compounds - STORAGE OF ORGANIC LIQUIDS **Exempt per 8-5-117. Low vapor pressure**						
POC	BAAQMD 8-5-117 & Condition 20773, Part 1	Y		Exemption from Regulation 8-5 when true vapor pressure is less than 25.8 mm Hg (0.5 psia).	BAAQMD 2-6-409.2 & Condition 20773, Part 2	P/E	Vapor pressure determination upon material change
NONE	**40 CFR 63 Subpart CC – NESHAPS for Petroleum Refineries** Exempt per 63.640(d)(5). Emission point routed to fuel gas system.						
	BAAQMD PERMIT CONDITIONS						
	Condition #23724, part 4b	Y	7/5/09	Applies to S175 TBD	Condition #23724, part 3	C	Pressure monitoring

Table VII – BB.27
Applicable Limits and Compliance Monitoring Requirements
NSPS Kb Exempt Fixed Roof Wastewater Tanks Vented to Fuel Gas
Tank 235, Tank 236

Type of Limit	Emission Limit Citation	FE Y/N	Future Effective Date	Emission Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type
	BAAQMD Regulation 8, Rule 5 - Organic Compounds - STORAGE OF ORGANIC LIQUIDS						
	Exempt per 8-5-117. Low vapor pressure						
POC	BAAQMD 8-5-117 & Condition 20773, Part 1	Y		Exemption from Regulation 8-5 when true vapor pressure is less than 25.8 mm Hg (0.5 psia).	BAAQMD 2-6-409.2 & Condition 20773, Part 2	P/E	Vapor pressure determination upon material change
NONE	**40 CFR 63, Subpart CC – NESHAPS for Petroleum Refineries**						
	Exempt per 63.640(d)(5). Emission point routed to fuel gas system.						
	40 CFR 60, Subpart Kb - NSPS for VOL Storage Vessels at Petroleum Refineries						
	RECORDKEEPING ONLY						
Vapor pressure	40 CFR 60.110b(c)	Y		True vapor pressure less than 3.5 kPa.	40 CFR 60.116b(b)	P/E	Record
~~**NSPS QQQ**~~	~~**60 Subpart QQQ – VOC Emissions from Petroleum Refinery Wastewater Systems**~~						
~~VOC~~	~~40 CFR 60.692-3(a)~~	~~Y~~		~~Fixed roof closure standards~~	~~40 CFR 60.692-3(a)(4)~~	~~periodic initially and semi-annually~~	~~Visual inspection~~
~~VOC~~		~~Y~~		~~Problems identified during 60.692-3(a) inspections that could result in VOC emissions~~	~~40 CFR 60.697(c)~~	~~periodic when problem is identified~~	~~Records~~
~~VOC~~		~~Y~~		~~Problems identified during 60.692-3(a) inspections that could result in VOC emissions~~	~~40 CFR 60.698(c)~~	~~periodic initially and semi-annually~~	~~Report~~
	BAAQMD PERMIT CONDITIONS						
	Condition #23724, part 4b	Y	7/5/09	Applies to 235 TBD	Condition #23724, part 3	C	Pressure monitoring
	Condition #23724, part 4b	Y	7/5/09	Applies to 236 TBD	Condition #23724, part 3	C	Pressure monitoring

Tanks S117 and S193 are being deleted in this action because they are out of service.

Table VII – BB.3
Applicable Limits and Compliance Monitoring Requirements
LOW VAPOR PRESSURE PERMITTED TANKS < 10,000 GALLONS
~~S117 (TANK 162), S193 (TANK 305),~~ S194 (TANK 306)

Type of Limit	Emission Limit Citation	FE Y/N	Future Effective Date	Emission Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type
	BAAQMD Regulation 8, Rule 5 - Organic Compounds - STORAGE OF ORGANIC LIQUIDS						
	Exempt per 8-5-117. Low vapor pressure						
POC	BAAQMD 8-5-117 & Condition 20773, Part 1	Y		Exemption from Regulation 8, Rule 5 when true vapor pressure is less than 25.8 mm Hg (0.5 psia).	BAAQMD 2-6-409.2 & Condition 20773, Part 2	P/E	Vapor pressure determination upon material change
NONE	**40 CFR 63, Subpart CC – NESHAPS for Petroleum Refineries**						
	Exempt per 63.641 storage vessel definition. Size less than or equal to 10,000 gallons.						
	BAAQMD PERMIT CONDITIONS						
throughput	BAAQMD Condition 20989, Part A	N		~~S117: 8.76 E 5 bbl/yr~~ ~~S193: 100 bbl/yr~~ S194: 100 bbl/yr	BAAQMD Condition 20989, Part A	P/M	Records

S121, Tank, is being deleted in this action because it is out of service.

~~Table VII – BB.6~~
~~Applicable Limits and Compliance Monitoring Requirements~~
~~MACT (SMALL) ZERO GAP EXTERNAL FLOATING ROOF TANK~~
~~S121 (TANK 166)~~

~~Type of Limit~~	~~Emission Limit Citation~~	~~FE Y/N~~	~~Future Effective Date~~	~~Emission Limit~~	~~Monitoring Requirement Citation~~	~~Monitoring Frequency (P/C/N)~~	~~Monitoring Type~~
	~~BAAQMD Regulation 8, Rule 5, Organic Compounds - STORAGE OF ORGANIC LIQUIDS~~ ~~LIMITS AND MONITORING FOR EXTERNAL FLOATING ROOF TANKS~~						
~~VOC~~	~~BAAQMD 8-5-301~~	~~Y~~		~~Record of liquids stored and true vapor pressure~~	~~BAAQMD 8-5-501.1~~	~~periodic initially and upon change of service~~	~~Records~~
~~VOC~~	~~BAAQMD 8-5-320~~	~~Y~~		~~Floating roof fitting closure standards; includes gasketed covers~~	~~BAAQMD 8-5-401.2~~	~~P/SA~~	~~Measurement and visual inspection~~
~~VOC~~	~~BAAQMD 8-5-321~~	~~Y~~		~~Primary rim seal standards; includes gap criteria~~	~~BAAQMD 8-5-401.1~~	~~P/SA and every time a seal is replaced~~	~~Seal inspection~~

~~Table VII – BB.6~~
~~Applicable Limits and Compliance Monitoring Requirements~~
~~MACT (SMALL) ZERO GAP EXTERNAL FLOATING ROOF TANK~~
~~S121 (TANK 166)~~

Type of Limit	Emission Limit Citation	~~FE Y/N~~	~~Future Effective Date~~	~~Emission Limit~~	~~Monitoring Requirement Citation~~	~~Monitoring Frequency (P/C/N)~~	~~Monitoring Type~~
~~VOC~~	~~BAAQMD 8-5-322~~	~~Y~~		~~Secondary rim-seal standards; includes gap criteria~~	~~BAAQMD 8-5-401.1~~	~~P/SA and every time a seal is replaced~~	~~Seal inspection~~
~~VOC~~	~~BAAQMD 8-5-328.1.2~~	~~Y~~		~~Concentration of < 10,000 ppm as methane after degassing~~	~~BAAQMD 8-5-503~~	~~periodic each time emptied & degassed~~	~~Portable hydrocarbon detector~~
~~VOC~~		~~Y~~		~~Certification reports on tank inspections and source tests~~	~~BAAQMD 8-5-404 8-5-405~~	~~periodic after each tank inspection and source test~~	~~Certification Report~~
~~VOC~~		~~Y~~		~~Records of tank seal replacement~~	~~BAAQMD 8-5-501.2~~	~~periodic after each tank seal replacement~~	~~Records~~
~~VOC~~		~~Y~~		~~Determination of applicability~~	~~BAAQMD 8-5-604~~	~~P/E~~	~~look-up table or sample analysis~~
	~~40 CFR 63 Subpart CC – NESHAPS for Petroleum Refineries~~ ~~MONITORING FOR RECORDKEEPING ONLY~~						
~~HAP~~	~~40 CFR 63.641~~	~~Y~~		~~Retain weight percent total organic HAP in stored liquid for Group 2 determination.~~	~~40 CFR 63.654(i)(1)(iv)~~	~~periodic initially and upon change in service~~	~~Records~~
	~~BAAQMD PERMIT CONDITIONS~~						
~~throughput~~	~~BAAQMD Condition 20989, Part A~~	~~N~~		~~3.52 E 4 bbl/yr~~	~~BAAQMD Condition 20989, Part A~~	~~P/M~~	~~records~~

Following are the proposed changes in Section VII for S8, Heater.

Table VII – A.6
Applicable Limits and Compliance Monitoring Requirements
S8 – UNIT 240, B-1 BOILER
(S8 will be removed from service within 90 days of the date that the NOx offsets pursuant to Application 13424 must be supplied pursuant to BAAQMD Regulation 2-2-410.)

Type of Limit	Citation of Limit	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type
NOx		Y		CEM for NOx and O2 (or CO2)	BAAQMD 1-520.1	C	CEM
NOx	BAAQMD 9-10-301	N		Refinery-wide emissions: 0.033 lb NOx/ MMbtu	BAAQMD 9-10-502.1	C	CEM
NOx	BAAQMD 9-10-303	Y		Federal emissions: Refinery-wide emissions: 0.20 lb NOx/MMbtu	None	N	None
Heat input	BAAQMD Condition 1694, Part A.1b	Y		6,144 MMbtu/day	BAAQMD Condition 1694, Part A.5	P/D	records
Heat input	BAAQMD Condition 1694, Part F.1	Y		993.7 MMbtu/hr averaged over any year at S8, S9, S10, S11, S12, S13, S14	BAAQMD Condition 1694, Part F.3	P/M	records
O2		Y			BAAQMD 1-520.1	C	O2 Monitor
O2		N		No limit	BAAQMD 9-10-502.1 BAAQMD Condition 21235, Part 2	C	O2 Monitor
CO	BAAQMD 9-10-305	N		400 ppmv (dry, 3% O_2)	BAAQMD 9-10-502.1 BAAQMD Condition 21235, Part 8	P/SA	source test
Opacity	BAAQMD 6-1-301	~~Y~~N		Ringelmann 1 for no more than 3 minutes in any hour	None for gaseous-fueled sources	N	None

Table VII – A.6
Applicable Limits and Compliance Monitoring Requirements
S8 – UNIT 240, B-1 BOILER

(S8 will be removed from service within 90 days of the date that the NOx offsets pursuant to Application 13424 must be supplied pursuant to BAAQMD Regulation 2-2-410.)

Type of Limit	Citation of Limit	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type
Opacity	SIP 6-301	Y		Ringelmann 1 for no more than 3 minutes in any hour	None for gaseous-fueled sources	N	None
Opacity	BAAQMD 6-1-304	~~Y~~N		During tube cleaning, Ringelmann No. 2 for 3 min/hr and 6 min/billion btu in 24 hours; applies to sources rated over 140 MMbtu/hr (with tubes)	None for gaseous-fueled sources	N	None
Opacity	SIP 6-304	Y		During tube cleaning, Ringelmann No. 2 for 3 min/hr and 6 min/billion btu in 24 hours; applies to sources rated over 140 MMbtu/hr (with tubes)	None for gaseous-fueled sources	N	None
FP	BAAQMD 6-1-305	~~Y~~N		Prohibition of nuisance	None	N	None
FP	SIP 6-305	Y		Prohibition of nuisance	None	N	None
FP	BAAQMD 6-1-310.3	~~Y~~N		0.15 grain/dscf @ 6% O2	None for gaseous-fueled sources	N	None
FP	SIP 6-310.3	Y		0.15 grain/dscf @ 6% O2	None for gaseous-fueled sources	N	None
SO2	BAAQMD Condition 1694, Part A.4	Y		1,612 lb/day SO2 over any month from non-cogeneration sources	BAAQMD Condition 1694, Part A.3a	P/3 times per day	TRS analysis
H2S	40 CFR 60.104(a)(1)	Y		fuel gas H2S concentration limited to 230 mg/dscm (0.10 gr/dscf)	40 CFR 60.105(a)(4)	C	H2S analyzer

Table VII – A.6
Applicable Limits and Compliance Monitoring Requirements
S8 – UNIT 240, B-1 BOILER

(S8 will be removed from service within 90 days of the date that the NOx offsets pursuant to Application 13424 must be supplied pursuant to BAAQMD Regulation 2-2-410.)

Type of Limit	Citation of Limit	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type
Fuel Flow		Y		No limit	BAAQMD 9-10-502.2	C	Fuel Flowmeter

Additional changes pursuant to appeal of permit to remove 40 CFR 60, Subpart QQQ from various sources

As explained in Section C.IV of this statement of basis, the above standard does not apply to sources S195, S196, S388 and S433, so the standard has been deleted from Tables VII-BB.1 and VII-BB.5.

Table VII – BB.1
Applicable Limits and Compliance Monitoring Requirements
NSPS KB LOW VAPOR PRESSURE PERMITTED WASTEWATER SLUDGE TANKS WITH VAPOR RECOVERY TO FUEL GAS
S433 (F224 - MOSC)

Type of Limit	Emission Limit Citation	FE Y/N	Future Effective Date	Emission Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type
	BAAQMD Regulation 8, Rule 5 - Organic Compounds - STORAGE OF ORGANIC LIQUIDS Exempt per 8-5-117. Low vapor pressure						
POC	BAAQMD 8-5-117 & Condition 20773, Part 1	Y		Exemption from Regulation 8-5 when true vapor pressure is less than 25.8 mm Hg (0.5 psia).	BAAQMD 2-6-409.2 & Condition 20773, Part 2	P/E	Vapor pressure determination upon material change
	BAAQMD 8, Rule 8 – Organic Compounds – Wastewater (Oil Water Separators)						
VOC	BAAQMD 8-8-303	Y		Vapor tight gauging and sampling devices	BAAQMD 8-8-504 8-8-603	N	Portable hydrocarbon detector
VOC	BAAQMD 8-8-304	Y		Combined collection/destruction efficiency of 95% by weight.	BAAQMD 8-8-602	N	Source test or EPA Method 25 or 25A
NONE	**40 CFR 63, Subpart CC – NESHAPS for Petroleum Refineries Exempt per 63.640(d)(5). Emission point routed to fuel gas system.**						
	~~**40 CFR 60, Subpart QQQ – VOC Emissions from Petroleum Refinery Wastewater Systems**~~						

Table VII – BB.1
Applicable Limits and Compliance Monitoring Requirements
NSPS Kb Low Vapor Pressure Permitted Wastewater Sludge Tanks with Vapor Recovery to Fuel Gas
S433 (F224 - MOSC)

Type of Limit	Emission Limit Citation	FE Y/N	Future Effective Date	Emission Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type
~~VOC~~	~~40 CFR 60.692-3(a)~~	~~Y~~		~~Fixed roof closure standards~~	~~40 CFR 60.692-3(a)(4)~~	~~periodic initially and semi-annually~~	~~Visual inspection~~
~~VOC~~		~~Y~~		~~Problems identified during 60.692-3(a) inspections that could result in VOC emissions~~	~~40 CFR 60.697(c)~~	~~periodic when problem is identified~~	~~Records~~
~~VOC~~		~~Y~~		~~Problems identified during 60.692-3(a) inspections that could result in VOC emissions~~	~~40 CFR 60.698(c)~~	~~periodic initially and semi-annually~~	~~Report~~
	40 CFR 60, Subpart Kb – NSPS for VOL Storage Vessels MONITORING FOR RECORDKEEPING ONLY						
VOC	40 CFR 60.110b(c)	Y		True vapor pressure less than 3.5 kPa.	40 CFR 60.116b (b)	periodic initially and upon change of service	Record
	BAAQMD PERMIT CONDITIONS						
throughput	BAAQMD Condition 7353, Part 4	Y		138,700 bbl/yr	BAAQMD Condition 7353, Part 5	P/W	records

Table VII – BB.5
Applicable Limits and Compliance Monitoring Requirements
NSPS Kb Low Vapor Pressure Permitted Wastewater Sludge Tanks
S195 (Tank 501), S196 (Tank 502), S388 (Tank 276/F205)

Type of Limit	Emission Limit Citation	FE Y/N	Future Effective Date	Emission Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type
	BAAQMD Regulation 8, Rule 5 - Organic Compounds - STORAGE OF ORGANIC LIQUIDS Exempt per 8-5-117. Low vapor pressure						
POC	BAAQMD 8-5-117 & Condition 20773, Part 1	Y		Exemption from Regulation 8, Rule 5 when true vapor pressure is less than 25.8 mm Hg (0.5 psia).	BAAQMD 2-6-409.2 & Condition 20773, Part 2	P/E	Vapor pressure determination upon material change
	BAAQMD 8, Rule 8 – Organic Compounds – Wastewater (Oil Water Separators)						
VOC	BAAQMD 8-8-303	Y		Vapor tight gauging and sampling devices	BAAQMD 8-8-504 8-8-603	N	Portable hydrocarbon detector
VOC	BAAQMD 8-8-305.1	Y		Slop oil tank vessel roof criteria; includes gap criteria	BAAQMD 8-8-305.1	periodic initially & semi-annually	visual inspection
	40 CFR 60, Subpart Kb - NSPS for VOL Storage Vessels at Petroleum Refineries 40 CFR 63, Subpart CC – National Emission Standards for Hazardous Air Pollutants for Petroleum Refineries RECORDKEEPING ONLY						
Vapor pressure	40 CFR 63.640(n)(1) 60.110b(c)	Y		True vapor pressure less than 3.5 kPa.	40 CFR 63.640(n)(8) 60.116b(b)	P/E	Record
Vapor pressure		Y		TVP exceedances (> 5.2 kPa).	40 CFR 63.640(n)(8) 60.116b(d)	periodic within 30 days of exceedance	Notification
	~~**40 CFR 60, Subpart QQQ – VOC Emissions from Petroleum Refinery Wastewater Systems**~~						
~~VOC~~	~~40 CFR 60.692-3(a)~~	~~Y~~		~~Fixed roof closure standards~~	~~40 CFR 60.692-3(a)(4)~~	~~periodic initially and semi-annually~~	~~Visual inspection~~
~~VOC~~		~~Y~~		~~Problems identified during 60.692-3(a) inspections that could result in VOC emissions~~	~~40 CFR 60.697(e)~~	~~periodic when problem is identified~~	~~Records~~
~~VOC~~		~~Y~~		~~Problems identified during 60.692-3(a) inspections that could result in VOC emissions~~	~~40 CFR 60.698(e)~~	~~periodic initially and semi-annually~~	~~Report~~

Table VII – BB.5
Applicable Limits and Compliance Monitoring Requirements
NSPS Kb Low Vapor Pressure Permitted Wastewater Sludge Tanks
S195 (Tank 501), S196 (Tank 502), S388 (Tank 276/F205)

Type of Limit	Emission Limit Citation	FE Y/N	Future Effective Date	Emission Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type
	BAAQMD PERMIT CONDITIONS						
throughput	BAAQMD Condition 20989, Part A	Y		S195, S196, S388: 525,600 bbl/yr	BAAQMD Condition 20989, Part A	P/M	Records

VIII. Test Methods

This section of the permit lists test methods that are associated with standards in District or other rules. It is included only for reference. In most cases, the test methods in the rules are source test methods that can be used to determine compliance but are not required on an ongoing basis. They are not applicable requirements.

If a rule or permit condition requires ongoing testing, the requirement will also appear in Section IV of the permit.

Changes to permit

The test methods for 40 CFR 63, Subpart UUU, will be added to the permit because they were mistakenly omitted when the permit was issued on October 31, 2008. This change was proposed and approved pursuant to Application 10994. This change is considered an administrative amendment.

Table VIII
Test Methods

Applicable Requirement	Description of Requirement	Acceptable Test Methods
BAAQMD Regulations		
6-1-301	Ringelmann No. 1 Limitation	Manual of Procedures, Volume I, Evaluation of Visible Emissions; EPA Method 9
6-1-304	Tube Cleaning	Manual of Procedures, Volume I, Evaluation of Visible Emissions
6-1-310	Particulate Weight Limitation	Manual of Procedures, Volume IV, ST-15, Particulates Sampling U.S. EPA Method 5
6-1-311	General Operations	Manual of Procedures, Volume IV, ST-15, Particulates Sampling U.S. EPA Method 5
~~6-301~~	~~Ringelmann No. 1 Limitation~~	~~Manual of Procedures, Volume I, Evaluation of Visible Emissions; EPA Method 9~~
~~6-304~~	~~Tube Cleaning~~	~~Manual of Procedures, Volume I, Evaluation of Visible Emissions~~
~~6-310~~	~~Particulate Weight Limitation~~	~~Manual of Procedures, Volume IV, ST-15, Particulates Sampling U.S. EPA Method 5~~
~~6-311~~	~~General Operations~~	~~Manual of Procedures, Volume IV, ST-15, Particulates Sampling U.S. EPA Method 5~~
SIP Regulation		
6-301	Ringelmann No. 1 Limitation	Manual of Procedures, Volume I, Evaluation of Visible Emissions; EPA Method 9
6-304	Tube Cleaning	Manual of Procedures, Volume I, Evaluation of Visible Emissions

Table VIII
Test Methods

Applicable Requirement	Description of Requirement	Acceptable Test Methods
6-310	Particulate Weight Limitation	Manual of Procedures, Volume IV, ST-15, Particulates Sampling U.S. EPA Method 5
6-311	General Operations	Manual of Procedures, Volume IV, ST-15, Particulates Sampling U.S. EPA Method 5
40 CFR 61, Subpart FF		
61.343(a)(1)(i)(A)	No detectable emissions over 500 ppmv	40 CFR 60, Appendix A, Method 21 as specified in 40 CFR 61, Subpart FF 61.355(h)
40 CFR 63, Subpart A, Section 63.11 (b) 40 CFR 63, Subpart UUU, Table 18	Opacity Limit	EPA Method 22, Visible Emissions
BAAQMD Condition 1440, Part 7b.i.1	Source test requirement for POC	Manual of Procedures, Volume IV, ST-7, Organic Compounds
BAAQMD Condition 1440, Part 7b.i.2	Source test requirement for POC	Manual of Procedures, Volume IV, ST-7, Organic Compounds
BAAQMD Condition 1440, Part 7b.i.3	Source test requirement for H2S	Manual of Procedures, Volume IV, ST-28, Hydrogen Sulfide, Integrated Sampling
BAAQMD Condition 1440, Part 7b.i.4	Source test requirement for H2S	Manual of Procedures, Volume IV, ST-28, Hydrogen Sulfide, Integrated Sampling
BAAQMD Condition 1440, Part 7b.i.5	Source test requirement for SO2	Manual of Procedures, Volume IV, ST-19A, Sulfur Dioxide, Continuous Sampling

Table VIII
Test Methods

Applicable Requirement	Description of Requirement	Acceptable Test Methods
BAAQMD Condition 22962, Part 2	PM10 Emission Rate	EPA Method 201, Determination of PM10 Emissions (Exhaust Gas Recycle Procedure), and EPA Method 202, Determination of Condensible Particulate Emissions From Stationary Sources (Found in 40 CFR 51, Appendix M)

IX. Permit Shield:

Changes to permit:
This action proposes no changes to permit shields.

X. Revision History

Changes to permit:

Significant Revision (Application 13427): [enter approval date]

XI. Glossary

Changes to permit:
The glossary was updated.

CFEP
Clean Fuel Expansion Project

SAM
Sulfuric Acid Mist

D. Alternate Operating Scenarios:

Conoco has requested an alternate operating scenario for S1007, Dissolved Air Flotation Unit, in this action.

S1007 will be controlled by A49, Thermal Oxidizer, or A51, DAF Carbon Bed for the purpose of obtaining offsets, to comply with the Benzene Waste NESHAPS in 40 CFR 61, Subpart FF (BWON), and to comply with BAAQMD and SIP Regulations 8, Rule 8, Wastewater Collection and Separation Systems.

When the controls are not operating, Conoco will not consider S1007 to be controlled for the purposes of BWON, BAAQMD Regulation, Rule 8, and SIP Regulation, Rule 8. This is acceptable as long as Conoco complies with the other conditions including the requirement to collect and destroy at least 44 tons of POC/yr. The Title V regulations in 40 CFR Part 70.6(a)(9) require that facility must keep a record in a contemporaneous log when the facility changes any aspect of its operations from one permitted scenario to another and that each alternate operating scenario must meet all applicable requirements.

BWON
The option that the facility has chosen for compliance with BWON is found in Section 61.342(e) and is known as the "6BQ" option. It means that the facility may not emit more than 6 megagrams (6.6 tons) of benzene/yr as defined by the standard.

S1007 does not have to be controlled at all times to comply with the "6BQ" option. Conoco has requested the following alternate operating scenario for S1007. When the controls are operating, Conoco will comply with 40 CFR 61.349, Closed-vent systems and control devices. When the controls are not operating, Conoco will comply with the requirement to keep records to determine how much benzene is emitted at S1007.

BAAQMD and SIP Regulations 8, Rule 8, Wastewater Collection and Separation Systems
S1007 can comply with Section 8-8-307.1, which requires covers and minimizes gaps, or 8-8-307.2, which requires an organic compound vapor recovery system with a combined collection and destruction efficiency of at least 70 percent, by weight.

Condition 1440, part 10, is proposed to implement the alternate operating scenario:

Alternate Operating Scenario

11. During periods when A49, DAF Thermal Oxidizer or A51, DAF Carbon Bed are not in operation, the owner/operator shall comply with the following requirements:
    e. Affected facility wastes routed to the API or DAF ~~should~~**shall** be included in the facility TAB in accordance with 40 CFR 61, Subpart FF.
    f. The owner/operator shall comply with BAAQMD and SIP Regulations 8-8-307.2 in lieu of BAAQMD and SIP Regulations 8-8-307.1.
    g. S1007 shall not be subject to the closed vent and control device requirements in 40 CFR 61, 349.

h. The owner/operator shall comply with parts 4, 5, 7, and 9 of this condition during periods when A49, DAF Thermal Oxidizer or A51, DAF Carbon Bed are not in operation.

This is considered an Alternate Operating Scenario in accordance with BAAQMD Regulation 2-6-409.7 and 40 CFR 70. The owner/operator shall keep a record in a contemporaneous log when a period of non-control at S1007 commences and when control of S1007 resumes. [40 CFR 61, Subpart FF, 40 CFR 70.6(a)(9), BAAQMD Regulation 2-6-409.7]

E. Compliance Status:

See Section C.V above.

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APPENDIX A

GLOSSARY

ARB
Air Resources Board

BAAQMD
Bay Area Air Quality Management District

BACT
Best Available Control Technology

Basis
The underlying authority that allows the District to impose requirements.

CAA
The federal Clean Air Act

CAAQS
California Ambient Air Quality Standards

CEM
Continuous Emission Monitor

CEQA
California Environmental Quality Act

CFEP
Clean Fuel Expansion Project

CFR
The Code of Federal Regulations. 40 CFR contains the implementing regulations for federal environmental statutes such as the Clean Air Act. Parts 50-99 of 40 CFR contain the requirements for air pollution programs.

CO
Carbon Monoxide

Cumulative Increase
The sum of permitted emissions from each new or modified source since a specified date pursuant to BAAQMD Rule 2-1-403, Permit Conditions (as amended by the District Board on 7/17/91) and SIP Rule 2-1-403, Permit Conditions (as approved by EPA on 6/23/95). Cumulative increase is used to determine whether threshold-based requirements are triggered.

District
The Bay Area Air Quality Management District

dscf
Dry Standard Cubic Feet

EPA
The federal Environmental Protection Agency.

EFRT
External Floating Roof Tank

Federally Enforceable, FE
All limitations and conditions which are enforceable by the Administrator of the EPA including those requirements developed pursuant to 40 CFR Part 51, subpart I (NSR), Part 52.21 (PSD), Part 60 (NSPS), Part 61 (NESHAPs), Part 63 (MACT), and Part 72 (Permits Regulation, Acid Rain), including limitations and conditions contained in operating permits issued under an EPAapproved program that has been incorporated into the SIP.

FP

Filterable Particulate as measured by BAAQMD Method ST-15, Particulate.

MOP
The District's Manual of Procedures.

NAAQS
National Ambient Air Quality Standards

NESHAPS
National Emission Standards for Hazardous Air Pollutants. See in 40 CFR Parts 61 and 63.

NH3
Ammonia

NOx
Oxides of nitrogen.

NSPS
Standards of Performance for New Stationary Sources. Federal standards for emissions from new stationary sources. Mandated by Title I, Section 111 of the Federal Clean Air Act, and implemented by 40 CFR Part 60 and District Regulation 10.

NSR
New Source Review. A federal program for pre-construction review and permitting of new and modified sources of pollutants for which criteria have been established in accordance with Section 108 of the Federal Clean Air Act. Mandated by Title I of the Federal Clean Air Act and implemented by 40 CFR Parts 51 and 52 and District Regulation 2, Rule 2. (Note: There are additional NSR requirements mandated by the California Clean Air Act.)

Offset Requirement
A New Source Review requirement to provide federally enforceable emission offsets for the emissions from a new or modified source. Applies to emissions of POC, NOx, PM10, and SO2.

POC
Precursor Organic Compounds

PM
Particulate Matter

PM10
Particulate matter with aerodynamic equivalent diameter of less than or equal to 10 microns

PSD
Prevention of Significant Deterioration. A federal program for permitting new and modified sources of those air pollutants for which the District is classified "attainment" of the National Air Ambient Quality Standards. Mandated by Title I of the Act and implemented by both 40 CFR Part 52 and District Regulation 2, Rule 2.

SCR
Selective Catalytic Reduction

SIP
State Implementation Plan. State and District programs and regulations approved by EPA and developed in order to attain the National Air Ambient Quality Standards. Mandated by Title I of the Act.

SO2
Sulfur dioxide

Title V
Title V of the federal Clean Air Act. Requires a federally enforceable operating permit program for major and certain other facilities.

TRMP
Toxic Risk Management Plan

VOC
Volatile Organic Compounds

Units of Measure:

bhp	=	brake-horsepower
btu	=	British Thermal Unit
cfm	=	cubic feet per minute
g	=	grams
gal	=	gallon
gpm	=	gallons per minute
hp	=	horsepower
hr	=	hour
lb	=	pound
in	=	inches
max	=	maximum
m^2	=	square meter
min	=	minute
mm	=	million
MMbtu	=	million btu
MMcf	=	million cubic feet
ppmv	=	parts per million, by volume
ppmw	=	parts per million, by weight
psia	=	pounds per square inch, absolute
psig	=	pounds per square inch, gauge
scfm	=	standard cubic feet per minute
yr	=	year

APPENDIX B

ENGINEERING EVALUATION APPLICATION 13424

FINAL
BAY AREA AIR QUALITY MANAGEMENT DISTRICT
ENGINEERING EVALUATION
CONOCOPHILLIPS SAN FRANCISCO REFINERY; PLANT 16
APPLICATION NO. 13424

October 5, 2007

Table of Contents

1. BACKGROUND

ConocoPhillips has submitted an application entitled "Clean Fuel Expansion Project " (CFEP). The purpose of the CFEP is to process heavy gas oil (HGO) that is produced at the coker crude unit, coker, and pre-fractionator, and that is received from the Santa Maria refinery via pipeline into gasoline and diesel. In order to do this, ConocoPhillips will add a high-pressure reactor train to S307, Unicracker. The new train will be integrated into S307, but will have a new source number, S434. ConocoPhillips will also increase the permitted capacity of S307, Unicracker; S309, Unisar; S432, Deisobutanizer; and S308, Reforming Unit. S1004, a new 200 long ton/day sulfur recovery unit (SRU), will be built. The new SRU will be designed without oxygen enrichment. A new 85 MMbtu/hr heater, S45, will be added for S434. The service will change on the following tanks: S98, S123, and S124. Tanks S118, S122, S128, S139, S140, and S182 will have throughput changes. S98 will switch from exempt diesel service to petroleum fluids with a vapor pressure up to 10 psia. The allowable vapor pressures at S123 and S124 will increase to 3.0 psia and 11.0 psia, respectively.

ConocoPhillips needs more hydrogen than it can currently produce to process the heavy gas oil. Air Liquide will build a new hydrogen plant on site and will retain ownership of the plant and operate it. However, ConocoPhillips will use all of the facility's output. BAAQMD Regulation 2-1-213 defines facility as:

> "Any property, building, structure or installation (or any aggregation of facilities) located on one or more contiguous or adjacent properties and under common ownership or control of the same person…"

The hydrogen plant will be on ConocoPhillips property, so it meets the conditions of "contiguous or adjacent." In addition, the hydrogen plant will take its feed from the refinery. ConocoPhillips will direct the hydrogen plant to produce the amount of hydrogen that it needs at any time, so the hydrogen plant is considered to be under ConocoPhillips' control. Therefore, the hydrogen plant will be considered to be part of the refinery. The hydrogen plant will also supply steam and electricity to ConocoPhillips.

Since it is part of the refinery, the two projects (CFEP and hydrogen plant) will be considered as one project for the purposes of NSR, PSD, Major Facility Review (Title V), offsets, NSPS, NESHAPS, and any other applicable requirements.

The Title V regulations in 40 CFR 70 allow agencies to issue more than one Title V permit to a facility. Because the hydrogen plant will be owned and operated by Air Liquide, it will have a separate plant number, B7419, and a separate application, No. 13678.

The ConocoPhillips Carbon Plant, Plant A0022, is owned and operated by ConocoPhillips. It is contiguous to the refinery. Although it has a separate plant number and Title V permit, it is also considered part of the ConocoPhillips facility. The applicant will reduce emissions at the carbon plant to obtain reductions in actual emissions of PM10 for the purposes of CEQA and contemporaneous offsets of SO2.

The facility will also generate contemporaneous offsets at the refinery by permanently reducing emissions of POC at S1007, Dissolved Air Flotation Unit; permanently reducing emissions of combustion contaminants by shutting down S8, Boiler; and permanently reducing NOx emissions at the Steam Power Plant, S352-S357.

The list of equipment that is affected at ConocoPhillips, Facility A0016, is shown below:

S45, Heater (U246), 85 MMbtu/hr
S98, Tank 101, EFRT, 170k barrels
S118, Tank No. 163, fixed roof, 5.3k barrels
S122, Tank No. 167, EFRT, 3.1 MMgals
S123, Tank No. 168, EFRT, 75k barrels
S124, Tank No. 169, EFRT, 75k barrels
S128, Tank No. 174, EFRT, 76k barrels
S139, Tank No. 204, fixed roof, 81k barrels, abated by A7, Vapor Recovery System
S140, Tank No. 205, fixed roof, 54k barrels, abated by A7, Vapor Recovery System
S168, Tank No. 269, fixed roof, 39k barrels, abated by A7, Vapor Recovery System
S173, Tank No. 280 fixed roof, 134k barrels, abated by A7, Vapor Recovery System
S174, (Tank No. 281), fixed roof, 134k barrels, abated by A7, Vapor Recovery System
S182, Tank No. 294, fixed roof, 40k barrels, abated by A7, Vapor Recovery System
S465, Sulfur Pit 235 abated by S1004, U235 Sulfur Recovery Unit
S307, U240 Unicracking Unit (increase of 23,000 bbl/day)
S308, U244 Reforming Unit (increase of 2,413 bbl/day)
S309, U248 UNISAR Unit (increase of 7,830 bbl/day)
S318, U76 Gasoline Blending (increase of 8,300,000 bbl/yr)
S339, U80 Gasoline/Mid Barrel Blending
S352, Combustion Turbine
S353, Combustion Turbine
S354, Combustion Turbine
S355, Duct Burner
S356, Duct Burner
S357, Duct Burner

S432, U215 Deisobutanizer (increase of 2,600 bbl/day)
S434, U246 High Pressure Reactor Train (Cracking) (23,000 bbl/day)
S464, Hydrogen Plant (not new source, was originally permitted as part of S307, U240 Unicracking Unit)
S503, Sulfur Storage Tank abated by S1004, U235 Sulfur Recovery Unit
S504, Sulfur Degassing Unit abated by S1004, U235 Sulfur Recovery Unit
S505, Sulfur Truck Loading Rack abated by S1004, U235 Sulfur Recovery Unit
S1004, U235 Sulfur Recovery Unit (200 long tons/day)
S1007, Dissolved Air Flotation Unit (DAF)
A7, Odor Abatement System
A47, SCR abating S45, Heater
A48, SRU Tail Gas Treatment Unit abating S1004, Sulfur Recovery Unit
A49, DAF Thermal Oxidizer (440,000 btu/hr) abating S1007, Dissolved Air Flotation
A51, DAF Carbon Bed
A424, Tail Gas Incinerator abating A48, SRU Tail Gas Treatment Unit and S1004, Sulfur Recovery Unit

Demolitions
S8, Boiler, U240 B-1 Boiler, 256 MMbtu/hr

Sources S45, S465, S434, and S1004, and abatement devices A47, A48, A49, and A424 will be new.

The list of equipment that is affected at ConocoPhillips, Plant A0022, is shown below:

S2, K-2, Kiln Burner

The list of new equipment for Air Liquide, Plant B7419, is shown below:

S1, Hydrogen Plant including HRSG and steam turbine generator (10.5 MW)
S2, Hydrogen Plant Furnace, 1,072 MMbtu/hr abated by A1, SCR
S3, Hydrogen Plant Flare, 2200 MMbtu/hr
S4, Cooling Tower, 3,700 gpm
S5, Ammonia Tank, 10,000 gal

The application states that emissions from ships and barges will decrease because the most of the HGO that will be processed in the new unicracker, S434, will not be shipped through the marine loading source. Some is being produced at the refinery now and some will be shipped up from the Santa Maria refinery via the pipeline. Currently, an average of 249,000 barrels per year of HGO destined for S305, Prefractionator, is shipped to the refinery via marine vessels. This HGO will be sent to the new Hydrocracker, S434, after being processed at S305.

The emissions increase in vessels carrying gasoline will be smaller than the decrease caused by processing the HGO that is in-house. ConocoPhillips has a firm limit on the amount of gasoline that can be shipped via ship or barge. The increase in heavy gas oil that is received from the Santa Maria refinery will be received by pipeline, not ship or barge, per the applicant. Also, a permit condition will be imposed on the marine loading source to restrict the amount of HGO received for this purpose via the marine loading source to 249,000 barrels per year.

2. EMISSION CALCULATIONS

The emissions are calculated in different ways to determine applicability of various requirements. The emission calculations will be presented in this order:

Actual and CEQA emissions
Emission calculations for the purposes of offsets
PSD emissions

2.1 Actual and CEQA emissions

The detailed emission calculations of criteria pollutants (NOX, SO2, PM10, POC, and CO) are in Appendix A. Following is a summary of the proposed emissions in tons per year from the changes to the ConocoPhillips plant.

After the public comment period, the facility agreed to lower the NOx and CO emissions at S45, Heater, and the SO2 emissions at S1004, Sulfur Recovery Unit. The facility also agreed to lower the overall emission limit for PM10 by 0.2 ton/yr.

	Tons per Year				
Source	**NOx**	**SO2**	**PM10**	**POC**	**CO**
S45, New Unit 246 HGO Feed Heater[1,4]	2.3	4.7	1.9	1.5	2.8
S434, New Unit 246 Startup/Shutdown[2]	<0.01	<0.01	-	0.03	0.02
S1004, New SRU (Unit 235)	11.2	29.7	0.59	0.4	37.9
Tanks 101, 168 & 169 Permit Cond. Change				8.1	
Existing Tanks				4.8	
Fugitives				6.1	
Paved Roads			1.1		
S8, Unit 240 Boiler B-1 Reductions[1]	-22.4		-2.9	-2.1	-43.4
Increased Heater Utilization[2]	7.2	1.2	3.1	2.3	2.8
Increased Tank Utilization[2]				1.0	
Refinery Steam Power Plant Reductions	-22.1				
Locomotive Emissions	2.2	0.2	0.08	0.1	0.3
Truck and Commuter Auto Trips[3]	2.2	<0.1	0.1	0.2	2.7
S1007, Dissolved Air Flotation (DAF) Unit	0.2	1.2	0.01	-44.1	0.2

	Tons per Year				
Source	**NOx**	**SO2**	**PM10**	**POC**	**CO**
Butane Loading Rack[3]				0.2	
Total	**-19.2**	**37**	**4.0**	**-21.5**	**3.3**

[1] CEQA does not require emissions to be RACT-adjusted.

[2] Increases within permitted limits

[3] Exempt source

[4]S45 and S1004 together will emit less than 2.5 tpy PM10. Reduction shown here at S45 for convenience.

Following is a summary of the original proposed emissions in tons per year from the proposed Air Liquide hydrogen plant. The annual emissions were calculated for the average operating rate of 975 MMbtu/hr. The maximum daily emissions were calculated for the maximum operating rate of 1,072 MMbtu/hr.

Summary of Hydrogen Plant Emissions

	Tons per Year					
Source	**NOx**	**SO2**	**PM10**	**POC**	**CO**	
New SMR Furnace	28.1	5.0	15.8	11.5	34.2	(975 MMBtu/hr, annual average)
Deaerator Vent	--	--	--	0.8	--	
Flare Pilots/NG Purge	0.12	0.004	--	--	1.1	
Startup/Shutdown	2.7	0	0	0.1	11	
Cooling Tower			0.5	1.5		
Fugitives	--	--	--	1.5	--	
Total	30.9	5.0	16.3	15.4	46.2	

	Lb per Day					
Source	**NOx**	**SO2**	**PM10**	**POC**	**CO**	
New SMR Furnace	169	30	95	69	206	(1072 MMBtu/hr, hourly maximum)
Deaerator Vent	--	--	--	4.4	--	
Flare Pilots/NG Purge	0.68	0.022	--	--	5.9	
Cooling Tower			2.5	8.2		
Fugitives	--	--	--	7.9	--	
Total	170	30	97.5	90.2	212	

Air Liquide's final proposal is to reduce the particulate emissions from the new SMR furnace to 13.8 tons per year. Air Liquide may comply by showing that the particulate emission factor is less than 0.0037 lb/MMbtu or by curtailing operations. The resulting annual emissions are:

Summary of Hydrogen Plant Annual Emissions

	Tons per Year				
Source	**NOx**	**SO2**	**PM10**	**POC**	**CO**
New SMR Furnace	28.1	5.0	13.8	11.5	34.2
Deaerator Vent	--	--	--	0.8	--
Flare Pilots/NG Purge	0.12	0.004	--	--	1.1
Startup/Shutdown	2.7	0	0	0.1	11
Cooling Tower			0.5	1.5	
Fugitives	--	--	--	1.5	--
Total	30.9	5.0	14.3	15.4	46.2

Following is a summary of the proposed emission reductions in tons per year from the ConocoPhillips carbon plant, Plant A0022. The SO2 reductions are considered ERCs that comply with BAAQMD Regulation 2-2-201. The PM10 reductions do not comply and will be accepted for the purposes of CEQA only, which does not require RACT reductions for ERCs.

SO2: 42 tons per year
PM10: 8 tons per year

(Note: The PM10 reduction was increased from 7.5 to 8 tons per year.)

The total actual and CEQA emissions increases from the project are:

	Tons per Year				
	NOx	**SO2**	**PM10**	**POC**	**CO**
ConocoPhillips Refinery	-19.2	37	4.0	-21.5	3.3
Hydrogen Plant	30.9	5.0	14.3	15.5	46.2
ConocoPhillips Carbon Plant		-42.0	-8		
Total	11.7	0	10.3	-6.0	49.5

2.2 Emissions for the purposes of cumulative increase and offsets

The PM10 emission reductions at the Carbon Plant are not considered ERCs for the purposes of BAAQMD Regulation 2-2-201 because these reductions are not "in excess of the reductions achieved by, or achievable by, the source using Reasonably Available Control Technology." The last three source tests show that the emission rate is approximately 0.04 gr/dscf. RACT has not been determined, but is estimated to be 0.01 or 0.02 gr/dscf.

For the refinery, the following adjustments are made to the sum of actual emissions in the first table in Section 2.1. The NOx reduction for S8 has been RACT-adjusted to 16.7 based on the RACT level of 0.033 lb/MMbtu in BAAQMD Regulation 9, Rule 10. The increased heater and tank utilization were not included since they are within permitted limits. The truck and commuter trips and the butane loading rack increases are not included since they do not require permits.

After public notice, the emissions estimates for NOx and CO at S45, Heater, have been reduced due to a new BACT determination and the facility has agreed to lower the annual SO2 emissions at S1004, Sulfur Recovery Unit, in response to a public comment.

	Tons per Year				
Source	**NOx**	**SO2**	**PM10**	**POC**	**CO**
S45, New Unit 246 HGO Feed Heater[1, 4]	2.3	4.7	1.9	1.5	2.8
S434, New Unit 246 Startup/Shutdown[2]	<0.01	<0.01	-	0.03	0.02
S1004, New SRU (Unit 235)	11.2	26.7	0.59	0.4	37.9
Tanks 101, 168 & 169 Permit Cond. Change				8.1	
Existing Tanks				4.8	
Fugitives				6.1	
Paved Roads			1.1		
S8, Unit 240 Boiler B-1 Reductions	-16.7		-2.9	-2.1	-43.4
Refinery Steam Power Plant Reductions	-22.1				
Locomotive Emissions	2.2	0.2	0.08	0.1	0.3
S1007, Dissolved Air Flotation (DAF) Unit	0.2	1.2	0.01	-44.1	0.2
Total	**-22.9**	**32.8.**	**0.78**	**-25.1**	**-2.2**

(Note: The sum of particulate emissions in the original proposal was in error. The correct sum was 0.98 tons per year.)

The emission reductions are acceptable for the purposes of CEQA without the "RACT" adjustment. The emissions for the purposes of cumulative increase and offsets are:

	Tons per Year				
	NOx	**SO2**	**PM10**	**POC**	**CO**
ConocoPhillips Refinery	-22.9	32.8	0.8	-25.1	-2.2
Hydrogen Plant	30.9	5.0	13.8	13.9	46.2
ConocoPhillips Carbon Plant		-42.0			
Total	8.0		14.6	-11.2	

		-4.2			44

In accordance with BAAQMD Regulation 2-2-215, emissions from cargo carriers are included in the total emissions that are subject to offsets. The total above includes the emissions increase from locomotives.

2.3 Emissions for the purposes of Prevention of Significant Deterioration (PSD)

As originally proposed, this project was subject to PSD because:

- The facility is a major facility.
- The project was a major modification because the applicants were proposing an increase of 16.9 tons PM10/year.

However, ConocoPhillips and Air Liquide have decided to limit the particulate emissions from S45, Heater; S1004, Sulfur Recovery Unit; and S2, Hydrogen Plant Furnace so that the emissions for the purposes of PSD are 14.5 tons per year.

The original emission estimates for the purposes of PSD were:

	Tons per Year				
	NOx	**SO2**	**PM10**	**POC**	**CO**
ConocoPhillips Refinery[1]	-24.2	42.6	1.02	-25	2.5
Hydrogen Plant	30.9	5.0	15.8	13.9	46.2
ConocoPhillips Carbon Plant		-42.0			
Total	6.7	5.6	16.82	-11.1	48.7

[1]Locomotives are not included in the PSD total.

The final emission limits are:

	Tons per Year				
	NOx	**SO2**	**PM10**	**POC**	**CO**
ConocoPhillips Refinery[1]	-25.1	35.6	0.7	-25	-2.5
Hydrogen Plant	30.9	5.0	13.8	13.9	46.2
ConocoPhillips Carbon Plant		-42.0			
Total	5.8	-1.4	14.5	-11.1	43.7

[1]Locomotives are not included in the PSD total.

This project is not a major modification because the emission increase of PM10 is less than 15 ton per year, the emissions increases for NOx, SO2, and POC are less than 40 tons per year, and the emissions increase for CO is less than 100

tons per year. So, this project is not subject to PSD for NOx, SO2, CO, PM10, and POC. Nonetheless, modeling has been submitted for both NOx and PM10.

Following is a summary of the emissions of non-criteria pollutants found in BAAQMD Regulation 2-2-306 and 40 CFR 51.166 and the thresholds that require PSD analysis.

The ConocoPhillips refinery is a major facility for all of the following pollutants: NOx, POC, SO2, CO, PM10. Therefore, the emission increase from this project may not exceed the following limits, since no PSD air quality analysis has been performed for these pollutants:

POLLUTANT	ANNUAL AVERAGE LIMIT (TON/YR)	EMISSION (TON/YR)	DAILY LIMIT (LB/DAY)	EMISSION (LB/DAY)
Lead	0.6	0.026	3.2	0.141
Asbestos	0.007	0	0.04	*0*
Beryllium	0.0004	0	0.002	0
Mercury	0.1	0.00009	0.5	0.0052
Fluorides	3	0	16	0
Sulfuric acid mist	7	6.64	38	36.4
Hydrogen sulfide	10	1.1	55	5.34
Total reduced sulfur including hydrogen sulfide	10	1.1 (note 1)	55	5.34 (note 1)
Reduced sulfur compounds including hydrogen sulfide	10	1.1 (note 1)	55	5.34 (note 1)

Note 1. Reduced sulfur compounds emitted from refinery sources are emitted to the atmosphere as SO2 when they are collected and used as fuel gas. There is no emission increase for untreated or unreacted reduced sulfur compounds at combustion sources. However, the facility will be required to test for reduced sulfur compounds at the sulfur recovery unit to confirm that all reduced sulfur compounds are incinerated.

The estimates for sulfuric acid mist are close to the PSD thresholds, but they have been estimated conservatively. The estimate for the acid mist at the new SRU is based on source tests for acid mist at the 3 existing SRUs. The estimate for increased acid mist at the combustion sources is based on 5% conversion of SO2 to SO3, and all SO3 converted to H2SO4.

The facility will have an annual limit on sulfuric acid mist at the SRU, which is estimated to emit a maximum of 5.65 tpy, and will be required to perform an annual source test to show compliance.

The facility has agreed to a reduction in SO2 emissions at the SRU from 36.7 tons to 29.7 tons per year. Although the sulfuric acid mist limit has not been

lowered, it is expected that the amount of sulfuric acid mist produced will decrease, because sulfuric acid mist is proportional to SO2.

The acid mist calculations are shown in Appendix B.

No PSD analysis has been performed for the specified non-criteria pollutants, but a Health Risk Screening Analysis has been completed to comply with BAAQMD Regulation 2, Rule 5, New Source Review for Toxic Air Contaminants.

2.4 Increases in toxic air contaminants

Following is a summary of the increases in toxic air contaminants at the refinery:

Substance	Emissions, lb/yr	BAAQMD Trigger Level, lb/yr
Acenaphthene	2.12E-03	
Acenaphthylene	1.39E-03	
Acetaldehyde	1.38E+01	6.40E+01
Acrolein	0.00E+00	2.30E+00
Ammonia	1.27+04	7.70E+03
Antimony	4.65E-01	7.70E+00
Arsenic	**7.64E-01**	1.20E-02
Benzene	**3.83E+02**	6.40E+00
Benzo(a)anthracene	2.89E-02	0.011*
Benzo(a)pyrene	8.06E-02	0.011*
Benzo(b)fluoranthene	3.63E-02	0.011*
Benzo(k)fluoranthene	2.17E-02	0.011*
Cadmium	**8.88E-01**	4.50E-02
Chromium (Total)	**9.62E-01**	1.30E-03
Chrysene	1.47E-03	
Copper	3.79E+00	9.30E+01
Cyclohexane	1.59E+02	
Ethylbenzene	1.45E+02	7.70E+04
Fluoranthene	2.75E-03	
Fluorene	9.71E-03	
Formaldehyde	**9.98E+01**	3.00E+01
n-Hexane	1.74E+03	2.70E+05
1,2,3,4,7,8 -HxCDD	1.11E-06	
1,2,3,6,7,8- HxCDD	2.72E-06	
1,2,3,7,8,9- HxCDD	1.79E-06	
1,2,3,4,7,8 -HxCDF	1.52E-05	
1,2,3,6,7,8- HxCDF	1.15E-05	

Substance	Emissions, lb/yr	BAAQMD Trigger Level, lb/yr
2,3,4,6,7,8- HxCDF	1.00E-05	
1,2,3,7,8,9- HxCDF	1.40E-06	
1,2,3,4,6,7,8- HpCDD	9.73E-06	
1,2,3,4,6,7,8- HpCDF	5.14E-05	
1,2,3,4,7,8,9- HpCDF	4.66E-06	
Hydrogen sulfide	2.06+03	3.9E+02
Indeno(1,2,3-cd)pyrene	9.26E-02	0.011*
Lead	4.40E+00	5.40E+00
Manganese	6.12E+00	7.70E+00
Mercury	1.62E-01	5.60E-01
Naphthalene	**1.18E+01**	5.30E+00
Nickel	**8.47E+00**	7.30E-01
OCDD	4.90E-06	
OCDF	1.21E-05	
PCBs (Total)	4.44E-03	
1,2,3,7,8 -PeCDD	9.19E-07	
1,2,3,7,8 -PeCDF	5.51E-06	
2,3,4,7,8 -PeCDF	7.51E-06	
Phenanthrene	1.31E-02	
Phenol	5.08E+00	7.70E+03
Propylene	1.95E+00	1.20E+05
Pyrene	2.23E-03	
Selenium	1.76E-02	7.70E+02
Silver	1.45E+00	
Sulfuric Acid Mist	1.13+04	3.9E+01
2,3,7,8-TCDD	5.12E-08	
2,3,7,8-TCDF	1.95E-06	
Toluene	8.98E+02	1.20E+04
1,2,4-Trimethylbenzene	1.82E+02	
Xylene (Total)	6.20E+02	2.70E+04
Zinc	1.87E+01	1.40E+03

Following is a summary of the increases in toxic air contaminants at the hydrogen plant:

Substance	Emissions, lb/yr	BAAQMD Trigger Level, lb/yr
Acenaphthene	2.27E-02	
Acenaphthylene	1.49E-02	

Substance	Emissions, lb/yr	BAAQMD Trigger Level, lb/yr
Acetaldehyde	1.48E+02	6.40E+01
Acrolein	4.69E-02	2.30E+00
Ammonia	5.38E+04	7.70E+03
Antimony	4.98E+00	7.70E+00
Arsenic	8.19E+00	1.20E-02
Benzene	6.24E+02	6.40E+00
Benzo(a)anthracene	3.09E-01	0.011b
Benzo(a)pyrene	8.63E-01	0.011b
Benzo(b)fluoranthene	3.89E-01	0.011b
Benzo(k)fluoranthene	2.32E-01	0.011b
1,3-Butadiene	4.84E+00	1.10E+00
Cadmium	9.52E+00	4.50E-02
Chlorine	3.95E-02	7.70E+00
Chloroform	9.94E+00	3.40E+01
Chromium (Total)	1.03E+01	1.30E-03
Chrysene	1.57E-02	
Copper	4.06E+01	9.30E+01
Ethylbenzene	2.98E+02	7.70E+04
Fluoranthene	2.95E-02	
Fluorene	1.04E-01	
Formaldehyde	1.08E+03	3.00E+01
n-Hexane	7.63E+00	2.70E+05
Indeno(1,2,3-cd)pyrene	9.93E-01	0.011*
Lead	4.71E+01	5.40E+00
Manganese	6.56E+01	7.70E+00
Mercury	1.73E+00	5.60E-01
Methanol	1.75E+04	1.50E+05
Naphthalene	3.08E+00	5.30E+00
Nickel	9.08E+01	7.30E-01
Phenanthrene	1.41E-01	
Phenol	5.43E+01	7.70E+03
Propylene	3.24E+01	1.20E+05
Pyrene	2.39E-02	
Selenium	1.89E-01	7.70E+02
Silver	1.55E+01	
Sulfuric Acid Mist	8.60+2	3.9E+01

Substance	Emissions, lb/yr	BAAQMD Trigger Level, lb/yr
Toluene	1.03E+03	1.20E+04
1,2,4-Trimethylbenzene	4.98-01	
Xylene (Total)	3.60E+02	2.70E+04
Zinc	2.00E+02	1.40E+03

2.5 Mobile sources

Details of the emissions of mobile sources can be found in the Draft Environmental Impact Report that has been prepared by Contra Costa County. The District requires offsets only for emissions from cargo carriers that are not motor vehicles.

3. BACT and ract REVIEW AND DETERMINATION

In accordance with BAAQMD Regulation 2-2-301, the following sources will be subject to BACT because they are new sources that will emit more than 10 lb/highest day of POC, NOx, SO2, PM10, and/or CO.

S45, Heater (U246), 85 MMbtu/hr
S434, U246 High Pressure Reactor Train (Cracking) (23,000 bbl/day)
S1004, U235 Sulfur Recovery Unit (200 long tons/day)

In accordance with BAAQMD Regulation 2-2-301, the following sources will be subject to BACT because they are existing sources that emit more than 10 lb/highest day of POC, NOx, SO2, PM10, and/or CO, and the project will cause an emissions increase at the source.

S98, Tank 101, EFRT, 170k barrels
S122, Tank No. 167, EFRT, 3.1 MMgal
S123, Tank No. 168, EFRT, 75k barrels
S124, Tank No. 169, EFRT, 75k barrels
S128, Tank No. 174, EFRT, 76k barrels
S307, U240 Unicracking Unit
S308, U244 Reforming Unit
S309, U248 UNISAR Unit
S318, U76 Gasoline Blending
S339, U80 Gasoline/Mid Barrel Blending
S432, U215 Deisobutanizer

The following sources are not subject to BACT because the emissions from each of POC, NOx, SO2, PM10, and/or CO will be below 10 lb/highest day.

S118, Tank No. 163, fixed roof, 5.3k barrels
S465, Sulfur Pit U235 abated by S1003 or S1004, Sulfur Recovery Units
S503, Sulfur Storage Tank abated by S1003 or S1004, Sulfur Recovery Units

S504, Sulfur Degassing Unit abated by S1003 or S1004, Sulfur Recovery Units
S505, Sulfur Truck Loading Rack abated by S1004, U235 Sulfur Recovery Unit

The following sources are not subject to BACT because there will be no emissions increase at the sources.

S139, Tank No. 204, fixed roof, 81k barrels, abated by A7, Vapor Recovery System
S140, Tank No. 205, fixed roof, 54k barrels, abated by A7, Vapor Recovery System
S168, Tank No. 269, fixed roof, 39k barrels, abated by A7, Vapor Recovery System
S173, Tank No. 280 fixed roof, 134k barrels, abated by A7, Vapor Recovery System
S174, (Tank No. 281), fixed roof, 134k barrels, abated by A7, Vapor Recovery System
S182, Tank No. 294, fixed roof, 40k barrels, abated by A7, Vapor Recovery System
S464, Hydrogen Plant (not new source, was originally permitted as part of S307, U240 Unicracking Unit)

The following source will not be subject to BACT for POC because there will be a decrease in POC emissions increase at the source.

S1007, Dissolved Air Flotation Unit (DAF) abated by A49, DAF Thermal Oxidizer.

There will be an emissions increase of NOx, CO, PM, and SO2 at A49, DAF Thermal Oxidizer. However, A49 will not be subject to BACT for these pollutants because the emissions of each will be less than 10 lb/highest day.

Cargo carriers, and therefore locomotives, are not subject to BACT pursuant to BAAQMD Regulation 2-2-206.

<u>Abatement devices</u>

Secondary emissions from abatement devices are not subject to BACT, but are subject to RACT (reasonably available control technology) if the device complies with BACT for the primary pollutant, per the exemption in BAAQMD Regulation 2-2-112, which states:

> "The BACT requirements of Section 2-2-301 shall not apply to emissions of secondary pollutants which are the direct result of the use of an abatement device or emission reduction technique which complies with the BACT or BARCT requirements for control of another pollutant. However, the APCO shall require the use of Reasonably Available Control Technology (RACT) for control of these secondary pollutants. The Air Pollution Control Officer shall determine which pollutants are primary and which are secondary for the equipment being evaluated."

The following abatement devices are sources of secondary air pollutants:

A47, SCR abating S45, Heater

A49, DAF Thermal Oxidizer (440,000 btu/hr) abating S1007, Dissolved Air Flotation

A424, Tail Gas Incinerator abating A48, SRU Tail Gas Treatment Unit and S1004, Sulfur Recovery Unit

Following is the discussion of the BACT determinations for the sources that are subject to BACT in order of the magnitude of the emissions.

S1004, U235 Sulfur Recovery Unit (200 long tons/day)

S45, Heater (U246), 85 MMbtu/hr

Tanks: S98, S122, S123, S124, S128

Sources of fugitive emissions: S307, S308, S309, S318, S339, S432, S434

The abatement devices are discussed after the discussion of the BACT determinations.

3.1. S1004, U235 Sulfur Recovery Unit (200 long tons/day)

ConocoPhillips has proposed the following emission levels for the new Sulfur Recovery Unit:

Pollutant[1]	Emission Factor	`	Reference for BACT determination
NO_X	42.2 ppmv @ 7% O_2	0.0669	BACT Determination for ConocoPhillips Ferndale Refinery
SO_2	50 ppmv @ 0% O_2	NA	BACT Determination for Shell Martinez Refinery
PM10	7.6 lb/MMcf	0.0075	AP42 Section 1.4, Natural Gas Combustion
POC	5.5 lb/MMcf	0.0054	AP42 Section 1.4, Natural Gas Combustion
CO	75 ppmvd @ 7% O_2	0.0965	New BACT Determination

The proposed emissions are:

	Lb/hr	Lb/day	Ton/yr
NOx	2.56	61.3	11.2
SO_2	8.45	201	29.7
PM10	0.14	3.2	0.59
POC	0.1	2.3	0.43
CO	8.65	201	37.9

Based on this proposal, the sulfur recovery unit (SRU) is not subject to BACT for PM10 or POC. An initial source test will be required to confirm the low emissions of PM10 and POC.

SO2

The last BACT determination for an SRU made by the District was in Application 8407 for the Shell Refinery in 1993. At that time, BACT was only determined for SO2 and CO. The BACT determination for SO2 was:

- control by a SCOT unit and a tailgas incinerator
- 100 ppm total reduced sulfur @ 0% O2 on the feed to the tailgas incinerator
- 50 ppm SO2 @ 0% O2
- 2.5 ppm H2S @ 0% O2
- requirement to strip 95% by weight of the H2S and NH3 from the sour water stream

This unit will be controlled by an amine stripper and tailgas incinerator. The same concentration limit on SO2 will be imposed. The SO2 emissions compare favorably to the emissions from the Shell Refinery SRU, because the emissions will be similar—35 tons per year for Shell versus 36.7 tons per year for ConocoPhillips—but the capacity of the Shell SRU is 30% smaller—140 tons sulfur make per day for Shell versus 200 tons sulfur make per day for ConocoPhillips.

The BACT proposal also compares favorably to the BACT determination made for the proposed Arizona Clean Fuel Yuma facility. That SRU would have the following specifications:

- 33.6 lb SO2/hr or 806 lb SO2/day
- maximum capacity: 800 long tons/day
- nominal capacity: 608 long tons/day
- 99.97% recovery of sulfur

The ConocoPhillips SRU will have a capacity of 200 long tons per day and SO2 emissions of 201 lb/day. Therefore, about 1 lb SO2/long ton sulfur will be emitted. At maximum capacity, the proposed Arizona SRU will emit about 1 lb SO2/long ton sulfur. At nominal capacity, it will emit about 1.3 lb SO2/long ton sulfur.

After public comment, the refinery agreed to lower the annual SO2 emissions by an additional 7 tons per year at the SRU as an additional mitigation for CEQA. The final emission limit is 29.7 tons SO2 per year. At nominal capacity, this is equivalent to 0.8 lb SO2/long ton sulfur.

The facility has calculated emissions of H2S in the outlet and has accepted a limit of 2.5 ppmvd @ 0% O2. However, the facility has not provided an estimate for total reduced sulfur or reduced sulfur compounds at the outlet. The facility will be required to perform annual source tests for total reduced sulfur and reduced sulfur compounds to ensure that the trigger of 10 tons per year in BAAQMD Regulation 2-2-306 is not exceeded.

<u>CO</u>
The ConocoPhillips SRU is proposed to have CO emissions of 207 lb/day. Therefore, about 1.1 lb CO/long ton sulfur would be emitted.

Mass emissions of CO were not calculated for the SRU at the Shell refinery. The limit is 100 ppmv, dry, @ 0% O2. ConocoPhillips is proposing 75 ppmv, dry, @ 7% O2, which is equivalent to 8.65 lb/hr. The facility's original proposal was 57.1 ppmv, dry, @ 7% O2, which is equivalent to 6.58 lb/hr, but was found by the designers not to be feasible.

The Arizona SRU is permitted to emit 36.8 tons CO/yr or 0.25 lb CO/long ton S at maximum capacity and 0.33 lb CO/long ton at nominal capacity. However, this is not achieved in practice, since the unit has not been built. The CO emissions are based purely on the thermal oxidizer heat input, using AP42 factors and may be overly optimistic. There are no emission limits for CO in the permit, according to the Statement of Basis.

The CO limits at the ConocoPhillips refinery in Ferndale, Washington, are 8.3 tons CO/yr and 42.2 ppmv, dry. Its capacity is 65 tons/day. Therefore, the rate of CO emissions is 0.7 lb CO/long ton sulfur.

<u>NOx</u>

The ConocoPhillips SRU is proposed to have NOx emissions of 61 lb/day. Therefore, about 0.3 lb NOx/long ton sulfur would be emitted.

Mass emissions of NOx were not calculated for the SRU at the Shell refinery.

The Arizona SRU is permitted to emit 26.3 tons NOx/yr or 0.18 lb NOx/long ton S at maximum capacity and 0.23 lb NOx/long ton at nominal capacity. The emissions are based solely on NOx formation in the thermal oxidizer. The BACT determination is 0.06 lb NOx/MMbtu. The capacity of the thermal oxidizer is 100 MMbtu/hr. Again, this is not achieved in practice, since the unit has not been built.

The NOx limits at the ConocoPhillips refinery in Ferndale, Washington, are 9.88 tons NOx/yr and 42.2 ppmv, dry. Its capacity is 65 tons/day. Therefore, the rate of NOx emissions is 0.7 lb NOx/long ton sulfur.

Conclusion: The SRU meets BACT for SO2, NOx, and CO. The proposed NOx emissions are lower, and the proposed CO emissions are higher, than those for the Ferndale refinery. This tradeoff is appropriate because the Bay Area is in attainment with all ambient air quality standards for CO.

ConocoPhillips has asked for a short-term limit of 8.0 lb NOx/hr, the effects of which will be included in the annual limit. As of March 9, 2007, this short term limit has not been included in the PSD modeling, but it is not expected to have an important impact. (This modeling is not required, as explained in Section 2.3.)

3.2. S45, Heater (U246), 85 MMbtu/hr

ConocoPhillips has proposed the following BACT levels for the new heater:

Pollutant	BACT	Technology	Reference
NOx	7 ppmvd @ 3% O2	Low-NOx burner and SCR	BAAQMD BACT Determination for U-110 (Application 11293)
CO	28 ppmvd @ 3% O2	Good combustion practice	BAAQMD BACT Determination for ULSD (Application 5814)
SO2	Use of natural gas and/or RFG; 100 ppmv total sulfur in RFG	Fuel selection	BAAQMD BACT Determination for ULSD Project and Guideline 94.3.1
POC	Use of natural gas and/or RFG 5.5 lb/MMcf	Fuel selection and good combustion practice	BAAQMD BACT Guideline 94.3.1
PM10	Use of natural gas and/or RFG 7.6 lb/MMcf	Fuel selection	BAAQMD BACT Guideline 94.3.1

Based on the proposed emissions below, the heater is subject to BACT for NOx, CO, SO2, and PM10.

	lb/hr	lb/day	ton/yr
NOx	0.73	18	3.2
SO_2	1.07	26	4.7
PM10	0.48	12	2.1
POC	0.35	8.4	1.5
CO	1.79	43	7.8

The NOx, CO, and SO2 levels that ConocoPhillips has proposed are lower than the District's current BACT handbook.

The 100 ppmv total sulfur limit is lower than the 100 ppmv TRS limit in the BACT handbook, which only includes hydrogen sulfide, methyl mercaptan, methyl sulfide, and dimethyl disulfide. Recent permits have had limits of 45 ppmv TRS as defined here. However, analyses of gas treated in the Merichem (type of caustic scrubber) unit show that H2S is generally below detectable levels and that the largest sulfur components are carbonyl sulfide (COS) and thiophenes. Placing a limit on total sulfur ensures that the SO2 emissions are not overstated. Moreover, ConocoPhillips is capable of testing for H2S and total sulfur. Analyzing for a myriad of sulfur compounds adds to the cost and difficulty of monitoring and is unnecessary.

ConocoPhillips has requested an annual average for flexibility with the total sulfur limit. The District agrees with the need for flexibility but considers that the period is too long to easily determine compliance and considers a rolling 365-day period too cumbersome. Instead, the limit will have a calendar month average.

BACT for particulate matter is not an emission level but rather use of natural gas or treated refinery fuel gas. The facility will comply with this requirement because the refinery fuel gas will be treated in a Merichem unit that will reduce the total sulfur to less than 100 ppmv on a monthly average.

ConocoPhillips has performed a top-down analysis of BACT for NOx and PM10 at S45, which is required as part of the PSD analysis. The analysis is attached in Appendix D.

After the permit was proposed, the District determined that the South Coast Air Quality Management District had made some BACT determinations that had not been published for heaters burning refinery fuel gas. The concentrations that have been achieved in practice are 5 ppmv NOx and 10 ppmv CO at 3% O2, dry, 3-hour average.

The facility will conform to this BACT determination except when operating at a third of its maximum capacity or less. The facility explained that the cracking process generates a great deal of heat, so full capacity is not required at all

times. The NOx limit is achievable at lower capacity, but the CO limit is not. The CO limit will be 28 ppmv at 3% O2, dry, 3-hour average, when the heater is operating at 30 MMbtu/hr or less. The mass emission rate will be roughly equivalent to the mass emission rate at maximum capacity. The averaging time will be reduced to 3 hours.

Following are the amended emission factors:

Pollutant	BACT	Emission Factors (lb/MMbtu)
NOx	5 ppmvd @3% O2	0.0061
CO	10 ppmvd @3% O2	0.0075
SO2	Use of natural gas and/or RFG; 100 ppmv total sulfur in RFG	0.0126
POC	Use of natural gas and/or RFG 5.5 lb/MMcf	0.0041
PM10	Use of natural gas and/or RFG 7.6 lb/MMcf	0.0057

Following are the amended hourly, daily, and annual mass emission rates:

	lb/hr	lb/day	ton/yr
NOx	0.52	12.4	2.3
SO_2	1.07	26	4.7
PM10	0.48	12	2.1
POC	0.35	8.4	1.5
CO	0.64	15.3	2.8

3.3. S98, S122, S123, S124, S128, External Floating Roof Tanks

The following BACT condition will be imposed on S98, S122, and S128 in BAAQMD Condition 22963, part 4:

> The owner/operator shall equip S98, S122, S123, and S128 with a BAAQMD approved roof with mechanical shoe primary seal and zero gap secondary seal meeting the design criteria of BAAQMD Regulation 8, Rule 5. The owner/operator shall ensure that there are no ungasketed roof penetrations, no slotted pipe guide poles unless equipped with float and wiper seals, and no adjustable roof legs unless fitted with vapor seal boots or equivalent. [BACT, cumulative increase]

BAAQMD Condition 22478, part 7, already subjects S123 and S124 to BACT. The wording is identical to the condition for S98, S122, and S128.

3.4. S307, S308, S309, S318, S339, S432, S434

These process units will have some new components (valves, flanges, pumps, compressors, etc.). These new components will be subject to BACT for petroleum refinery fugitive emissions in accordance with the Section 3 of the District's BACT handbook, which is:

- Graphitic gaskets for flanges
- Live loaded packing systems and polished stems, or equivalent, for valves
- "Wet" dual mechanical seals with a heavy liquid barrier fluid, or dual dry gas mechanical seals buffered with inert gas for hydrocarbon centrifugal compressors
- Seal-less design or dual mechanical seals with a heavy liquid barrier fluid, or equivalent, for pumps
- Fugitive equipment monitoring and repair program for all components

In the draft permit, the components were subject to Condition 21099 for fugitive components, which was written for the ULSD project in 2002. The components will now be subject to Condition 23725 because a new BACT determination has been made. The new condition contains explicit emission limits, a maximum annual emission rate for the new components as a group, and specifications for the types of components used. The leak rate for pumps and compressors has been lowered to 100 ppm. All pumps will be inspected, even those pumps that handle heavy liquids.

The new units, S434 and S1004, are subject to BAAQMD Regulation 8-28-302, which requires the installation of BACT on any pressure relief device. The BACT for new sources that is listed in the District's BACT Workbook is installation of a rupture disk and venting the pressure relief device to a fuel gas recovery system, furnace, or flare with a recovery/destruction efficiency of 98%. After discussions with the refinery, the District has determined that the rupture disks are unnecessary and may not be feasible where there are a high number of pressure cycles and high temperatures. The perceived advantage of the rupture disks is that they indicate whether there has been flow to the fuel gas recovery system. If this event is associated with flaring, knowing that the vessel was vented to the flare would aid in causal analysis. Refinery staff has stated that they will be able to determine whether venting of the vessel caused flaring by looking at the pressure data that they have for all vessels.

The modified units are also subject to this requirement. Therefore, a permit condition has been added for Sources S307, S308, S309, S318, S339, and S432, requiring the installation of BACT for the pressure relief devices. BACT for modified sources is venting the pressure relief device to a fuel gas recovery system, furnace, or flare with a recovery/destruction efficiency of 98%.

S309 and S339 are not subject to the standard in BAAQMD Regulation 8-28-302 because they are not considered to be modified. Although the units will have a throughput increase and are no longer considered to be "grandfathered" units, no new components will be installed. Since the emissions from these sources are

fugitive emissions, if there are no new components, there is no increase in emissions from these sources, the sources are not considered to be modified, and they are not subject to BACT.

Following is the discussion of the RACT or BACT determinations for the abatement devices that are subject to RACT or BACT in order of the magnitude of the emissions.

A47, SCR abating S45, Heater
A49, DAF Thermal Oxidizer abating S1007, Dissolved Air Flotation
A424, Tail Gas Incinerator abating A48, SRU Tail Gas Treatment Unit and S1004, Sulfur Recovery Unit

3.5 A47, SCR abating S45, Heater

The secondary pollutant that is emitted by the SCR is ammonia. Ammonia is not subject to BACT, because the only pollutants mentioned in BAAQMD Regulation 2-2-301 are NOx, CO, POC, PM10, SO2, and NPOC. However, the facility has agreed to a 15-ppm ammonia slip. The ammonia slip was 10 ppm before a new BACT determination was made lowering the NOx concentration at the heater to 5 ppm. A higher ammonia slip is required to meet this lower limit.

3.6 A49, DAF Thermal Oxidizer (440,000 btu/hr) abating S1007, Dissolved Air Flotation (DAF) Unit

This abatement device is a thermal oxidizer that will burn vapors containing POC and H2S that are emitted by the atmospheric vents at the DAF. As stated in BAAQMD Regulation 2-2-112, shown above, emissions of secondary pollutants are subject to RACT if the required level of control for the primary pollutant complies with BACT. In this case, POC is the primary pollutant. NOx, CO, SO2, and PM10 are the secondary pollutants. Since POC levels from the DAF will be reduced, BACT is not triggered for POC and RACT is not triggered for the secondary pollutants.

Following are the emissions of secondary pollutants:

	Lb/day			
Source	**NOx**	**SO2**	**PM10**	**CO**
S1007, Dissolved Air Flotation (DAF) Unit	1.2	6.6	0.01	0.87

3.7 A424, Tail Gas Incinerator abating A48, SRU Tail Gas Treatment Unit and S1004, Sulfur Recovery Unit

RACT for this abatement device has not been considered. Instead, the entire sulfur recovery system including the Claus unit, the tail gas treatment unit, and the tail gas incinerator has been reviewed as a unit for BACT. This approach makes it possible to compare this sulfur recovery unit with others that have been built in the United States.

ConocoPhillips has performed a top-down analysis of BACT for NOx and PM10 at the hydrogen plant furnace, which is required as part of the PSD analysis. The analysis is attached in Appendix D.

4. CUMULATIVE INCREASE AND OFFSETS

The cumulative increase for the project is shown below.

	Tons per Year				
	NOx	**SO2**	**PM10**	**POC**	**CO**
ConocoPhillips Refinery	-22.9	35.8	0.8	-25.1	-2.2
Hydrogen Plant	30.9	5.0	13.8*	13.9*	46.2
ConocoPhillips Carbon Plant		-42.0			
Total	8.0	-1.2	14.6	-11.2	44

*The emissions from the exempt cooling tower at the hydrogen plant and the exempt butane loading rack at the refinery are not considered to be part of the cumulative increase and are not subject to offsets.

Offsets are required by BAAQMD Regulation 2-2-302 for NOx and POC because the emissions of the facility, which includes the ConocoPhillips refinery (BAAQMD Facility A0016), the ConocoPhillips carbon plant (BAAQMD Facility A0022), and the hydrogen plant (BAAQMD Facility B7419), are greater than 35 tons per year. In 2005, the refinery emitted approximately 335 tons NOx and 283 tons POC and the carbon plant emitted approximately 532 tons NOx in 2005 according to District estimates.

Offsets are required by BAAQMD Regulation 2-2-303 for SO2 and PM10 at major facilities. Major facilities, for the purpose of this requirement, are those

that emit more than 100 tons per year of NOx, CO, SO2, PM10, or POC. ConocoPhillips is a major facility for PM10 because in 2005 the refinery emitted approximately 126 tons PM10 and the carbon plant emitted approximately 63 tons PM10 in 2005 according to District estimates. It is a major facility for SO2 because in 2005 the refinery emitted approximately 424 tons SO2 and the carbon plant emitted approximately 1212 tons SO2 in 2005, according to District estimates.

Offsets are not required for CO, but 43.4 tons/yr are being provided through the shutdown of S8, Heater. The reduction is included in the emission totals for the refinery.

Contemporaneous offsets and banked offsets of SO2 and PM10 can be used at a 1.0:1.0 ratio. Banked offsets of NOx or POC must be used at a 1.15:1.0 ratio. ConocoPhillips will provide contemporaneous offsets from the following sources:

- S8, Heater: shutdown
- S352-S357, Steam turbine plant: voluntary overcontrolling of NOx emissions
- S1007, Dissolved Air Flotation Unit: voluntary overcontrolling of POC emissions
- BAAQMD Plant A0022, S2, Kiln: voluntary SO2 reductions (Application 15328)

In accordance with BAAQMD Regulation 2-2-302.2, POC credits shall be used to offset part of the NOx increases.

In previous applications, the District had not considered the carbon plant when processing permits for the refinery. Therefore, offsets were not required for PM10. In this application, all increases in PM10 at Facility A0016 since April 5, 1991, will require offsets. Following is a list of relevant applications and PM10 increases:

Application 5814	4.670 tons
Application 11293	0.300 tons
Application 12412	7.670 tons
Total	12.640 tons

Also, 0.120 tons of SO2 associated with Application 11293 will be offset at the refinery. These offsets had previously not been provided.

Following are details of the contemporaneous offsets:

S8, Heater: Shutdown of S8 will provide 16.7 tons NOx/yr, 2.9 tons PM10/yr, 2.1 tons POC/yr, and 43.4 tons CO/yr.

S352-S354, Turbines, and S355-S357, Duct Burners (Steam Power Plant): Permit condition 12122, part 9, currently allows annual NOx emissions from the

Steam Power Plant of 167 tons/year. The actual emissions, as shown by CEM data, averaged 101.9 tons per year. The facility has proposed a new annual limit of 79.8 tons per year to provide 22.1 tons/yr of NOx offsets.

S1007, Dissolved Air Flotation Unit: The facility has proposed to control 44.1 tons per year of POC emissions at the DAF unit for the purpose of generating contemporaneous offsets. These emissions do not require a RACT adjustment because they were considered for control during the 2004 revisions of the BAAQMD Regulation 8, Rule 8, Wastewater Collection and Separation Systems, and were not regulated at that time. The facility has concluded that control of 44.1 tons per year is feasible, based on their measurements of flow at the atmospheric vents, the District's analysis of grab samples, and modeling of the wastewater system. Permit conditions will require the facility to demonstrate that they are collecting and oxidizing or abating the entire amount of POC. Otherwise, the facility will have to provide offsets from another source.

Facility A0022, S2, Kiln: This source is at the ConocoPhillips Carbon Plant, which is part of this facility. The kiln is used to drive sulfur from coke that is produced at the refinery. The purified coke is a saleable product. The kiln has an SO2 CEM that measures compliance with the 400 ppm or 250 lb/hr standard in BAAQMD Regulation 9-1-310.2, therefore the facility has good records of the SO2 emissions.

The facility submitted Application 15328 with a proposal for generating contemporaneous SO2 emission reduction credits (ERCs) from the kiln. The 3-year baseline annual average SO2 emissions were determined to be 791.32 tons/yr. The new SO2 limit will be 749.32 tons per year as verified by the SO2 CEM. This will provide 42 tons per year of SO2 ERCs.

In determining creditable ERCs under Section 2-2-605, the proposed additional SO2 reductions from the kiln were not reduced by a RACT-adjustment due to considerations of the cost-effectiveness of further controls required by Section 2-2-243.

A measure of cost effectiveness for new and modified sources is represented by EPA in their recent proposal for 40 CFR 60, Subpart J, Standards of Performance for Refineries. Following are the costs for control of SO2 emissions from various categories that were judged by EPA to be reasonable:

New Fluid Catalytic Crackers	Option 4	$1,000/ton
Modified Fluid Catalytic Crackers	Option 4	1,400/ton
Fluid Cokers	Option 2	210/ton
Sulfur Recovery Plants	Option 2	1,200/ton
Process Heaters/Other Combustion	Option 2	2,200/ton

The ConocoPhillips proposal would use the existing sodium bicarbonate system at the Carbon Plant to achieve the proposed SO2 emission reductions. Since the facility has already installed the system to ensure compliance with the limits in BAAQMD Regulation 9-1-310.2, the additional capital cost of increasing the level of control of SO2 as proposed would be minimal. The operating costs, including disposal of hazardous waste, have been determined to be $2700/ton SO2. This cost of control exceeds all of the cost-effectives figures judged by EPA to be reasonable in their recent proposed NSPS.

The District is also aware that the South Coast AQMD has a rule requiring 80% control of SO2 from coke calciners. This level of control has been achieved by the use of a wet scrubber. ConocoPhillips performed an analysis for a similar coke calciner at their Santa Maria refinery in San Luis Obispo County. The capital costs, operating costs, and $/ton removed are shown below:

Process	Capital Cost	Operating Cost	Removal Efficiency	$/ton removed
Wet Scrubber	$8.5 MM	$6.7 MM/yr	95%	$15,000
Dry Scrubber	$2.3 MM	$4.5 MM/yr	90%	$9,000

However, the South Coast is a non-attainment area for SO2. The South Coast rule represents a higher level of control that is well beyond RACT.

Based on the considerations of cost-effectiveness summarized above, no RACT adjustments were applied in determining creditable SO2 ERCs from the Carbon Plant kiln control proposal.
For the purposes of cumulative increase and offsets, any increase from cargo carriers that are not motor vehicles are included in the definition of facility in BAAQMD Regulation 2-2-215. In this case, cargo carriers would include marine vessels and locomotives.

It is expected that there will be a decrease in emissions from marine loading because the heavy gas oil that was formerly shipped out in ships and barges will be processed at the facility, but the decrease has not been quantified. The resulting gasoline and diesel may be shipped out via pipeline or ships. ConocoPhillips has no truck rack at the facility to distribute its products.

An increase in the emissions from locomotives due to this project has been included in the emission total.

Following is a summary of all emissions increases, decreases, and offsets required.

	NOx	**SO2**	**PM10**	**POC**	**CO**
Increases					
S45, New Unit 246 HGO Feed Heater		4.7	1.9	1.5	

	NOx	SO2	PM10	POC	CO
	2.3				2.8
S434, New Unit 246 Startup/Shutdown	<0.01	<0.01	-	0.03	0.02
S1004, New SRU (Unit 235)	11.2	29.7	0.59	0.4	37.9
Tanks 101, 168 & 169 Permit Cond. Change				8.1	
Existing Tanks				4.8	
Fugitives				6.1	
Paved Roads			1.1		
Locomotive Emissions	2.2	0.2	0.08	0.1	0.3
S1007, Dissolved Air Flotation (DAF) Unit	0.2	1.2	0.01		0.2
Hydrogen Plant	30.9	5	13.8	13.9	46.2
Decreases					
S8, Unit 240 Boiler B-1 Reductions	-16.7		-2.9	-2.1	-43.4
Refinery Steam Power Plant Reductions	-22.1				
S1007, Dissolved Air Flotation (DAF) Unit				-44.1	
A0022, S2, Kiln		-42			
Total decreases	-38.8	-42	-2.9	-46.2	-43.4
Total	**8.0**	**-1.2**	**14.6**	**-11.3**	**44.0**
Offset of NOx with POC	0	-1.2	14.6	3.3	44.02
Previous projects					
Application 5814			4.67		
Application 11293		0.12	0.3		
Application 12412			7.67		
Emissions requiring offsets			27.23		
Offsets required (1.0:1.0 ratio)			27.23		

The PM10 offsets will come from the following certificates:

Certificate Number	Owner of Record	Amount tpy
920	ConocoPhilips	6.650
979	Air Liquide	18.600
1032	Air Liquide	4.200
Total		29.45

5. STATEMENT OF COMPLIANCE

BAAQMD Regulation 1, General Provisions

S1004, Sulfur Recovery Unit, will be permitted to emit an average of 200 lb SO2/day, and therefore will be subject to the continuous emission monitoring requirements in Sections 1-520.4 and 1-522.

S1001-S1003 are smaller SRUs and are not subject to the requirement above because they do not emit more than 100 lb SO2/day. Compliance has been confirmed by source testing.

S45, Heater, and S1004, Sulfur Recovery Unit, will be subject to flow monitoring and therefore will be subject to the parametric monitoring requirements in Section 1-523.

A47, SCR, abating S45, Heater, will be subject to temperature monitoring and therefore will be subject to the parametric monitoring requirements in Section 1-523.

S49, DAF Thermal Oxidizer, will be subject to temperature monitoring and therefore will be subject to the parametric monitoring requirements in Section 1-523.

BAAQMD Regulation 2, Rule 5, New Source Review Of Toxic Air Contaminants

In accordance with BAAQMD Regulation 2, Rule 5, a health risk screening analysis was prepared by the facility and reviewed by District Staff. The project risk including Facility A0016, ConocoPhillips refinery, meets the requirements as follows:

- Project cancer risk is less than 10.0 in a million;

- Project chronic hazard index is less than 1.0; and
- Project acute hazard index is less than 1.0.

The cancer risk for S2, Heater, at Facility B7459, is greater than 1.0 in a million. Therefore, the source is subject to TBACT in accordance with Section 2-5-301 of the rule. TBACT is the use of extremely clean gaseous fuels. 85% of the fuel that will be burned in the Heater will be PSA gas, which is extremely clean and has very little sulfur.

Also, the risk assessment for S2 is conservative, because it was based on an average heat input rate of 1,100 MMbtu/hr, but the final average heat input rate will be 975 MMbtu/hr, which is 12.8% less.

The maximum chronic hazard index was less than 0.2 for the entire project.

BAAQMD Regulation 6, Particulate Matter and Visible Emissions

The following sources will not be sources of particulate matter because their emissions are routed back to the Claus unit at S1004, Sulfur Recovery Unit:

S465, Sulfur Pit
S503, Sulfur Storage Tank
S504, Sulfur Degassing Unit
S505, Sulfur Truck Loading Rack

The following sources are the new sources of particulate matter in this application:

S45, Heater
S1004, Sulfur Recovery Unit
A47, SCR abating S45, Heater
A49, DAF Thermal Oxidizer abating S1007, Dissolved Air Flotation Unit
A424, Tail Gas Incinerator, abating S1004, Sulfur Recovery Unit

S352-S354, Turbines, are existing sources of particulate matter that are expected to continue to comply with BAAQMD Regulation 6.

S45, Heater, and A47, SCR, are subject to Sections 6-301, 6-305, and 6-310.3. Section 6-301 is a requirement that visible emissions may not exceed 1.0 Ringelmann for more than 3 min/hr. Section 6-305 is a requirement that a unit may not emit visible particles that fall outside of the facility's property. Section 6-310.3 is the grain-loading limit for heat transfer operations of 0.15 gr filterable particulate/dscf @ 6% O2. (The "gr" used in this section means "grains," which are equal to 1/7000 of a pound.) S45 burns gaseous fuels and is expected to comply with these requirements.

Sources that burn refinery fuel gas and that use ammonia in SCR control systems have special source testing requirements because ammonium sulfate is

produced as an artifact of the test in these circumstances. EPA has approved alternate test methods for this situation: Methods 201 and 202 with the back-half ammonium sulfate subtracted. The facility will use these methods to test this heater and SCR.

S1004, Sulfur Recovery Unit, and A424, Tail Gas Incinerator are subject to Sections 6-301, 6-305, 6-310, 6-311, 6-330, and 6-501 of the regulation. Sections 6-301 and 6-305 were described in the paragraph above. Section 6-310 is the general grain-loading limit of 0.15 gr filterable particulate/dscf. Section 6-311 is the process weight limit. Section 6-330 has a limit of 0.08 gr/dscf of SO3 or H2S04, or both, expressed as 100% H2S04, exceeding 0.08 gr/dscf of exhaust gas volume. "Filterable particulate" means particulate as measured by District Source Test Method ST-15, Particulate.

Based on experience with the 3 existing units, S1004 is expected to comply with Sections 6-301, 6-305, and 6-330. They are not generally sources of visible emissions and testing for the sulfuric acid mist standard in Section 6-330 is feasible and is being performed on an annual basis. It is not feasible to test the existing units for the filterable particulate standards in Sections 6-310 and 6-311 at this time because they do not have the required ports for source testing. The new unit will have the ports and will be tested on an annual basis.

The magnitude of the limit in Section 6-311 is determined by the process weight rate of the unit. Since the capacity of the unit is 200 long tons/day, the maximum process weight is 18,667 lb/hr, and the maximum limit is 18.3 lb filterable particulate/hr. If the process weight is less than 18,667 lb/hr, the limit is pro-rated using the equation in the section.

The facility has estimated that the S1004 will emit about 0.14 lb PM10/hr and about 1.29 lb sulfuric acid mist/hr. The facility has not estimated filterable particulate matter. The tests for sulfuric acid mist on the facility's 3 existing units have results of 0.015 gr/dscf or less. The facility estimates that the flowrate at the incinerator stack will be 2,623 lbmol/hr, excluding water and oxygen. This is equivalent to 996,000 dscf, using the ideal gas law. At this rate, the acid mist emission rate is expected to be approximately 0.009 gr/dscf.

The facility will be required to perform an initial and annual source test to assure compliance with Sections 6-310, 6-311, and 6-330. At this time, the filterable particulate concentration and mass emissions will be determined. They are expected to comply with Sections 6-310 and 6-311, especially because controlled sulfur recovery units generally do not have visible emissions, which are indicators of high particulate emissions.

As described above, S1004, Sulfur Recovery Unit, is expected to comply with all of the Regulation 6 standards.

A49, DAF Thermal Oxidizer, will be a small source of particulate. It is rated for 440,000 btu/hr, which includes approximately 10 lb/hr of organic vapors. The facility has estimated 0.0033 lb PM10/hr, using the factor for natural gas combustion in AP-42. Since this unit will burn natural gas and abate organic compound vapors, the source is expected to easily comply with the Regulation 6 standards, and a source test for particulate matter will not be required.

BAAQMD Regulation 7, Odorous Emissions

The purpose of Regulation 7 is the general control of odorous compounds. Most are discussed generally. A few are mentioned by name. One of these is ammonia.

S45, Heater, and S1004, Sulfur Recovery Unit, are sources of ammonia. Ammonia is used at S45 in the SCR for abatement of NOx. S1004 burns ammonia that is concentrated in the sour gas. Section 7-303 limits the concentration of ammonia from Type A emission points to 5000 ppm. A Type A emission point is defined in BAAQMD Regulation 1-230 as: " An emission point, having sufficiently regular geometry so that both flow volume and contaminant concentrations can be measured and where the nature and extent of air contaminants do not change substantially between a sampling point and the emission point." There is no correction for oxygen concentration. The heater will comply because it has a limit of 10 ppmv ammonia @ 3% oxygen. It is expected that the SRU will comply because tests for ammonia at the other SRUs have measured concentrations less than 10 ppm @ 15% O2 and the facility has proposed a limit at the SRU of 12.5 ppmdv @ 7% O2. The concentration of ammonia in the stacks of both sources will be measured by source test after construction.

Hydrogen sulfide is very odorous and is one of the compounds generated by various pieces of equipment in the refinery. Most of the H2S in the refinery is concentrated in sour gas streams that are sent to the sulfur recovery units, where H2S is converted to elemental sulfur. The SRU, S1004, is not expected to be a source of H2S because any residual H2S that exits the SRU and A48, SRU Tail Gas Treatment Unit, should be burned in A424, Tail Gas Incinerator. Nonetheless, the facility has requested a limit of 2.5 ppmdv H2S @ 0% O2, which is the same limit placed on S4180, Sulfur Recovery Unit, at the Shell Martinez refinery. Considering the 65-meter stack height of the SRU, H2S emissions at this concentration would not be expected to cause odor complaints. The source is expected to comply with BAAQMD Regulation 7. An initial source test will be required to confirm that the H2S concentration is below 2.5 ppmv @ 0% O2.

S465, Sulfur Pit, will not be a source of H2S because it will be abated by A1004, Sulfur Recovery Unit.

S504, Sulfur Degassing Unit, will remove H2S from molten sulfur. The facility estimates that the molten sulfur contains up to 800 ppmv H2S before degassing. After degassing, the sulfur will contain less than 10 ppmv H2S. The sulfur degassing unit will be abated by A1004, Sulfur Recovery Unit.

S503, Sulfur Storage Tank, and S505, Sulfur Truck Rack, will handle molten sulfur that contains less than 10 ppmw H2S. In addition, the tank and truck rack will also be controlled by A1004, Sulfur Recovery Unit.

S1007, DAF, will be less odorous after it is controlled pursuant to this application because it currently emits a small amount of H2S. It is currently in compliance with the odor regulation.

In addition to the requirements of this rule, BAAQMD Regulation 9, Rule 2; Hydrogen Sulfide, has limits on the ground level concentration for H2S and requires area monitoring for the refinery.

BAAQMD Regulation 8, Rule 5, Storage of Organic Liquids

The tanks affected by this project are:
S98, Tank 101, EFRT, 170k barrels
S118, Tank No. 163, fixed roof, 5.3k barrels
S122, Tank No. 167, EFRT, 3.1 MMgals
S123, Tank No. 168, EFRT, 75k barrels
S124, Tank No. 169, EFRT, 75k barrels
S128, Tank No. 174, EFRT, 76k barrels
S139, Tank No. 204, fixed roof, 81k barrels, abated by A7, Vapor Recovery System
S140, Tank No. 205, fixed roof, 54k barrels, abated by A7, Vapor Recovery System
S182, Tank No. 294, fixed roof, 40k barrels, abated by A7, Vapor Recovery System

The service for S98, Tank 101, EFRT, 170k barrels, will change from exempt diesel service to petroleum fluids with a vapor pressure up to 10 psia. Section 8-5-301 requires control by an internal floating roof, an external floating roof, or an approved emission control system. The tank has an external floating roof. The tank will be subject to Sections 8-5-111, 8-5-112, 8-5-301, 8-5-304, 8-5-320, 8-5-321, 8-5-322, 8-5-328, 8-5-331, 8-5-332, 8-5-401, and 8-5-501. The tank is expected to comply after retrofits.

S118 will continue to be exempt from Regulation 8, Rule 5 due to low vapor pressure.

S122, S123, S124, and S128 are already subject to the requirements for external floating roof tanks in Regulation 8, Rule 5.

S139, S140, and S182 are already subject to the requirements for pressure vacuum valves and approved emission control systems in Regulation 8, Rule 5.

None of the tanks except S98 are changing service, although the throughput will change. The tanks are in compliance with the relevant standards and are expected to continue to comply.

BAAQMD Regulation 8, Rule 10, Process Vessel Depressurization

The new Unicracker vessel, S434, and the new SRU, S1004, will be subject to this rule. All of the other process vessels mentioned are already subject. Section 301 of the rule requires that the emissions during depressurizing be controlled by an abatement device or the fuel gas system until the vessel is as close to atmospheric pressure as possible, but at least until the partial pressure of organic compounds in that vessel is less than 4.6 psig.

Section 302 requires that no process vessel may be opened to the atmosphere unless the internal concentration of total organic compounds has been reduced prior to release to atmosphere to less than 10,000 parts per million (ppm), with the following exception: vessels may be opened when the concentration of total organic compounds is 10,000 ppm or greater provided that the total number of such vessels opened with such concentration during any consecutive five year period does not exceed 10% of the total process vessel population, the organic compound emissions from the opening of these vessels does not exceed 15 pounds per day and the vessels are not opened on any day on which the APCO predicts an exceedance of a National Ambient Air Quality Standard for ozone or declares a Spare the Air Day.

The facility is expected to comply with these standards.

BAAQMD Regulation 8, Rule 18, Equipment Leaks

Components such as valves, flanges, pumps, compressors, pressure relief devices, are subject to BAAQMD Regulation 8, Rule 18. The rule has total organic leak limits of 100 ppm for valves and flanges and 500 ppm for pumps, compressors, and pressure relief devices. This is a "work-practice" standard. The facility is obligated to test the components for leaks on a periodic basis and repair the leaks. A small percentage of non-repairable leaks are allowed until the next turnaround or five years, whichever is sooner.

The facility has an inspection program for this regulation and is expected to comply with these standards for the new sources because the components will meet BACT, which was defined in Section 3.4 of this evaluation.

BAAQMD Regulation 8, Rule 28, Episodic Releases from Pressure Relief Devices at Petroleum Refineries and Chemical Plants

BAAQMD Regulation 8, Rule 28 applies to pressure relief devices (PRD) installed on refinery equipment. Section 8-28-302 applies to PRDs on new or modified equipment. It requires that these PRDs comply with all requirements of BAAQMD Regulation 2, Rule 2, including BACT. BACT1 at this time is a rupture disk with a vent to a fuel gas recovery system, furnace, or flare with a recovery/destruction efficiency of 98%. All new PRDs installed pursuant to this project are subject to this standard.

Existing PRDs associated with the following units are also subject to the standard: S307, S308, S318, S432, S434, S1004. These PRDs will be subject to BACT2, which is a vent to a fuel gas recovery system, furnace, or flare with a recovery/destruction efficiency of 98%.

S309 and S339 are not subject to the standard in BAAQMD Regulation 8-28-302 because they are not considered to be modified. Although the units will have a throughput increase and are no longer considered to be "grandfathered" units, no new components will be installed. Since the emissions from these sources are fugitive emissions, if there are no new components, there is no increase in emissions from these sources, the sources are not considered to be modified, and they are not subject to Section 8-28-302. S309 and S339 will continue to comply with Section 8-28-303, Existing Pressure Relief Devices at Petroleum Refineries.

The sulfur pits, S301-S303 and S465 are not subject to Regulation 8, Rule 28, because Section 8-28-101 states that the rule applies to equipment handling gaseous organic compounds at petroleum refineries. The sulfur pits do not handle gaseous organic compounds. However, the SRUs at ConocoPhillips do handle gaseous organic compounds and are subject to the standard.

Permit conditions with the BACT requirement will be added to these units. The facility is expected to comply with this requirement.

BAAQMD Regulation 9, Rule 1, Sulfur Dioxide

S45, Heater, and S1004, SRU, are sources of SO2. The heater is not subject to the 300-ppm limit in Section 9-1-301 of the rule because the refinery complies with the exemption in Section 9-1-110. The exemption requires ground level monitoring and compliance with the ground level concentration limit.

S1004 is subject to the limit of 250 ppmv SO2, dry, at zero percent O2, in Section 9-1-307. The source will be subject to continuous monitoring by BAAQMD Regulations 1-520, 1-522, and 9-1-502, which will ensure compliance.

BAAQMD Regulation 9, Rule 2, Hydrogen Sulfide

The facility is subject to the requirements of this rule. Many pieces of equipment that are being considered in this application can be sources of fugitive hydrogen sulfide: The facility has ground level monitoring of H2S to ensure compliance with the ground level concentration limits of 0.06 ppm averaged over three consecutive minutes or 0.03 ppm averaged over any 60 consecutive minutes. These requirements have been incorporated into the Title V permit and apply to the facility as a whole. Therefore, the facility complies with the requirement.

Also, see the discussion of H2S containing sources in the discussion for BAAQMD Regulation 7, Odorous Emissions.

BAAQMD Regulation 9, Rule 3, Nitrogen Oxides from Heat Transfer Operations

S45, Heater, is not subject to the rule because it applies to new heat transfer operations with a maximum heat input greater than 250 MMbtu/hr, per Section 9-3-303.

BAAQMD Regulation 9, Rule 10, Nitrogen Oxides and Carbon Monoxide from Boilers, Steam Generators and Process Heaters in Petroleum Refineries

S45, Heater, is not subject to BAAQMD Regulation 9, Rule 10, because it applies to affected units. Units are defined by Section 9-10-220 as "any petroleum refinery boiler, steam generator, or process heater… having an Authority to Construct or a Permit to Operate prior to January 5, 1994." This heater will be subject to current BACT limits for NOx and CO, which are more stringent, instead of the Regulation 9, Rule 10, limits.

CEQA

The California Environmental Quality Act (CEQA) calls for a review of potential significant environmental impacts from proposed projects. This project has been determined to be subject to CEQA by the Contra Costa County Community

Development Department (CDD). The CDD is the Lead Agency for CEQA for this project. In accordance with Regulation 2-1-310.3, the District may not issue an Authority to Construct for this project until final action has been taken by the Lead Agency. A draft Environmental Impact Report (EIR) was prepared by the CDD in November 2006. This EIR includes all sources and activities that are the subject of this application. The District is a responsible agency under CEQA and has provided comments to the CDD on the draft EIR. These comments, as well as others received by CDD have been addressed in a revised EIR.

On September 25, 2007, the final EIR was certified by the Contra Costa County Board of Supervisors. The District must act on the application within 30 days of the certification.

As a responsible agency, the District has prepared findings for the purposes of CEQA. They are attached in Appendix G.

Prevention of Significant Deterioration

Emissions increases over 40 tpy NOx, POC, or SO2, over 100 tpy CO, and over 15 tpy PM10 are defined as major modifications by BAAQMD Regulation 2-2-221 if they occur at a major facility. BAAQMD Regulation 2-1-204 defines ConocoPhillips as a major facility. Originally, ConocoPhillips estimated that the project would increase PM10 emissions by 16.5 tons per year, 1.5 tons per year over the PSD threshold of 15 tons per year. Therefore, the original project was subject to PSD for PM10 as required by BAAQMD Regulations 2-2-304.2 and 2-2-304.3.

A PSD analysis was submitted by the facility and reviewed by District staff. It was submitted for NOx as well as PM10. The NOx emissions are lower than were originally proposed. The results of the analysis indicate that the proposed Clean Fuels Expansion and Hydrogen Plant Project would not interfere with the attainment or maintenance of the applicable Ambient Air Quality Standards for NOx and PM10 and would not cause an exceedance of any applicable PSD increment. The analysis was based on EPA approved models and calculation procedures and was performed in accordance with BAAQMD Regulation 2-2-414. The report is attached in Appendix C.

The PSD analysis was based on a NOx emissions increase of 41.4 tons per year and a PM10 emissions increase of 23.8 tons per year.

Pursuant to BAAQMD Regulation 2-2-414.1, the applicant has submitted a modeling analysis that adequately demonstrates the air quality impacts of the CFEP project. The applicant's analysis was based on EPA-approved models and was performed in accordance with District Regulation 2-2-414.

Pursuant to Regulation 2-2-414.2, the District has found that the modeling analysis has demonstrated that the allowable emission increases from the CFEP project, in conjunction with all other applicable emissions, will not cause or contribute to a violation of applicable ambient air quality standards for NO2 and PM10 or an exceedance of any applicable PSD increment.

Pursuant to Regulation 2-2-417, the applicant has submitted an analysis of the impact of the proposed source and source-related growth on visibility, soils, and vegetation.

Please see Appendix C for further detail of the analysis.

The final proposed emissions of PM10 that is subject to PSD, including contemporaneous offsets, were dropped to 13.8 tons per year for Air Liquide and 0.7 for ConocoPhillips. Therefore, the project is no longer subject to PSD.

BAAQMD Regulation 2-2-306, Non-Criteria Pollutant Analysis, PSD, requires PSD air quality analysis if the daily or annual triggers are exceeded for lead, asbestos, beryllium, mercury, fluorides, sulfuric acid mist, hydrogen sulfide, total reduced sulfur, and/or reduced sulfur compounds. Only the sulfur compounds are expected to be emitted at this project. Following is an accounting of the expected emissions and the triggers:

POLLUTANT	ANNUAL AVERAGE LIMIT (TON/YR)	EMISSION (TON/YR)	DAILY LIMIT (LB/DAY)	EMISSION (LB/DAY)
Sulfuric acid mist	7	6.64	38	36.4
Hydrogen sulfide	10	1.1	55	5.34
Total reduced sulfur including hydrogen sulfide	10	1.1	55	5.34
Reduced sulfur compounds including hydrogen sulfide	10	1.1	55	5.34

Air quality analysis has not been performed for these pollutants for this project. Limits have been placed on sulfuric acid mist and hydrogen sulfide emissions, which are calculated at 6.64 and 1.1 tons per year, respectively. A limit has not been place on total reduced sulfur or total reduced sulfur compounds. Instead, the facility will determine the rate of emissions of total reduced sulfur compounds at the SRU, the largest source of SO2, SO3, and sulfuric acid mist, on an annual basis. If the rate exceeds 2.2 lb/hr during the source test, the District will require PSD modeling or an increase in the SRU incinerator temperature to control total reduced sulfur compounds.

The District does not have general delegation for the PSD program. The delegation was withdrawn on March 3, 2003 because EPA had revised its program. However, EPA has granted PSD delegation for certain projects on a case-by-case basis, because the federal regulations for new sources were not significantly changed, according to EPA Region 9. On January 24, 2006, EPA did delegate this project to the District. A copy of the letter granting delegation is attached in Appendix F.

NSPS, EQUIPMENT LEAKS

The following sources will become subject to NSPS fugitive emission requirements due to this project: S307, S308, S309, S339, S432, S434, and S464. The new standards are 40 CFR 60, Subpart VV, Standards of Performance for Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry, and Subpart GGG, Standards of Performance for Equipment Leaks of VOC in Petroleum Refineries.

NSPS, Subpart J

S45, Heater, S465, Sulfur Pit, and S1004, U235 Sulfur Recovery Unit, will be subject to 40 CFR 60, Subpart J, Standards of Performance for Petroleum Refineries.

S45, Heater, is subject to the H2S limit for fuel in Section 60.104(a)(1) of 0.10 gr/dscf or approximately 160 ppm. S45 will comply because it will burn either refinery fuel gas that has been processed by the Merichem Unit or natural gas. The outlet of the Merichem Unit is tested for H2S three times per day by an H2S analyzer. The Merichem Unit is subject to an alternative monitoring plan in place of the continuous monitoring required by Section 60.105(a)(4).

S465, Sulfur Pit, and S1004, U235 Sulfur Recovery Unit, are subject to the SO2 limit in Section 60.104(a)(2)(i) of 250 ppm SO2 at zero percent excess air. Compliance will be assured by the continuous SO2 monitoring required by Section 60.105(a)(5).

A49, Thermal Oxidizer, is subject to the standard because it will burn fuel gas as defined by the NSPS: "any gas which is generated at a petroleum refinery and which is combusted." ConocoPhillips will be subject to the H2S standard in Section 60.104(a)(1) and to the continuous monitoring requirement in Section 60.105(a)(5).

EPA intends to propose changes to Subpart J in April 2007, and finalize changes by April 2008. If these changes allow refineries to use periodic monitoring for small sources instead of continuous monitoring, or exempts small sources from the standard or monitoring, the permit condition will allow ConocoPhillips to take advantage of changes in the standard when they are finalized.

NSPS, Subpart GG

S352-S354, Turbines, are subject to 40 CFR 60, Subpart GG, Standards of Performance for Stationary Gas Turbines, because they were built after October 3, 1977. The limit in the standard for NOx is 110 ppmdv @ 15% O2, and the limit for SO2 is 0.8% S in fuel by weight. The sources are in compliance with both limits. The NOx CEM that is required by BAAQMD Regulation 9, Rule 9, Nitrogen Oxides from Stationary Gas Turbines, ensures compliance with the NOx limit, and the requirement to perform TRS analysis on the refinery fuel gas three times per day ensures compliance with the sulfur limit.

On July 8, 2004, EPA promulgated changes to the required monitoring for the NSPS. In Section 60.334(c), EPA allowed use of CEMs to determine compliance with the NOx limit.

NSPS, Subpart K

The current Title V permit states that S139 is exempt from 40 CFR 60, Subpart K, Standards of Performance for Storage Vessels for Volatile Organic Liquid Storage Vessels for Which Construction, Reconstruction, or Modification Commenced After June 11, 1973, and Prior to May 19, 1978, because it does not contain petroleum fluids. For the purposes of this NSPS, distillate oil, which it may contain, is not a petroleum fluid. The tank also handles sour water. An increase in sour water or distillate oil will not cause an increase in emissions and is not considered a modification for the purposes of the NSPS.

NSPS, Subpart Kb

The following tanks are not currently subject to Subpart Kb: S98, S118, S122, S123, S124, S128, S140, and S182.

Although the emissions will increase at S98, S123, and S124 due to changes in the petroleum fluids that they will hold, it is not considered an increase for the purposes of Subpart Kb because EPA has determined in the May 17, 1999 letter from Gerald Potamis of EPA Region 1 to Paul Flaherty of Arthur D. Little (attached in Appendix E) that switching from one petroleum fluid to another is not a modification pursuant to 40 CFR 60.14. Therefore, these tanks will not be subject to Subpart Kb.

Increases in throughput at S118, S122, S128, S140 and S182 are not considered modifications for the purposes of NSPS.

NSPS, Subpart GGG/VV, Standards of Performance for Equipment Leaks of VOC in Petroleum Refineries

S433, U246 High Pressure Reactor Train, will be subject to Subpart GGG/VV. In addition, process streams containing >5% OHAP will be subject to 40 CFR 63 Subpart CC (MACT) requirements for equipment leaks. The components subject to these regulations will be required to be added to the refinery's current LDAR programs, and comply along with other process units at the facility that are already subject to these standards.

S1004, Sulfur Recovery Unit, is not subject to the standard because it is not a process unit as defined by Section 60.591, which states:

> "*Process unit* means components assembled to produce intermediate or final products from petroleum, unfinished petroleum derivatives, or other intermediates; a process unit can operate independently if supplied with sufficient feed or raw materials and sufficient storage facilities for the product.

The sulfur recovery units are not assembled to produce intermediate or final products, and the feed to the sulfur recovery unit is not petroleum, unfinished petroleum derivatives, or an intermediate. It is true that sulfur is produced at the SRUs, but that is the unintended consequence of operating these control devices.

NESHAPS
Subpart CC
Tanks

Tanks S139, S140, and S182 are not subject to Subpart CC because they are routed to the fuel gas recovery system as allowed by Section 63.640(d)(5).

The requirements in Subpart CC for Tanks S118, S122, S123, S124, and S128 will not change.

Tank S98 will be subject to the requirements for Group 1 storage vessels because it is larger than 46,750 gallons (177 cubic meters), the vapor pressure will be greater than 1.5 psia (10.4 kilopascal), and it will be presumed to contain more than 4 percent by weight total organic HAP.

Miscellaneous process vents

The sulfur plant vents at S1004 are not subject to Subpart CC in accordance with Section 60.640(d)(4) and the vents are not considered miscellaneous process vents according to Section 60.641. This includes the vents for the sulfur pits, S301-S303, and S465. Also, vents from the control devices for the sulfur plant are not considered miscellaneous process vents.

The deaerator vents at the hydrogen plants are not considered miscellaneous process vents according to Section 60.641.

Relief valve discharges are not considered miscellaneous process vents.

Equipment Leaks

S434, U236 High Pressure Reactor Train, will be a new unit. Section 63.648 subjects new units to Subpart H.

The remaining units are considered existing and subject to 40 CFR 60, Subpart VV.

NESHAPS, Subpart UUU

S1004, U235 Sulfur Recovery Unit, is subject to 40 CFR 63, Subpart UUU. This standard is essentially equivalent to the SO2 standard in 40 CFR 60, Subpart J. The unit will comply with the SO2 standard and with the requirement for continuous SO2 monitoring.

NESHAPS, Subpart DDDDD

S45, Process Heater, is subject to 40 CFR 63, Subpart DDDDD, National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters. The DC Circuit Court vacated the standard on June 8, 2007. Where there is no MACT for a new source and the deadline for promulgation of a standard by EPA is past, local agencies must determine case-by-case MACT for the new source, in accordance with 40 CFR 63.52(a). The emission limit for S45 in the standard was 400 ppm CO. There were no other limits for gaseous-fueled boilers. A CO CEM was not required for units under 100 MMbtu/hr.

The reason that the court gave for vacating the MACT was that EPA had inappropriately classified solid waste incineration units that were subject to Section 129 of the Clean Air Act as solid fuel units that were subject to the MACT. This classification greatly increased the number of units subject to the MACT and therefore skewed the determination of the MACT floor. The court stated that the "universe of units … will be far smaller and more homogenous [sic]" after the solid waste units were taken out of the group of units affected. The court expects that the rule will change substantially when EPA considers the smaller pool of units.

One possible outcome is that the standards may become more stringent because the HAP emissions from the solid waste incineration units are expected to be higher. The MACT "floor" is based on the performance of the top 12 percent of the units in a category.

EPA had determined that CO was an appropriate surrogate for organic HAPs. The argument was that high CO was indicative of poor combustion and therefore, poor destruction of organic HAPs. This is a reasonable assumption.

Following are the CO limits proposed by EPA:

- New, large and limited use solid fuel units: 400 PPM @ 7% O2
- Small solid fuel units: None
- New, large and limited use liquid fuel units: 400 PPM @ 3% O2
- Small liquid fuel units: None
- New, large and limited use gaseous fuel units: 400 PPM @ 3% O2
- Small gaseous fuel units: None
- Existing units None

Small units are defined as units with a capacity less than 10 MMbtu/hr.

Gaseous-fueled units are not expected to be sources of metallic or inorganic HAP.

The MACT limit for S45, therefore, was 400 PPM @ 3% O2, which is equivalent to the BAAQMD Regulation 9, Rule 7, Nitrogen Oxides and Carbon Monoxide from Industrial, Institutional, and Commercial Boilers, Steam Generators, and Process Heaters, which was adopted in 1992.

The District does not have the resources to survey all industrial, commercial, and institutional boilers and process heaters in the United States and determine the MACT "floor." However, the District notes that the CO BACT limit in the District's BACT workbook for boilers over 50 MMbtu/hr has been 50 ppmv since 2005. For refinery process heaters over 50 MMbtu/hr, the BACT limit has been 50 ppmv since 1994. The South Coast AQMD has had BACT limits for CO of 50 ppm for boilers since 2000.

On page 1680, column 3, second paragraph, of the MACT proposal published on January 13, 2003, EPA states:

> "The approach that we use to calculate the MACT floors for new sources is somewhat different from the approach that we use to calculate the MACT floors for existing sources. While the MACT floors for existing units are intended to reflect the average performance achieved by a representative group of sources, the MACT floors for new units are meant to reflect the emission control that is achieved in practice by the best controlled source. Thus, for existing units, we are concerned about estimating the central tendency of a set of multiple units, while for new units, we are concerned about estimating the level of control that is representative of that achieved by a single best controlled source."

If we agree with EPA that low CO levels indicate low levels of organic HAPs, then lower CO levels are better than higher CO levels. Considering that the "best controlled sources" have CO levels that are 50 ppm or lower, 400 ppm cannot be considered to be the proper MACT limit for a new gaseous-fueled source. The source is subject to the following BACT CO limits: 10 ppm CO when operating above 30 MMbtu/hr and 28 ppm CO when operating below 30 MMbtu/hr. These levels will be considered to be presumptive MACT levels for this source until EPA

re-proposes and re-promulgates MACT. Since it is not expected that EPA will propose limits that are lower than these limits, the source incurs no risk from this determination.

40 CFR 70, Title V

The facility is subject to the Title V program because it is a major facility as defined by BAAQMD Regulation 2-6-206. The date of Initial issuance of the Title V permit was December 1, 2003. The permit has been modified several times after initial issuance.

The changes proposed in this application require a significant revision of the Title V permit because the project contains:

- 2-6-226.2: The incorporation of a change considered a modification under 40 CFR Parts 60 (NSPS) and 63 (MACT)
- 2-6-226.4: The establishment of or change to a permit term or condition allowing a facility to avoid an applicable requirement
- 2-6-226.5: The establishment of or change to a case-by-case determination of any emission limit or other standard
- 2-6-226.6: The establishment of or change to a facility-specific determination for ambient impacts, visibility analysis, or increment analysis on portable sources

The revisions will be proposed in the Title V permit after the District has received public comment on and finalized the conditions.

40 CFR 72-78, ACID RAIN

Electricity will be generated using excess heat at the hydrogen plant. The hydrogen plant will not be subject to 40 CFR 72-78 because it will not sell electricity. The hydrogen plant or ConocoPhillips will consume all electricity that is produced. The standards apply only to "utilities," which are defined in 40 CFR 72.2 as "any person who sells electricity."

The Steam Power Plant at the refinery consists of three 16.6 MW turbines and 3 Heat Recovery Steam Generators with 3 duct burners. There are no steam turbines, so the power plant is a simple cycle power plant. The steam power plant is not subject to Acid Rain because Section 72.6(b)(2) exempts:

> "Any unit that commenced commercial operation before November 15, 1990 and that did not, as of November 15, 1990, and does not currently, serve a generator with a nameplate capacity of greater than 25 MWe."

MONITORING ANALYSIS

S45, Heater, 85 MMbtu/hr, has limits on hourly and annual heat input, concentration limits on NOx, CO, and NH3, lb/MMbtu limits on POC and PM10,

annual mass emission limits on NOx, CO, POC, PM10, and SO2, and sulfur and H2S limits on the fuel. The heater will have a fuel meter to ensure compliance with the heat input limits. Since the heater is abated by an SCR, it will have a NOx CEM to ensure that the abatement device is in compliance. The refinery fuel gas is supplied from the Merichem unit and will be monitored for H2S with the alternative monitoring plan approved in Application 11626. In addition, total sulfur will be monitored 3 times/day. The owner/operator will perform a one-time test for compliance with the NOx, CO, POC, PM10, and ammonia limits. Non-compliance with the POC and PM10 are not expected at this source. The owner/operator will perform tests for CO twice per year. If the source is not in compliance with the CO limit more than once in every 3 year period, the owner/operator will have to install a CO CEM.

Tanks: BAAQMD Regulation 8, Rule 5, requires adequate monitoring. The seals and fittings on external floating roof tanks are now required to be inspected twice per year. Pressure relief devices on tanks must also be inspected twice per year.

S352-S357, Steam Power Plant: The NOx CEMs on the steam power plant will ensure compliance with the new annual limit.

S1004, U235 Sulfur Recovery Unit (SRU): The SRU will be equipped with SO2 and CO CEMs to ensure compliance with all SO2 and CO limits. Initial compliance with the SO2, NH3, CO, NOx, POC, filterable particulate, PM10, sulfuric acid mist, and H2S limits will be demonstrated by source test. The source test will be used to establish a temperature limit that will ensure that the H2S concentration after control is less than 2.5 ppmdv @ 0% O2. An annual source test will be performed to ensure compliance with the limits in BAAQMD Regulation 6, and the NOx, ammonia, H2S, and sulfuric acid mist limits.

S1007, Dissolved Air Flotation Unit (DAF): Compliance with the H2S limit in 40 CFR 60.104(a)(1) will be ensured by continuous monitoring of the H2S content of the vapors sent to the thermal oxidizer. Initial compliance with the POC collection and destruction limit will be demonstrated by source test or tests. The source test or tests will be used to establish a temperature limit that will ensure that the destruction efficiency will be maintained.

S465, Sulfur Pit, S503, Sulfur Storage Tank, S504, Sulfur Degassing Unit, and S505, Sulfur Truck Loading Rack will not be monitored because their vents are routed to the sulfur recovery units.

Fugitive emissions: S307, S308, S309, S318, S339, S432, S434: BAAQMD Regulation 8, Rule 18, requires adequate monitoring.

Facility A0022: Source 2, Kiln: The pre-existing SO2 CEM is adequate and appropriate monitoring for the new SO2 limit and the pre-existing annual source

tests for particulate are adequate and appropriate monitoring for the new PM10 limit.

Overall annual emission limits have been imposed in Condition 22970, parts A.1-A.3, to ensure that the emissions of the project are less than the emissions proposed by the applicant. The reasons that this condition has been imposed is to allow the facility to exceed certain limits during startup and shutdown and still comply with the annual limits. Part A.4 contains the monitoring and reporting for these limits.

6. RECOMMENDATIONS

Issue an authority to construct for the following sources:

S45, Heater (U246), 85 MMbtu/hr abated by A47, SCR
S98, Tank 101, EFRT, 170k barrels
S118, Tank No. 163, fixed roof, 5.3k barrels
S122, Tank No. 167, EFRT, 3.1 MMgals
S123, Tank No. 168, EFRT, 75k barrels
S124, Tank No. 169, EFRT, 75k barrels
S128, Tank No. 174, EFRT, 76k barrels
S168, Tank No. 269, fixed roof, 39k barrels, abated by A7, Vapor Recovery System
S173, Tank No. 280 fixed roof, 134k barrels, abated by A7, Vapor Recovery System
S174, (Tank No. 281), fixed roof, 134k barrels, abated by A7, Vapor Recovery System
S465, Sulfur Pit U235 abated by S1004, Sulfur Recovery Unit
S307, U240 Unicracking Unit (increase of 23,000 bbl/day)
S308, U244 Reforming Unit (increase of 2,413 bbl/day)
S309, U248 UNISAR Unit (increase of 7,830 bbl/day)
S318, U76 Gasoline Blending (increase of 8,300,000 bbl/yr)
S339, U80 Gasoline/Mid Barrel Blending
S432, U215 Deisobutanizer (increase of 2,600 bbl/day)
S434, U246 High Pressure Reactor Train (Cracking) (23,000 bbl/day)
S503, Sulfur Storage Tank abated by S1004, Sulfur Recovery Unit
S504, Sulfur Degassing Unit abated by S1004, Sulfur Recovery Unit
S505, Sulfur Truck Loading Rack abated by S1004, Sulfur Recovery Unit
S1004, U235 Sulfur Recovery Unit (200 long tons/day)
S1007, Dissolved Air Flotation Unit (DAF) abated by A49, DAF Thermal Oxidizer
A7, Odor Abatement System
A47, SCR abating S45, Heater
A48, SRU Tail Gas Treatment Unit
A49, DAF Thermal Oxidizer abating S1007, Dissolved Air Flotation
A51, DAF Carbon Bed
A424, Tail Gas Incinerator abating S1004, Sulfur Recovery Unit

Modify BAAQMD conditions as shown below.

Issue a change of conditions for the following sources:S139, Tank No. 204, fixed roof, 81k barrels, abated by A7, Vapor Recovery System
S140, Tank No. 205, fixed roof, 54k barrels, abated by A7, Vapor Recovery System
S464, Hydrogen Plant
S352, Combustion Turbine
S353, Combustion Turbine
S354, Combustion Turbine
S355, Duct Burner
S356, Duct Burner
S357, Duct Burner

Issue a permit to operate for the following sources:
S139, Tank No. 204, fixed roof, 81k barrels, abated by A7, Vapor Recovery System
S140, Tank No. 205, fixed roof, 54k barrels, abated by A7, Vapor Recovery System
S182, Tank No. 294, fixed roof, 40k barrels, abated by A7, Vapor Recovery System
S464, Hydrogen Plant (not new source, was originally permitted as part of S307, U240 Unicracking Unit)

7. PERMIT CONDITIONS

ConocoPhillips will provide 44 tons per year of contemporaneous POC offsets by controlling emissions at S1007, Dissolved Air Flotation Unit (DAF). These emissions are surplus, because they are not otherwise controlled by District regulations or permit, or other federal, State or local requirements.

Part 7 of Condition 1440 was amended after public comment to make clear that control of emissions at S1007 are required when VOC emissions must be reduced to provide offsets for Application 13424.

Using a thermal oxidizer to control the DAF is also expected to reduce odors because the emissions of the DAF contain H2S. The conditions allow control with carbon when the thermal oxidizer is not working. Because carbon will not control H2S, a provision has been added requiring control with a thermal oxidizer or other equivalent control of H2S at least 90% of the time.

The conditions regarding the control of emissions have been reorganized and made clearer.

"BAAQMD Regulation 2, Rule 5" replaces the following basis for permit conditions: "Toxics Risk Management."

CONDITION 1440

CONDITIONS FOR S324, S381, S382, S383, S384, S385, S386, S387, S390, S392, S400, S401 S1007, S1008, S1009

1. S324 API Separator shall be operated such that the liquid in the main separator basin is in full contact with the fixed concrete roof. This condition shall not apply during separator shutdown for maintenance. [Cumulative Increase]

2. Diversions of refinery wastewater around the Water Effluent Treating Facility to the open Storm Water Basins (S1008, S1009) shall be minimized. These diversions shall not cause a nuisance as defined in District Regulation 7 or Regulation 1-301. [Cumulative Increase]

3. Records shall be maintained of each incident in which refinery wastewater is diverted to the open storm water basins. These records shall include the reason for the diversion, the total quantity of wastewater diverted to the basins, and the approximate hydrocarbon content of the water. [Cumulative Increase]

4. The following sources shall be vapor-tight as defined in Regulation 8, Rule 8:

a. Doors, hatches, covers, and other openings on the S324 API Separator, forebay, outlet basin, and channel to the S1007 DAF Unit.

~~b. Doors, hatches, covers, and other openings on the S1007 DAF Unit and the S400 Wet and S401 Dry Weather Sumps, except for the vent opening on these units.~~

c. Any open process vessel, distribution box, tank, or other equipment downstream of the S1007 DAF Unit (S381, S382, S383, S384, S385, S386, S387, S390, S392).

[Cumulative Increase]

5. Compliance with the VOC emission criteria of Part 4 shall be determined semi-annually and records kept of each inspection. These records shall be made available to District personnel upon request.
[Cumulative Increase]

6. The maximum wastewater throughput at the S324 API Separator and S1007 DAF Unit shall not exceed 7,500 gpm during media filter backwash and 7,000 gpm during all other times for each unit. Any modifications to equipment at this facility that increase the annual average waste water throughput at S324 and S1007 shall first be submitted to the BAAQMD in the form of a permit application.
[Cumulative Increase]

7. This part will apply after VOC emissions at S1007 must be reduced to provide offsets for Application 13424 per Condition 22970, Part B. The owner/operator shall ensure that S1007, DAF, is controlled by A49, DAF Thermal Oxidizer or A51, DAF Carbon Bed, at all times of operation of S1007, except for up to 175 hours per any consecutive 12-month period for startup, shutdown, or maintenance. The owner/operator must control with a thermal oxidizer at least 90% of the time on a consecutive 12-month basis, unless owner/operator controls H2S with an equivalent control device as determined by the APCO.
[Offsets, CEQA]

b. Through source testing as described in Part 7(b) and 7(c), the owner/operator must demonstrate that the total reduction of emissions through use of A49, DAF Thermal Oxidizer and/or A51, DAF Carbon Bed will result in a total reduction of 44 tons POC per year, considering that abatement will not occur with either abatement device up to 175 hours per year. If initial testing does not demonstrate total reduction of 44 tons POC per year, the owner/operator may choose to:

i. In the case of A49, DAF Thermal Oxidizer, perform 4 tests in one year and average the results. In this case, the tests will be performed no less than 2 months apart and no more than 4 months apart.

ii. In the case of A51, DAF Carbon Bed, average the results of one year's worth of monitoring.

If, after further testing, a total of 44 tons worth of POC reduction is not demonstrated, the owner/operator will supply offsets necessary to ensure a total reduction of 44 tons per year POC pursuant to BAAQMD Regulation 2-2-302.

[Offsets, CEQA]

c. The following conditions apply to operation of A49, DAF Thermal Oxidizer:

i. Within 90 days of the startup date of A49, DAF Thermal Oxidizer, the owner/operator shall perform a source test to determine the following:

1. Mass emissions rate for POC that is collected and sent to A49.
2. Mass emissions rate for POC after abatement by A49.
3. Mass emissions rate for H2S that is collected and sent to A49.
4. Mass emissions rate for H2S after abatement by A49.
5. Mass emissions rate for SO2

During the source test, the owner/operator shall determine the temperature required to achieve 98.0% destruction by weight of POC or a concentration of 10 ppmv POC at the outlet. The temperature shall become an enforceable limit.

For the purposes of determining the amount of POC controlled, the owner/operator shall use District Method ST-7, Organic Compounds. The owner/operator shall submit the source test results to the District Source Test Manager, the District Permit Evaluation Manager, and the District Director of Compliance and Enforcement no later than 60 days after any source test.

[Offsets, CEQA]

ii. After the initial source test required in Part 8 of this condition, the minimum temperature determined shall become the minimum temperature limit for A49. A49 shall not be operated below the minimum temperature except during an “Allowable Temperature Excursion” as defined below:

1. Operation of A49 within 20°F below the minimum temperature
2. Operation of A49 more than 20°F below the minimum temperature for a period or periods which, when combined are less than or equal to 15 minutes in any hour; or
3. Operation of A49 more than 20°F below the minimum temperature for a period or periods which when combined are more than 15 minutes in any hour, provided that all three of the following criteria are met:
    a. The excursion does not exceed 50°F below the minimum temperature;
    b. The duration of the excursion does not exceed 24 hours; and

c. The total number of such excursions does not exceed 12 per calendar year (or any consecutive 12 month period).
Two or more excursions greater than 15 minutes in duration occurring during the same 24-hour period shall be counted as one excursion toward the 12 excursion limit.
For each such excursion, sufficient records shall be kept to demonstrate that they meet the qualifying criteria described above. Records shall include at least the following information:
1. Temperature controller setpoint;
2. Starting date and time, and duration of each Allowable Temperature Excursion;
3. Measured temperature during each allowable Temperature Excursion;
4. Number of Allowable Temperature Excursions per month, and total number for the current calendar year; and
5. All strip charts or other temperature records.

[Offsets, CEQA]

iii. To determine compliance with the temperature limit in Part 9, A49, Thermal Oxidizer shall be equipped with a temperature measuring device capable of continuously measuring and recording the temperature in A49. The temperature device shall be installed and maintained in accordance with the manufacturer's recommendations, shall be ranged appropriately to measure the temperature limit determined, and shall have a minimum accuracy over the range of 1.0 percent of full-scale.

[Offsets, CEQA]

iv. Unless amendments to 40 CFR 60, Subpart J, remove applicability of the DAF vapors from that subpart, the owner or operator shall:
1. Ensure that the H2S content of the gas burned at A49 does not exceed 0.10 gr/dscf. (This condition will be deleted when the citation is added to the Title V Permit)
2. Install, calibrate, maintain, and operate a District-approved Continuous Emissions Monitoring System and recorder for H2S in the gas that is sent to A49. The owner/operator is not required to operate the CEMS when A49 is not being operated.

[40 CFR 60, Subpart J]

v. If 40 CFR 60, Subpart J is amended such that a continuous monitoring system is not required for A49, and the owner/operator does not install a Continuous Emissions Monitoring System, the owner/operator shall perform a source test to determine emissions

of SO2 from A49, DAF Thermal Oxidizer using District Method ST-19A, Sulfur Dioxide, Continuous Sampling. The owner/operator shall submit the source test results to the District Source Test Manager, the District Permit Evaluation Manager and the District Director of Compliance and Enforcement no later than 60 days after any source test.
[Offsets, CEQA]

vi. If the continuous monitoring data per Part 7.b.iv or the Source Test Data per Part 7.b.v shows that the annual SO2 emissions are greater than 1.2 tons per year, the owner/operator shall provide additional SO2 offsets in accordance with BAAQMD Regulation 2-2-303.
[Offsets, CEQA]

d. The following conditions apply to A51, DAF Carbon Bed

i. A51 shall consist of two or more activated carbon vessels arranged in series, with at least one carbon vessel in service except for up to 175 hours per any consecutive 12-month period for startup, shutdown, or maintenance.
[Offsets, CEQA]

ii. Total emission reduction of A51 shall be demonstrated through use of an in-line flowmeter, and the results of monitoring per the conditions below.
[Offsets]

iii. The owner/operator of A51 shall monitor with a photo-ionization detector (PID), flame-ionization detector (FID), or other method approved in writing by the Air Pollution Control Officer at the following locations:
1. The stream prior to any carbon vessels
2. At the inlet to the last carbon vessel in series
3. At the outlet of the carbon vessel that is last in series prior to venting to atmosphere
[Offsets]

iv. When using an FID to monitor breakthrough, readings may be taken with or without a carbon filter tip fitted on the FID probe. Concentrations measured with the carbon filter tip in place shall be considered methane for the purpose of these permit conditions.
[Offsets]

v. All breakthrough monitoring readings shall be recorded in a monitoring log each time they are taken. Readings shall be conducted on a daily basis initially, but after two months of daily collection, the owner/operator may propose for District review, based on actual measurements taken at the site during operation of the source, that the monitoring schedule be changed to weekly

based on the demonstrated breakthrough rates of the carbon vessels. If the District Engineering Division does not disapprove of the proposed monitoring changes within 30 days, the owner/operator shall commence weekly monitoring.
[Offsets]

vi. The owner/operator shall utilize the activated carbon vessels in such a manner to ensure that the outlet stream to atmosphere contains below 10 ppm VOC or 98% reduction of VOC, whichever is greater.
[Offsets]

vii. The owner/operator of this source shall maintain the following records for each month of operation of A51:
1. The hours and times of operation
2. Each monitor reading or analysis result for the day of operation they are taken.
3. The number of spent carbon beds removed from service.
[Offsets]

8. This part will apply after VOC emissions at S1007 must be reduced to provide offsets for Application 13424 per Condition 22970, Part B. Any exceedance of any limit in part 7 shall be reported to the Compliance and Enforcement Division within 10 days of discovery of the occurrence. (This condition will be deleted when the condition is added to the Title V Permit.) [basis: Offsets; CEQA; 40 CFR 60, Subpart J]

9. This part will apply after VOC emissions at S1007 must be reduced to provide offsets for Application 13424 per Condition 22970, Part B. The owner/operator shall seal the DAF outlet channel and downstream sumps by a solid cover with gaskets. Any vents installed on the covered channel shall be routed to the thermal oxidizer or an equivalent control as determined by the APCO. [Offsets, CEQA]

The title of Condition 1694 has been changed to show that the emissions from engines are not included in the SO2 cap. When this condition was written, the engines were exempt and the emissions from engines were not considered. Also, the new heater, S45, will not be included in the SO2 cap.

S336 and S337 have been moved from part A.1a to A.1b because they are not grandfathered sources. They were modified in 1999 pursuant to Application 18696 to retrofit the burners for compliance with BAAQMD Regulation 9, Rule 10.

S8 will be removed from part A.1b because it will be removed from service. The SO2 cap in part A.4 will not change because the refinery fuel gas will be burned in other sources.

The overall fuel firing for Sources S2, S3, S4, S5, S7, S9, S10, S11, S12, S13, and S14, Heaters, in part F.1b will be reduced by 115.7 MMbtu/hr when S8 is removed from service, based on the baseline for S8.

CONDITION 1694

CONDITIONS FOR COMBUSTION SOURCES AND SO2 CAP, EXCEPT FOR GAS TURBINES, DUCT BURNERS, ENGINES, AND S45, HEATER (U246 B801/B802)
-

A. Heater Firing Rate Limits and General Requirements

1a. Each heater listed below shall not exceed the indicated daily firing rate limit (based on higher heating value of fuel), which are considered maximum sustainable firing rates. The indicated hourly firing rate is the daily limit divided by 24 hours and is the basis for permit fees and is the rate listed in the District database.

District Source Number	Refinery ID Number	Daily Firing Limit (MMbtu/day)	Hourly Firing Rate (MMbtu/hr)
S3	U230/B201	1,488	62
S7	U231/B103	1,536	64
S21	U244/B507	194.4	8.1

[Regulation 2-1-234.3]

1b. Each heater listed below shall not exceed the indicated daily firing rate limit (based on higher heating value of fuel), which are considered maximum sustainable firing rates. The indicated hourly firing rate is the daily limit divided by 24 hours and is the basis for permit fees and is the rate listed in the District database.

District Source Number	Refinery ID Number	Daily Firing Limit (MM BTU/day)	Hourly Firing Rate (MM BTU/hr)
S2	U229/B301	528	22
S4	U231/B101	2,304	96
S5	U231/B102	2,496	104
S8	U240/B1	6,144	256

S8 will be removed from service within 90 days of the date that the NOx offsets pursuant to Application 13424 must be supplied pursuant to BAAQMD Regulation 2-2-410.

S9	U240/B2	1,464	61
S10	U240/B101	5,352	223

S11	U240/B201	2,592	108
S12	U240/B202	1,008	42
S13	U240/B301	4,656	194
S14	U240/B401	13,344	556
S15 thru S19	U244/B501 thru B505	5,754	239.75
S20	U244/B506	552	23
S22	U248/B606	744	31
S29	U200/B5	2,472	103
S30	U200/B101	1,200	50
S31	U200/B501	480	20
S43	U200/B202	5,520	230
S44	U200/B201	1,104	46
S351	U267	2,280	95
S336	U231/B104	2,664	111
S337	U231/B105	816	34
S371/372	U228/B520 and B521	1,392	58

[Regulation 2-1-301]

1c. Each heater listed below shall not exceed the indicated daily firing rate limit (based on higher heating value of fuel), which are considered maximum sustainable firing rates. The indicated hourly firing rate is the daily limit divided by 24 hours and is the basis for permit fees and is the rate listed in the District database.

District Source Number	Refinery ID Number	Daily Firing Limit (MMbtu/day)	Hourly Firing Rate (MMbtu/hr)
S438	U110	6,000	250

[Cumulative Increase]

2a. All sources shall use only refinery fuel gas and natural gas as fuel, EXCEPT for S438 which may also use pressure swing adsorption (PSA) off gas as fuel, and EXCEPT for S3 and S7 which may also use naphtha fuel. [Regulation 9-1-304 (sulfur content), Regulation 2, Rule 1]

[Note: Part 2a will be amended by Application 12931, which will prohibit the use of liquid fuel at S3 and S7 except during periods of natural gas curtailment, test runs, or for operator training.]

2b. Sources S3 and S7 are permitted to use naphtha fuel. These sources shall be monitored for visible emissions during tube cleaning. If any visible emissions are detected when the operation commences, corrective action shall be taken within one day, and monitoring shall be performed after the corrective action is taken. If no visible emissions are detected, monitoring shall be performed on an hourly basis. [Regulation 2-6-409.2]

[Note: Part 2b will be amended by Application 12931, which will prohibit the use of liquid fuel at S3 and S7 except during periods of natural gas curtailment, test runs, or for operator training.]

2c. Sources S3 and S7 are permitted to use naphtha fuel. These sources shall be monitored for visible emissions before each 1 million gallons of liquid fuel is combusted at each source. If an inspection documents visible emissions,

a Method 9 evaluation shall be completed within 3 working days, or during the next scheduled operating period if the specific unit ceases firing on liquid fuel within the 3 working day time frame. [Regulation 2-6-409.2].

[Note: Part 2c will be amended by Application 12931, which will prohibit the use of liquid fuel at S3 and S7 except during periods of natural gas curtailment, test runs, or for operator training.]

3a. The refinery fuel gas shall be tested for total reduced sulfur (TRS) concentration by GC analysis at least once per 8 hour shift (3 times per calendar day). At least 90% of these samples shall be taken each calendar month. No readable samples or sample results shall be omitted. TRS shall include hydrogen sulfide, methyl mercaptan, methyl sulfide, dimethyl disulfide. As an alternative to GC TRS analysis, the fuel gas total sulfur content may be measured with a dedicated total sulfur analyzer (Houston Atlas or equivalent), and TRS concentration estimated based on the total sulfur/TRS ratio, with the TRS estimate increased by a 5% margin for conservatism. The total sulfur/TRS ratio shall be determined at least on a monthly basis through GC analyses of total sulfur and TRS values, and the most recent ratio shall be used to estimate TRS concentration. [SO2 Bubble]

3b. The average of the 3 daily refinery fuel gas TRS sample results shall be reported to the District in a table format each calendar month, with a separate entry for each daily average. Sample reports shall be submitted to the District within 30 days of the end of each calendar month. Any omitted sample results shall be explained in this report. [SO2 Bubble]

4. Emissions of SO2 shall not exceed 1,612 lb/day on a monthly average basis from non-cogeneration sources burning fuel gas or liquid fuel. This limit shall not include S45, Heater (U240) and shall not include any engine. [SO2 Bubble]

5. The following records shall be maintained in a District-approved log for at least 5 years and shall be made available to the District upon request:

a. Daily and monthly records of the type and amount of fuel combusted at each source listed in Part A.1. [Regulation 2, Rule 1]
b. TRS sample results as required by Part A.3 [SO2 Bubble]
c. SO2 emissions as required by Part A.4 [SO2 Bubble]
d. The operator shall keep records of all visible emission monitoring required by Part 2b, shall identify the person performing the monitoring and shall describe all corrective actions taken [Regulation 2-6-409.2]
e. The operator shall keep records of all visible emission monitoring required by Part 2c, of the results of required visual monitoring and Method 9 evaluations on these sources, shall identify the person performing the monitoring and shall describe all corrective actions taken. [Regulation 2-6-409.2]

F. S2, S3, S4, S5, S7, S8, S9, S10, S11, S12, S13, S14, Heaters

[S8 will be deleted from this part when the source is removed from service pursuant to Application 13424.]

1a. Total fuel firing at Unit 240 (S8, S9, S10, S11, S12, S13, S14) shall not exceed 993 MMbtu/hr averaged over any consecutive 12 month period. [Cumulative Increase]

[Part 1a will be effective until S8 is removed from service pursuant to Application 13424.]

1b. Total fuel firing at Unit 240 (S9, S10, S11, S12, S13, S14) shall not exceed 877.3 MMbtu/hr (based on higher heating value) averaged over any consecutive 12 month period. [Cumulative Increase]

[Part 1b will be effective after S8 is removed from service pursuant to Application 13424.]

2. Total fuel fired at the MP-30 Complex, including Unit 229 (S2), Unit 230 (S3) and Unit 231 (S4, S5, S7) shall not exceed 346.5 MMbtu/hr (based on higher heating value) averaged over any consecutive 12 month period. [Cumulative Increase]

3. Monthly records of the fuel fired at sources in Parts 1 and 2 shall be kept in a District-approved log for at least 5 years and shall be made available the District upon request. [Cumulative Increase]

G. Regulation 9-10 Startup / Shutdown Provisions [Basis: 9-10-301]

For determining compliance with Regulation 9-10-301, the contribution of each affected unit that is in a startup or shutdown condition shall be based on the methods described in 9-10-301.1, and the contribution of each affected unit that is in an out of service condition shall be based on the methods described in 9-10-301.2. Low-firing conditions (no higher than 20% of a unit's rated capacity), including refractory dryout periods, shall be considered out of service conditions subject to the 30-day averaging procedure in Regulation 9-10-301.2, including the 60-day annual limit for this procedure.

1. Heaters S8 (Unit 240, B-1), S14 (Unit 240, B-401) and S44 (Unit 200, B-201) shall be considered to be in normal operation whenever they have detectable fuel flow, and shall be considered to be out of service for the purpose of Regulation 9-10-301 whenever they have undetectable fuel flow.

[S8 will be deleted from this part when the source is removed from service pursuant to Application 13424.]

2. For heaters S43 (Unit 200, B-202), S351 (Unit 267, B-601/602) and S371/372 (Unit 228, B-520/521), the durations of startups, shutdowns and refractory dryout periods are defined in Condition 1694, Part D.2 (S43), Part B.2 (S351) and Part C.2 (S371, S372).

3. For heaters S10 (Unit 240, B-101) and S15 through S19 (Unit 244, B-501 through B-505), the duration of startups, shutdowns and low-firing periods are defined as follows:

a. startup and shutdown periods are not to exceed 24 hours
b. low-firing periods are not to exceed 72 hours

4. For heater S13 (Unit 240, B-301), the duration of startups, shutdowns and low-firing periods are defined as follows:

   a. startup and shutdown periods are not to exceed 72 hours
   b. low-firing periods are not to exceed 72 hours

5. For heaters with no CEMS:

   S2 (Unit 229, B-301)
   S3 (Unit 230, B-201)
   S4 (Unit 231, B-101)
   S5 (Unit 231, B-102)
   S7 (Unit 231, B-103)
   S9 (Unit 240, B-2)
   S11 (Unit 240, B-201)
   S12 (Unit 240, B-202)
   S20 (Unit 244, B-506)
   S22 (Unit 248, B-606)
   S29 (Unit 200, B-5)
   S30 (Unit 200, B-101)
   S31 (Unit 200, B-501)
   S336 (Unit 231, B-104)
   S337 (Unit 231, B-105)

   startups, shutdowns, and out of service conditions shall each not exceed 5 days in succession at each source.

Since ConocoPhillips has stated that the any additional HGO that they receive from their Santa Maria refinery will be transported by pipeline, a condition has been added to limit receipts of HGO destined for the hydrocracker through the wharf based on the average of the following 3 years: 8/1/02 to 8/1/05. The purpose of the condition is to ensure that emissions from marine vessels do not increase due to the CFEP project, as they have stated. If at a later date, ConocoPhillips wishes to receive more Santa Maria HGO by ship or purchase it from another source and receive it at the wharf, the facility may apply for this change and provide the emissions offsets.

CONDITION 4336
CONDITIONS FOR S425, S426**,** Marine Loading Berths

1. For each loading event of "regulated organic liquid", A420 shall be operated with a temperature of at least 1300 degrees F during the first 15 minutes of the loading operation. After the initial 15 minutes of loading, the A420 temperature shall be at least 1400 degrees F.
   [Cumulative Increase]

2. Instruments shall be installed and maintained to monitor and record the following:

a. Static pressure developed in the marine tank vessel
b. A420 temperature.
c. Hydrocarbons and flow to determine mass emissions or a concentration measurement alone if it is demonstrated to the satisfaction of the APCO that concentration alone allows verification of compliance, or
d. Any other device that verifies compliance, with prior approval from the APCO.

[Cumulative Increase]

3. A "regulated organic liquid" shall not be loaded from this facility into a marine tank vessel within the District whenever A420 is not fully operational. A420 must be maintained to be leak free, gas tight, and in good working order. For the purposes of this condition, "operational" shall mean the system is achieving the reductions required by Regulation 8, Rule 44; "regulated organic liquids" include gasoline, gasoline blendstocks, aviation gasoline and JP-4 aviation fuel and crude oil.
[Cumulative Increase]

4. A leak test shall be conducted on all vessels loading under positive pressure prior to loading more than 20% of the cargo. The leak test shall include all vessel relief valves, hatch cover, butterworth plates, gauging connections, and any other potential leak points.

[Cumulative Increase]

5. Loading pressure shall not exceed 80% of the lowest relief valve set pressure of the vessel being loaded. [Cumulative Increase]

6a. No more than 25,000 barrels per day of gasoline, naphtha and C5/C6 shall be shipped across the wharf on an annual average basis.
[Cumulative Increase]

1. Deleted Application 13690

~~2. When barges are used to lighter crude oil, the volume of oil lightered during any reporting period shall be multiplied by a factor of 0.42 and included in the shipping totals to determine compliance with the throughput limits. The vessel Exxon Galveston is considered a ship for the purposes of this condition.~~

6b. The maximum loading rate at any time at both S425 and S426 shall not exceed 20,000 barrels per hour to prevent overloading the A420 oxidizer.
[Cumulative Increase]

7a. The owner/operator shall not receive more than 30,000 bbl per day crude oil delivered by tanker or ship on a 12 month rolling average basis.
(Cumulative increase, 2-1-403)

7b. The owner/operator shall receive no more than 249,000 barrels per year of gas oil feed at the Marine Terminal (S425, S426) to the U-240 (S305) Prefractionator. [Offsets]

8. ~~All throughput records required to verify compliance with Parts 6 and 7, including hourly loading rate records (total for S425, S426), monthly crude oil receipt records, and maintenance records required for A420, which are subject to Regulation 8, Rule 44, shall be kept on site for at least 5 years and made available to the District upon request. [Cumulative Increase]~~

9. ~~The destruction efficiency of the A420 control system shall be at least 98.5% by weight over each loading event for gasoline, gasoline blending stocks, aviation gas, aviation fuel (JP-4 type), and crude oil. [BACT]~~

10. The purpose of part 10 is to implement an alternative monitoring plan to assure compliance with the H2S limit in 40 CFR 60.104(a)(1) at A420, Thermal Oxidizer. This part will apply whenever A420 is used to comply with BAAQMD Regulation 8, Rule 44, and whenever A420 is used to burn fuel gas as defined by 40 CFR 60.101(d). To ensure that the thermal oxidizer is not used to burn fuel gas that is high in H2S, the following activities are not allowed at the terminal: ballasting, cleaning, inerting, purging, and gas freeing. The owner/operator shall perform the following monitoring: One detection tube sampling shall be conducted on the vapors collected during the event for each marine vessel tank that is affected. The detector tube ranges shall be 0-10/0-100 ppm (N=10/1) unless the H2S level is above 100 ppm. If the H2S level is above 100 ppm, the owner/operator shall use a detection tube with a 0-500 ppm range. The owner/operator shall use ASTM Method 4913-00, Standard Practice for Determining Concentration of Hydrogen Sulfide by Reading Length of Stain, Visual Chemical Detectors. The owner/operator shall maintain records of the H2S detection tube test data for five years from the date of the record. In addition, the owner/operator shall monitor at least once every calendar day that the thermal oxidizer is used. Within 8 months of approval of this part pursuant to Application 13691, the owner/operator shall submit the first six months of results of the H2S analysis to the District's Engineering and Enforcement and Compliance Departments for review. [40 CFR 60.13(i), BAAQMD Regulation 2-6-501]

The purpose of Condition 6671 is to control emissions of POC from the dearator vent of a hydrogen plant that serves S307, Unicracker. Since hydrogen plants are normally permitted separately, a new source designation has been created for the hydrogen plant, and the condition has been assigned to it.

CONDITION 6671
CONDITIONS FOR S464, HYDROGEN PLANT, U-240 PLANT 4

1. The vapor vent on the E-421 condenser (overhead condenser on D-406 condensate stripper in U-240 Unicracker Complex hydrogen plant) shall be vented to the A50 (D-410 Vent Scrubber) condenser whenever the vent operates. [Regulation 8-2-301]

2. A50 shall reduce total organic carbon emissions from the E-421 vent as necessary to a level that complies with Regulation 8-2-301. [Regulation 8-2-301]

3. All blowdown and other liquid effluent from A50 shall be piped to the plant wastewater treatment system. [Cumulative Increase]

4. Whenever the U-240 hydrogen plant operates, normal flow of scrubbing liquid through the E-421 scrubber pumparound pump and normal flow of cooling water through the pumparound cooler shall be verified on a daily basis. [Cumulative Increase]

5. Daily records (on days when the U-240 hydrogen plant operates) of normal scrubbing liquid flow and normal cooling water flow shall be kept in a District-approved log for at least five years and shall be made available to the District upon request. [Cumulative Increase]

6. Effective 1/1/05, an annual source test shall be performed on the vapor vent on the E-421 condenser to verify compliance with Regulation 8-2-301 in accordance with District source test methods or other methods approved in advance by the District. A copy of the test report shall be provided to the District Director of Compliance and Enforcement within 45 days of completion of the test. [Regulation 2-6-409.2]

CONDITION 6725

CONDITIONS FOR S432, DEISOBUTANIZER

1. All new flanges in hydrocarbon service associated with the S432 Deisobutanizer project shall utilize graphitic gaskets. All new valves in hydrocarbon service associated with the project shall be either live-loaded valves, bellows-sealed valves, diaphragm valves, or other District approved equivalent valve designs. [BACT, Cumulative Increase]

2. All new pressure relief valves in hydrocarbon service associated with the S432 project shall be vented to the refinery flare gas recovery system. [BACT, Cumulative Increase]

3. All new pumps and compressors in hydrocarbon service associated with the S432 project shall utilize either a double mechanical shaft seal design with barrier fluid, a magnetically coupled shaft, or other District approved equivalent design. If a barrier fluid is used, either the fluid reservoir shall be vented to a 95% efficient control device, or the barrier fluid shall be operated at a pressure higher than the process stream pressure. [BACT, Cumulative Increase]

4. The owner/operator shall ensure that the throughput of S432 does not exceed 10,200 barrels/day. [Cumulative Increase]

5. All pressure relief devices on the process unit shall be vented to a fuel gas recovery system, furnace, or flare with a recovery/destruction efficiency of 98%. [8-28-302, BACT]

Parts 6, 15, and 9 of Condition 12122 imply the presence of fuel meters for these sources. Part 9d was added to make this clear.

Part 9b of Condition 12122 was amended after public comment to make clear that control of emissions at the turbines and duct burners are required when NOx emissions must be reduced to provide offsets for Application 13424 in accordance with offset condition 22970, part B.

CONDITION 12122

CONDITIONS FOR S352, S353, S354, S355, S356, S357: TURBINES AND DUCT BURNERS

1. The gas turbines (S352, S353 and S354) and the heat recovery steam generator (HRSG) duct burners (S355,S356 and S357) shall be fired on refinery fuel gas or natural gas.
[Cumulative Increase]

2. A HRSG duct burner shall be operated only when the associated gas turbine is operated.
[Cumulative Increase]

3. The exhaust from S352 and S355 shall be abated at all times by SCR unit A13, except that S352 and S355 may operate without SCR abatement on a temporary basis for periods of planned or emergency maintenance. A District-approved NOx CEM shall monitor and record the 352 and S355 NOx emission rate whenever S352 and S355 operate without abatement. All emission limits applicable to S352 and S355 shall remain in effect whether or not they are operated with SCR abatement.
[BACT, Cumulative Increase]

4. The exhaust from S353 and S356 shall be abated at all times by SCR unit A14, except that S353 and S356 may operate without SCR abatement on a temporary basis for periods of planned or emergency maintenance. A District-approved NOx CEM shall monitor and record the S353 and S356 NOx emission rate whenever S353 and S356 operate without abatement. All emission limits applicable to S353 and S356 shall remain in effect whether or not they are operated with SCR abatement.
[BACT, Cumulative Increase]

5. The exhaust from S354 and S357 shall be abated at all times by SCR unit A15, except that S354 and S357 may operate without SCR abatement on a temporary basis for periods of planned or emergency maintenance. A District-approved NOx CEM shall monitor and record the S354 and S357 NOx emission rate whenever S354 and S357 operate without abatement.

All emission limits applicable to S354 and S357 shall remain in effect whether or not they are operated with SCR abatement. [BACT, Cumulative Increase]

6. Total fuel fired in S355, S356, and S357 shall not exceed 2.42 E 12 btu in any consecutive 365 day period. [Cumulative Increase]

7. CO emissions from each turbine/duct burner set shall not exceed 39 ppmv at 15% oxygen, averaged over any consecutive 30 day period. Emissions during startup periods, which shall not exceed four hours, and shutdown periods, which shall not exceed two hours, may be excluded when averaging emissions. [BACT, Cumulative Increase]

8. POC emissions from each turbine/duct burner set shall not exceed 6 ppmv at 15% oxygen, averaged over any consecutive 30 day period. Emissions during startup periods, which shall not exceed four hours, and shutdown periods, which shall not exceed two hours, may be excluded when averaging emissions. [BACT, Cumulative Increase]

9a. The combined NOx emissions from S352, S353, S354, S355, S356 and S357 shall not exceed 66 lb/hr (averaged over any 3 hour period), nor 167 tons in any consecutive 365 day period. NOx emissions from each turbine/duct burner set shall not exceed 528 lb/day. (This condition will be invalid when the NOx emissions at these sources must be reduced to provide offsets for Application 13424.) [BACT, Cumulative Increase]

9b. This part will apply after NOx emissions at S352, S353, S354, S355, S356 and S357 must be reduced to provide offsets for Application 13424 per Condition 22970, Part B. The combined NOx emissions from S352, S353, S354, S355, S356 and S357 shall not exceed 66 lb/hr (averaged over any 3 hour period), and shall not exceed 79.8 tons in any consecutive 365 day period. NOx emissions from each turbine/duct burner set shall not exceed 528 lb/day. [BACT, Cumulative Increase]

9c. NOx emissions from S 352, S353, S354, S355, S356 and S357 shall be monitored with a District-approved continuous emission monitor. [BACT, Cumulative Increase]

9d. The owner/operator shall use a fuel meter to determine the heat input to each unit. This data shall be used to determine compliance with all throughput limits and the NOx, CO, and SO2 mass emission limits. [Cumulative Increase, 2-6-503]

10a. The combined CO emissions from S352, S353, S354, S 355, S356 and S357 shall not exceed 200 tons in any consecutive 365 day period. [BACT, Cumulative Increase]

10b. CO emissions from S 352, S353, S354, S355, S356 and S357 shall be monitored with a District-approved continuous emission monitor. [BACT, Cumulative Increase]

11. The combined POC emissions S352, S353, S354, S355, S356 and S357 shall not exceed 8.3 lb/hr and shall not exceed 30.5 tons in any consecutive 365 day period.
[BACT, Cumulative Increase]

12. The refinery fuel gas shall be tested for total reduced sulfur (TRS) concentration at least once per 8 hour shift (3 times per calendar day). At least 90% of these samples shall be taken each calendar month. No readable samples or sample results shall be omitted. TRS shall include hydrogen sulfide, methyl mercaptan, methyl sulfide, dimethyl disulfide.
[Cumulative Increase]

13. The average of the 3 daily refinery fuel gas TRS sample results shall be reported to the District in a table format each calendar month, with a separate entry for each daily average. Sample reports shall be submitted to the District within 30 days of the end of each calendar month. Any omitted sample results shall be explained in this report.
[Cumulative Increase]

14. A source test to verify compliance with Parts 8 and 11 shall be performed each calendar year in accordance with District source test methods or other methods approved in advance by the District. A copy of the test report shall be provided to the District Director of Compliance and Enforcement within 45 days of completion of the test. [Regulation 2-6-409.2]

15. Records shall be maintained to allow verification of compliance with all permit conditions. Records shall be retained for at least five years and shall be made available to the District upon request. [BACT, Cumulative Increase]

CONDITION 13184
For Source S182

1. The POC emissions from the S182 fixed roof storage tank shall be collected and vented at all times to the fuel gas collection system.
[Cumulative Increase]

Condition 18629 is a PSD condition that was originally imposed by EPA. It also applies to the turbines. The existence of a fuel meter is implied in parts XI.G.1.b and XI.G.3.a(2).

CONDITION 18629
Conditions for S352, S353, S354, S355, S356, S357

May 30, 1989 PSD Permit Amendments (first issued March 3, 1986)
Permit NSR 4-4-3 SFB 85-03

I. [Obsolete – Approval to Construct executed in a timely manner]

II. [Obsolete – Approval to Construct executed in a timely manner]

III. Facilities Operation

All equipment, facilities and systems installed or used to achieve compliance with the terms and conditions of this Approval to Construct/Modify shall at all times be maintained in good working order and be operated as efficiently as possible so as to minimize air pollutant emissions.

IV. Malfunction

The Regional Administrator shall be notified by telephone within two working days following any failure of air pollution control equipment, process equipment, or of any process to operate in a normal manner which results in an increase in emissions above any allowable emissions limit stated in Section IX of these conditions. In addition, the Regional Administrator shall be notified in writing within 15 days of any such failure. This notification shall include a description of the malfunctioning equipment or abnormal operation, the date of the initial failure, the period of time over which emissions were increased due to the failure, the cause of the failure, the estimated resultant emissions in excess of those allowed under Section IX of these conditions, and the methods utilized to restore normal operations. Compliance with this malfunction notification provision shall not excuse or otherwise constitute a defense to any violations of this permit or of any law or regulations that such malfunction may cause.

V. Right to Entry

The Regional Administrator, the head of the State Air Pollution Control Agency, the head of the responsible local air pollution control agency, and/or their authorized representatives, upon presentation of credentials, shall be permitted:

A. to enter upon the premises where the source is located or in which any records are required to be kept under the terms and conditions of this Approval to Construct/Modify; and

B. at reasonable times to have access to and copy any records required to be kept under the terms and conditions of this Approval to Construct/Modify; and

C. to inspect any equipment, operation, or method required in this Approval to Construct/Modify; and

D. to sample emissions from this source.

VI. Transfer of Ownership

In the event of any changes in control or ownership of facilities to be constructed or modified, this Approval to Construct/Modify shall be binding

on all subsequent owners and operators. The applicant shall notify the succeeding owner and operator of the existence of this Approval to Construct/Modify and its conditions by letter, a copy of which shall be forwarded to the Regional Administrator and the State and local Air Pollution Control Agency.

VII. Severability

The provisions of this Approval to Construct/Modify are severable, and, if any provisions of this Approval to Construct/Modify are held invalid, the remainder of this Approval to Construct/Modify shall not be affected thereby.

VIII. Other Applicable Regulations

The owner and operator of the proposed project shall construct and operate the proposed stationary source in compliance with all other applicable provisions of Parts 52, 60 and 61 and all other applicable Federal, State and local air quality regulations.

IX. Special Conditions

A. [Obsolete – Approval to Construct executed in a timely manner]

B. Air Pollution Control Equipment

The owner/operator shall install, continuously operate, and maintain the following air pollution controls to minimize emissions. Controls listed shall be fully operational upon startup of the proposed equipment.

1. Each gas turbine shall be equipped with steam injection for the control of NOx emissions.

2. Each gas turbine shall be equipped with a Selective Catalytic Reduction (SCR) system for the control of NOx emissions.

D. Operating Limitations

1. The gas turbines and Heat Recovery Steam Generator (HRG) burners shall be fired only on refinery fuel gas and natural gas

2. The firing rate of each gas turbine/HRG burner set shall not exceed 466 MMbtu/hr.

3. The total fuel firing rate of the Steam/Power Plant shall not exceed 1048 MMbtu/hr.

4. The owner/operator shall maintain records of the amount of fuel used in the gas turbines and the HRG Burners, hours of operation, sulfur content of the fuel, and the ratio of steam injected to fuel fired in each gas turbine, in a permanent form suitable for inspection. The record shall be retained for at

least two years following the date of record and shall be made available to EPA upon request.

E. Emission Limits for NOx

On or after the date of startup, the owner/operator shall not discharge from the gas turbine/HRG Burner sets NOx in excess of the more stringent of 83 lb/hr total or 25 ppmv at 15% O2 (3-hour average), or 664 lb/day per set. The concentration limit shall not apply for 4 hours during startup or 2 hours during shutdown.

F. Emission Limits for SO2

On or after the date of startup, the owner/operator shall not discharge from the gas turbine/HRG Burner sets SO2 in excess of 15.6 lb/hr per set or 44 lb/hr total (3-hour average). Additionally, total SO2 emissions shall not exceed 34 lb/hr (3 hour average) for more than 36 days per year, and shall not exceed a total of 153 tons per year (365 days)

G. Continuous Emission Monitoring

1. Prior to the date of startup and thereafter, the owner/operator shall install, maintain and operate the following continuous monitoring systems downstream of each of the gas turbine/HRG Burner units:

a. Continuous monitoring systems to measure stack gas NOx and SO2 concentrations. The systems shall meet EPA monitoring performance specifications (60.13 and 60, Appendix B, Performance Specifications). Alternatively, the SO2 continuous monitor may be substituted for by a continuous monitoring system measuring H2S in the refinery fuel gas system and daily sampling for total sulfur in the fuel gas.

b. A system to calculate the stack gas volumetric flow rates continuously from actual process variables.

2. The owner/operator shall maintain a file of all measurements, including continuous monitoring system performance evaluations, all continuous monitoring system monitoring device calibration checks, adjustments and maintenance performed on these systems or devices, and all other information required by 60 recorded in a permanent form suitable for inspection. The file shall be retained for at least two years following the date of such measurements, maintenance, reports and records.

3. The owner/operator shall submit a written report of SO2 emission status and all excess emissions to EPA (Attn: A3-3) for every calendar quarter. The report shall include the following:

a. If fuel gas samples are used to determine SO2 emissions:
(1) The total measured sulfur concentration in each fuel gas sample for the calendar quarter.

(2) The daily average sulfur content in the fuel gas, daily average SO2 mass emission rate (lb/hr), and total tons per year of SO2 emitted for the last 365 consecutive days. Total SO2 emissions exceeding 34 lb/hr must be identified.

b. The magnitude of excess emissions computed in accordance with 60.13(h), any conversion factors used, and the date and time of commencement and completion of each time period of excess emissions.

c. Specific identification of each period of excess emissions that occurs during startups, shutdowns and malfunctions of the cogeneration gas turbine system. The nature and cause of any malfunction (if known) and the corrective action taken or preventative measures adopted shall also be reported.

d. The date and time identifying each period during which the continuous monitoring system was inoperative except for zero and span checks, and the nature of the system repairs or adjustments.

e. When no excess emissions have occurred or the continuous monitoring system has not been inoperative, repaired, or adjusted, such information shall be stated in the report.

f. Excess emissions shall be defined as any three-hour period during which the average emissions of NOx and/or SO2 as measured by the continuous monitoring system and/or calculated from the daily average of the total sulfur in the fuel gas, exceeds the NOx and/or SO2 maximum emission limits set for each of the pollutants in Conditions IX.E and IX.F. above

g. Excess emissions indicated by the CEM system shall be considered violations of the applicable emission limits for the purpose of this permit.

H. New Source Performance Standards

The proposed cogeneration facility is subject to the Federal regulations entitled Standards of Performance for New Stationary Sources (60). The owner/operator shall meet all applicable requirements of Subparts A and GG of this regulation.

X. Agency Notifications

All correspondence as required by this Approval to Construct/Modify shall be forwarded to:

A. Director, Air Management Division (Attn: A3-3)
EPA Region 9
215 Fremont Street
San Francisco, CA 94105 (415/974-8034)

B. Chief, Stationary Source Division
California Air Resources Board
P O Box 2815

Sacramento, CA 95812

C. Air Pollution Control Officer
Bay Area Air Quality Management District
939 Ellis Street
San Francisco, CA 94109

The throughput limits for S1001-S1003 were established in Application 5814, but were not added to the permit condition.

CONDITION 19278

Conditions for S1001, S1002, S1003

1. Deleted Application 12433

2. Deleted Application 12433

3. An annual District-approved source test shall be performed to verify compliance with the requirements of Regulation 6-330. A copy of the source test results shall be provided to the District Director of Compliance and Enforcement within 45 days of the test.
[Regulation 6-330]

4. The Owner/Operator shall perform a visible emissions check on Sources S1001, S1002, and S1003 on a monthly basis. The visible emissions check shall take place while the equipment is operating and during daylight hours. If any visible emissions are detected, the owner/operator shall have a CARB-certified smoke reader determine compliance with the opacity standard, using EPA Method 9 or the procedures outlined in the CARB manual, “Visible Emissions Evaluation” for six (6) minutes within three (3) days and record the results of the reading. If the reading is in compliance with the Ringelmann 1.0 limit in BAAQMD Regulation 6-301, the reading shall be recorded and the owner/operator shall continue to perform a visible emissions check on a monthly basis. If the reading is not in compliance with the Ringelmann 1.0 limit in BAAQMD Regulation 6-301, the owner/operator shall take corrective action and report the violation in accordance with Standard Condition 1.F of this permit. The certified smoke-reader shall continue to conduct the Method 9 or CARB Visible Emission Evaluation on a daily basis until the daily reading shows compliance with the applicable limit or until the equipment is shut down. Records of visible emissions checks and opacity readings made by a CARB-certified smoke reader shall be kept for a period of at least 5 years from date of entry and shall be made available to District staff upon request. [Basis: Regulations 6-301, 2-6-501, 2-6-503]

5. The owner/operator shall ensure that the throughput of molten sulfur at S1001, S1002, and S1003 combined does not exceed 98,915 long tons/yr. [Cumulative Increase]

CONDITION 20773

This condition applies to tanks that are exempt from Regulation 8, Rule 5, Storage of Organic Liquids, due to the exemption in Regulation 8-5-117 for storage of organic liquids with a true vapor pressure of less than or equal to 25.8 mm Hg (0.5 psia).

1. Whenever the type of organic liquid in the tank is changed, the owner/operator shall verify that the true vapor pressure at the storage temperature is less than or equal to 25.8 mm Hg (0.5 psia). The owner/operator shall use Lab Method 28 from Volume III of the District's Manual of Procedures, Determination of the Vapor Pressure of Organic Liquids from Storage Tanks. For materials listed in Table 1 of Regulation 8 Rule 5, the owner/operator may use Table 1 to determine vapor pressure, rather than Lab Method 28. If the results are above 25.8 mm Hg (0.5 psia), the owner/operator shall report non-compliance in accordance with Standard Condition I.F and shall submit an application to the District for a new permit to operate for the tank as quickly as possible. [Basis: 8-5-117 and 2-6-409.2]

2. The results of the testing shall be maintained in a District-approved log for at least five years from the date of the record, and shall be made available to District staff upon request.

[Basis: 2-6-409.2]

Following is an excerpt of Condition 20989, which contains nominal throughputs for grandfathered sources. Several sources, which will have new limits, will be deleted from this condition. The new limits will appear in new conditions.

The limits for S301-S303, Sulfur Pits, and S1001-S1003, Sulfur Recovery Units, are not grandfathered limits, since these limits were increased in Application 5814. The limits for S301-S303 have been moved to Condition 22964 and the conditions for S1001-S1003 have been moved to Condition 19278.

FACILITY-WIDE REQUIREMENTS
CONDITION 20989

A. THROUGHPUT LIMITS

The following limits are imposed through this permit in accordance with Regulation 2-1-234.3. Sources require BOTH hourly/daily and annual throughput limits (except for tanks and similar liquid storage sources, and small manually operated sources such as cold cleaners which require only annual limits). Sources with previously imposed hourly/daily AND annual throughput limits are not listed below; the applicable limits are given in the specific permit conditions listed above in this section of the permit. Also, where hourly/daily capacities are listed in Table II-A, these are considered enforceable limits for sources that have

a New Source Review permit. Throughput limits imposed in this section and hourly/daily capacities listed in Table II-A are not federally enforceable for grandfathered sources. Grandfathered sources are indicated with an asterisk in the source number column in the following table. Refer to Title V Standard Condition J for clarification of these limits.

In the absence of specific recordkeeping requirements imposed as permit conditions, monthly throughput records shall be maintained for each source.

source number	hourly / daily throughput limit	annual throughput limit (any consecutive 12-month period unless otherwise specified)
~~*118~~	~~NA for tank~~	~~15,000 bbl~~
~~*122~~	~~NA for tank~~	~~4.38 E 6 bbl~~
~~*128~~	~~NA for tank~~	~~5.1 E 6 bbl~~
~~*139~~	~~NA for tank~~	~~2.74 E 6 bbl~~
~~*140~~	~~NA for tank~~	~~2.74 E 6 bbl~~
~~301~~	~~Table II-A~~	~~98,915 long ton for S301, S302, S303~~
~~302~~	~~Table II-A~~	~~98,915 long ton for S301, S302, S303~~
~~303~~	~~Table II-A~~	~~98,915 long ton for S301, S302, S303~~
~~307~~	~~Table II-A~~	~~1.533 E 7 bbl~~
~~*308~~	~~Table II-A~~	~~5.87 E 6 bbl~~
~~*309~~	~~Table II-A~~	~~6.11 E 6 bbl~~
~~*318~~	~~Table II-A~~	~~3.3 E 7 bbl~~
~~*339~~	~~Table II-A~~	~~5.26 E 7 bbl~~
~~432~~	~~Table II-A~~	~~2.8 E6 bbl~~
~~1001~~	~~Table II-A~~	~~98,915 long ton for S1001, S1002, S1003~~
~~1002~~	~~Table II-A~~	~~98,915 long ton for S1001, S1002, S1003~~
~~1003~~	~~Table II-A~~	~~98,915 long ton for S1001, S1002, S1003~~

In the original proposal, the conditions for new fugitive components were included with the condition for fugitive components for the ULSD project in 2002. A new BACT determination was made after public notice. Condition 21099 will no longer apply to the new components. Condition 23725 replaces this condition for those components.

CONDITION 21099

CONDITIONS FOR ULSD PROJECT FUGITIVE COMPONENTS

1. The owner/operator shall equip all light hydrocarbon control valves installed as part of the USLD Project with live loaded packing systems and polished stems, or equivalent.
   [BACT]

2. The owner/operator shall equip all flanges/connectors installed in the light hydrocarbon piping systems as part of the USLD Project with graphitic-based gaskets unless the service requirements prevent this material.
   [BACT]

3. The owner/operator shall equip all new hydrocarbon centrifugal compressors installed as part of the USLD Project with "wet" dual mechanical seals with a heavy liquid barrier fluid, or dual dry gas mechanical seals buffered with inert gas. [BACT]

4. The owner/operator shall equip all new light hydrocarbon centrifugal pumps installed as part of the USLD Project with a seal-less design or with dual mechanical seals with a heavy liquid barrier fluid, or equivalent. [BACT]

5. The owner/operator shall integrate all new fugitive equipment installed as part of the USLD Project, in organic service, into the facility fugitive equipment monitoring and repair program. [BACT]

6. The Owner/Operator shall submit a count of installed pumps, compressors, valves, and flanges/connectors every 180 days until completion of the project. For flanges/connectors, the owner/operator shall also provide a count of the number of graphitic-based and non-graphitic gaskets used. The owner/operator has been permitted to install fugitive components (5,410 valves, 2,376 flanges, 3,564 connectors, 26 pumps, 14 compressors) with a total POC emission rate of 8.62 ton/yr. If there is an increase in the total fugitive component emissions, the plant's cumulative emissions for the project shall be adjusted to reflect the difference between emissions based on predicted versus actual component counts. The owner/operator shall provide to the District all additional required offsets at an offset ratio of 1.15:1 no later than 14 days after the submittal of the final POC fugitive equipment count. If the actual component count is less than the predicted, at the completion of the project, the total will be adjusted accordingly and all emission offsets applied by the owner/operator in excess of the actual total fugitive emissions will be credited back to owner/operator prior to issuance of the permits. [BACT, Cumulative Increase; Regulation 2, Rule 5]

An excerpt of Condition 21235 (NOx box condition) is shown below.

CONDITION 21235

REGULATION 9-10 COMPLIANCE
CONDITIONS FOR SOURCES S2, S3, S4, S5, S7, S8, S9, S10, S11, S12, S13, S14, S15, S16, S17, S18, S19, S20, S22, S29, S30, S31, S43, S44, S336, S337, S351, S371, S372

1. The following sources are subject to the refinery-wide NOx emission rate and CO concentration limits in Regulation 9-10: [Regulation 9-10-301 and 305]

S#	Description	NOx CEM
2	U229, B-301 Heater	No
3	U230, B-201 Heater	No

4	U231, B-101 Heater		No
5	U231, B-102 Heater		No
7	U231, B-103 Heater		No
8	U240, B-1 Boiler	Yes	

S8 will be removed from service within 90 days of the date that the NOx offsets pursuant to Application 13424 must be supplied pursuant to BAAQMD Regulation 2-2-410.

9	U240, B-2 Boiler	No	
10	U240, B-101 Heater		Yes
11	U240, B-201 Heater		No
12	U240, B-202 Heater		No
13	U240, B-301 Heater		Yes
14	U240, B-401 Heater		Yes
15	U244, B-501 Heater		Yes
16	U244, B-502 Heater		Yes
17	U244, B-503 Heater		Yes
18	U244, B-504 Heater		Yes
19	U244, B-505 Heater		Yes
20	U244, B-506 Heater		No
22	U248, B-606 Heater		No
29	U200, B-5 Heater	No	
30	U200, B-101 Heater		No
31	U200, B-501 Heater		No
43	U200, B-202 Heater		Yes
44	U200, B-201 PCT Reboil Furnace	Yes	
336	U231 B-104 Heater	No	
337	U231 B-105 Heater	No	
351	U267 B-601/602 Tower Pre-Heaters		Yes
371	U228 B-520 (Adsorber Feed) Furnace		Yes
372	U228 B-521 (Hydrogen Plant) Furnace		Yes

CONDITION 22478

For Sources S123 (Tank 168), S124 (Tank 169), S186 (Tank 298), and S334 (Tank 107)

1. The owner/operator shall ensure that S123 contains only water and petroleum liquid with a true vapor pressure less than or equal to 3.0 psia. [Cumulative Increase]

2. The owner/operator shall ensure that S124 contains only water and petroleum liquid with a true vapor pressure less than or equal to 11.0 psia [Cumulative Increase]

3. The owner/operator shall ensure that the emissions of S186 do not exceed 2,231 lb VOC in any consecutive 12-month period. S186 shall only contain petroleum liquids. [Cumulative Increase]

4. The owner/operator shall ensure that S334 contains only crude oil or a less volatile petroleum liquid with a true vapor pressure less than or equal to 6.75 psia. [Cumulative Increase]

5. The owner/operator shall ensure that the throughput of petroleum liquids at S123 does not exceed 3,000,000 barrels/yr. [Cumulative Increase]

6. The owner/operator shall ensure that the throughput of petroleum liquids at S124 does not exceed 3,000,000 barrels/yr. [Cumulative Increase]

7. The owner/operator shall ensure that the throughput of crude oil or other petroleum liquids at S334 does not exceed 5,000,000 barrels/yr. [Cumulative Increase]

8. The owner/operator shall equip S123, S124, S186, and S334 with a BAAQMD approved roof with mechanical shoe primary seal and zero gap secondary seal meeting the design criteria of BAAQMD Regulation 8, Rule 5. The owner/operator shall ensure that there are no ungasketed roof penetrations, no slotted pipe guide poles unless equipped with float and wiper seals, and no adjustable roof legs unless fitted with vapor seal boots or equivalent. [BACT, cumulative increase]

9. The owner/operator shall calculate the emissions of S186 on a calendar month basis using the AP-42 equations. The owner/operator shall use actual throughputs, actual vapor pressures, and actual temperature data for each month. The owner/operator shall calculate the emissions for the last 12-month period on a monthly basis. The calculations shall be complete within a calendar month after the end of each monthly period. [Cumulative increase]

Condition 22549 has been amended so that the throughput limit excludes diesel because the diesel flow is an insignificant source of emissions at the tanks. The previous throughput limit of 33 MMbbl for all fluids has been deleted from Condition 20989, part A. The facility applied for this modification in Application 10115. It was not granted at that time because it results in an increase of gasoline flow to the tanks. In this application, the facility is applying for the increase in emissions at the tanks.

CONDITION 22549
Source 318, U76 Gasoline/Mid Barrel Blending Unit

1. The owner/operator shall ensure that the daily throughput of petroleum liquids, excluding diesel, at S318, U76 Gasoline/Mid Barrel Blending Unit, does not exceed 113,150 barrels/day. No daily limit is placed on diesel. [Cumulative Increase]

2. The owner/operator shall ensure that the throughput of petroleum liquids excluding diesel at S318 does not exceed 41,300,000 barrels/yr.

3. The owner/operator shall keep daily records of throughput of all petroleum fluids at S318, U76 Gasoline/Mid Barrel Blending Unit, in a District-approved log. These records shall be kept for at least five years and shall be made available to the District upon request. [Cumulative Increase]

4. All pressure relief devices on the process unit shall be vented to a fuel gas recovery system, furnace, or flare with a recovery/destruction efficiency of 98%. [8-28-302, BACT]

The NOx and CO limits is BAAQMD Condition 22962, parts 4a, b, and e, have been amended in response to new BACT determinations made at SCAQMD. The NOx limit has been reduced to 5 ppmv @ 3% O2, dry, 3-hour limit. The CO limit has been reduced to 10 ppmv @ 3% O2, dry, 3-hour limit, and 28 ppm @ 3% O2, 3-hour limit when operating under 30 MMbtu/hr. This heater will be operated as a trim heater for long periods of time. The lower CO limit is not feasible when operating under 30 MMbtu/hr. The hourly mass emissions will not increase. The ammonia limit in part 5 will increase to make it possible to achieve the 5 ppm NOx limit.

A basis of 40 CFR 63.52(a) has been added to the CO limits in parts 4b and 4e because, as explained in Section 5, Statement of Compliance, S45 is subject to a case-by-case MACT determination as a substitute for the standards in 40 CFR 63, Subpart DDDDD, which has been vacated. Also, part 18, which required compliance with the requirements of Subpart DDDDD, has been deleted.

The asterisk before part 5 is an indication that the condition is not federally enforceable. The reason that it is not federally enforceable is that it was imposed pursuant to BAAQMD Regulation 2, Rule 5, New Source Review for Toxic Air Contaminants, which is not a federally enforceable rule.

Part 9 of BAAQMD Condition 22962 was reorganized after public comment. The wording was also amended to make clear that the facility is not required to submit results of source tests if the District performed the tests.

CONDITION 22962
Source 45, U246 B-801/B-802 Heater

1. The owner/operator of the S45 heater shall fire only refinery fuel gas and/or natural gas at this unit. [BACT, Cumulative Increase]

2. Based on refinery gas HHV, the owner/operator of S45 shall not exceed the following firing rates:

   a. 85 MMbtu/hr
   b. 744,600 MMbtu in any consecutive 12-month period. [Cumulative Increase]

3. The owner/operator of S45 shall abate emissions from S45 at the A47 SCR system whenever S45 is operated, except that S45 may operate without SCR abatement on a temporary basis for periods of planned or emergency maintenance. A District-approved NOx CEM shall monitor and record the S45 NOx emission rate whenever S45 operates without abatement. All emission limits applicable to S45 shall remain in effect even if it is operated without SCR abatement. [BACT, Cumulative Increase]

4. The owner/operator of S45 shall not exceed the following emission concentrations or rates from S45/A47 except during startups and shutdowns. Startups and shutdowns shall not exceed 48 consecutive hours. The 48 consecutive-hour startup period is in addition to heater dryout/warmup periods, which shall not exceed 24 consecutive hours.

   a. NOx: 5 ppmv @ 3% oxygen (3 hr average) [BACT, Cumulative Increase]
   b. CO: 28 ppmv @ 3% oxygen (3 hr average) when operating under 30 MMbtu/hr [BACT, Cumulative Increase, 40 CFR 63.52(a)]
   c. POC: 5.5 lb/MM ft3 [Cumulative Increase]
   d. PM10: 7.6 lb/MM ft3 [BACT, Cumulative Increase]
   e. CO: 10 ppmv @ 3% oxygen (3 hr average) when operating over 30 MMbtu/hr [BACT, Cumulative Increase, 40 CFR 63.52(a)]

   If the heater operates at rates below and above 30 MMbtu/hr in any 3-hour period, the CO limit shall be a weighted average.

5. *The owner/operator of S45 shall not exceed the following emission rate from S45/A47 except during startups and shutdowns. Startups and shutdowns shall not exceed 48 consecutive hours. The 48 consecutive-hour startup period is in addition to heater dryout/warmup periods, which shall not exceed 24 consecutive hours.

   Ammonia: 15 ppmv @ 3% oxygen (8 hr average) [Regulation 2, Rule 5]

6. The owner/operator of S45 shall not exceed the following annual emission rates from S45/A47 including startups, shutdowns, and malfunctions.
   NOx: 2.3 tons/yr [BACT, Cumulative Increase]
   CO: 2.8 tons/yr [BACT, Cumulative Increase]
   POC: 1.5 tons/yr [Cumulative Increase]
   PM10: 2.1 tons/yr [BACT, Cumulative Increase]
   SO2: 4.7 tons/yr [BACT, Cumulative Increase]
   Year is defined as every consecutive 12-month period. Month is defined as calendar month.

7. The owner/operator shall equip S45 with a District-approved continuous fuel flow monitor and recorder in order to determine fuel consumption. A parametric monitor as defined in Regulation 1-238 is not acceptable. The owner/operator shall keep continuous fuel flow records for at least five years and shall make these records available to the District upon request. [Cumulative Increase]

8. The owner/operator shall install, calibrate, maintain, and operate District-approved continuous emission monitors and recorders for NOx and O2. The owner/operator shall keep NOx and O2 data for at least five years and shall make these records available to the District upon request. [BACT, Cumulative Increase]

9. The owner/operator shall conduct District-approved source tests two times per year to determine compliance with the CO limit. The tests shall be no

less than 4 months apart and no more than 8 months apart. The source tests shall be performed on the heater in an as-found condition. CO source tests performed by the District may be substituted for semi-annual CO source tests. If the heater exceeds the limits in parts 4b or 4e more than once in any 3-year period, the owner/operator shall install, calibrate, maintain, and operate a District-approved continuous emission monitor and recorder for CO within the time period specified in the District Manual of Procedures after the second exceedance of the limits in parts 4b or 4e. The owner/operator shall keep CO data for at least five years and shall make these records available to the District upon request.

For tests conducted by the owner/operator, the owner/operator shall conduct the source tests in accordance with Part 17. The owner/operator shall submit the source test results to the Director of Compliance and Enforcement, the Source Test Manager, and the Manager of Permit Evaluation at the District no later than 60 days after the source test. [BACT, Cumulative Increase]

10. The owner/operator shall use only refinery fuel gas and/or natural gas at S45 that does not exceed 100 ppmv total sulfur, averaged over a calendar month. [BACT, Cumulative Increase]

11. The owner/operator shall test refinery fuel gas prior to combustion at S45 to determine total sulfur concentration by GC analysis or with a total sulfur analyzer (Houston Atlas or equivalent) at least once per 8-hour shift (3 times per calendar day). At least 90% of these samples shall be taken each calendar month. No readable samples or sample results shall be omitted. [BACT, Cumulative Increase]

12. To demonstrate compliance with Part 10, the owner/operator shall measure and record the daily average sulfur content. The owner/operator shall keep records of sulfur content in fuel gas for at least five years and shall make these records available to the District upon request. [BACT, Cumulative Increase]

13. For the purpose of demonstrating compliance with the H2S limit in 40 CFR 60.104(a)(1), the owner/operator shall test refinery fuel gas prior to combustion at S45 to determine total H2S concentration at least once per 8 hour shift (3 times per calendar day). At least 90% of these samples shall be taken each calendar month. No readable samples or sample results shall be omitted. Records of H2S monitoring shall be kept for at least five years after the date the record was made. The owner/operator shall submit a semi-annual report regarding this monitoring to the District and to EPA. The reporting periods shall start on January 1st and July 1st of each year. The reports shall be submitted by January 31st and July 31st of each year. If the limit has not been exceeded during the reporting period, this information shall be stated in the report. If the limit has been exceeded, the owner/operator shall report the date and time that the exceedance began and the date and time that the exceedance ended. The owner/operator shall estimate and report the excess emissions during the exceedance. [40 CFR 60.13(i)]

14. The owner/operator shall record the duration of all startups, shutdowns, and heater dryout/warmup periods to determine compliance with parts 4 and 5. The owner/operator shall keep the records for at least five years and shall make these records available to the District upon request. [2-6-503]

15. Prior to the commencement of construction, the owner/operator shall submit plans to the District's Source Test Manager to obtain approval of the design and location of the source test ports. The sample ports shall be installed in accordance with Manual of Procedures, Volume 4, Section 1.2.4. (basis: Regulation 1-501)

16. No later than 90 days from the startup of S45, the owner/operator shall conduct District-approved source tests to determine initial compliance with the limits in Part 4 for NOx, CO, POC, PM10 and ammonia. For PM10, USEPA Methods 201 and 202 with the back-half ammonium sulfate subtracted, shall be used. The owner/operator shall conduct the source tests in accordance with Part 17. The owner/operator shall submit the source test results to the District staff no later than 60 days after the source test. [BACT, Cumulative Increase, Regulation 2, Rule 5]

17. The owner/operator shall comply with all applicable requirements for source tests specified in Volume IV of the District's Manual of Procedures and all applicable testing requirements for continuous emissions monitors as specified in Volume V of the District's Manual of Procedures. The owner/operator shall notify the District's Source Test Manager, in writing, of the source test protocols and projected test dates at least 7 days prior to testing. [BACT, Cumulative Increase, Regulation 2, Rule 5]

18. The owner/operator will ensure that S45, Heater, complies with all applicable provisions of 40 CFR 60, Subpart J. (This part will be deleted when the applicable citations from this standard are incorporated into the Major Facility Review permit.) [40 CFR 60, Subpart J]

CONDITION 22963

For Sources S98 (Tank 101), S118 (Tank 163), S122 (Tank 167), S128 (Tank 174), S139 (Tank 204); S140 (Tank 205)

1. The owner/operator shall ensure that the following tanks contain only petroleum liquids with true vapor pressures less than or equal the vapor pressures below.
   a. S98 10 psia
   b. S118 0.5 psia
   c. S122 11 psia
   d. S128 4.4 psia
   [Cumulative Increase]

2. The owner/operator shall ensure that the throughput of petroleum liquids at the following tanks do not exceed the following throughput limits.
   a. S98 7.446,000 barrels per consecutive 12-month period
   b. S118 900 barrels per consecutive 12-month period
   c. S122 2,000,000 barrels per consecutive 12-month period
   d. S128 5,100,000 per consecutive 12-month period
   [Cumulative Increase]

3. The owner/operator shall ensure that S139 and S140 are abated by A7, Vapor Recovery System. [8-5-301, 40 CFR 61, Subpart FF]

4. The owner/operator shall equip S98, S122, and S128 with a BAAQMD approved roof with mechanical shoe primary seal and zero gap secondary seal meeting the design criteria of BAAQMD Regulation 8, Rule 5. The owner/operator shall ensure that there are no ungasketed roof penetrations, no slotted pipe guide poles unless equipped with float and wiper seals, and no adjustable roof legs unless fitted with vapor seal boots or equivalent. [BACT, cumulative increase]

The throughput limits for S301, S302, and S303 were established in Application 5814, but were not added to the permit conditions. In the original application, S505, Sulfur Loading Rack, was abated by A424, Tail Gas Incinerator, but the facility has decided to abate it with S1004, Sulfur Recovery Unit.

CONDITION 22964

Sources S301, S302, S303, Sulfur Pits, S465, Sulfur Pit abated by S1004, Sulfur Recovery Unit

1. The owner/operator shall ensure that the throughput of molten sulfur at S301, S302, and S303 combined does not exceed 98,915 long tons per consecutive 12-month period. [Cumulative Increase]

2. The owner/operator shall ensure that the throughput of molten sulfur at S465 does not exceed 73,000 long tons per consecutive 12-month period. [Cumulative Increase]

3. The owner/operator shall ensure that S465, Sulfur Pit, is controlled at all times by S1004, Sulfur Recovery Unit. [Cumulative increase, 40 CFR 60.104(b)]

CONDITION 22965
Source S307, U240 Unicracking Unit

1. The owner/operator shall ensure that the throughput of S307 does not exceed 65,000 barrels/day. [Cumulative Increase]

2. The owner/operator shall keep throughput records for this source on a daily basis. The records shall be kept on site for a period of at least 5 years and shall be made available for inspection by District staff upon request. [Cumulative Increase]

3. All pressure relief devices on the process unit shall be vented to a fuel gas recovery system, furnace, or flare with a recovery/destruction efficiency of 98% by weight. [8-28-302, BACT]

CONDITION 22966
Source S308, U244 Reforming Unit

1. The owner/operator shall ensure that the throughput of S308 does not exceed 18,500 barrels/day.

2. The owner/operator shall keep throughput records for this source on a daily basis. The records shall be kept on site for a period of at least 5 years and shall be made available for inspection by District staff upon request. [Cumulative Increase]

3. All pressure relief devices on the process unit shall be vented to a fuel gas recovery system, furnace, or flare with a recovery/destruction efficiency of 98% by weight. [8-28-302, BACT]

After public comment and at the request of the applicant, the frequency of the recordkeeping requirement in part 2 below was increased to daily.

CONDITION 22967
Source S309, U248 Unisar Unit

1. The owner/operator shall ensure that the throughput of S309 does not exceed 16,740 barrels/day.

2. The owner/operator shall keep throughput records for this source on a daily basis. The records shall be kept on site for a period of at least 5 years and shall be made available for inspection by District staff upon request. [Cumulative Increase]

CONDITION 22968
Source S339, U80 Gasoline/Mid Barrel Blending

1. The owner/operator shall ensure that the throughput of S339 does not exceed 52,600,000 barrels over any rolling 12-month period.

2. The owner/operator shall keep throughput records for this source on a daily basis. The records shall be kept on site for a period of at least 5 years and shall be made available for inspection by District staff upon request. [Cumulative Increase]

CONDITION 22969

Source S434, U246 High Pressure Reactor Train (Cracking)

1. The owner/operator shall ensure that the throughput of S434 does not exceed 8,395,000 barrels over any rolling 12-month period.

2. The owner/operator shall keep throughput records for this source on a monthly basis. The records shall be kept on site for a period of at least 5 years and shall be made available for inspection by District staff upon request. [Cumulative Increase]

3. All pressure relief devices on the process unit shall be vented to a fuel gas recovery system, furnace, or flare with a recovery/destruction efficiency of 98% by weight. [8-28-302, BACT]

Condition 22970, Part A, has been imposed to ensure that the emissions increase allowed by Application 13424 is no more than the increase for which the facility has applied. The tanks are not included in the conditions because their applicable requirements will adequately limit the emissions. The following process units are not included because they are existing units and any startup, shutdown, upset, maintenance, or malfunction emissions are considered to be included in their current permits: S307, S308, S318, S432. The fugitive emissions from components are considered to be constant and are not included. S434 and S1004 are new and are included. Condition 1440 places sufficient limits on S1007 and so it is not included. Part A states the allowable emissions limits and includes sufficient monitoring and calculations to ensure that the limits are not exceeded.

Also, the calculated emissions for locomotives were not included.

After the public comment period, the following changes were made:

- Part A.4 was reorganized for clarity.
- The offset reporting requirement in Part B was amended to include banked credits.
- The sources of the contemporaneous offsets were added.
- The NOx limit in part A.2.a was lowered from 14.4 tpy to 13.5 tpy.
- The SO2 limit in part A.2.b was lowered from 2.7 tpy to 2.5 tpy.
- The PM10 limit in part A.2.c was lowered from 2.7 tpy to 2.5 tpy.
- The CO limit in part A.2.e was lowered from 45.72 tpy to 40.72 tpy.
- The ammonia limit in part A.2.g was raised from 5.5 tpy to 6.35 tpy.
- An annual PM10 limit for sources in Facilities A0016 and B7419 was added to ensure that the CFEP project does not exceed PSD thresholds for PM10.

CONDITION 22970

A. CFEP Project Mass Emission Limits

1. Following are the sources that are subject to Condition 22970, part A:
   S45, Heater (U246)
   S434, U246 High Pressure Reactor Train (Cracking)
   S1004, U235 Sulfur Recovery Unit

2. The owner/operator shall ensure that the annual emissions of the above sources do not exceed the following annual emission limits, including startup, shutdown, malfunction, and upset emissions.

a.	NOx	13.5 tpy
b.	SO2	34.4 tpy
c.	PM10	2.5 tpy
d.	POC	1.9 tpy
e.	CO	40.72 tpy
f.	Sulfuric acid mist	6.01 tpy
g.	Ammonia	6.35 TPY

3. The owner/operator shall ensure that the daily emissions of the CFEP do not exceed the following daily emission limit, including startup, shutdown, malfunction, and upset emissions.

a.	Sulfuric acid mist	38 lb/day [PSD]

4. The owner/operator shall determine whether the emissions are below the allowable emissions in Part A.2, as shown below. The owner/operator shall calculate and report the emissions of NOX, SO2, PM10, POC, CO, and sulfuric acid mist on an annual basis in the following manner.
   a. For Source S45
      v. Use the mass emissions data generated by the NOx CEM at S45.
      vi. Use the emissions rates determined by semi-annual source tests for CO at S45.
      vii. Use the emissions rates determined by initial source test for POC, PM10, ammonia, and sulfuric acid mist at S45.
      viii. Use the sulfur analysis of fuel required by Condition 22862, part 11 at S45.
   b. For Source S1004
      iv. Use the mass emissions data generated by the SO2 and CO CEMs at S1004.
      v. Use the emissions rates determined by annual source tests for NOx, sulfuric acid mist, and ammonia, at S1004.
   c. For the refinery flare S296
      iv. Calculate any emissions caused by venting the contents of any part of the sulfur recovery unit including S1004, A48, and A424 to the refinery flare.
      v. Calculate any emissions caused by venting the contents of any part of S434, to the refinery flare.
      vi. The owner/operator shall calculate any emissions caused by venting the feed to Facility B7419, sources S1 or S2 to the refinery flare.

5. If the annual emissions, as determined in part 3, are above the allowable emissions in part A.1, the owner/operator shall supply additional offsets, where applicable, and perform additional analysis for PSD, if necessary. The results of the analysis shall be submitted to the Director of Compliance and Enforcement on an annual basis on the anniversary of the startup of S1004 or S434, whichever is earlier.

6. The annual emissions of the following sources shall not exceed 16.3 tons PM10/yr: S45, S434, and S1004 at Facility A0016, and S2 and S3 at Facility B7419. If the emissions exceed 16.3 tons in any consecutive 12-month period, the owners/operators of Facilities A0016 and B7419 shall provide contemporaneous offsets of PM10 that comply with BAAQMD Regulations 2-2-201 and 2-2-605. [1-104, 2-2-304]

B. Contemporaneous Offset Conditions

1. The owner/operator shall submit an offset report to the Director of Compliance and Enforcement and the Manager of Permit Evaluation at the end of every quarter after the initial date of startup of any of the new CFEP sources below. The report shall contain the detail of banked and contemporaneous offsets provided for each source to show compliance with the provision in BAAQMD Regulation 2-2-410 that offsets must commence no later than the initial operation of a new source or within 90 days after initial operation of a modified source. After all of the offsets required are provided, the owner/operator may submit the final report, even if all of the sources in the CFEP project are not built.

   <u>New CFEP Sources</u>
   Plant B7419, S1, Hydrogen Plant
   Plant B7419, S2, Hydrogen Plant Furnace
   Plant B7419, S3, Hydrogen Plant Flare
   Plant A0016, S45, Heater
   Plant A0016, S434, U246 High Pressure Reactor Train
   Plant A0016, S1004, U235 Sulfur Recovery Unit

   <u>Contemporaneous Offset Sources</u>
   Plant A0016, S1007, Dissolved Air Flotation Unit (DAF)
   Plant A0016, S8, Unit 240 B-1
   Plant A0016, S352 – S357, Steam Power Plant Gas Turbines and HRSGs
   Plant A0022, S2, Kiln K-2
   [2-1-403, 2-2-410]

The facility has agreed to lower the annual SO2 emission limit in part 11a to 29.7 tons per year. Compliance will be determined with the SO2 CEM.

CONDITION 23125

Source S1004, U235 Sulfur Recovery Unit, S503, Sulfur Storage Tank, S504, Sulfur Degassing Unit, S505, Sulfur Truck Loading Rack

For the purposes of this condition, total reduced sulfur shall mean dimethyl disulfide, dimethyl sulfide, hydrogen sulfide, and methyl mercaptan; and reduced

sulfur compounds shall mean hydrogen sulfide, carbonyl sulfide, and carbon disulfide.

1. The owner/operator shall ensure that the throughput of molten sulfur at S1004 does not exceed 200 long tons/day. [Cumulative Increase]

2. The owner/operator shall ensure that the throughput of molten sulfur at S503 does not exceed 471 long tons/day. [Cumulative Increase]

3. The owner/operator shall ensure that S1004 is abated at all times of operation by A48, SRU Tail Gas Treatment Unit, and A424, Incinerator. [Cumulative Increase]

4. The owner/operator shall ensure that S503, Sulfur Storage Tank, S504, Sulfur Degassing Unit, and S505, Sulfur Truck Loading Rack, are controlled at all times of operation by the Claus reaction furnace at S1004 or S1003, Sulfur Recovery Units. [Cumulative Increase, 2-1-305]

5. All pressure relief devices on S1004 shall be vented to a fuel gas recovery system, furnace, or flare with a recovery/destruction efficiency of 98%. [8-28-302, BACT]

6. The owner/operator shall ensure that the supplemental fuel used at A424, Tail Gas Incinerator, is PUC quality natural gas. [BACT]

7. The owner/operator shall not exceed the following emission concentrations from S1004/A48/A424:
   a. SO2 50 ppmv @ 0% O2, 24-hour basis. [BACT]
   b. CO 75 ppmvd @ 7% O2, 1-hour basis. [BACT]
   c. NOx 42.2 ppmv @ 7% O2, 1-hour basis. [BACT]

8. The owner/operator shall not exceed the following emission concentrations from S1004/A48/A424:
   a. NH3 12.5 ppmv @ 7% O2, 24-hour basis [Regulation 2, Rule 5]
   b. H2S: 2.5 ppmv @ 0% O2 [Regulation 2, Rule 5]

9. The owner/operator shall not exceed the following hourly limits from S1004/A48/A424:
   a. NOx: 8.0 lb/hr [2-1-305]
   b. H2S: 0.23 lb/hr [Regulation 2, Rule 5]
   c. NH3: 0.88 lb/hr [Regulation 2, Rule 5]

10. The owner/operator shall ensure that daily emissions, including startups, shutdowns, upsets, and malfunctions, from S1004/A48/A424 do not exceed the following limits:
    a. Sulfuric acid mist: 31 lb/day [PSD]
    b. PM10: 3.36 lb/day [2-1-301]

11. The owner/operator shall ensure that that annual emissions, including startups, shutdowns, upsets, and malfunctions, from S1004/A48/A424, do not exceed the following limits per any consecutive 12-month period:
    a. SO2: 29.7 tons [BACT, Cumulative Increase]

b. NH3: 3.85 tons [Regulation 2, Rule 5]
c. CO: 37.9 tons [BACT, Cumulative Increase]
d. NOx: 11.2 tons [BACT, Cumulative Increase]
e. POC: 0.43 tons [Cumulative Increase]
f. PM10: 0.59 tons [Cumulative Increase]
g. Sulfuric acid mist: 5.65 tons [2-1-301]
h. H2S: 0.975 tons [Regulation 2, Rule 5]
i. Total Reduced Sulfur: 10 tons [PSD]
j. Reduced Sulfur Compounds 10 tons [PSD]

12. Prior to the commencement of construction, the owner/operator shall submit plans to the District's Source Test Division to obtain approval of the design and location of the source test ports. The sample ports shall be installed in accordance with Manual of Procedures, Volume 4, Section 1.2.4. Ports for particulate testing shall be installed. [basis: Regulation 1-501]

13. No later than 90 days from the startup of S1004, the owner/operator shall conduct District-approved source tests to determine (1) initial compliance with the limits in Parts 7, 8, 9, and 13 for NOx, CO, POC, PM10, SO2, sulfuric acid mist, H2S, ammonia, (2) the BAAQMD Regulation 6 requirements below, and (3) the emission rates in lbs/dry standard cubic foot of NOx, POC, PM10, sulfuric acid mist, NH3, H2S, and reduced sulfur compounds. The owner/operator shall conduct the source tests in accordance with Part 19. The owner/operator shall submit the source test results to the District staff no later than 60 days after the source test. During the source test, the owner/operator shall determine the temperature required to achieve an outlet concentration of 2.5 ppmv H2S @ 0% O2, while meeting all other limits. The temperature shall become an enforceable limit.
    a. BAAQMD Regulation 6-310: 0.15 gr PM/dscf
    b. BAAQMD Regulation 6-311: PM emissions based on Process Rate Weight
    c. BAAQMD Regulation 6-330: SO3 and H2SO4 limit

    If the rate of reduced sulfur compounds, including H2S, exceeds 2.2 lb/hr, or if the rate of total reduced sulfur, including H2S, exceeds 2.2 lb/hr, the District reserves the right to require additional PSD analysis or to impose a higher temperature limit for S424, Incinerator, to control total reduced sulfur and reduced sulfur compounds.

    [BACT, Cumulative Increase; Regulation 2, Rule 5; BAAQMD Regulation 6; PSD]

14. After the initial source test required in part 13 of this condition, the owner/operator shall ensure that the minimum temperature shall not be lower than the temperature determined in the initial source test. The temperature limit will be added to this part after the source test is performed. The owner/operator shall submit the source test results to District staff no later than 60 days after any source test. [Offsets]

15. To determine compliance with the temperature limit in part 14, A48, Thermal Oxidizer, shall be equipped with a temperature measuring device capable of continuously measuring and recording the temperature in A48. The

owner/operator shall install, and maintain in accordance with manufacturer's recommendations, a temperature measuring device that meets the following criteria: the minimum and maximum measurable temperatures with the device are (TBD) degrees F and (TBD) degrees F, respectively, and the minimum accuracy of the device over this temperature range shall be 1.0 percent of full-scale. [Regulation 1-521]

16. The temperature limit in part 14 shall not apply during an "Allowable Temperature Excursion", provided that the temperature controller setpoint complies with the temperature limit. For the purposes of parts 16 and 17 of this condition, a temperature excursion refers only to temperatures below the limit. An Allowable Temperature Excursion is one of the following:

a. A temperature excursion not exceeding 20 degrees F; or

b. A temperature excursion for a period or periods which when combined are less than or equal to 15 minutes in any hour; or

c. A temperature excursion for a period or periods which when combined are more than 15 minutes in any hour, provided that all three of the following criteria are met.

i. the excursion does not exceed 50 degrees F;

ii. the duration of the excursion does not exceed 24 hours; and

iii. the total number of such excursions does not exceed 12 per calendar year (or any consecutive 12 month period).

Two or more excursions greater than 15 minutes in duration occurring during the same 24-hour period shall be counted as one excursion toward the 12 excursion limit. [Regulation 2-1-403]

17. For each Allowable Temperature Excursion that exceeds 20 degrees F and 15 minutes in duration, the Permit Holder shall keep sufficient records to demonstrate that they meet the qualifying criteria described above. Records shall be retained for a minimum of five years from the date of entry, and shall be made available to the District upon request. Records shall include at least the following information:

a. Temperature controller setpoint;

b. Starting date and time, and duration of each Allowable Temperature Excursion;

c. Measured temperature during each Allowable Temperature Excursion;

d. Number of Allowable Temperature Excursions per month, and total number for the current calendar year; and

e. All strip charts or other temperature records.

[Regulation 2-1-403]

18. For the purposes of parts 16 and 17 of this condition, a temperature excursion refers only to temperatures below the limit. (Basis: Regulation 2-1-403)

19. The owner/operator shall submit protocols for all source test procedures to the District's Source Test Section at least three weeks prior to conducting any tests. The owner/operator shall comply with all applicable testing requirements for continuous emissions monitors as specified in Volume V of the District's Manual of Procedures. The owner/operator shall notify the District's Source Test Section, in writing, of the projected test dates at least 7 days prior to testing.
[BACT, Cumulative Increase; Regulation 2, Rule 5]

20. The owner/operator shall perform an annual District-approved source test to verify compliance with the following requirements. A copy of the source test results shall be provided to the District Director of Compliance and Enforcement within 60 days of the test.
    a. BAAQMD Regulation 6-310: 0.15 gr PM/dscf
    b. BAAQMD Regulation 6-311: PM emissions based on Process Rate Weight
    c. BAAQMD Regulation 6-330: SO3 and H2SO4 limit
    d. Emission rates in parts 7c, 8a, 8b, 9a, 9b, and 9c of this condition.
    e. Emission rates of sulfuric acid mist, total reduced sulfur, and reduced sulfur compounds
    [BACT, Regulation 6, PSD; Regulation 2, Rule 5; Cumulative increase]

21. The owner/operator shall install, calibrate, maintain, and operate a District-approved continuous emission monitor and recorder for exhaust gas flowrate, SO2 and O2. The owner/operator shall keep exhaust gas flow, SO2 and O2 data for at least five years and shall make these records available to the District upon request. The owner/operator shall measure SO2 concentration and mass emissions on a clock-hour basis. The monitors shall comply the requirements of 40 CFR 60.105, 40 CFR 63.1572, and the District's Manual of Procedures, Volume 5. [BACT, Cumulative Increase, 40 CFR 63.1568(a)(1)(i)]

22. The owner/operator shall install, calibrate, maintain, and operate a District-approved continuous emission monitor and recorder for exhaust gas flow and CO. The owner/operator shall keep flow and CO data for at least five years and shall make these records available to the District upon request. The owner/operator shall measure CO concentration and mass emissions on a clock-hour basis. The monitors shall comply the requirements of the District's Manual of Procedures, Volume 5. [BACT, Cumulative Increase]

23. The owner/operator will ensure that S1004, SRU, complies with all applicable provisions of 40 CFR 60, Subpart J, and 40 CFR 63, Subpart UUU. This provision will be deleted when the applicable citations from these standards are incorporated into the Major Facility Review permit. [40 CFR 60, Subpart J; 40 CFR 63, Subpart UUU]

24. The owner/operator shall keep throughput records for sources S1004 and S503 on a daily basis. The records shall be kept on site for a period of at least 5 years and shall be made available for inspection by District staff upon request. [Cumulative Increase]

25. The owner/operator shall use the source tests required in parts 13 and 20 to determine compliance with the daily limit in part 10 and the annual limits in parts 11b, 11d, 11e, 11f, 11h, and 11i. At the end of every month, the owner/operator shall summarize the exhaust gas flow in dry standard cubic feet for the month and shall calculate the estimated emissions of each pollutant for the previous consecutive 12-month period and for H2S for each day of the month using the emission rate determined in the last source test. The summaries and calculations shall be completed within 60 days of the end of each month. Alternately, the owner/operator may establish a daily and monthly exhaust gas flow level after each source test that will ensure compliance with the daily and annual limits. In this case, the owner/operator will log the daily and monthly exhaust gas flows from S1004/A48/A424. [Cumulative increase; Regulation 2, Rule 5; Cumulative Increase, PSD]

26. The Owner/Operator shall perform a visible emissions check on Source S1004 on a monthly basis. The visible emissions check shall take place while the equipment is operating and during daylight hours. If any visible emissions are detected, the owner/operator shall have a CARB-certified smoke reader determine compliance with the opacity standard, using EPA Method 9 or the procedures outlined in the CARB manual, “Visible Emissions Evaluation” for six (6) minutes within three (3) days and record the results of the reading. If the reading is in compliance with the Ringelmann 1.0 limit in BAAQMD Regulation 6-301, the reading shall be recorded and the owner/operator shall continue to perform a visible emissions check on a monthly basis. If the reading is not in compliance with the Ringelmann 1.0 limit in BAAQMD Regulation 6-301, the owner/operator shall take corrective action and report the violation in accordance with Standard Condition 1.F of the Title V permit. The certified smoke-reader shall continue to conduct the Method 9 or CARB Visible Emission Evaluation on a daily basis until the daily reading shows compliance with the applicable limit or until the equipment is shut down. Records of visible emissions checks and opacity readings made by a CARB-certified smoke reader shall be kept for a period of at least 5 years from date of entry and shall be made available to District staff upon request. [Basis: Regulations 6-301, 2-1-403]

Members of the public commented on odors originating at the ConocoPhillips refinery. In response to those comments, the CEQA documents state that a fourth odor abatement compressor will be installed. To ensure that A7, Odor Abatement System, is properly operated, and that the new compressor is installed, the District has imposed the following permit condition. The condition requires pressure monitoring at the tanks that are controlled by the odor abatement system so that the tanks operate below the set pressure of the pressure/vacuum valves that can relieve to atmosphere.

CONDITION 23724
For Sources S135 (Tank 200), S137 (Tank 202), S139 (Tank 204), S140 (Tank 205), S158 (Tank 258), S168 (Tank 269), S173 (Tank 280), S174 (Tank 281), S175 (Tank 284), S182 (Tank 294), S360 (Tank 223), S445 (Tank 271), S449 (Tank 285), Tank 235, and Tank 236.

1a. The owner/operator shall ensure that all sources subject to this permit condition are abated by A7, Vapor Recovery System except for S168, S173, S174, which shall be abated prior to startup of S434. [Basis: Regulation 2-1-403]

1b. The owner/operator shall ensure that a fourth compressor is added to A7, Odor Abatement System, before the following sources are controlled by A7: S168, S173, S174. [Basis: Regulation 2-1-301, 2-1-305, 2-1-403, CEQA]

1c. The new odor abatement compressor, or a dedicated compressor, shall be designed and installed to supplement G-503, Flare Gas Recovery Compressor. [CEQA]

~~2. The owner/operator shall ensure that all tanks subject to this permit condition are blanketed by utility-grade natural gas. [Basis: Regulation 2-1-403]~~

~~3. Within 21 months of issuance of the Authority to Construct, the owner/operator shall equip all tanks subject to this permit condition with District-approved pressure monitoring devices. Within 3 months of issuance of the Authority to Construct, the owner/operator shall equip the following tanks with District-approved pressure monitoring devices: S139, S140, S182, S360, S445, and S449. [Basis: Regulation 2-1-403]~~

~~4. After the pressure monitoring devices are installed, the owner/operator shall ensure that tanks listed below operate at all times below their respective minimum set pressures, as shown in 4a and 4b of this condition. Any recorded pressure in excess of the minimum pressure shall be reported to the District's Enforcement and Engineering Divisions within 10 days of the pressure excess. The owner/operator must conduct an investigation of the incident to determine if the pressure excess resulted in the pressure/vacuum (PV) valve lifting to atmosphere and if so, why there was a pressure excess that resulted in the PV valve lifting to atmosphere.~~

~~Results of the investigation must be reported to the District's Enforcement and Engineering Division within 30 days of the initial report. Any recorded pressure in excess of the minimum set pressure shall be considered an indication of a valve lift to atmosphere unless a District approved tell-tale indicator on the PV valve shows that the valve did not lift, or the owner/operator demonstrates to the satisfaction of the APCO that the recorded pressure excess was the result of a monitoring, recording or other malfunction.~~

~~The minimum set pressure for each storage tank must be submitted in a report to the District's Enforcement and Engineering Divisions within 21 months of issuance of the Authority to Construct and within 3 months of issuance of the Authority to Construct for the following tanks: S139, S140, S182, S360, S445, S449.~~

~~a.~~

~~Source Number~~	~~Minimum Set Pressure (inches H2O)~~
135	TBD
137	TBD
139	TBD
140	TBD
168	TBD
182	TBD
360	TBD
445	TBD
449	TBD

The owner/operator shall submit an accelerated permit application to include any change to any of the pressures above. Any amendment to the Title V permit to include the pressures above shall be submitted as a minor revision to the Title V permit.
[Basis: Regulation 8, Rule 5]

b.

Source Number	Minimum Set Pressure (inches H2O)
158	TBD
173	TBD
174	TBD
175	TBD
Tank 235	TBD
Tank 236	TBD

The owner/operator shall submit an accelerated permit application to include any change to any of the pressures above. Any amendment to the Title V permit to include the pressures above shall be submitted as a minor revision to the Title V permit.
[Basis: Regulation 2-1-403]

~~5. The owner/operator shall ensure that each pressure relief valve for each tank must be set at or above its nominal set pressure listed in Part 4 of this permit condition. [Basis: Regulation 2-1-403]~~

6. Corrective Plan

The corrective plan is a means for ConocoPhillips to correct occasional exceedances, to stay within the working pressure limits and thus to remain in compliance with District Regulations. If a PV valve has been determined to have lifted three times in a 12 month period, ConocoPhillips shall implement abatement measures to prevent the recurrence of the type of incident which caused the valve to lift. This plan is intended to provide a mechanism for bringing ConocoPhillips back into compliance should a temporary exceedance occur. This plan does not constitute an alternative means of compliance. [Basis: Regulation 2-1-403]

b. If, during any consecutive 12-month period, more than three instances of a PV valve release to atmosphere attributed to a storage tank subject to this permit condition are reported, ConocoPhillips shall propose a method to correct the exceedance and to ensure compliance with District regulations and permit conditions. The proposed method is subject to approval by the Air Pollution Control Officer. Potential methods include but are not limited to increasing the nominal set pressure of the pressure/vacuum valve, bladder tank(s) for additional short-term vapor storage capacity, dedicated vapor recovery flare, pilot control on pressure relief valves, flow meters on vapor recovery tanks to monitor blanket gas flows, replacement of tanks, and naphtha degassers. [Basis: Regulation 2-1-403]

7. To determine compliance with the above conditions, the owner/operator shall maintain the following records and provide all of the data necessary to evaluate compliance with the above parts, including, but not necessarily limited to the following information:

b. Pressure measurements from tanks listed in part 4 of this condition. Pressure shall be recorded at least for one-minute interval for each tank.

All records shall be retained on site for five years, from the date of entry and made available for inspection by the District staff upon request. These recordkeeping requirements shall not replace the recordkeeping requirements contained in any applicable District regulation. [Basis: Regulation 2-1-403]

8. The requirement to report pressures in excess of the minimum pressure as described in part 4 of this permit condition, shall start after 21 months of issuance of the Authority to Construct and 3 months after issuance of the Authority to Construct for the following tanks: S139, S140, S182, S360, S445, S449. [Basis: 2-1-403]

9. The permit to operate is contingent upon compliance with Regulation 1-301, Standard for Public Nuisance, and Regulation 7, Odorous Substances. Upon receipt of a violation for either of these regulations, the Air Pollution Control Officer may require the owner/operator to install additional emission control measures as stated in Part 6 of this permit condition. [Basis: Regulations 1-301, 7-301, 7-302]

Condition 23725 replaces Condition 21099 for fugitive components because the BACT determination has been updated. The leak standard is explicit in addition to the required technology. A requirement for leak detection for pumps in heavy liquid service has been added. An annual limit of 6.1 tons per year of POC, which is equivalent to the calculated emissions assuming a leak rate of 100 ppm, has been added. This annual rate is 0.2 tons per year less than rate that was in the final application.

The facility estimates that there will be up to 100 valves in high pressure high temperature gaseous service that will not be any of the types listed in part 1a of the condition because the valves are not available for this service. The District expects the facility to demonstrate that the leak rates of the valves that are installed are equivalent to the valves specified before installation. A manufacturers guarantee may be used to demonstrate equivalency.

CONDITION 23725

~~CONDITIONS FOR CLEAN FUELS EXPANSION PROJECT (CFEP) FUGITIVE COMPONENTS~~

5. Fugitive Equipment

    h. The owner/operator shall as part of the CFEP install only the following types of valves in light hydrocarbon service where the hydrocarbon has an initial boiling point less than or equal to 302 degree F: (1) bellows sealed, (2) live loaded, (3) graphite packed, (4) quarter-turn (e.g., ball valves or plug valves), or equivalent as determined by the APCO. [Basis: BACT]

    i. The owner/operator shall comply with a leak standard of 100 ppm of TOC (measured as C1) at any valve installed as part of the CFEP in hydrocarbon service. The owner/operator shall not be considered in violation of the leak standard if the owner/operator complies with the applicable minimization and repair provisions contained in Regulation 8, Rule 18. Valves that are not of a type listed in part 1 (a) and for which a leak greater than 100 ppm (measured as C1) has been determined, shall become subject to the inspection provisions contained in Regulation 8-18. If the leak remains greater than 100 ppm (measured as C1) after repair, or if the valve is determined to have a leak greater than 100 ppm (measured as C1) a second time within a 5-year period, the owner/operator shall replace the valve with a type listed in part 1 (a) within 5 years or at the next scheduled turnaround, whichever is sooner. [Basis: BACT, Regulation 8, Rule 18]

    j. The owner/operator shall install graphitic-based gaskets on all flanges or connectors (gasketed) installed as part of the CFEP in light hydrocarbon service unless the owner/operator demonstrates

to the satisfaction of the APCO that the service requirements prevent this gasket material from being used. [Basis: BACT]

k. The owner/operator shall install double mechanical seals with barrier fluid; or gas seal system vented to a thermal oxidizer or other District approved equivalent control device or technology as determined by the APCO on all compressors installed as part of the CFEP. [Basis: BACT]

l. The owner/operator shall comply with a leak standard of 100 ppm of TOC (measured as C1) at any pumps and/or compressors installed as part of the CFEP in hydrocarbon service. The owner/operator shall not be considered in violation of the leak standard if the owner/operator complies with the applicable minimization and repair provisions contained in Regulation 8-18. All pumps and/or compressors subject to the leak standard of 100 ppm TOC shall be included in the total number of pumps and compressors used in Regulation 8-18-306.2 to determine the total number of non-repairable pumps and compressors allowed. [Basis: BACT]

m. The owner/operator shall install double mechanical seals with barrier fluid; dual nitrogen gas purge seals; magnetically coupled pumps; canned pumps; magnetic fluid sealing technology; gas seal system vented to thermal oxidizer, or other BAAQMD approved equivalent control device; or District approved control technology as determined by the APCO on all pumps installed as part of the CFEP in light hydrocarbon service where the hydrocarbon has an initial boiling point less than or equal to 302 degree F. The owner/operator shall install double mechanical seals or District approved equivalent technology on all pumps in heavy hydrocarbon service where the hydrocarbon has an initial boiling point greater than 302 degree F and flash point less than 250 degree F. [Basis: BACT]

n. Unless the equipment exclusively handles material(s) with a flash point greater than or equal to 250 degree F, the owner/operator shall identify all new pumps and compressors installed as part of the CFEP in hydrocarbon service with a unique permanent identification code and shall include all new and replaced fugitive equipment in the Regulation 8, Rule 18 fugitive equipment monitoring and repair program. The owner/operator shall monitor all repaired equipment within 24 hours of the repair. [Basis: Cumulative Increase, BACT]

6. The Owner/Operator shall submit a count of installed pumps, compressors, valves, pressure relief devices, and flanges/connectors every 180 days after startup of the first unit until completion of the CFEP project. The owner/operator has been permitted to install the following number of fugitive components for the Clean Fuels Expansion Project:

   Pumps: 16 [As identified in part 1 (g)]
   Compressors: 3
   Valves: 1,730

Connectors (No Flanges): 1,961
Flanges: 3,450
Pressure Relief Devices: 118 non-atmospheric

~~The owner/operator shall not exceed 6.1 tons per year of POC emissions measured as C1 from the total fugitive component count installed in TOC services as part of the CFEP. Compliance with this provision shall be verified quarterly using methods described in Part 3. The results shall be submitted to the District on a quarterly basis for two years commencing with start-up. Documentation of results shall be kept on site for five years.~~

~~If there is an increase in the total fugitive component counts, the plant's cumulative emissions for the project shall be adjusted, subject to APCO approval, to reflect the difference between emissions based on predicted component counts versus actual component counts. The owner/operator may have enough remaining contemporaneous emissions reduction credits (ERCs) to cover any increase in POC fugitive emissions beyond the original projection. If not, the owner/operator shall provide to the District all additional required offsets at an offset ratio of 1.15:1 no later than 21 days after the submittal of the final POC fugitive equipment count. If the actual component count is less than the predicted count, at the completion of the project, the total will be adjusted accordingly. Any ERCs applied by the facility in excess of the actual total fugitive emissions estimate based on actual counts as opposed to estimated will be credited back to the owner/operator. [Basis: Cumulative Increase, Offsets, Regulation 2, Rule 5]~~

~~7. The owner/operator shall calculate fugitive emissions from CFEP fugitive components utilizing District approved methods. [Basis: Cumulative Increase, BACT, Offsets]~~

~~8. Inspections~~

~~a. The owner/operator shall conduct inspections of CFEP fugitive components in light hydrocarbon service with an initial boiling point less than or equal to 302 degree F in accordance with the frequency listed below:~~

~~Pumps: Quarterly~~

~~Compressors: Quarterly~~

~~Valves: Quarterly~~

~~Connectors (Not Flanges): Annual~~

~~Flanges: Annual~~

~~[Basis: BACT, Regulation 8, Rule 18]~~

~~b. The owner/operator shall conduct quarterly inspections of all CFEP pumps in hydrocarbon service with a flash point less than 250 degree F. [Basis: BACT]~~

By: _____October 5, 2007
Brenda Cabral Date
Supervising Air Quality Engineer

APPENDIX A

Emission Calculations

S45, Heater (U246), 85 MMbtu/hr

ConocoPhillips proposed the following BACT levels for the new heater:

Pollutant	BACT	Emission Factors (lb/MMbtu)
NOx	7 ppmvd @3% O2	0.0086
CO	28 ppmvd @3% O2	0.0210
SO2	Use of natural gas and/or RFG; 100 ppmv total sulfur in RFG	0.0126
POC	Use of natural gas and/or RFG 5.5 lb/MMcf	0.0041
PM10	Use of natural gas and/or RFG 7.6 lb/MMcf	0.0057

Hourly mass emission rates for the process heater were determined by multiplying the “pounds per MMBtu” emission factor by the rated maximum heat input of the heater.

Daily and annual mass emissions were calculated based on 24-hour-per-day and 365-day per-year operation, respectively. Daily and annual process heater emission rates for the new Heater, S45, were shown below.

	lb/hr	lb/day	ton/yr
NOx	0.73	18	3.2
SO_2	1.07	26	4.7
PM10	0.48	12	2.1
POC	0.35	8.4	1.5
CO	1.79	43	7.8

After public notice, the District determined that lower concentrations of NOx and CO were achieved in practice by heaters burning refinery fuel in the SCAQMD. The lower levels were 5 ppmv NOx @ 3% O2, dry, and 10 ppmv CO @ 3% O2, dry. As explained in Section 3 of this evaluation, the heater will operate at low levels for much of the time, where the 10 ppm CO limit is not achievable. The facility has proposed, and the District has concurred with, a limit of 28 ppm CO below 30 MMbtu/hr. Therefore, the hourly mass emission rate for CO will remain approximately the same at high and low levels of operation. The lower NOx limit is achievable at high and low levels of operation.

Following are the amended emission factors:

Pollutant	BACT	Emission Factors (lb/MMbtu)
NOx	5 ppmvd @3% O2	0.0061
CO	10 ppmvd @3% O2	0.0075
SO2	Use of natural gas and/or RFG; 100 ppmv total sulfur in RFG	0.0126
POC	Use of natural gas and/or RFG 5.5 lb/MMcf	0.0041
PM10	Use of natural gas and/or RFG 7.6 lb/MMcf	0.0057

Following are the amended hourly, daily, and annual mass emission rates:

	lb/hr	lb/day	ton/yr
NOx	0.52	12.4	2.3
SO_2	1.07	26	4.7
PM10	0.48	12	2.1
POC	0.35	8.4	1.5
CO	0.64	15.3	2.8

The estimated emissions of toxic air contaminants are shown below. Emission factors from WSPA/API's Air Toxic Emission Factors for Combustion Sources Using Petroleum-Based Fuels, final report, Volume 2, Appendix B, April 14, 1998 have been used for the calculations, except that the ammonia emission rate is based on the 15 ppmv limit.

Pollutant	Emissions lb/yr	Emissions lb/hr
Acenaphthene	1.76E-03	2.01E-07
Acenaphthylene	1.15E-03	1.32E-07
Acetaldehyde	1.14E+01	4.75E-01
Ammonia	5,96+03	5.79-01
Antimony	3.85E-01	4.39E-05
Arsenic	6.33E-01	7.23E-05
Benzene	4.82E+01	5.50E-03
Benzo(a)anthracene	2.39E-02	2.73E-06
Benzo(a)pyrene	6.67E-02	7.62E-06
Benzo(b)fluoranthene	3.01E-02	3.43E-06
Benzo(k)fluoranthene	1.79E-02	2.05E-06
Cadmium	7.36E-01	8.40E-05
Chromium (Total)	7.97E-01	9.10E-05
Chrysene	1.21E-03	1.39E-07
Copper	3.13E+00	3.58E-04

Pollutant	Emissions lb/yr	Emissions lb/hr
Ethylbenzene	2.25E+01	2.57E-03
Fluoranthene	2.28E-03	2.60E-07
Fluorene	8.04E-03	9.18E-07
Formaldehyde	8.27E+01	9.44E-03
Indeno(1,2,3-cd)pyrene	7.67E-02	8.76E-06
Lead	3.64E+00	4.16E-04
Manganese	5.07E+00	5.79E-04
Mercury	1.34E-01	1.53E-05
Naphthalene	2.33E-01	2.66E-05
Nickel	7.01E+00	8.01E-04
Phenanthrene	1.09E-02	1.24E-06
Phenol	4.19E+00	4.79E-04
Propylene	1.62E+00	1.84E-04
Pyrene	1.85E-03	2.11E-07
Selenium	1.46E-02	1.67E-06
Silver	1.20E+00	1.37E-04
Toluene	7.97E+01	9.10E-03
Xylene (Total)	2.78E+01	3.17E-03
Zinc	1.55E+01	1.77E-03

Tanks
S98, S122, S123, S124, S128, Tanks, EFRT
S118, Tank No. 163, fixed roof, 5.3k barrels
S139, S140, and S182, Fixed Roof Tanks, abated by A7, Vapor recovery System

Tanks S139, S140, and S182 are abated by vapor recovery and will not have an increase in emissions.

The emissions from S98, S123, and S124, which will have a change in service, are shown below.

Emission Increase from S98, S123, and S124

Tank Emissions						
Tank Number	**S98**		**S123**		**S124**	
Material	**Gasoline**		**Gasoline (MUK)**		**Gasoline (LUK)**	
Throughput (bbl)	7,446,000		3,000,000		3,000,000	
Total POC Emissions (lb/yr)	12,373		993		2,826	
Toxic Emission	**(lb/hr)**	**(lb/yr)**	**(lb/hr)**	**(lb/yr)**	**(lb/hr)**	**(lb/yr)**
Benzene	4.58E-03	40.08	3.17E-04	2.78	2.28E-03	20
Cyclohexane	6.73E-03	58.96	4.37E-04	3.83	1.04E-03	9.1
Ethylbenzene	7.63E-04	6.68	5.38E-04	4.71	2.20E-06	0.019
Hexane	2.75E-02	240.47	7.25E-04	6.36	5.28E-03	46
Naphthalene	7.63E-05	0.67	0.00E+00	0.00	2.20E-07	0.0019
Toluene	1.30E-02	113.55	5.16E-03	45.24	1.22E-04	1.1
Xylene (Total)	8.39E-03	73.48	2.78E-03	24.36	7.33E-06	0.064
1,2,4-Trimethylbenzene	1.33E-03	11.69	5.38E-04	4.71	0.00E+00	0

* Baseline period is 2002, 2003 and 2004.
Emissions estimated by ConocoPhillips using EPA AP-42 methodology with option for zero-gap seals

Emission Increase from S98, S123, and S124

Tank Emissions			
Tank Number	**S98**	**S123**	**S124**

Substance	Speciations		
	Gasoline	MUK	LUK, LTWXY
	Vapor Weight Fraction of ROG	Vapor Weight Fraction of ROG	Vapor Weight Fraction of ROG
Benzene	0.0032	0.0028	0.0071
Cyclohexane	0.0048	0.0039	0.0032
Ethylbenzene	0.0005	0.0047	0.0000
Hexane	0.0194	0.0064	0.0164
Naphthalene	0.0001	0.0000	0.0000
Toluene	0.0092	0.0456	0.0004
Xylene (Total)	0.0059	0.0245	0.0000
1,2,4-Trimethylbenzene	0.0009	0.0047	0.0000

Source Number	Tank Number	Annual Proposed Limit (bbl)	Emissions lb/yr			Emissions lb/hr	Emissions TPY
			Proposed	Baseline	Increase	Increase	Increase
S118	163	900	6	4	2	2.63E-04	0.00115
S122	167	2,000,000	9,574	2,312	7,262	8.29E-01	3.631
S128	174	5,100,000	3,094	721	2,373	2.71E-01	1.1865
				TOTAL	9,637	1.10E+00	4.81865

Change in Emissions from Existing Tanks

		Emissions lb/yr												
Source Number	Product Stored	Benzene	Cyclo-hexane	Ethyl-benzene	Hexane	Naphtha-lene	Toluene	Xylene (Total)	1,2,4-Trimethyl-benzene	2,4-di-tert-butyl-phenol	Ortho-tert-butyl-phenol	Mixed butylated phenols	Phenol	Toluene
S118	Additive									0.0391	0.1840	0.2760	0.0184	0.4600
S122	Gasoline (LUK)	51.2466	23.3110	0.0495	118.8327	0.0050	2.7356	0.1650	0.0000					
S128	Gasoline	7.6864	11.3087	1.2811	46.1186	0.1281	21.7782	14.0918	2.2419					

		Emissions lb/hr												
Source Number	Product Stored	Benzene	Cyclo-hexane	Ethyl-benzene	Hexane	Naphtha-lene	Toluene	Xylene (Total)	1,2,4-Trimethyl-benzene	2,4-di-tert-butylphenol	Ortho-tert-butylphenol	Mixed butylated phenols	Phenol	Toluene
S118	Gasoline									4.46E-06	2.10E-05	3.15E-05	2.10E-06	5.25E-05
S122	Gasoline (LUK)	5.85E-03	2.66E-03	5.65E-06	1.36E-02	5.65E-07	3.12E-04	1.88E-05	0.00E+00					
S128	Gasoline	8.77E-04	1.29E-03	1.46E-04	5.26E-03	1.46E-05	2.49E-03	1.61E-03	2.56E-04					

The emissions were calculated using EPA's AP-42 methodology.

S1004, U235 Sulfur Recovery Unit (200 long tons/day)
S301-S303, S465, Sulfur Pits
S503, Sulfur Storage Tank
S504, Sulfur Degassing Unit
S505, Sulfur Truck Loading Rack abated by A424, Tail Gas Incinerator

<u>S1004, U235 Sulfur Recovery Unit (200 long tons/day)</u>
Following is the estimate of SO2 emissions based on a flow rate of 77,000 lb/hr through the SRU, which is provided by the SRU designers, and a limit of 50 ppmdv SO2 at 0% O2.

SRU SO2 Emissions

2 H2S + 3 O2 --> 2 SO2 + 2 H2O
Assume sample is mostly air at 1 atm and 298 K (vol is approx. 0.856 m^3/kg)

P=	101000	Pa	
T=	298	K	
R=	8.3	(m^3 * Pa)/(K * mol)	
Ppmvd=	50	mL/m^3	based on Shell Martinez Refinery's Title V Permit Condition 12271 Part 68
density of air=	1.168	kg/m^3	at 1 atm and 298K
Mwsample=	28.36	g/gmol	
MWSO2=	64	g/gmol	
MWN2=	28	g/gmol	
MWO2=	32	g/gmol	
mole fraction of N2 in air =	0.78		

stack flow rate from SRU TGTU stack=	77700	lbs/hour	at 0% O2 and water (also equal to 1.04 mmscfh with MW=28.36)
=	1.24E+06	gmol/hr	
=	1.09E+10	gmol/yr	
stack flow rate from incinerator stack=	1.19E+06	gmol/hr	
=	1.04E+10	gmol/yr	
SO2=	5.95E+01	gmol/hr	
=	5.21E+05	gmol/yr	
=	36.7	TPY	
=	201	lb/day	
=	8.4	lb/hr	

Following is the estimate of the maximum H2S emissions from the SRU assuming a flow of 77,000 lb/hr through the SRU and a concentration of 2.5 ppmvd @ 0% O2.

SRU H2S Emissions

Assume sample is mostly air at 1 atm and 298 K (vol is approx. 0.856 m^3/kg)

P=	101000	Pa	
T=	298	K	
R=	8.3	(m^3 * Pa)/(K * mol)	
Ppmvd=	2.5	mL/m^3	based on Shell Martinez Refinery's Title V Permit Condition 12271 Part 68
density of air=	1.168	kg/m^3	at 1 atm and 298K
Mwsample=	28.36	g/gmol	
MWH2S=	34	g/gmol	
MWN2=	28	g/gmol	
MWO2=	32	g/gmol	
mole fraction of N2 in air =	0.78		

stack flow rate from SRU TGTU stack=	77700	lbs/hour	at 0% O2 and water (also equal to 1.04 mmscfh with MW=28.36)
=	1.24E+06	gmol/hr	
=	1.09E+10	gmol/yr	
stack flow rate from incinerator stack=	1.19E+06	gmol/hr	
=	1.04E+10	gmol/yr	
H2S=	2.97E+00	gmol/hr	
=	2.6E+04	gmol/yr	
=	0.975	TPY	
=	5.3	lb/day	
=	0.23	lb/hr	

The NOx, CO, and ammonia (NH3) emissions are calculated in the same manner except that the correction for oxygen is 7%.

SRU Incinerator CO, NOx and NH3 Emission Calculations

SRU Thermal Incinerator stack flow=	77700	lbs/hour	(@ 0% O2 and water)
MWsample=	28.36	g/gmol	

CO emissions at 75 ppm @ 7% O2 [1]

density of air=	379	ft^3/lbmole
CO Conc =	75	ppmvd
MWCO=	28	lb/lbmole
CO emissions=	8.65	lb/hr
CO emissions=	208	lb/day
CO emissions=	37.9	TPY

NOx emissions at 13.5 ppm @ 7% O2 [1]

density of air=	379	ft^3/lbmole
NOx Conc =	13.5	ppmvd
MW NOx=	46	lb/lbmole
NOx emissions=	2.56	lb/hr
NOx emissions=	61	lb/day
NOx emissions=	11.21	TPY

NH3 emissions at 12.5 ppm @ 7% O2

density of air=	379	ft^3/lbmole
NH3 Conc =	12.5	ppmvd (@7% O2)
MWNH3 =	17	lb/lbmole

NH3 emissions=	0.88	lb/hr
NH3 emissions=	21	lb/day
NH3 emissions=	3.83	TPY

The facility has based the emissions of PM10 and POC, for the SRU complex on the heat input of the incinerator as follows:

SRU Incinerator

Pollutant	Emission Factor	EF (lb/MMBtu)	Reference
PM10	7.6 lb/MMcf	0.0075	AP42 Section 1.4, Natural Gas Combustion
POC	5.5 lb/MMcf	0.0054	AP42 Section 1.4, Natural Gas Combustion

(1) Assumed firing rate: 18 MMBtu/hr

1,546,756 Therms/yr

Daily emissions assume 24 hr/day operation.

Annual emissions assume 365 day/yr operation.

Assumptions for emissions factor table above:

(1) NOx and CO "ppm" emission factors converted to "lb/MMBtu" as follows:

(x [lb/MMBtu]) = (y ppm @ 7% O2) * (21% - 0%) / (21% - 7%) * (EPA Fd Factor [ft3/MMBtu]) / (Molar Volume [ft3/lbmol]) * (Molecular weight [lb/lbmol])

PM10 and POC "lb/MMcf" emission factors converted to "lb/MMBtu" as follows:

(x [lb/MMBtu]) = (Emission factor [lb/MMcf]) / (Refinery gas heat content [Btu/scf])

EPA Fd Factor:	8710	ft3/MMBtu - based on EPA Method 19 (40 CFR 60)
Molar volume:	379	ft3/lbmol (at STP: 25 C, 1 atm)
NOx MW:	46	lb/lbmol
CO MW:	28	lb/lbmol
SO2 MW:	64	lb/lbmol

Natural gas: 1020 Btu/scf (AP42)

Based on the emission factors above, the facility has estimated hourly, daily, and annual emissions.

Hourly, Daily and Annual SRU Emissions

Pollutant	Emissions[1]		
	lb/hr	lb/day	ton/yr
PM10	0.14	3.24	0.59
POC	0.10	2.33	0.43

Notes:

(1) Assumed heater rating: 18 MMBtu/hr

Daily emissions assume 24 hr/day operation.

Annual emissions assume 365 day/yr operation.

Based on the representations by the facility, the unit will be limited to the above amounts of SO2, H2S, NH3, NOX, PM10, POC, and CO.

Fugitive Sources
S307, U240 Unicracking Unit
S308, U244 Reforming Unit
S309, U248 UNISAR Unit
S318, U76 Gasoline Blending
S339, U80 Gasoline/Mid Barrel Blending
S432, U215 Deisobutanizer
S434, U246 High Pressure Reactor Train (Cracking)
S1004, U235 Sulfur Recovery Unit (200 long tons/day)

The following emission estimates were provided by ConocoPhillips and the District has found them to be acceptable.

New process equipment associated with the CFEP will emit fugitive POC emissions from various components including valves, flanges, connectors, pumps, and compressors. The proposed upgrades to the Unit 240 Unicracker will include new sources of fugitive POC emissions; however, there will be no more than a negligible change in fugitive POC emissions from other existing units. Replacement equipment at existing units is expected to have approximately the same number of fugitive components. Additionally, piping changes within and between existing units are not expected to significantly affect the fugitive component count.

The number of new fugitive components for the CFEP is estimated based on pre-design drawing hand-count, comparison to existing units, ConocoPhillips experience in construction of similar units, and other estimation techniques. The estimated count of new fugitive components is divided into three service categories including gas, light liquid, and heavy liquid. **Table 3-6** provides an estimated fugitive component count for the modified Unicracker Process Unit, modified new Sulfur Plant, Deisobutanizer Unit, Reformer Unit, Product Blending, and Storage Tank No. 101.

Table 3-6 Fugitive Component Count

Unit	Stream	Component Counts				
		Valves	Pumps	Connectors	Flanges	Other[1]
Unit 240 Unicracker (S-307)(Unit 246)	Gas	295	0	295	590	1
	LL	419	2	419	838	1
	HL	547	3	547	1094	1
New Sulfur Plant Modifications (S1004 (Unit 235)	Gas	125	0	125	250	0
	LL	0	0	0	0	0
	HL	0	0	2	0	0
Unit 215 DIB Deisobutanizer (S-432)	Gas	0	0	0	0	0
	LL	20	0	160	40	0
	HL	0	0	0	0	0

Unit	Component Counts					
	Stream	Valves	Pumps	Connectors	Flanges	Other[1]
Unit 244 Reformer (S-308)	Gas	0	0	0	0	0
	LL	100	2	200	200	0
	HL	0	0	0	0	0
Unit 76 Product Blending (S-318)	Gas	0	0	0	0	0
	LL	100	4	100	200	0
	HL	100	4	100	200	0
New Tank No. 101	Gas	0	0	0	0	0
	LL	24	1	13	38	0
	HL	0	0	0	0	0

1. The "other" component type includes instruments, pressure relief valves, vents, compressors, dump lever arms, diaphragms, drains, hatches, meters, and polished rods stuffing boxes. This "others" component type should be applied for any component type other than connectors, flanges, open-ended lines, pumps, or valves.

LL – Light Liquid Stream

HL – Heavy Liquid Stream

These component counts were used to estimate fugitive POC and toxic air contaminant emission increases from the proposed CFEP. Pressure relief valves (PRVs) are not included in the fugitive component count because any new PRVs for the proposed CFEP will be connected to the refinery's blowdown system to control both fugitive leak and process upset emissions. There will not be any new open-ended lines for sampling or other purposes.

Fugitive POC emission estimates were calculated based on U.S. EPA Correlation Equations as presented in Table IV-3a of the February 1999 California Air Resources Board/California Air Pollution Control Officers Association (CARB/CAPCOA) document entitled California Implementation Guidelines for Estimating Mass Emissions of Fugitive Hydrocarbon Leaks at Petroleum Facilities. This document is the accepted BAAQMD standard for estimating fugitive emissions.

For the purposes of this application, the maximum leak rate allowed by the BAAQMD (100 ppmv for valves, 500 ppmv for pumps, etc.) was used as the screening value (SV) in each Correlation Equation. Use of BAAQMD maximum leak rates results in a conservative emissions estimate because most fugitive components in the ConocoPhillips' leak detection and repair (LDAR) program have actual leak rates well below BAAQMD maximum leak rates.

The screening values used for valves, flanges, connectors, pump, and compressors and the corresponding correlation equations are shown in **Table 3-7**. This table also displays resulting emission factors in lbs/hr per source. Using the Correlation Equation approach, with the BAAQMD maximum leak rates, the resulting emission factors for each component type are the same for each type of service (gas, light liquid, and heavy liquid).

Table 3-7 Fugitive Component Emission Factors

Component Type/Service	Correlation Equation[1]	Screening Value, SV[2] (ppmv)	Resulting Emission Factor (kg/hr/source)	Resulting Emission Factor (lb/hr/source)
Valves/All	2.27E-6*(SV)^0.747	100	7.1E-05	1.6E-04
Connectors/All	1.53E-6*(SV)^0.736	100	4.5E-05	1.0E-04
Flanges/All	4.53E-6*(SV)^0.706	100	1.2E-04	2.6E-04
Pump Seals/All	5.07E-5*(SV)^0.622	500	2.4E-03	5.3E-03
Other[3]/All	8.69E-6(SV)^0.642	500	4.7E-04	1.0E-03

1. California Implementation Guidelines for Estimating Mass Emissions of Fugitive Hydrocarbon Leaks at Petroleum Facilities, February 1999.

2. Screening values assumed to be maximum leak rate allowed by BAAQMD, Regulation 8-18.

3. The "other" component type includes instruments, pressure relief valves, vents, compressors, dump lever arms, diaphragms, drains, hatches, meters, and polished rods stuffing boxes. This "others" component type should be applied for any component type other than connectors, flanges, open-ended lines, pumps, or valves.

Table 3-8 summarizes the total fugitive component emissions for all of the process units that are being modified.

Table 3-8 Total Fugitive Component Emissions

	Emissions		
	lb/hr	lb/day	ton/yr
Unicracker (Unit 240)246)	1.0	24	4.4
Sulfur Plant Modifications	0.096	2.32	0.42
Deisobutanizer (Unit 215 DIB)	0.029	0.71	0.13
Reformer (Unit 244)	0.10	2.3	0.43
Product Blending (Unit 76)	0.20	4.7	0.86
New Tank No. 101	0.020	0.48	0.089
Total	1.4	35	6.3

After construction of the new and modified units associated with the CFEP, an actual count of fugitive components will be conducted when the new components are added to the ConocoPhillips' LDAR program. This information will be provided to the BAAQMD to determine if any adjustments are needed for compliance with applicable requirements (i.e., a possible change in the quantity of required emission reduction credits).

The emission factors used to estimate TAC emissions from process unit fugitive components are based on service-weighted speciation data provided by ConocoPhillips. **Table 4-5** summarizes the profiles that are used in this application.

Table 4-5 Speciation Profiles for Fugitive Components

Unit	Weight Fraction of TACs in Process Unit Streams							
	Benzene	**n-Hexane**	**Toluene**	**Total Xylene**	**EB[2]**	**Naphthalene**	**1,2,4 - TMB[2]**	**Cyclohexane**
Unicracker (Unit 246)[1]	0.003	0.0069	0.0041	0.0044	0.0014	0.00001	0	0
New Sulfur Plant (Unit 235)[1]	0	0	0	0	0	0	0	0
Deisobutanizer (Unit 215)[1]	0.011	0.12	0.015	0.001	0.01	0	0.001	0.02
Reformer (Unit 244) [1]	0.02	0.01	0.13	0.11	0.03	0.003	0.05	0.001
Product Blending (Unit 76) [1]	0.008	0.03	0.09	0.11	0.02	0.003	0.04	0.01
Tank No. 101 [1]	0.0080	0.030	0.080	0.11	0.020	0.020	0.035	0.011

1. Based on service-weighted speciation provided by ConocoPhillips.
2. Compound abbreviations - EB: Ethylbenzene, TMB: Trimethylbenzene

Each speciation profile provides a weight percent breakdown of each chemical component that comprises total POC emissions. Therefore, fugitive TAC emissions for each component and service type are individually estimated by multiplying the weight percent of each toxic air contaminant (from the speciation profile) times the total fugitive POC emissions. **Table 4-6** presents a summary of TAC fugitive mass emissions.

Table 4-6 TAC Emissions from Fugitive Components

Unit	POC	Benzene	n-Hexane	Toluene	Total Xylene	EB[1]	Naphthalene	1,2,4 - TMB[1]	Cyclohexane
	lb/hr								
Unicracker (Unit 246)	1.0	0.0030	0.0069	0.0041	0.0044	0.0014	0.000010	0.00	0.00
New Sulfur Plant (Unit 235)	0.096	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Deisobutanizer (Unit 215)	0.029	0.00032	0.0035	0.00044	0.00002	0.0003	0.00	0.00003	0.00059
Reformer (Unit 244)	0.10	0.0020	0.00098	0.013	0.011	0.0029	0.00029	0.0049	0.000098
Product Blending (Unit 76)	0.20	0.0016	0.0059	0.018	0.022	0.0039	0.00059	0.0079	0.0020
Tank No. 101	0.020	0.00016	0.00060	0.0016	0.0022	0.0004	0.00040	0.00070	0.00022

Total	1.4	0.0070	0.018	0.0365	0.039	0.0090	0.0013	0.0135	0.0029
	lb/year								
Unicracker (Unit 246)	8770	26	61	36	38.6	12.3	0.1	0.0	0.0
New Sulfur Plant (Unit 235)	845	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00
Deisobutanizer (Unit 215)	257	2.83	30.9	3.9	0.26	2.57	0.00	0.26	5.15
Reformer (Unit 244)	855	17.11	8.6	111.2	94.1	25.7	2.6	42.8	0.9
Product Blending (Unit 76)	1720	13.78	52	155.0	189.5	34.5	5.2	68.9	17.2
Tank No. 101	176	1.41	5.3	14.11	19.41	3.53	3.53	6.17	1.94
Total	12600	61	157	320	342	78	11	118	25

1. Compound abbreviations - EB: Ethylbenzene, TMB: Trimethylbenzene
2. Benzene and naphthalene emissions exceed the risk screening trigger level of 6.4 and 5.3 lb/year, respectively.

Turbines and HRSG
S352-S354, Combustion Turbines, S355-S357, HRSGs

The turbines/HRSGs will be a source of contemporaneous offsets for NOx for the CFEP project. The current annual limit for all six sources combined in 167 tons NOx in any consecutive 365-day period. The sources have CEMs that measure the concentration of NOx, CO, and O2. The flow is calculated using fuel flow monitors at each source and the F-factor method in 40 CFR 60, Appendix A, Method 19. On October 2, 2006, ConocoPhillips submitted data showing that the actual annual average NOx emissions for the combined equipment were 101.9 tons per year. ConocoPhillips has proposed to decrease the NOx emissions by 22.1 tons per year to 79.8 tons per year. The reduction will be confirmed by CEM monitoring.

Dissolved Air Flotation
S1007, Dissolved Air Flotation Unit (DAF)

An air flotation unit, is defined by BAAQMD Regulation 8-8-209 as:

> Any device, equipment, or apparatus in which wastewater is saturated with air or gas under pressure and removes floating oil, floating emulsified oil, or other floating liquid precursor organic compounds by skimming. Also included in this definition are: induced air flotation units and pre-air flotation unit flocculant sumps, tanks, or basins.

S1007, Dissolved Air Flotation Unit, accepts wastewater from the oil-water separator and separates remaining oil by bubbling air through the unit, adding a flocculant to aid separation, and skimming the oil and flocculant from the unit. The wastewater is then ready for processing by the biological treatment units.

BAAQMD Regulation 8-8-307 requires control of air flotation units with covers or organic compound recovery systems with a combined collection and destruction efficiency of at least 70 percent by weight. Section 307.1 allows the units to have atmospheric vents.

Based on samples gathered by BAAQMD in August 2005 and June 2006, and on flow testing that ConocoPhillips performed in June 2006, the facility has concluded that the DAF atmospheric vents emit up to 37 tons POC per year. The District has concluded using the model TOXCHEM during the 2004 rulemaking for BAAQMD Regulation 8, Rule 8, that the emissions from the channel and weir are about 8 tons per year.

The facility has proposed to control the source with a 440,000 btu/hr thermal oxidizer, A49, to obtain 44.1 tons of contemporaneous PCO offsets. The facility will be required to show by source test that they will capture and destroy 44.1 tons per year or they will be required to supply the offsets from another source. If the offsets are obtained from a banking certificate, ConocoPhillips will have to provide them at a 1:1.15 ratio.

Following are calculations of the DAFs secondary emissions.

DAF Vent Emissions

Pollutant	Pre-Controlled Emissions (tons/yr)	% of Year that Thermal Oxidizer is in Operation (shutdown 1 wk per year)	Post Controlled Emissions (ton/yr)	Difference
VOC	45	0.98	0.92	-44.08
NOX	0	0.98	0.21	0.21
H2S	0.63	0.98	0.01	-0.62
SO2	0	0.98	1.2	1.2

CO Emissions

Thermal Oxidizer duty	440000		
NG Heat Value	1020	Btu/scf	
NG Flow=	7.19	scfm	
NG Heat Content=	0.44	MMBtu/hr	(A small boiler per AP 42 Table 1.4-1)

CO EF= 84 lb/MMscf (per AP 42 Table 1.4-1 for small boilers)

CO Emissions (lb/hr)=(NG Flow)*(CO EF)/1000000*60*(% year in operation)

CO Emissions =	0.036	lb/hr
CO Emissions =	0.85	lb/day
CO Emissions =	0.16	TPY

PM10 Emissions

NG Flow= 7.19 scfm

PM10 EF= 7.6 lb/MMscf (per AP 42 Table 1.4-2)

PM10 Emissions (lb/hr)=(NG Flow)*(PM10 EF)/1000000*60*(% year in operation)

PM10 Emissions =	0.0032	lb/hr
PM10 Emissions =	0.077	lb/day
PM10 Emissions =	0.014	TPY

DAF SO_2 Emissions

	Current H_2S Emissions (lb/d)	SO_2 emissions (if combusted) (lb/d)	
Flow rate Vent #6	2.21	4.2	
Flow rate Vent #7	0.34	0.6	
Flow rate Vent #8	0.61	1.1	
Flow rate Vent #9	0.29	0.5	
		6.5	lb/d
		2364	lb/yr

Paved Roads

ConocoPhillips provided the following emission estimates and the District has found them to be acceptable.

Paved Road Emissions

	Estimated Project Change	Estimated Daily Project Change
Commodity	Trips/time period	Trips/day
Raw Material Delivery:		
Sodium hydroxide	+1 trip/month	0.033
Aqueous ammonia	+2 trip/month	0.067
Amine	+2 trips/year	0.0055
Feedstock additives	+2 trips/month	0.067
Stretford solution	0 trips/year	0
Feed crude oil	no change	0
Product shipping:		
Molten sulfur	+9 trips/day	9
Waste Shipping		
Sulfur/vanadium		
Stretford waste	0 trip/day	0
Spent catalyst	+12 trips/year[1]	0.033
	Total	9.2

Emissions are estimated with Equation 2 (with precipitation correction factor) from Chapter 13.2.1 ("Paved Roads") of U.S. EPA's AP-42:

E (lb/VMT) = k (sL/2)0.65(W/3)1.5(1-P/4N)

E = emission rate
VMT = "vehicle miles traveled" = (4 mile/trip)* 9.2
36.8 miles/day
k = particle size multiplier from Table 13.2.1-1
= 0.016 lb/VMT for PM10
sL = road surface silt loading from Table 13.2.1-2
= 0.4 g/m2 (default value for normal conditions on roads with less than 5,000 vehicles/day)
W = average weight (tons) of vehicles
= 30 tons based on the most common reduced trip (liquid oxygen transport), where a shipment is approximately 23 tons and a truck is assumed to weigh approximately 7 tons
P = number of "wet days" from Figure 13.2.1-2
= 60 days for the San Francisco Bay Area

N = number of days in the P averaging period
= 365 days

E (lb/VMT) = [(0.016)(0.4/2)0.65(30/3)1.5(1-60/4(365))]

= 0.17 lb/mile

E (lb/day) = (0.17 lb/mile)* 36.8 6.3 lbs/day

= 1.1 ton/yr

Locomotive Emissions

ConocoPhillips provided the following emission estimates and the District has found them to be acceptable.

Locomotive Emission Calculations

Emission Factors (g/gal)

HC	CO	NOx	SOx	PM
10.1	27.4	185.6	13.6	6.4

Rail cars

3

Distance Traveled (miles)

42

Weight Per Railcar (pounds)

100000

Combined Weight of Railcars and Butane (pounds)

263000

Conversion Factors

0.001296 gal/ton mile

0.0005 ton / pound

Emissions (g) (Empty Railcars)

HC	CO	NOx	SOx	PM
82.46448	223.7155	1515.387	111.0413	52.25472

Emissions (lb) (Empty Railcars)

HC	CO	NOx	SOx	PM
0.181421856	0.492174	3.333851	0.244291	0.11496

Emissions (g) (Full Railcars)

HC	CO	NOx	SOx	PM
216.8816	588.3718	3985.467	292.0386	137.4299

Emissions (lb) (Full Railcars)

HC	CO	NOx	SOx	PM
0.477139481	1.294418	8.768028	0.642485	0.302346

Emissions (lb/day)

HC	CO	NOx	SOx	PM	Benzene	Formaldehyde
0.66	1.79	12.10	0.89	0.42	0.013	0.097

Emissions (lb/year)

HC	CO	NOx	SOx	PM	Benzene	Formaldehyde
240.4	652.1	4417.2	323.7	152.3	4.8	35.4

Emissions (TPY)

HC	CO	NOx	SOx	PM	Benzene	Formaldehyde
0.12	0.33	2.21	0.16	0.076	0.0024	0.018

Truck Emissions

The truck emissions can be found in the Draft Environmental Impact Report that was prepared by Contra Costa County.

Facility A0022, ConocoPhillips Carbon Plant
S2, Kiln

S2 will be a source of contemporaneous offsets for SO2 for the CFEP project. There is currently no annual limit for SO2 for the source. The source is subject to the limits in BAAQMD Regulation 9-310.2, which are a concentration limit of 400 ppm by volume and 250 lb/hr, whichever is more restrictive. The source is also subject to a throughput limit of 262,800 tons coke per year and natural gas limits of 5 million therms at the kiln and 2.6 million therms at A1, Pyroscrubber.

The source has a CEM that measures the concentration of SO2 and flow. On October 17, 2006, ConocoPhillips submitted data showing that the actual annual average SO2 emissions were 791 tons per year. ConocoPhillips has proposed to decrease the SO2 emissions by 42 tons per year to 749 tons per year. The reduction will be confirmed by CEM monitoring.

ConocoPhillips will lower the SO2 emissions by injecting sodium bicarbonate into the stream of combustion products prior to the baghouse. The sodium bicarbonate absorbs some of the SO2. This system is in place and is currently being used to ensure that the limits in BAAQMD Regulation 9-310.2 are met. ConocoPhillips will simply inject a higher amount of sodium bicarbonate than is currently being used.

S2 will also be a source of actual reductions for PM10 for the CFEP project. For the purposes of CEQA, Contra Costa County did not agree to emission reduction credits were acceptable and requested that ConocoPhillips make "real-time" reductions in PM10. ConocoPhillips will reduce the emissions of PM10 by upgrading the bags in the kiln baghouse. The new bags will improve control without increasing the pressure drop beyond the baghouse specifications. The facility has 3 annual source tests for particulate that establish the current emission levels. The facility will demonstrate the reduction using annual source tests.

The reduction is not eligible for contemporaneous offsets because it is not in excess of the reductions achieved by the source using Reasonably Available Control Technology (RACT) as required by BAAQMD Regulation 2-1-201. RACT has not been established for this source, but the District estimates that it may be about 0.01 or 0.02 gr/dscf. The source is currently at about 0.04 gr/dscf. The source is in compliance with the BAAQMD Regulation 6-310 level of 0.15 gr/dscf. The facility may apply for emission reduction credits for a portion of this reduction if the RACT level is established.

APPENDIX B

Sulfuric Acid Mist Calculations

Summary of Emission Increases	
Non SRU Total Emission Increases	
New Unit 246 HGO Heater	0.36 TPY
New SMR Furnace in Hydrogen Plant	0.43 TPY
Increased Heater Utilization	0.20 TPY
Total Non SRU Emission Increases	**0.99 TPY**
Max Possible New SRU U235 Emissions	**5.65 TPY**
Max Possible New SRU U235 Emissions rate	**0.0087 gr/dscf (@ 0% O2)**

based on SO3/SO2 conversion in heaters/boilers of 5%

max possible derived such that CFEP project emissions are <7 TPY

Estimated New SRU U235 Emission Rate **4.89 TPY**

based on average of emission rates from existing SRUs

1. New SRU-235

1) Based on averaged emissions source testing data for existing SRUs
2) Volumetric flow data from Fluor. Used T and moisture data from source testing to convert to dscf
3) 7000 gr = 1lb
4) Assuming emissions from stacks are at standard pressure (1 atm)

H2SO4 (mass)= SO3 (mass)*(MW_H2SO4)/(MW_SO3)

MW_SO3	80.06	g/mole
MW_H2SO4	98.08	g/mole

Vflow (Fluor)= 1.04 mmdscf/hr (at 0% H20 and O2).
(Obtained from Fluor in email to Valerie Uyeda dated April 27, 2006)
Operation Time = 8760 hours/yr

Cavg_SO3 = 0.00613 gr/dscf (@ 0% O2 and H20)
(based on averaged source test data for existing SRUs)

	lbs/yr	**TPY**
Estimated SO3 emissions (existing source test rate)	7982.45	3.99

	Emission Increases Based on Avg. Source Testing Data	
	lbs/yr	**TPY**
H2SO4=	9779.14	4.89

3. New Unit 246 HGO Heater

1) Ratio of SO3/SO2 conversion is represented as 0.05 based upon guidance developed originally in EPA AP40 and used as industry standard for boilers and heaters

H2SO4(mass)= (mass SO2)*(SO2 fraction converted to H2SO4)*(MW_H2SO4)/(MW_SO2)

MW_SO2	64.06	g/mole
MW_H2SO4	98.08	g/mole

SO2 Total = 4.7 TPY

H2SO4 Total= **0.36** TPY

4. New SMR Furnace in Hydrogen Plant

1) Ratio of SO3/SO2 conversion is represented as 0.05 based upon guidance developed originally in EPA AP40 and used as industry standard for boilers and heaters

H2SO4(mass)= (mass SO2)*(SO2 fraction converted to H2SO4)*(MW_H2SO4)/(MW_SO2)

MW_SO2	64.06	g/mole
MW_H2SO4	98.08	g/mole
SO2 Total =	5.6	TPY
H2SO4 Total=	**0.43**	TPY

5. Increased Heater Utilization

1) Ratio of SO3/SO2 conversion is represented as 0.05 based upon guidance developed originally in EPA AP40 and used as industry standard for boilers and heaters

H2SO4(mass)= (mass SO2)*(SO2 fraction converted to H2SO4)*(MW_H2SO4)/(MW_SO2)

MW_SO2	64.06	g/mole
MW_H2SO4	98.08	g/mole
SO2 Total =	2.6	TPY
H2SO4 Total=	**0.20**	TPY

APPENDIX C

PSD AIR QUALITY IMPACT ANALYSIS

APPENDIX d

ConocoPhillips Analysis of BACT for NOx and PM10

Following is ConocoPhillips' review of Best Available Control Technology for S45, Heater, S1004, Sulfur Recovery Unit, and Facility B7149, S2, Heater from Prevention of Significant Deterioration Application submitted on June 2, 2006

4.0 BEST AVAILABLE CONTROL TECHNOLOGY

This section addresses BACT requirements for the proposed ConocoPhillips CFEP, as well as the related new Hydrogen Plant on the Refinery site to be owned and operated by Air Liquide Large Industries U.S. LP.

BAAQMD Rule 2-2-301 requires BACT to be applied to:

"…any new or modified source which results in an emission from a new source, or an increase in emissions from a modified source, and which has the potential to emit 10.0 pounds or more per highest day of precursor organic compounds (POC), non-precursor organic compounds (NPOC), nitrogen oxides (NO_x), sulfur dioxide (SO_2), PM_{10}, or carbon monoxide (CO)."

Proposed controlled emission levels to meet BAAQMD BACT requirements, from recent BAAQMD BACT determinations and the BAAQMD BACT Guidelines (BAAQMD 2005) can be found in the *Clean Fuels Project Application for Authority to Construct and Significant Revision to Major Facility* (ConocoPhillips 2006) and the *Hydrogen Plant Project Application for Authority to Construct and Major Facility Review Permit* (Air Liquide 2005).

Included in BAAQMD Regulation 2, Rule 2, are provisions that implement federal PSD requirements. USEPA policy includes a "top-down" BACT analysis for all pollutants emitted in PSD-significant quantities from new and modified emissions. As described in Section 3.0, PSD requirements apply to NO_x and PM_{10} in this proposed action. To supplement the BACT analysis presented in the above-referenced BAAQMD Authority to Construct (ATC) Applications, the remainder of this section presents "top-down" BACT analyses for the proposed new and modified sources of NO_x and $PM_{10,}$ based on the USEPA RACT/BACT/LAER Clearinghouse (RBLC), California Air Resources Board (CARB) BACT Clearinghouse, and available information on other recently issued permits.

USEPA guidance for a "top-down" BACT analysis requires reviewing all possible control options starting at the top level of control efficiency. In the course of the BACT analysis, one or more options may be eliminated from consideration because they are demonstrated to be technically infeasible or have unacceptable energy, economic, or environmental impacts on a case-by-case (site-specific) basis. The steps required for a "top-down" BACT review are:

1. Identify All Available Control Technologies
2. Eliminate Technically Infeasible Options
3. Rank Remaining Technologies
4. Evaluate Remaining Technologies (in terms of economic, energy, and environmental impacts)
5. Select BACT (the most efficient technology that cannot be rejected for economic, energy, or environmental impact reasons is BACT)

4.1 U246 HEAVY GAS OIL (HGO) FEED HEATER

The proposed new U246 HGO Feed Heater supporting the modified Unit 240/246 Unicracker is proposed to be fired on refinery fuel gas (RFG), with natural gas as a backup fuel. The new HGO Feed Heater would be a natural draft process heater rated at 85 million British thermal units per hour (MMBtu/hr).

4.1.1 NO_x BACT – U246 HGO Feed Heater

1. Identify All Available Control Technologies

Table 3 lists the technologies identified for controlling NO_x emissions from process heaters fired on RFG or natural gas.

Table 3 NO_x Control Technologies

Control Technology
No Controls (Base Case)
Water/Steam Injection
Selective Non-Catalytic Reduction (SNCR)
Combustion Controls (Low-NO_X Burners)
Selective Catalytic Reduction (SCR)
Low-NO_X Burners and SNCR
Low-NO_X Burners and SCR
SCONOx

2. Eliminate Technically Infeasible Options

All the control methods identified in Table 3 are considered technically feasible for a process heater fired on RFG, except SCONOx™, SNCR, and water/steam injection.

SCONOx. SCONOx™ uses a potassium carbonate (K_2CO_3) coated catalyst to reduce NO_x emissions. The catalyst oxidizes carbon monoxide (CO) to carbon dioxide (CO_2), and nitric oxide (NO) to NO_2. The CO_2 is exhausted while the NO_2 absorbs onto the catalyst to form potassium nitrite (KNO_2) and potassium nitrate (KNO_3). Dilute hydrogen gas is passed periodically across the surface of the catalyst to convert the KNO_2 and KNO_3 to K_2CO_3, water (H_2O), and elemental nitrogen (N_2), thereby regenerating the K_2CO_3 coating for further absorption. The H_2O and N_2 are exhausted.

SCONOx has not been demonstrated on RFG-fired process heaters (Arizona Department of Environmental Quality [ADEQ] 2005). It has only been demonstrated on combustion sources burning exclusively natural gas. The performance of SCONOx is sensitive to sulfur in the exhaust stream. In addition, the heat ratings on natural gas burners demonstrated with SCONOx are lower than the proposed HGO Feed Heater. Thus, there are significant technical differences between the proposed source and those few sources where SCONOx has been demonstrated in practice. These preclude a finding that SCONOx has been demonstrated to function efficiently on sources identical or similar to the proposed process heater.

Selective Non-Catalytic Reduction (SNCR). SNCR is a post-combustion NO_x control technology based on the reaction of urea or ammonia (NH_3) and NO_x. SNCR involves injecting urea/NH_3 into the combustion gas path to reduce the NO_x to nitrogen and water. This is described by the following chemical equations:

$$2\ CO(NH_2)_2\ (urea) + 4\ NO + O_2 \rightarrow 4\ N_2 + 2\ CO_2 + 4\ H_2O$$
$$4\ CO(NH_2)_2 + 2\ NO_2 + 4\ O_2 \rightarrow 5\ N_2 + + 4\ CO_2 + 8\ H_2O$$

$$4\ NH_3\ (ammonia) + 4\ NO + O_2 \rightarrow 3\ N_2 + 6\ H_2O$$
$$4\ NH_3 + 2\ NO_2 + O_2 \rightarrow 3\ N_2 + 6\ H_2O$$

Temperatures ranging from 1,200°F to 2,000°F are required for optimum SNCR performance. Operation at temperatures below this range results in NH_3 slip, while operation above this temperature range results in oxidation of NH_3, forming additional NO_x. Exhaust temperatures of process heaters are typically below the optimum temperature range. In addition, the urea/ammonia must have sufficient residence time, approximately 3 to 5 seconds, at the optimum operating temperatures for efficient NO_x reduction.

SNCR can only be used in induced draft process heaters because of the need to recirculate the flue gas. The HGO Feed Heater will be a natural draft process heater. In addition, existing information on SCNR systems indicate they achieve NO_x reductions ranging from 30 to 75 percent (USEPA 2001), thus SNCR is an inferior control technology to either SCR or modern combustion controls for an

RFG-fired process heater. Therefore, SNCR is considered infeasible for this review.

Water/Steam Injection. The injection of steam or water into the combustion zone can decrease peak flame temperatures, thus reducing thermal NO_x formation. Steam injection is predominantly used with gas turbines. There is little data available to document the effectiveness of water/steam injection for process heaters and no application of this type could be found. Steam injection has been specified as a control method for boilers on a very limited basis. Only one was listed in the USEPA RBLC database during the ADEQ's recent review of the Arizona Clean Fuels Yuma, LLC project (ADEQ 2005). This review showed a controlled emission rate higher than low NO_x burners produced today. Additionally, there are operating issues concerning flame stability using low NO_x burners with steam injection. Therefore, water/steam injection is considered infeasible for this review.

3. Rank Remaining Technologies

Technically feasible NO_x control technologies are listed in Table 4 with typical emission levels, ranked from most efficient to least efficient.

Combustion Controls. Combustion controls reduce NO_x emissions by controlling the combustion temperature or the availability of oxygen (O_2). These are referred to as "low NO_x burners" or "ultra-low NO_x burners." There are several designs of low/ultra-low NO_x burners currently available. These burners combine two NO_x reduction steps into one burner, typically staged air with internal flue gas recirculation (IFGR) or staged fuel with IFGR, without any external equipment.

In staged air burners with IFGR, fuel is mixed with part of the combustion air to create a fuel-rich zone. High-pressure atomization of the fuel creates the recirculation. Secondary air is routed by means of pipes or ports in the burner block to optimize the flame and complete combustion. This design is predominantly used with liquid fuels.

Table 4 NO_x Control Hierarchy for Process Heaters Fired on Refinery Fuel Gas

Technology	Typical Emission Level	
	ppmv[1]	**lb/MMBtu[2]**
Combustion Controls and SCR[3]	7	0.0085
Selective Catalytic Reduction (SCR)	18	0.022
Combustion Controls	29	0.035
No Controls[4]	89	0.11

Source: *Petroleum Refinery Tier 2 BACT Analysis Report*, *Final Report* (EPA, 2001).

[1] Parts per million by volume (ppmv), dry basis, corrected to 3% oxygen.

[2] Pounds (lbs) of NO_x produced per MMBtu of fuel heat input.

[3] Recent data show a range of values, with 7 ppmv representing the low end of current permitted levels on RFG-fired refinery heaters. See discussion of current BACT determinations in text for more details.

[4] Emission level shown is for a natural draft heater; an induced draft heater would typically have higher uncontrolled NO_x levels, on the order of 179 ppmv at 3% O_2, dry (USEPA 2001).

In staged fuel burners with IFGR, fuel pressure induces the IFGR, which creates a fuel lean zone and a reduction in oxygen partial pressure. This design is predominantly used for gas fuel applications.

The range of performance achieved in practice for the best combustion controls is 25 to 29 ppmv at 3% O_2, dry (0.03 to 0.035 lb/MMBtu), with the upper end of range representing heaters firing gas with high hydrogen content (USEPA 2001). Burners that could achieve 10 ppmv or lower are under development, but are not currently available for process heaters.

RFG is high in hydrogen content, so for heaters burning RFG or a mixture of RFG and natural gas, the upper end of the demonstrated range (29 ppmv at 3% O_2, dry, or 0.035 lb/MMBtu) would be appropriate as the achievable performance level for combustion controls on RFG-fired process heaters.

Selective Catalytic Reduction (SCR). SCR is a process that involves post-combustion removal of NO_x from flue gas with a catalytic reactor. In the SCR process, ammonia injected into the exhaust gas reacts with nitrogen oxides and oxygen to form nitrogen and water. SCR converts nitrogen oxides to nitrogen and water by the following reactions:

$$4\ NO + 4\ NH_3 + O_2 \rightarrow 4\ N_2 + 6\ H_2O$$

$$6\ NO + 4\ NH_3 \rightarrow 5\ N_2 + 6\ H_2O$$

$$2\ NO_2 + 4\ NH_3 + O_2 \rightarrow 3\ N_2 + 6\ H_2O$$

$$6\ NO_2 + 8\ NH_3 \rightarrow 7\ N_2 + 12\ H_2O$$

The reactions take place on the surface of a catalyst. The function of the catalyst is to effectively lower the activation energy of the NO_x decomposition reaction. Technical factors related to this technology include the catalyst reactor design, optimum operating temperature, sulfur content of the fuel, catalyst deactivation due to aging, ammonia slip emissions, and design of the NH_3 injection system. The most common catalysts are composed of vanadium, titanium, molybdenum, and zeolite. Sulfur dioxide and sulfur trioxide are generated in the flue gas when sulfur-containing compounds in fuel are combusted. Catalyst systems promote partial oxidation of sulfur dioxide (from sulfur and mercaptans in the fuel) to sulfur trioxide, which combines with water to form sulfuric acid, causing corrosion over time. In addition, sulfur trioxide and sulfuric acid reacts with excess ammonia to form ammonium salts. These ammonium salts may condense as the flue gases are cooled, which over time can accumulate on the catalyst causing “plugging”

and catalyst deterioration, often referred to as “fouling.” These effects can be minimized by proper operation, including:

Controlling the amount of sulfur in the fuel.

Using a properly designed ammonia injection system to maximize the efficient mixing of ammonia and flue gas without colder surfaces present on which ammonium salts can condense.

Operating with the lowest amount of ammonia needed to achieve the desired performance. To achieve high NO_x reduction rates, SCR vendors suggest a higher ammonia injection rate than stoichiometrically required, which necessarily results in ammonia slip. Thus, an emissions tradeoff between NO_x and ammonia occurs in high NO_x reduction applications.

Operating at temperatures above the dew point of ammonium salts and sulfuric acid.

Optimal operating temperatures vary by catalyst but generally range from 500 to 800°F. Operating above the maximum temperature results in oxidation of NH_3 to either nitrogen oxides (thereby adding NO_x emissions) or ammonium nitrate. Operating below the optimal temperature increases ammonia slip and catalyst fouling. Refinery process heaters typically operate in the range of 450 to 700°F, thus would be expected to operate above the dew point of ammonium salts and sulfuric acid to minimize fouling and corrosion. SCR systems have been used on process heaters burning mixtures of RFG and natural gas.

SCR systems achieve 80 to 90 percent reductions in NO_x emissions (USEPA 2001). The 90 percent reduction is relative to an uncontrolled induced draft heater since the higher NO_x emissions (approximately 179 ppmv at 3% O_2, dry, or 0.22 lb/MMBtu) versus a natural draft heater (approximately 89 ppmv at 3% O_2, dry, 0.11 lb/MMBtu) provides a greater driving force for increased mass transfer and also enhances the SCR’s mechanical draft requirements. This yields an outlet NO_x emission level of approximately 18 ppmv at 3% O_2, dry, or 0.011 lb/MMBtu. For a natural draft heater, maximum SCR control efficiency is on the order of 80 percent due to lower uncontrolled emission rates, yielding approximately the same controlled NO_x emission rate. Thus, a typical achievable performance level for SCR systems on RFG-fired process heaters is 18 ppmv at 3% O_2, dry, or 0.011 lb/MMBtu.

SCR and Combustion Controls. This control option uses SCR downstream of combustion controls to reduce NO_x emissions. With this combination, the inlet NO_x level to the SCR is lower, so lower outlet NO_x can be achieved. However, the SCR may not achieve the same percent reduction performance compared to no upstream combustion controls because of the lower NO_x inlet levels. As is discussed further below, a review of the USEPA RBLC and CARB BACT Clearinghouse showed permit limits of 7 ppmv NO_x at 3% O_2, dry, as the lowest level achieved in practice on refinery process heaters with SCR and combustion controls fired on a combination of RFG and natural gas. Therefore, the

achievable performance level for SCR and combustion controls on RFG-fired process heaters is 7 ppmv at 3% O_2, dry, or about 0.0085 lb/MMBtu.

4. Evaluate Remaining Technologies

Technically feasible technologies are reviewed on a case-by-case basis taking into consideration energy, environmental, and economic impacts beginning with the top option. If the top option is not selected as BACT, the next most effective control is evaluated until it cannot be ruled out for energy, environmental, or economic reasons.

In this case, the top technically feasible control option, SCR with combustion controls, is the proposed control technology. Therefore, the selection of BACT consists of establishing the lowest controlled NO_x emission level achievable with this control technology, taking into consideration the lowest controlled NO_x emissions currently achieved in practice, and if necessary, energy, environmental and economic impacts between different potential controlled emission levels using this technology.

A review of the USEPA RLBC and CARB BACT Clearinghouse was conducted. These reviews resulted in the lowest NO_x emission limits for refinery heaters fired on RFG/natural gas found in the South Coast Air Quality Management District (SCAQMD). A review of the BACT Determinations published by the SCAQMD provided further details.

There were three SCAQMD BACT Determinations for 7 ppmv NO_x at 3% O_2, dry, documented in the USEPA *Petroleum Refinery Tier 2 BACT Analysis Report* (USEPA 2001) for process heaters burning natural gas or a combination of RFG and natural gas. These were for: (1) Chevron El Segundo Refinery (Permit No. D64697, D62860, D64621); (2) TOSCO Refinery, Wilmington (Application 326118);[1] and (3) CENCO Refinery, Santa Fe Springs (Application 352869).

The ADEQ (2005) recently issued a permit for a similar project, Arizona Clean Fuels Yuma, LLC (ADEQ Permit Number 1001205). In their top-down BACT finding issued on 3 February 2005, the ADEQ summarized the following findings for the highest efficiencies achievable with SCR and combustion controls on RFG-fired process heaters (all 3-hour averages):

High-Efficiency SCR:

NO_x: 0.0085 lb/MMBtu (7 ppmv at 3% O_2, dry)[2]

Moderate-Efficiency SCR:

NO_x: 0.0125 lb/MMBtu (10 ppmv at 3%O_2, dry)

The ADEQ concluded for Arizona Clean Fuels Yuma LLC that the beneficial environmental impacts of increased NO_x control for the high-efficiency SCR was outweighed by adverse environmental impacts of increased ammonia slip.

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[1] Noted in the SCAQMD BACT Determinations to be for a 460-MMBtu/hr Hydrogen Reforming Furnace also combusting Pressure Swing Absorption (PSA) off gas.

[2] Although the NO_x permit limit for Arizona Clean Fuels Yuma LLC is presented as ppm corrected to 3% O_2, dry, the ADEQ Technical Report presents results in ppm corrected to 0% O_2, dry. These have been converted to 3% O_2, dry, for the purposes of the ConocoPhillips analysis.

Therefore, the NO_x emissions level found to be BACT was 10 ppmv at 3% O_2, dry.
The proposed NO_x emission limit for the ConocoPhillips HGO Feed Heater is 7 ppmv at 3% O_2, dry. This is equivalent to the high-efficiency SCR option that was ruled out by ADEQ, and matches the lowest NO_x emission limit achieved in practice. No further energy, environmental, or economic impact assessment is needed.
5. Select BACT/ Document the Selection is BACT
Based on this review, NO_x BACT is proposed as SCR with combustion controls (low NO_x burners) at 7 ppmv at 3% O_2, dry, or 0.0086 lb/MMBtu.[3]

4.1.2 PM_{10} BACT – U246 HGO Feed Heater
1. Identify All Available Control Technologies
Table 5 lists the control technologies identified for controlling PM_{10} emissions from process heaters fired on natural gas or RFG.

Table 5 PM_{10} Control Technologies

Control Technology
Good Combustion Practice
Cyclone
Wet Gas Scrubber
Electrostatic Precipitator
Baghouse/Fabric Filters

Good Combustion Practice. By maintaining heaters in good working order and limiting the sulfur in the feed fuels, PM_{10} emissions are controlled.
Cyclone. A cyclone operates on the principle of centrifugal force. Exhaust gas enters tangentially at the top of the cyclone and spirals towards the bottom. As the gas spins, heavier particles hit the outside wall and are collected at the bottom. Cleaned gas escapes through an inner tube.
Wet Gas Scrubber. A wet gas scrubber uses gas/liquid contacting to remove particles primarily by inertial impaction on liquid droplets, followed by collection of the larger liquid droplets as liquid waste.
Electrostatic Precipitator (ESP). An ESP uses an electric field to charge and collect particles in a gas stream, followed by collection of the particles on oppositely charged plates.

[3] Slight difference from the previous conversions from 7 ppmv at 3% O_2, dry, due to fuel heat value assumptions and/or rounding.

Baghouse/Fabric Filter. A baghouse is a metal housing containing many fabric bags. A partial vacuum pulls the dirty air through the fabric bags, filtering the particles from the exhaust stream.

2. Eliminate Technically Infeasible Options

All options in Table 5 are technically feasible.

3. Rank Remaining Technologies

See next (Step 4) discussion.

4. Evaluate Remaining Technologies

While the listed control technologies are all technically feasible, only good combustion practice is used for controlling PM_{10} emissions from gas-fired heaters. The other technologies are not used because of inherently low PM_{10} emissions from gaseous fuel combustion. A cyclone would be ineffective in capturing the extremely small particles generated from gaseous fuel combustion, and costs associated with designing the other add-on systems to capture minute particles in low concentrations would be economically infeasible. This is a well-accepted finding of all past BACT determinations for the control of PM_{10} from combustion of gaseous fuels.

A review of the USEPA RLBC and CARB BACT Clearinghouse was conducted for currently achieved control levels. Findings were the same as summarized by the ADEQ for the Arizona Clean Fuels Yuma LLC (ADEQ 2005). ADEQ proposed a PM_{10} emission limit of 0.0075 lb/MMBtu as representative of good combustion practice with gas-fired process heaters, based on the AP-42 emission factor (USEPA 1995a et seq.) for natural gas combustion and typical natural gas heat content. This is consistent with the lowest level achieved in practice.

5. Select BACT/ Document the Selection is BACT

Based on this review, PM_{10} BACT is proposed as good combustion practice. The USEPA AP-42 natural gas combustion factor was adjusted with the estimated fuel heat content of the proposed RFG/natural gas mixture to calculate a proposed PM_{10} BACT emission level of 0.0057 lb/MMBtu.

4.2 HYDROGEN PLANT REFORMER Furnace

The proposed new Hydrogen Plant Steam Methane Reformer (SMR) Furnace is proposed to be fired on a mix of approximately 85 percent Pressure Swing Absorption (PSA) off gas and 15 percent RFG/natural gas.

4.2.1 NO_x BACT – Hydrogen Plant Reformer Furnace

1. Identify All Available Control Technologies

The available technologies are the same as listed in Table 3 of Section 4.1.1.

2. Eliminate Technically Infeasible Options

All the control methods identified in Table 3 are considered technically feasible for a Hydrogen Plant Reformer fired on the proposed mix of fuels, except SCONOx, SNCR, and water/steam injection, for the same reasons provided for a refinery process heater in Section 4.1.1.

3. Rank Remaining Technologies

Technically feasible NO_x control technologies are the same as listed in Table 4 of Section 4.1.1. Since the proposed mix of fuels includes natural and RFG, the emission levels presented in Table 4 can still be considered typical for this application. Inclusion of PSA off gas, however, affects combustion characteristics, and hence, can impact the actual achievable emission levels. Consideration of PSA off gas is included in the following BACT evaluation discussion.

4. Evaluate Remaining Technologies

Technically feasible technologies are reviewed on a case-by-case basis taking into consideration energy, environmental, and economic impacts beginning with the top option. If the top option is not selected as BACT, the next most effective control is evaluated until it cannot be ruled out for energy, environmental, or economic reasons.

In this case, the top technically feasible control option, SCR with combustion controls, is the proposed control technology. Therefore, the selection of BACT consists of establishing the lowest controlled NO_x emission level achievable with this control technology, taking into consideration the lowest controlled NO_x emissions currently achieved in practice, and if necessary, energy, environmental and economic impacts between different potential controlled emission levels using this technology.

A review of the USEPA RLBC and CARB BACT Clearinghouse was conducted. These reviews resulted in the lowest NO_x emission limits for hydrogen reformer furnaces fired on PSA off gas and RFG/natural gas found in the SCAQMD. A review of the SCAQMD BACT Determinations provided further details.

PSA off gas is high in hydrogen content, and therefore has the potential to form less NO_x and PM_{10}. There were five SCAQMD BACT Determinations for hydrogen reformer furnaces. In reverse chronological order, these NO_x emission limits were: (1) Chevron El Segundo Refinery (Application 411357, 5/19/2004, 5 ppmv at 3% O_2, dry); (2) Praxair, Ontario (Application 389926, 7/17/2002, 5 ppmv at 3% O_2, dry); (3) TOSCO Refinery, Wilmington (Application 326118, 9/9/1999, 7 ppmv at 3% O_2, dry); (4) Chevron El Segundo Refinery (Application 341340, 7/14/1999, 5 ppmv at 3% O_2, dry) and (5) Air Products and Chemicals, Inc. (Application 337979, 6/16/1999, 5 ppmv at 3% O_2, dry).
The proposed NO_x emission limit for the Air Liquide Hydrogen Reformer is 5 ppmv at 3% O_2, dry. Since this is the lowest NO_x emission limit achieved in practice, no further energy, environmental, or economic impact assessment is needed.
5. Select BACT/ Document the Selection is BACT
Based on this review, NO_x BACT is proposed as SCR with combustion controls (low NO_x burners) at 5 ppmv at 3% O_2, dry, or 0.0058 lb/MMBtu.

4.2.2 PM_{10} BACT – Hydrogen Plant Reformer Furnace
1. Identify All Available Control Technologies
The available technologies are the same as listed in Table 5 of Section 4.1.2.
2. Eliminate Technically Infeasible Options
All options in Table 5 are technically feasible.
3. Rank Remaining Technologies
See next (Step 4) discussion.
4. Evaluate Remaining Technologies
While the listed control technologies are all technically feasible, only good combustion practice is used for controlling PM_{10} emissions from gas-fired heaters, as described in Section 4.1.2.
A review of the USEPA RLBC and CARB BACT Clearinghouse was conducted for currently achieved control levels. No applicable PM_{10} BACT emission levels were found. The five SCAQMD BACT Determinations for hydrogen reformer furnaces did not include PM_{10}, thus, from Section 4.1.2, a PM_{10} emission limit of 0.0075 lb/MMBtu is representative of good combustion practice with gas-fired process heaters. In this case, the proposed Hydrogen Reformer will fire up to 85 percent PSA off gas, which produces less PM_{10} emissions due to high hydrogen content. It is proposed that with the inclusion of PSA off gas, a reasonable PM_{10} emission limit would be half the amount produced by natural gas alone, or 0.0037 lb/MMBtu.
5. Select BACT/ Document the Selection is BACT
Based on this review, PM_{10} BACT is proposed as good combustion practice at 0.0037 lb/MMBtu. The proposed PM_{10} emissions level is consistent with the lowest level achieved in practice, with further consideration given for the PSA off gas in the fuel mixture.

4.3 SULFUR RECOVERY UNIT (SRU)

The proposed new Unit 235 SRU will be a closed Claus process supported by an amine-based TGTU to convert unreacted hydrogen sulfide (H_2S) from the Claus process. The TGTU is also a closed process. Any unreacted H_2S in the tail gas passing through the TGTU will be oxidized in a new tail gas incinerator, which is the emission point for the process. Vents from the new sulfur loading rack will also be routed to the tail gas incinerator for oxidation of H_2S. Therefore, BACT for the SRU was assessed for NO_x and PM_{10} from the tail gas incinerator.

4.3.1 NO_x BACT – SRU Tail Gas Incinerator

1. Identify All Available Control Technologies

The available technologies are the same as listed in Table 3 of Section 4.1.1.

2. Eliminate Technically Infeasible Options

The only option listed in Table 3 that is technically feasible for an SRU tail gas incinerator is combustion control with low-NOx burners. The other technologies are either based on lowering flame temperature, which is not compatible with the primary function of the incinerator (i.e., efficient oxidation of reduced sulfur compounds), or add-on controls that have not been demonstrated technically feasible for a thermal oxidizer. There are significant technical differences between thermal oxidizers and the combustion sources for which these technologies have been demonstrated in practice.

3. Rank Remaining Technologies

The only technically feasible NO_x control technology is combustion control with low-NOx burners.

4. Evaluate Remaining Technologies

Technically feasible technologies are reviewed on a case-by-case basis taking into consideration energy, environmental, and economic impacts beginning with the top option. If the top option is not selected as BACT, the next most effective control is evaluated until it cannot be ruled out for energy, environmental, or economic reasons.

In this case, a review of the USEPA RLBC and CARB BACT Clearinghouse was conducted for the most efficient low-NOx burners achieved in practice for tail gas thermal oxidizers for SRU TGTUs. These reviews resulted in the lowest NO_x emission limit achieved in practice as 42.2 ppmv @ 7% O_2, dry, or 0.0667 lb/MMBtu, associated with the recently issued PSD permit for the SRU TGTU at the ConocoPhillips Ferndale Refinery. This level, for a unit currently in operation, is similar to the 0.06 lb/MMBtu level proposed by the ADEQ for the Arizona Clean Fuels Yuma LLC (ADEQ 2005), a facility not yet in operation.

5. Select BACT/ Document the Selection is BACT

Based on this review, NO_x BACT is proposed as combustion control with low-NOx burners at 42.2 ppmv at 7% O_2, dry, or 0.0667 lb/MMBtu.

4.3.2 PM_{10} BACT – SRU Tail Gas Incinerator

1. Identify All Available Control Technologies

The available technologies are the same as listed in Table 5 of Section 4.1.2.

2. Eliminate Technically Infeasible Options

All options in Table 5 are technically feasible.

3. Rank Remaining Technologies

See next (Step 4) discussion.

4. Evaluate Remaining Technologies

While the listed control technologies are all technically feasible, only good combustion practice is used for controlling PM_{10} emissions from the combustion of gaseous fuels, as described in Section 4.1.2.

A review of the USEPA RLBC and CARB BACT Clearinghouse was conducted for currently achieved control levels. No applicable PM_{10} BACT emission levels were found. It is proposed that reasonable PM_{10} emission limit would be the amount produced by natural gas alone, or 0.0075 lb/MMBtu.

5. Select BACT/ Document the Selection is BACT

Based on this review, PM_{10} BACT is proposed as good combustion practice at 0.0075 lb/MMBtu. The proposed PM_{10} emissions level is consistent with the lowest level achieved in practice.

4.4 New Flaring

The proposed project includes a new Hydrogen Plant flare that would operate during planned and unplanned events. The shutdown and startup of the new Unit 240/246 would also cause new flaring emissions from the existing Main Flare, but this is estimated to occur only once every three years.

Flares operate primarily as air pollution control devices, but are nonetheless emission sources subject to BACT analyses. The technically feasible control options for emissions of all pollutants from flares are equipment design specifications and work practices: minimizing exit velocity, ensuring adequate heat value of combusted gases, and minimizing the quantity of gases combusted. Each of these control options is technically feasible and is required for the operation of emergency flares at the refinery.

The equipment design criteria for emergency flares are based largely on the parallel requirements set forth in the NSPS regulations (40 CFR 60.18) and the National Emission Standards for Hazardous Air Pollutants (NESHAP) regulations (40 CFR 63.11). These include a maximum allowable exit velocity, a requirement for smokeless operation, and a minimum allowable net heating value for gases combusted in the flares. ConocoPhillips is not aware of any more stringent requirements imposed on flares at any other petroleum refinery, nor any other technically feasible control options for emissions of any pollutants from flares.

APPENDIX E
Kb letter

Appendix F

PSD Re-delegation Agreement.

Appendix g

CEQA Findings

CONOCOPHILLIPS – SAN FRANCISCO REFINERY

PROPOSED CLEAN FUELS EXPANSION PROJECT

FINDINGS AND SUPPORTING FACTS REGARDING THE ENVIRONMENTAL IMPACT REPORT

ConocoPhillips - San Francisco Refinery (The Refinery) has proposed to construct the Clean Fuels Expansion Project (CFEP) at its Rodeo Refinery. The CFEP includes new equipment and modifications to existing equipment that would enable the Refinery to process heavy gas oil (HGO), which is a by-product that is currently produced onsite and exported. Implementation of the CFEP would allow overall Refinery production to increase by up to 1,000,000 gallons per day (30 percent over current levels).

The CFEP includes the following: (1) construction of a new Hydrogen Plant to be built by Air Liquide with a capacity of 120 million standard cubic feet per day; (2) construction of a new Sulfur Recovery Unit with a capacity increase of 200 long tons per day; (3) conversion of a retired lube oil rail car loading rack into a butane rail car loading rack; (4) expansion of the Unicracker to allow for HGO hydrocracking and resulting in an increase in capacity of 23,000 barrels per day (bbl/day); (5) Reformer (Unit 244) modifications resulting in a capacity increase from 16,087 bbl/day to 18,500 bbl/day; (6) UNISAR (Unit 248) modifications resulting in a capacity increase from 8,812 bbl/day to 16,740 bbl/day; (7) Product Blending Unit (Unit 76) modifications resulting in a capacity increase from 90,411 bbl/day to 113,150 bbl/day; (8) Deisobutanizer (Unit 215 DIB) modifications resulting in a capacity increase from 7,600 bbl/day to 10,200 bbl/day; (9) Sulfur Recovery Plant (Units 234, 236, 238) modifications that would include a new sulfur degassing system, a new sulfur loading rack, a modified or replaced amine regenerator and an increase in sulfur storage capacity; and (10) modifications to ancillary facilities such as pumps, heat exchangers, instrumentation, utilities and piping.

Contra Costa County Community Development Department (CDD) acted as Lead Agency under the California Environmental Quality Act (CEQA) for this project. As a responsible agency under CEQA, the Bay Area Air Quality Management District (BAAQMD) participated in the EIR process, including reviewing and commenting on the Draft EIR. The following timeline illustrates the land use permit application's progress from approval by County Planning Commission (CPC) to present:

- April 24, 2007 – Public hearing held before the CDD in Martinez to consider certification of the Final EIR and approval of the CFEP.

- May 8, 2007 – Second CPC hearing held in Martinez. Final EIR was certified and project was approved with new and modified Conditions of Approval.

- May 17, 2007 – Appeal received from Communities for a Better Environment and Center for Biological Diversity (CBE/CBD), joint appellants.

- May 18, 2007 – Appeal received from ConocoPhillips Company and appeal received from the California State Attorney General.

- September 10, 2007 – California Attorney General withdrew his May 18, 2007 appeal and submits a copy of Settlement Agreement with ConocoPhillips Company. Concurrently, ConocoPhillips requests that the County include language from the Settlement Agreement in the County's action on its appeal.

- September 25, 2007 – Board of Supervisors hearing held in Martinez. Final EIR was certified and project was approved. Board accepted the September 10, 2007 letter from the California Attorney General withdrawing their May 18, 2007 appeal. The Board denied the appeals of Communities for a Better Environment (CBE) and Center for Biological Diversity (CBD). The Board also granted the appeal of ConocoPhillips Company based on their revised proposed condition of approval addressing the storage of rail cars.

The EIR identified certain potentially significant environmental impacts that could occur as a result of the CFEP. The following discussion summarizes the air quality related effects identified in the EIR and during the District's review of the ConocoPhillips and Air Liquide permit applications, makes one or more of the findings required under Section 15091 of the State CEQA Guidelines, and presents facts to support the findings. All of these effects have been mitigated to a level of insignificance.

Impact 1 – Construction activities associated with CFEP would generate short-term emissions of criteria pollutants, including suspended and respirable particulate matter and equipment exhaust emissions, which would contribute to existing air quality violations.

Mitigated to insignificance. Particulate emissions will be mitigated by implementation of comprehensive dust control measures including watering all active construction areas at least twice daily; covering of haul trucks or requiring all trucks to maintain at least two feet of freeboard; paving or otherwise stabilizing haul roads, parking and staging areas; and sweeping daily with water sweepers all paved access roads, parking areas and staging areas at construction sites. The following "enhanced" control measures will also be implemented: Hydroseeding or application of non-toxic soil stabilizers to inactive construction areas; enclosing, covering, watering twice daily or application of non-toxic soil binders to exposed stockpiles; installation of sandbags or other erosion control measures to prevent silt runoff to public roadways; suspension of excavation and grading activity when winds exceed 25 mph; installation of wheel washers for all exiting trucks, or washing off the tires or tracks of all trucks and equipment leaving the site.

Equipment emissions will be mitigated by regular equipment maintenance and limits to unnecessary idling. Other equipment mitigation measures include the following: use of alternative fuels and/or alternatively fueled equipment; use of post-1996 model diesel trucks only at the site or for on-road hauling of construction material; requirement for all construction diesel engines with a rating of 100 hp or more to meet at a minimum the Tier 2 California Emission Standards for Off-Road Compression –Ignition Engines

unless certified by the onsite Construction Air Quality Mitigation Manager (CAQMM) that such an engine is not available for a particular item of equipment; offering incentives to encourage construction workers to carpool or employ other means of transportation; scheduling construction activities to allow at least 33% of the construction workforce to avoid the morning and afternoon peak traffic periods; and use of on-site power to minimize reliance on portable generators.

Impact 2 – Operational activities associated with the implementation of the CFEP would increase air pollutant emissions, contributing to existing air quality violations.

Mitigated to insignificance. As required by BAAQMD Rules and Regulations, project emissions will be mitigated by application of Best Available Control Technology (BACT) and by obtaining emission offsets. Specifically, following mitigation measures will be implemented:

- The four Dissolved Air Flotation (DAF) vents associated with the onsite wastewater treatment plant will be routed to a Thermal Oxidizer with a destruction efficiency of no less than 98 percent. The DAF outlet channel and downstream sumps will be sealed by a solid cover with gaskets. Any vents installed on the covered channel will be routed to the thermal oxidizer. Installation of these controls will reduce organic emissions by at least 242 pounds per day and 44.1 tons per year.

- The Refinery Steam Power Plant uses three gas turbines to generate electricity, and uses gas turbine waste heat to generate steam. Each gas turbine has a nitrogen oxide (NOx) catalyst system located at the base of the exhaust stack. The Refinery will take a new permit limit to achieve a reduction of NOx concentration in each stack by 1 ppm from its current operating baseline. This 1 ppm of NOx equates to a reduction of 81 pounds per day and 14.7 tons per year.

- Operations at the ConocoPhillips' Carbon Plant will be modified to result in a decrease in SO2 emissions of at least 230 pounds per day and 42 tons per year. The refinery will take a new permit limit to reflect this reduction.

- The baghouse at the Carbon Plant will use improved bag technology to capture particulate matter (PM_{10}) from the calcined coke operation. Installation of the improved bag-technology will reduce PM_{10} emissions by at least 43.8 pounds per day and 8.0 tons per year. The refinery will take a new permit limit to reflect this reduction.

- Net reductions in ROG emissions associated with the mitigated CFEP will be used to offset 36 pounds per day and 7.6 tons per year of NOx associated with the CFEP.

Impact 3 – The CFEP would contribute to cumulative regional air emissions; however, it would not be cumulatively considerable and it would not conflict with or obstruct implementation of the applicable air quality plan.

Mitigated to insignificance. As discussed in Impact 2, with the proposed mitigation measures, the CFEP would have a less-than-significant impact on air quality. Furthermore, as discussed in Section 4.10, Land Use, in Final EIR, the CFEP is consistent with the Contra Costa County General Plan which in turn is consistent with the BAAQMD's current air quality plan (2005 Ozone Strategy).

Impact 4 – Operational activities associated with the implementation of the CFEP could lead to increases in odorous emissions. This would be a less-than-significant impact.

No mitigation required. The CFEP will not result in increased odors because the hydrocracking process that would be used to process heavy gas oil produces clean intermediate feedstocks and blendstocks. Storing these products in existing tanks will not increase odors. Also, CFEP contains numerous design features that will reduce odor emissions from existing equipment and minimize the likelihood of odor emissions from the project's new equipment. CFEP-related design features include the following:

- A fourth compressor will be added to the odor abatement system. This will increase the robustness of the odor control system. The new compressor will be sized at approximately 3.3 MMSCFD and is slated to commence operation in March 2009.

- The new compressor will primarily be loaded with odor abatement gases but will be operated so that during most periods, it can pick up the swings that occur during brief peak loading on the existing G-503, Flare Gas Recovery (FGR) compressor. This new compressor will also be used to mitigate flaring when the G-503 FGR compressor is down for planned or emergency maintenance. This additional flare gas recovery capacity will further reduce odor-causing flaring.

- The vapor recovery will be installed on existing fixed-roof tanks that will change service to store heavy gas oil and sour water.

- The Odor abatement system will be subject to new and more stringent permit conditions by the BAAQMD to eliminate and/or minimize odor complaints.

- A new sulfur recovery unit will increase system redundancy and improve the refinery's ability to react to upset conditions for processing sulfur gases. This will reduce the number of refinery upsets and shutdowns.

- Molten sulfur loaded into trucks will be degassed prior to loading, which will reduce the H_2S emissions.

- The Dissolved Air Flotation unit at the wastewater treatment plant will be vented to a thermal oxidizer.

- After startup of the CFEP, less heavy gas oil will be loaded onto barges, which vent to the atmosphere.

As required by the State CEQA Guidelines, the BAAQMD, as a Responsible Agency for the ConocoPhillips CFEP, hereby finds that, for each of the impacts identified in the final EIR and discussed above, changes or alterations have been required in, or incorporated into, the project which avoid or substantially lessen the significant environmental effect as identified in the final EIR. In addition, for those mitigation measures that are identified in the final EIR to lessen impacts associated with construction activities and vehicle emissions and that are within the responsibility or jurisdiction of another public agency, the BAAQMD hereby finds that such measures either have been or can and should be adopted by such other agency.

In accordance with BAAQMD Rules and Regulations, the BAAQMD has fully considered the EIR prepared and certified by the Contra Costa County and has incorporated the EIR's analysis into its decision-making process. The BAAQMD granted an Authority to Construct for the proposed project on October 5, 2007.

The documents and other materials that constitute the record of proceedings upon which this decisions is based are located at the BAAQMD office at 939 Ellis Street, San Francisco, California, and the custodian of the materials is Rochelle Henderson.

_____

Jack P. Broadbent
Executive Officer/Air Pollution Control Officer
Bay Area Air Quality Management District

APPENDIX C

ENGINEERING EVALUATION APPLICATION 13678

FINAL

ENGINEERING EVALUATION
Air Liquide Large Industries, U.S. LP; Facility B7419
APPLICATION NO. 13678

October 5, 2007

Table of Contents

1. BACKGROUND

Air Liquide has submitted an application to build a hydrogen plant at the ConocoPhillips refinery in Rodeo. This is part of ConocoPhillips "Clean Fuel Expansion Project (CFEP)." The purpose of the project is to process heavy gas oil that ConocoPhillips produces at the coker crude unit, coker, and pre-fractionator into gasoline and diesel fuel.

ConocoPhillips needs more hydrogen than it can currently produce to process the heavy gas oil. Air Liquide will build a new hydrogen plant on site and will retain ownership of the plant and operate it. However, ConocoPhillips will use all of the facility's output. BAAQMD Regulation 2-1-213 defines facility as:

> "Any property, building, structure or installation (or any aggregation of facilities) located on one or more contiguous or adjacent properties and under common ownership or control of the same person…"

The hydrogen plant will be on ConocoPhillips property, so it meets the conditions of "contiguous or adjacent." In addition, the hydrogen plant will take its feed from the refinery. ConocoPhillips will direct the hydrogen plant to produce the amount of hydrogen that it needs at any time, so the hydrogen plant is considered to be under Conoco's control. Therefore, the hydrogen plant will be considered to be part of the refinery.

Since it is part of the refinery, the two projects (CFEP and hydrogen plant) will be considered as one project for the purposes of NSR, PSD, Major Facility Review (Title V), offsets, NSPS, NESHAPS, and any other applicable requirements.

The Title V regulations in 40 CFR 70 allow agencies to issue more than one Title V permit to a facility. Because the hydrogen plant will be owned and operated by Air Liquide, it will have a separate plant number, B7419, and a separate application, No. 13678.

The ConocoPhillips Carbon Plant, Plant A0022, is owned and operated by ConocoPhillips. It is contiguous to the refinery. Although it has a separate plant number and Title V permit, it is also considered part of the facility. The applicant will reduce emissions at the carbon plant to obtain reductions in actual emissions of PM10 for the purposes of CEQA and contemporaneous offsets of SO2.

The list of equipment at the proposed Air Liquide plant is shown below:

S1, Hydrogen Plant, 120 MMscf/day, including HRSG and steam turbine generator (12 MW)
S2, Hydrogen Plant Furnace, 1,072 MMbtu/hr abated by A1, SCR
S3, Hydrogen Plant Flare, 2200 MMbtu/hr
S4, Cooling Tower, 3,700 gpm
S5, Ammonia Tank, 10,000 gal-19% aqueous ammonia

A1, Selective Catalytic Reduction Unit abating S2, Hydrogen Plant Furnace

S4, Cooling Tower, is exempt from permits because BAAQMD Regulation 2-1-128.4 exempts water cooling towers provided that the source does not require permitting pursuant to BAAQMD Regulation 2-1-319. This section would require permits if the source emits more than 5 tons per year of any regulated air pollutant. Some large cooling towers emit enough POC or PM10 to require permits. This cooling tower will have permit conditions requiring monitoring to ensure that the emissions of POC and PM10 each do not exceed the amounts stated in the application.

S5, Ammonia Tank, is exempt from permits because BAAQMD Regulation 2-1-113.2 exempts vessels used exclusively for the storage of any aqueous solution containing less than 1% organic compounds by weight provided that the source does not require permitting pursuant to BAAQMD Regulation 2-1-319. This section would require permits if the source emits more than more than 5 tons per year of any regulated air pollutant or the source emits more than the trigger level for any toxic air contaminant. The tank is a pressure tank and is unlikely to emit more than the trigger level of ammonia (7,700 lb) in any year.

Air Liquide will use the excess heat generated at the hydrogen plant to make steam and will provide steam to ConocoPhillips. This will enable ConocoPhillips to shut down an older 256 MMbtu/hr boiler, S8. Air Liquide will also use steam to power a steam turbine to generate electricity for its own use and for ConocoPhillips. A maximum of 12 MW will be generated; the new hydrogen plant will use 4.5 MW. ConocoPhillips will use the remainder.

2. EMISSIONS

Following is a summary of the original proposed emissions of NOx, SO2, PM10, POC, and CO in tons per year from the proposed Air Liquide hydrogen plant. The annual emissions were calculated for the average operating rate of 975 MMbtu/hr. The maximum daily emissions were calculated for the maximum operating rate of 1,072 MMbtu/hr.

Summary of Hydrogen Plant Emissions

	Tons per Year					
Source	**NOx**	**SO2**	**PM10**	**POC**	**CO**	
New SMR Furnace	28.1	5.0	15.8	11.5	34.2	(975 MMBtu/hr, annual average)
Deaerator Vent	--	--	--	0.8	--	
Flare Pilots/NG Purge	0.12	0.004	--	--	1.1	
Startup/Shutdown	2.7	0	0	0.1	11	
Cooling Tower			0.5	1.5		
Fugitives	--	--	--	1.5	--	
Total	30.9	5.0	16.3	15.4	46.2	

	Lb per Day					
Source	**NOx**	**SO2**	**PM10**	**POC**	**CO**	
New SMR Furnace	169	30	95	69	206	(1072 MMBtu/hr, hourly maximum)
Deaerator Vent	--	--	--	4.4	--	
Flare Pilots/NG Purge	0.68	0.022	--	--	5.9	
Cooling Tower			2.5	8		
Fugitives	--	--	--	8.2	--	
Total	170	30	97.5	89.9	212	

Air Liquide's final proposal is to reduce the particulate emissions from the new SMR furnace to 13.8 tons per year. Air Liquide may comply by showing that the particulate emission factor is less than 0.0037 lb/MMbtu or by curtailing operations. The resulting annual emissions are:

Summary of Hydrogen Plant Annual Emissions

	Tons per Year				
Source	**NOx**	**SO2**	**PM10**	**POC**	**CO**
New SMR Furnace	28.1	5.0	13.8	11.5	34.2
Deaerator Vent	--	--	--	0.8	--
Flare Pilots/NG Purge	0.12	0.004	--	--	1.1
Startup/Shutdown	2.7	0	0	0.1	11
Cooling Tower			0.5	1.5	
Fugitives	--	--	--	1.5	--
Total	30.9	5.0	14.3	15.4	46.2

Air Liquide has calculated the maximum daily emissions for the flare. If the pressure swing absorption process malfunctions, up to 7.74 MMscf/hr of syngas could be sent to the flare for 5.3 hours/event. The composition of syngas is mainly hydrogen, methane, and CO, as shown below: (This paragraph has been amended to be consistent with the flare emission calculations in Appendix A.)

Component	% by Weight	% by Volume
Hydrogen	13.4	73
Nitrogen	0.2	<0.09
Carbon Dioxide	68.5	17
Carbon Monoxide	10.3	4
Methane	7.3	5
Ethane	<0.001	<0.0001
Water	0.3	0.2

In this case, approximately 686 lb NOx/day would be emitted and 3,537 lb CO/day would be emitted. In this case, the hydrogen plant and hydrogen plant furnace would shut down, so normal emissions would not be emitted concurrently with the flare emissions.

	Lb per Highest Day				
Source	**NOx**	**SO2**	**PM10**	**POC**	**CO**
Flare	686	0	negligible	0	3,537

The detailed calculations of the flare emissions are in Appendix A.

Following is the detail of the emissions of toxic air contaminants on which the health risk screening analysis was based. These emissions were based on a heat input rate of 1,100 MMbtu/hr to S2, Hydrogen Plant Furnace. The average hourly rate has been reduced to 975 MMbtu/hr, so the typical emissions will be lower. Also the proposed emissions of methanol have been reduced to 0.61 lb/day or 223 lb/yr. Emission factors from WSPA/API's Air Toxic Emission Factors for Combustion Sources Using Petroleum-Based Fuels, final report, Volume 2, Appendix B, April 14, 1998 have been used for the calculations of all emissions from the heater except ammonia and sulfuric acid mist. The ammonia calculations are based on the "ammonia slip", the ammonia that is lost when injected into A1, SCR, for NOx control. The sulfuric acid mist is based on the assumption that the ratio of SO2 to SO3 in combustion is 20:1, and that all SO3 becomes sulfuric acid mist. The detailed calculations are in Appendix B of the engineering evaluation for Application 13424.

Substance	Emissions (lb/yr)						
	S2, Hydrogen Plant Furnace	**Flare Pilots**	**Deaerator Vent**	**Cooling Tower[a]**	**Hydrogen Plant Fugitives**	**Total Annual Emissions (lb/yr)**	**BAAQMD Trigger Level (lb/yr)**
Acenaphthene	2.27E-02					2.27E-02	
Acenaphthylene	1.49E-02					1.49E-02	
Acetaldehyde	1.47E+02	2.02E-01				**1.48E+02**	6.40E+01
Acrolein		4.69E-02				4.69E-02	2.30E+00
Ammonia	4.82E+04		5.59E+03		0.00E+00	**5.38E+04**	7.70E+03
Antimony	4.98E+00					4.98E+00	7.70E+00
Arsenic	8.19E+00					**8.19E+00**	1.20E-02
Benzene	6.23E+02	7.46E-01				**6.24E+02**	6.40E+00
Benzo(a)anthracene	3.09E-01					3.09E-01	0.011[b]
Benzo(a)pyrene	8.63E-01					8.63E-01	0.011[b]
Benzo(b)fluoranthene	3.89E-01					3.89E-01	0.011[b]
Benzo(k)fluoranthene	2.32E-01					2.32E-01	0.011[b]
1,3-Butadiene					4.84	**4.84E+00**	1.10E+00

Substance	Emissions (lb/yr)						
	S2, Hydrogen Plant Furnace	Flare Pilots	Deaerator Vent	Cooling Tower[a]	Hydrogen Plant Fugitives	Total Annual Emissions (lb/yr)	BAAQMD Trigger Level (lb/yr)
Cadmium	9.52E+00					**9.52E+00**	4.50E-02
Chlorine				3.95E-02		3.95E-02	7.70E+00
Chloroform				9.94E+00		9.94E+00	3.40E+01
Chromium (Total)	1.03E+01					**1.03E+01**	1.30E-03
Chrysene	1.57E-02					1.57E-02	
Copper	4.06E+01					4.06E+01	9.30E+01
Ethylbenzene	2.91E+02	6.78E+00				2.98E+02	7.70E+04
Fluoranthene	2.95E-02					2.95E-02	
Fluorene	1.04E-01					1.04E-01	
Formaldehyde	1.07E+03	5.48E+00				**1.08E+03**	3.00E+01
n-Hexane		1.36E-01			7.50E+00	7.63E+00	2.70E+05
Indeno(1,2,3-cd)pyrene	9.93E-01					9.93E-01	0.011*
Lead	4.71E+01					**4.71E+01**	5.40E+00
Manganese	6.56E+01					**6.56E+01**	7.70E+00
Mercury	1.73E+00					**1.73E+00**	5.60E-01
Methanol			~~1.75E+04~~ 2.23+02			1.75E+04	1.50E+05
Naphthalene	3.02E+00	6.57E-02				3.08E+00	5.30E+00
Nickel	9.08E+01					**9.08E+01**	7.30E-01
Phenanthrene	1.41E-01					1.41E-01	
Phenol	5.43E+01					5.43E+01	7.70E+03
Propylene	2.09E+01	1.14E+01				3.24E+01	1.20E+05
Pyrene	2.39E-02					2.39E-02	
Selenium	1.89E-01					1.89E-01	7.70E+02

Substance	Emissions (lb/yr)						
	S2, Hydrogen Plant Furnace	Flare Pilots	Deaerator Vent	Cooling Tower[a]	Hydrogen Plant Fugitives	Total Annual Emissions (lb/yr)	BAAQMD Trigger Level (lb/yr)
Silver	1.55E+01					1.55E+01	
Sulfuric Acid Mist	8.6E+02					8.6E+02	3.9E+01
Toluene	1.03E+03	2.72E-01				1.03E+03	1.20E+04
1,2,4-Trimethylbenzene							
Xylene (Total)	3.59E+02	1.36E-01				3.60E+02	2.70E+04
Zinc	2.00E+02					2.00E+02	1.40E+03

[a] Chloroform emissions from the cooling tower were calculated using an emission factor of 0.0034 lb $CHCL_3$ per lb of Cl_2 used to chlorinate the cooling waters. Emission factor is from *Proposed Identification of Chloroform as a Toxic Air Contaminant* (CARB, September 1990. http://www.arb.ca.gov/toxics/summary/chloroform_A.pdf). Cl_2 usage based on bleach density of 10 lb/gal, 12,5 wt% NaOCL (avg. of 9-16% bleach solution), 0.3 lb Cl_2/gal.

[b] These substances are PAH derivatives that have OEHHA-developed Potency Equivalency Factors. These PAHs should be evaluated as benzo(a)pyrene equivalents. This evaluation process consists of multiplying individual PAH-specific emission levels with their Potency Equivalency Factor, which is 0.1. The sum of these products is the benzo(a)pyrene equivalent level and should be compared to the benzo(a)pyrene equivalent trigger level.

This table shows the average hourly emissions of toxic air contaminants:

Substance	Emissions (lb/hr)						
	SMR Furnace	Flare Pilots	Deaerator Vent	Cooling Tower	Hydrogen Plant Fugitives	Total Hourly Emissions (lb/hr)	BAAQMD Trigger Level (lb/hr)
Acenaphthene	3.07E-06					3.07E-06	
Acenaphthylene	2.02E-06					2.02E-06	
Acetaldehyde	1.99E-02	2.30E-05				1.99E-02	
Acrolein		5.36E-06				5.36E-06	4.20E-04
Ammonia	6.50E+00		6.40E-01		0.00E+00	7.14E+00	7.10E+00
Antimony	6.72E-04					6.72E-04	
Arsenic	1.11E-03					**1.11E-03**	4.20E-04
Benzene	8.41E-02	8.52E-05				8.42E-02	2.90E+00
Benzo(a)anthracene	4.17E-05					4.17E-05	
Benzo(a)pyrene	1.16E-04					1.16E-04	
Benzo(b)fluoranthene	5.25E-05					5.25E-05	
Benzo(k)fluoranthene	3.13E-05					3.13E-05	
1,3-Butadiene					5.53E-04	5.53E-04	
Cadmium	1.28E-03					1.28E-03	
Chorine				4.50E-06		4.50E-06	4.60E-01
Chloroform				1.13E-03		1.13E-03	3.30E-01
Chromium (Total)	1.39E-03					1.39E-03	
Chrysene	2.12E-06					2.12E-06	
Copper	5.47E-03					5.47E-03	2.20E-01
Ethylbenzene	3.93E-02	7.73E-04				4.00E-02	
Fluoranthene	3.98E-06					3.98E-06	
Fluorene	1.40E-05					1.40E-05	

Substance	Emissions (lb/hr)						
	SMR Furnace	Flare Pilots	Deaerator Vent	Cooling Tower	Hydrogen Plant Fugitives	Total Hourly Emissions (lb/hr)	BAAQMD Trigger Level (lb/hr)
Formaldehyde	1.44E-01	6.26E-04				1.45E-01	2.10E-01
n-Hexane		1.55E-05			8.56E-04	8.72E-04	
Indeno(1,2,3-cd)pyrene	1.34E-04					1.34E-04	
Lead	6.36E-03					6.36E-03	
Manganese	8.85E-03					8.85E-03	
Mercury	2.34E-04					2.34E-04	4.00E-03
Methanol			2.55-02			2.00E+00	6.20E+01
Naphthalene	4.07E-04	7.50E-06				4.14E-04	
Nickel	1.22E-02					1.22E-02	1.30E-02
Phenanthrene	1.90E-05					1.90E-05	
Phenol	7.32E-03					7.32E-03	1.30E+01
Propylene	2.82E-03	1.31E-03				4.13E-03	
Pyrene	3.22E-06					3.22E-06	
Selenium	2.55E-05					2.55E-05	
Silver	2.09E-03					2.09E-03	
Sulfuric Acid Mist	9.8E-02					9.8E-02	2.6E-01
Toluene	1.39E-01	3.11E-05				1.39E-01	8.20E+01
1,2,4-Trimethylbenzene							
Xylene (Total)	4.85E-02	1.55E-05				4.85E-02	4.90E+01
Zinc	2.70E-02					2.70E-02	

The detailed emission calculations for each source are in Attachment A.

The summary of the emissions for the whole project, which includes Applications No. 13424 for Facility A0016, ConocoPhillips, No. 13678 for Air Liquide, and No. 15328 for contemporaneous offsets from Facility A0022, ConocoPhillips Carbon Plant, are contained in Application No. 13424. The discussion of emissions for the purposes of PSD applicability, CEQA, offsets, and BACT are also contained in Application No. 13424.

3. Best available Control Technology (BACT)

Following are the maximum daily emissions for the various sources:

	Lb per Highest Day				
Source	**NOx**	**SO2**	**PM10**	**POC**	**CO**
New SMR Furnace	169	30	95	69	206
Hydrogen Plant	--	--	--	12.6	--
Hydrogen Plant Flare	686				3,537
Cooling Tower			2.5	8	

S1, Hydrogen Plant, is subject to BACT because it will emit more than 10 lb/highest day of POC.

S2, Hydrogen Plant Furnace, is subject to BACT because it will emit more than 10 lb/highest day of these pollutants: NOx, SO2, POC, CO, and PM10.

S3, Hydrogen Plant Flare, is subject to BACT because it will emit more than 10 lb/highest day of these pollutants: NOx and CO.

The following source is not subject to BACT because it will not emit more than 10 lb/day of NOx, SO2, POC, CO, or PM10:

S5, Ammonia Tank

The following source is not subject to BACT because it is exempt from permitting in accordance with BAAQMD Regulation 2-1-128.4.

S4, Cooling Tower

If the source emits more than 5 tons per year of any regulated air pollutant, it would still be subject to permitting in spite of the exemption.

The applicant estimates that emissions of POC from S4 will be less than 8.0 lb/day (1.5 tpy) and the emissions of PM10 will be less than 2.5 lb/day. POC levels in cooling towers can spike, however, if there is a leak in a heat exchanger. The permit will contain monitoring conditions to ensure that the POC emissions remain under 5 tons per year. It is far less likely that PM10 emission will be over 5 tons per year, especially with limits on dissolved solids content of the water.

S5, Ammonia Tank, will not have emissions of NOx, SO2, POC, CO, or PM10 and therefore is not subject to BACT.

S1, Hydrogen Plant

The components (valves, flanges, pumps, compressors, etc.) at the hydrogen plant and the deaerator vent are subject to BACT because they are estimated to

emit more than 10 lb POC/highest day. BACT for petroleum refinery fugitive emissions in accordance with the Section 3 of the District's BACT handbook is:

- Graphitic gaskets for flanges
- Live loaded packing systems and polished stems, or equivalent, for valves
- "Wet" dual mechanical seals with a heavy liquid barrier fluid, or dual dry gas mechanical seals buffered with inert gas for hydrocarbon centrifugal compressors
- Seal-less design or dual mechanical seals with a heavy liquid barrier fluid, or equivalent, for pumps
- Fugitive equipment monitoring and repair program for all components

BACT for the deaerator vent at hydrogen plants has not been hitherto defined. Air Liquide has proposed emissions of 4.35 lb POC/day at the vent. No other hydrogen plants in the Bay Area have mass emission limits on the deaerator vents. Source tests of the vents have shown much higher emissions. No BACT determinations or limits for deaerator vents were found in the EPA, ARB, or SCAQMD BACT Clearinghouses. SCAQMD does have Rule 1189 with a limit of 0.5 lb VOC/MMscf of H2 produced. This would be equivalent to 60 lb POC/day at the vent.

An emission rate of 4.35 lb/hr will be considered to be BACT for this source.

S2, Hydrogen Plant Furnace

Air Liquide has proposed the following BACT levels for S2, Hydrogen Plant Furnace:

Pollutant	Concentration		Emission Factor, lb/MMbtu	Reference for BACT
NOx	5	ppmvd @ 3% O_2	0.00658	*SCAQMD BACT
SO_2	35	ppmv total S in RFG/NG	0.0012	BAAQMD BACT (PSA/fuel gas Mix)
PM10	3.8	lb/MMcf (natural gas)	0.0037	AP42 Section 1.4, Natural Gas Combustion (apply 1/2 value since 50% H2 in fuel)
POC	2.75	lb/MMcf (natural gas)	0.0027	AP42 Section 1.4, Natural Gas Combustion (apply 1/2 value since 50% H2 in fuel)
CO	10	ppmvd @ 3% O_2	0.0080	SCAQMD BACT

*South Coast Air Quality Management District

These levels are lower than the levels in the District BACT/TBACT handbook. Air Liquide is relying on a top-down analysis of BACT for NOx and PM10 at the hydrogen plant that was performed by ConocoPhillips for Application 13424. This analysis is required as part of the PSD analysis. This analysis is attached in Appendix B. The furnace is compared to various recent hydrogen plant furnaces. These furnaces burn primarily pressure swing absorption gas (PSA gas), which results in lower emissions of NOx and CO than natural gas and refinery fuel gas (RFG). The applicant estimates that this furnace will burn approximately 85% PSA gas and 15% RFG/natural gas.

There are 4 BACT determinations by the SCAQMD for hydrogen plant furnaces with levels for NOx of 5 ppmdv @ 3% O2. This is the lowest NO_x emission limit achieved in practice. BACT will be achieved by using SCR and by burning mostly PSA gas.

For particulate matter, the conclusion drawn by the top-down analysis was that only good combustion practice is considered to be BACT for controlling PM10 from gas-fired heaters. The level proposed by the applicant is equivalent to 0.0025 gr/dscf (assuming that the F-factor is the same as the F-factor for natural gas). This is lower than the 0.01 proposed for a 2,088 MMbtu/hr natural gas fired boiler proposed in SCAQMD BACT determination #427061 in 2006.

Also, SCAQMD BACT determination #411357 established that 0.0065 lb PM10/MMbtu was BACT (based on a limit of 3642 lb/mo, 780 MMbtu/hr, an assumption of 720 hr/mo. operation). Air Liquide has proposed 0.0037 lb PM10/MMbtu for this application.

For SO2, the level proposed compares favorably with the 40 ppm S in fuel as H2S in SCAQMD BACT determination #411357 for a 780 MMbtu/hr steam reformer furnace with similar fuels, and very favorably with the 0.2 lb/MMbtu level in SCAQMD BACT determination #427061 for a 2,088 MMbtu/hr natural gas-fired boiler.

The proposed CO concentration of 10 ppm@ 3% O2 is equivalent to the last SCAQMD BACT determination #411357.

For POC, SCAQMD BACT determination #411357 determined that 0.0061 lb POC/MMbtu was BACT (based on a limit of 3399 lb/mo, 780 MMbtu/hr, an assumption of 720 hr/mo operation). Air Liquide has proposed 0.0027 lb POC/MMbtu for this application.

The District concludes that the levels proposed for S2, Hydrogen Plant Furnace, represent BACT.

Air Liquide is relying on a top-down analysis of BACT for NOx and PM10 at the hydrogen plant furnace that was performed by ConocoPhillips for Application 13424. This analysis is required as part of the PSD analysis. The analysis is attached in Appendix B.

Air Liquide has also proposed a maximum emission rate during start-up, shutdown, and malfunction of 50 lb NOx/clock hour.

S3, Hydrogen Plant Flare

The main purpose of the flare is to dispose of hydrogen and CO in an emergency for safety reasons. Hydrogen is not a pollutant.

The flare's emissions on the highest day may be up to 686 lb NOx/day and 3,537 lb CO/day, as shown in the flare calculations in Appendix A. However, the flare will only be used occasionally when there is a shutdown, malfunction, during maintenance, or when there is a sudden drop in the refinery's use of hydrogen. The total annual emissions from the flare are estimated at 2.7 tpy NOx and 11 tpy CO. There are also small ongoing emissions from the flare pilots, which ensure that a flame is present at all times. Because the emissions of NOx and CO will be more than 10 lb/day on the highest day, the flares are subject to BACT.

The District's BACT/TBACT Workbook states that an enclosed ground level flare with a control efficiency of 98.5% for POC is BACT1. BACT1 for CO is undetermined at this point.

The applicant has stated that the flare is not subject to BACT for POC because the gases sent to the flare do not contain more than 10 lb POC/day. Following is the gas composition:

Component	% by Weight	% by Volume
Hydrogen	13.4	73
Nitrogen	0.2	<0.09
Carbon Dioxide	68.5	17
Carbon Monoxide	10.3	4
Methane	7.3	5
Ethane	<0.001	<0.0001
Water	0.3	0.2

Because none on the components is considered to be POC, the flare is not subject to BACT for POC.

As shown in the flare calculations, the flare is a control device for CO and a generator of NOx. The calculations assume 98% control of CO.

Testing is not feasible for elevated flares because they are open and have no stack. If the flare were enclosed, it might be possible to test for destruction efficiency. It is likely that if the flare were enclosed, NOx emissions would rise and CO emissions would drop due to increased residence time. It is not sensible to specify an enclosed ground level flare simply to enable testing. Moreover, enclosed ground level flares are generally small. For example, the largest enclosed ground level flare at a landfill in the District, where these flares are commonly used, has a capacity of 120 MMbtu/hr.

Due to the capacity of this flare (2,220 MMbtu/hr), District staff concluded that a ground-level enclosed flare was not feasible in this case. The facility will install an elevated flare. These flares are considered to have a control efficiency of 98% for CO.

4. CUMULATIVE INCREASE AND OFFSETS

The cumulative increase for the facility is shown below.

	Tons per Year				
	NOx	**SO2**	**PM10**	**POC**	**CO**
Total	30.9	5.0	13.8*	13.9*	46.2

*The emissions from the exempt cooling tower at the hydrogen plant are not considered to be part of the cumulative increase and are not subject to offsets.

BAAQMD Regulation 2-2-302 requires offsets for NOx and POC because the emissions of the facility, which includes the ConocoPhillips refinery (Facility A0016) and the ConocoPhillips carbon plant (Facility A0022), will be greater than

35 tons per year. The refinery emitted approximately 335 tons NOx and 283 tons POC and the carbon plant emitted approximately 532 tons NOx in 2005 according to District estimates.

In accordance with BAAQMD Regulation 2-2-302.2, POC credits shall be used to offset part of the NOx increases.

BAAQMD Regulation 2-2-303 requires offsets for SO2 and PM10 at major facilities. ConocoPhillips is a major facility for PM10 because the refinery emitted approximately 126 tons PM10 and the carbon plant emitted approximately 63 tons PM10 in 2005 according to District estimates. It is a major facility for SO2 because the refinery emitted approximately 424 tons SO2 and the carbon plant emitted approximately 1212 tons SO2 in 2005 according to District estimates.

The discussion of offsets required and provided for this project can be found in the engineering evaluation for Application 13424.

The PM10 offsets will come from the following certificates:

Certificate Number	Owner of Record	Amount tpy
920	ConocoPhilips	6.650
979	Air Liquide	18.600
1032	Air Liquide	4.200
Total		29.45

5. STATEMENT OF COMPLIANCE

BAAQMD Regulation 1, General Provisions

The District requires NOx CEMs from sources that use SCR for control, therefore S2, Hydrogen Plant Furnace, is subject to 1-521 and 1-522. The source will also be required to have a CO CEM.

S2, Hydrogen Plant Furnace, will be subject to flow and ammonia injection monitoring and therefore will be subject to the parametric monitoring requirements in Section 1-523.

BAAQMD Regulation 2, Rule 1, General Requirements

S4, Cooling Tower, is exempt from permits because BAAQMD Regulation 2-1-128.4 exempts water cooling towers provided that the source does not require permitting pursuant to BAAQMD Regulation 2-1-319. This section would require permits if the source emits more than more than 5 tons per year of any regulated air pollutant. Some cooling towers emit enough POC or PM10 to require permits. This cooling tower will have permit conditions requiring monitoring to ensure that the emissions of POC and PM10 each do not exceed the amounts stated in the application, which were 1.5 tons per year and 0.5 tons per year, respectively.

S5, Ammonia Tank, 10,000 gal, is not required to have a permit because the storage of aqueous solutions that contains less than one percent by weight organic compounds is exempt in accordance with Section 123.2. The tank will be a pressure vessel with a nitrogen blanket. It will store 19% aqueous ammonia. The ammonia concentration will be limited to 19% because storage of higher concentrations is subject to 40 CFR 68, Accidental Release.

BAAQMD Regulation 2, Rule 5, New Source Review Of Toxic Air Contaminants

In accordance with BAAQMD Regulation 2, Rule 5, health risk assessment analysis was prepared by the facility and reviewed by District Staff. The project risk, including Plant A0016, ConocoPhillips refinery, meets the requirements as follows:

- Project cancer risk is less than 10.0 in a million;
- Project chronic hazard index is less than 1.0; and
- Project acute hazard index is less than 1.0.

The cancer risk for S2, Hydrogen Plant Furnace, is greater than 1.0 in a million. Therefore, the source is subject to TBACT in accordance with Section 2-5-301 of the rule. TBACT is the use of extremely clean fuels. Approximately 85% of the fuel that will be burned in the Heater will be PSA gas, which is extremely clean and has very little sulfur.

Also, the risk assessment for S2 is conservative, because it was based on an average heat input rate of 1,100 MMbtu/hr, but the final average heat input rate will be 975 MMbtu/hr, which is 12.8% less.

The chronic health index for all sources is below 0.2.

BAAQMD Regulation 6, Particulate Matter and Visible Emissions

The following sources are the new sources of particulate matter in this application:

S2, Hydrogen Plant Furnace abated by A1, SCR
S3, Hydrogen Plant Flare, 2200 MMbtu/hr

S4, Cooling Tower, 3,700 gpm

S2, Hydrogen Plant Furnace, and A1, SCR, are subject to Sections 6-301, 6-305, and 6-310.3 of the regulation. Section 6-301 is a requirement that visible emissions may not exceed 1.0 Ringelmann for more than 3 min/hr. Section 6-305 is a requirement that a unit may not emit visible particles that fall outside of the facility's property. Section 6-310.3 is the grain-loading limit for heat transfer operations of 0.15 gr filterable particulate/dscf @ 6% O2. (The "gr" used in this section means "grains," which are equal to 1/7000 of a pound.) S2 burns gaseous fuels and is expected to comply with these requirements.

S3, Hydrogen Plant Flare, is subject to Sections 6-301, 6-305, and 6-310 of the regulation. Section 6-310 is the general grain-loading limit of 0.15 gr filterable particulate/dscf. S3 burns gases and is expected to comply with these requirements.

S4, Cooling Tower, is subject to Sections 6-301, 6-305, 6-310, and 6-311 of the regulation. The cooling tower is expected to comply with these requirements. Previous analysis for Application 10349 shows that, for cooling towers, the amount of particulate matter is so small and the airflow is so large that compliance with 6-301, 6-310, and 6-310 is assured.

Compliance with Section 6-311 is on a process weight basis. The flow rate of water for the cooling tower is 3,700 gal/min. This is equivalent to 1.85 million lb/hr. If the process weight is over 57,320 lb/hr, the limit is 40 lb filterable particulate/hr. The emission rate shown in the calculations in Appendix A is 0.1 lb/hr, therefore the source will comply with Section 6-311.

BAAQMD Regulation 7, Odorous Emissions

The purpose of Regulation 7 is the general control of odorous compounds. Most odorous pollutants are handled generally. A few are mentioned by name. One of these is ammonia.

S1 Hydrogen Plant, and S2, Hydrogen Plant Furnace, are sources of ammonia. Section 7-303 limits concentration of ammonia from Type A emission points to 5000 ppm. Ammonia is used at S2 in the SCR for abatement of NOx. The hydrogen plant will emit up to 10 ppm of ammonia from the deaerator vent. The heater will comply because it has a limit of 10 ppmv ammonia @ 3% oxygen, as will the hydrogen plant because the concentration at the vent is low. The concentration of ammonia in the stacks of both sources will be measured by source test after construction.

BAAQMD Regulation 8, Rule 2, Miscellaneous Operations

The deaerator vent at the Hydrogen Plant, S1, and the cooling tower, S4, will be subject to this rule. Section 301 has the following limit:

> "A person shall not discharge into the atmosphere from any miscellaneous operation an emission containing more than 6.8 kg. (15 lbs.) per day and containing a concentration of more than 300 PPM total carbon on a dry basis."

If the emissions at the deaerator meet 4.35 lb/day as stated by the applicant, the deaerator will comply easily. Annual source tests will be required to ensure compliance.

Cooling towers are exempt from this rule, in accordance with Section 8-2-114, if best modern practices are used. The District has determined "best modern practices" for cooling towers and has documented them in the engineering evaluation for ConocoPhillips' Application 10349 as follows:

> "… daily visual inspection, plus water sampling and analysis for indicators of hydrocarbon leaks once per shift, is the best modern practice."

S4, Cooling Tower, will not comply with best modern practices, and therefore is subject to Regulation 8, Rule 2. The engineering evaluation also determined that the margin of compliance for most refinery cooling towers is 1000:1. Therefore, the cooling tower will comply with Regulation 8, Rule 2.

BAAQMD Regulation 8, Rule 10, Process Vessel Depressurization

The Hydrogen Plant, S1, will be subject to this rule. Section 301 of the rule requires that the emissions during depressurizing be controlled by an abatement device or the fuel gas system until the vessel is as close to atmospheric pressure as possible, but at least until the partial pressure of organic compounds in that vessel is less than 4.6 psig.

Section 302 requires that no process vessel may be opened to the atmosphere unless the internal concentration of total organic compounds has been reduced prior to release to atmosphere to less than 10,000 parts per million (ppm), with the following exception. Vessels may be opened when the concentration of total organic compounds is 10,000 ppm or greater provided that the total number of such vessels opened with such concentration during any consecutive five year period does not exceed 10% of the total process vessel population, the organic compound emissions from the opening of these vessels does not exceed 15 pounds per day and the vessels are not opened on any day on which the APCO predicts an exceedance of a National Ambient Air Quality Standard for ozone or declares a Spare the Air Day.

S1 is expected to comply with these requirements.

BAAQMD Regulation 8, Rule 18, Equipment Leaks

The components-valves, flanges, pumps, compressors, pressure relief devices-are subject to this rule. The rule has total organic leak limits of 100 ppm for valves and flanges and 500 ppm for pumps, compressors, and pressure relief devices. This is a "work-practice" standard. The facility is obligated to test the components for leaks on a periodic basis and repair the leaks. A small percentage of non-repairable leaks are allowed until the next turnaround or five years, whichever is sooner.

The facility will have an inspection program for this regulation and is expected to comply with these standards.

BAAQMD Regulation 8, Rule 28, Episodic Releases from Pressure Relief Devices at Petroleum Refineries and Chemical Plants

This regulation applies to pressure relief devices (PRDs) installed on refinery equipment. Section 8-28-302 applies to PRDs on new or modified equipment. It requires that these PRDs comply with all requirements of BAAQMD Regulation 2, Rule 2, including BACT. BACT1 at this time is a rupture disk with a vent to a fuel gas recovery system, furnace, or flare with a recovery/destruction efficiency of 98%. All new PRDs installed pursuant to this project are subject to this standard. The applicant has determined that the use of rupture disks is not feasible at the hydrogen plant because of the high number of pressure cycles and high temperatures. The hydrogen plant will be required to comply with BACT2, the requirement to vent to a fuel gas recovery system, furnace, or flare with a recovery/destruction efficiency of 98%.

Permit conditions with the BACT requirement will be added to these units. The facility is expected to comply with this requirement.

BAAQMD Regulation 9, Rule 1, Sulfur Dioxide

S2, Hydrogen Plant Furnace, and S3, Hydrogen Plant Flare, are small sources of SO2 emissions. These sources are not subject to the 300-ppm limit in Section 9-1-301 of the rule because the refinery complies with the exemption in Section 9-1-110. The exemption requires ground level monitoring and compliance with the ground level concentration limit.

BAAQMD Regulation 9, Rule 3, Nitrogen Oxides from Heat Transfer Operations

S2, Hydrogen Plant Furnace, is subject to the rule because it applies to new heat transfer operations with a maximum heat input greater than 250 MMbtu/hr, per Section 9-3-303. The source will easily comply with the 125 ppm limit for gaseous fuels because it is designed to comply with the 5 ppm @ 3% O2 BACT limit.

BAAQMD Regulation 9, Rule 10, Nitrogen Oxides and Carbon Monoxide from Boilers, Steam Generators and Process Heaters in Petroleum Refineries

S2, Hydrogen Plant Furnace, is not subject to this regulation because it applies to affected units. Affected units are defined by Section 9-10-220 as "any petroleum refinery boiler, steam generator, or process heater… having an Authority to Construct or a Permit to Operate prior to January 5, 1994." This heater will be subject to current BACT limits for NOx and CO, which are more stringent, instead of the Regulation 9, Rule 10, limits.

BAAQMD Regulation 12, Rule 11, Flare Monitoring at Petroleum Refineries and BAAQMD Regulation 12, Rule 12, Flares at Petroleum Refineries

S1, Hydrogen Plant, will have a hydrogen plant flare for the purpose of flaring hydrogen and pressure swing absorption gas if there is an upset. BAAQMD Regulation 12, Rules 11 and 12, apply to petroleum refineries, which are defined for the purposes of the rule as:

> "A facility that processes petroleum, as defined in the North American Industrial Classification Standard No. 32411 and including any associated sulfur recovery plant."

Because the hydrogen plant will not process petroleum, the hydrogen plant flare will not be subject to BAAQMD Regulation 12, Rules 11 and 12. The flare will be used exclusively to burn hydrogen, pressure swing absorption gas that is generated by the plant, and natural gas in the pilots for the flare. All three of these material are low in sulfur because the feed to the hydrogen plant is low in sulfur and sulfur is removed from the feed by a zinc oxide catalyst. If the feed to the hydrogen plant or the hydrogen plant furnace must be flared due to an upset, it will be burned in the refinery flares.

NSPS

Subpart D

This subpart applies to fossil-fuel fired steam generating units with a heat input over 250 MMbtu/hr. The definition of fossil-fuel fired steam generating unit in Section 60.41(a) is "a furnace or boiler used in the process of burning fossil fuel for the purpose of producing steam by heat transfer." S2, Hydrogen Plant Furnace, is not subject to 40 CFR 60, Subpart D, because it is primarily a furnace instead of a steam generating unit, although it does generate steam. In any case, S2 would easily comply with the 0.1 lb particulate matter/MMbtu standard in Section 60.42(a)(1) the 20% opacity standard in Section 60.42(a)(2), and the 0.2 lb NOx/MMbtu. S2 is expected to emit about 0.0037 lb PM10/MMbtu and 0.00658 lb NOx/MMbtu. Since the fuel will be very clean, it is not expected to have any visible emissions.

The standard does not contain a limit for sulfur dioxide for gaseous-fueled heaters.

Subpart Da
This subpart applies to electric utility steam-generating units with an electrical output that is higher than 25 MW per Sections 60.40Da and 60.41Da. Electricity will be generated at the hydrogen plant, but the output will be about 12 MW so S2, Hydrogen Plant Furnace, is not subject to the standard.

Subpart Db
This subpart applies to steam generating units with a heat input over 100 MMbtu/hr. The definition of steam generating units in Section 60.41b excludes process heaters, so S2, Hydrogen Plant Furnace, is not subject to the standard.

Subpart Dc
This subpart applies to steam generating units with a heat input over 10 MMbtu/hr and under 100 MMbtu/hr. The definition of steam generating units in Section 60.41c excludes process heaters, so S2, Hydrogen Plant Furnace, is not subject to the standard.

NSPS, Subpart J
S2, Hydrogen Plant Furnace, and S3, Flare, will be subject to 40 CFR 60, Subpart J, Standards of Performance for Petroleum Refineries because they ~~it~~ will burn fuel gas as defined by the NSPS: "any gas which is generated at a petroleum refinery and which is combusted."

The heater will be subject to the H2S limit for fuel in Section 60.104(a)(1) of 0.10 gr/dscf or approximately 160 ppm. S2 will comply with the limit because it will burn either complying refinery fuel gas that will be supplied by the refinery, natural gas, or PSA gas, which is derived from the complying refinery fuel gas or natural gas and therefore cannot contain more H2S than the limit.

Air Liquide will be responsible for continuously monitoring the H2S content of the refinery, natural gas, and PSA gas at S2, Hydrogen Plant Furnace, as required by Section 60.105(a)(4). The permit conditions will also allow Air Liquide to install an SO2 CEM instead of monitoring the sulfur in the furnace and hydrogen plant feed as allowed by 40 CFR 60.105(a)(3).

The flare will also be subject to the H2S limit for fuel in Section 60.104(a)(1). The standard states:

> a) No owner or operator subject to the provisions of this subpart shall:
> (1) Burn in any fuel gas combustion device any fuel gas that contains hydrogen sulfide (H_2S) in excess of 230 mg/dscm (0.10 gr/dscf). The combustion in a flare of process upset gases or fuel gas that is released to the flare as a result of relief valve leakage or other emergency malfunctions is exempt from this paragraph.

Process upset gases are defined in Section 60.101 as:

> *Process upset gas* means any gas generated by a petroleum refinery process unit as a result of start-up, shut-down, upset or malfunction.

When the hydrogen plant sends gases to the flare due to a start-up, shut-down, upset or malfunction, the flare will not be subject to Section 60.104(a)(1). However, when the hydrogen plant sends gases to the flare due to "customer constraint", "contractual outage", or planned maintenance, the flare will be subject.

In any case, the flare will comply with the standard because it will only burn clean hydrogen or PSA gas. In those cases where the flare is subject to the standard, the facility will be required to monitor the H2S content of the gas continuously in accordance with Section 60.104, unless the facility obtains an alternative monitoring plan from USEPA.

EPA proposed changes to Subpart J on May 14, 2007, and intends to finalize changes by April 2008. If these changes allow the facility to monitor the H2S content in a different way or exempts some fuels from monitoring, the permit condition will allow Air Liquide to take advantage of changes in the standard when the changes are finalized.

MONITORING ANALYSIS

S1, Hydrogen Plant is subject to an annual throughput limit, cumulative increase limits of 4.35 lb POC/day from the deaerator vent and 8.2 lb fugitive POC/day, an ammonia limit of 0.64 lb/hr from the deaerator vent, and a limit on total sulfur in the feed to the hydrogen plant. The hydrogen plant is also subject to the combined organic compound limit in BAAQMD Regulation 8, Rule 2. The hydrogen plant will be subject to an annual source test to determine compliance with the deaerator vent limits. The owner/operator will determine compliance with the fugitive POC limit by using the methods in BAAQMD Regulation 8, Rule 18, Equipment Leaks. The total sulfur content of the feed to the hydrogen plant will be determined once per week at the outlet of the zinc oxide feed treatment system in the hydrogen plant by taking a grab sample and measuring it once per week. Alternately, the owner/operator may install an SO2 CEM on S2, Hydrogen Plant Furnace stack. Sulfur in the hydrogen plant feed is removed by the zinc oxide feed treatment system. The plant has two beds of zinc oxide and monitors sulfur at the outlet periodically. If the sulfur is removed from the feed, the syngas (PSA gas) that is fed to the hydrogen plant furnace and that provides approximately 85% of the heat input to the furnace should have no sulfur. Therefore, monitoring for sulfur in the feed is an effective method of ensuring that the syngas has no sulfur. Since the amount of zinc oxide should last at least nine months, monitoring on a weekly basis is sufficient monitoring. The

owner/operator also has the option of installing an SO2 CEM on the S2, Hydrogen Plant Furnace, stack.

S2, Hydrogen Plant Furnace, has limits on hourly and annual heat input, concentration limits on NOx, CO, and NH3, lb/MMbtu limits on POC, SO2, and PM10, hourly and annual mass emission limits on NOx, CO, POC, PM10, and SO2, NH3, and sulfuric acid mist, and sulfur and H2S limits on the fuel. The heater will have a fuel meter to ensure compliance with the heat input limits. Since the heater is abated by SCR, it will have a NOx CEM to ensure that the abatement device is in compliance. A CO CEM was required by 40 CFR 63, Subpart DDDDD, before it was vacated by the DC Circuit Court on June 8, 2007. The District will require a CO CEM as part of case-by-case MACT pursuant to 40 CFR 63.52(a). The fuel gas will be monitored for H2S with a continuous emission monitor as required by 40 CFR 60, Subpart J, unless EPA amends the standard to allow another monitoring method. In addition, total sulfur will be monitored 3 times/day. The owner/operator will perform an annual test for compliance with the POC, PM10, SO2, sulfuric acid mist, and ammonia limits. Non-compliance with the POC and PM10 limits are not expected at this source. Since the source will be permitted to emit about 24 tpy of ammonia, the owner/operator will develop a correlation between the ammonia concentration and the ammonia injection rate. After the correlation is developed, the owner/operator will monitor ammonia continuously via the injection rate.

S3, Hydrogen Plant Flare
The flare is subject to annual limits for NOx, CO, POC, PM10, SO2 and a daily limit for NOx. Emissions will be monitored by installing a flow meter at the inlet to the flare and calculating the emissions for each event in the same manner as shown in Appendix A.

If gases are sent to the flare that are not considered to be startup, shutdown, malfunction, or upset gases, the facility must monitor the gases continuously for H2S in accordance with 40 CFR 60.104.

In addition, the flare is subject to standard conditions to determine if the 1.0 Ringelmann limit in BAAQMD Regulation 6-301 is exceeded during flaring events.

S4, Cooling Tower, is subject to monitoring of dissolved solids to ensure that the particulate matter emissions are as described in the permit application. It is also subject to visual monitoring, and chlorine content monitoring to ensure that POC emissions are as described. If POC emissions are found, the owner/operator must measure the POC emissions using EPA Laboratory Method 8015.

S5, Ammonia Tank: The tank is not expected to have emissions, so no monitoring has been imposed.

Overall annual emission limits have been imposed in Condition 23181, parts B.1-B.3, to ensure that the emissions of the project are less than the emissions proposed by the applicant. The reason that this condition has been imposed is to allow the facility to exceed certain limits during startup and shutdown and still comply with the annual limits. Part B.4 contains the monitoring and reporting for these limits.

CEQA

The California Environmental Quality Act (CEQA) calls for a review of potential significant environmental impacts from proposed projects. This project has been determined to be subject to CEQA by the Contra Costa County Community Development Department (CCCCDD). The CCCCDD is the Lead Agency for CEQA for this project. In accordance with Regulation 2-1-310.3, the District may not issue an Authority to Construct for this project until final action has been taken by the Lead Agency. A draft Environmental Impact Report (EIR) was prepared by the CCCCDD in November, 2006. This EIR includes all sources and activities that are the subject of this application. The District is a responsible agency under CEQA and has provided comments to the CCCCDD on the draft EIR. These comments, as well as others received by CCCCDD have been addressed in a revised EIR.

On September 25, 2007, the final EIR was certified by the Contra Costa County Board of Supervisors. The District must act on the application within 30 days of the certification.

As a responsible agency, the District has prepared findings for the purposes of CEQA. They are attached in Appendix C.

NESHAPS

40 CFR 63, Subpart CC

The deaerator vents at the hydrogen plants are not considered miscellaneous process vents according to Section 60.641.

Relief valve discharges are not considered miscellaneous process vents.

40 CFR 63, Subpart DDDDD

S2, Hydrogen Plant Furnace, is subject to 40 CFR 63, Subpart DDDDD, National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters. The DC Circuit Court vacated the standard on June 8, 2007. Where there is no MACT for a new source and the deadline for promulgation of a standard by EPA is past, local agencies must determine case-by-case MACT for the new source, in accordance with 40 CFR 63.52(a). The emission limit for S2 in the standard was 400 ppm CO. There were no other limits for gaseous-fueled boilers. A CO CEM was required for units over 100 MMbtu/hr.

The reason that the court gave for vacating the MACT was that EPA had inappropriately classified solid waste incineration units that were subject to Section 129 of the Clean Air Act as solid fuel units that were subject to the MACT. This classification greatly increased the number of units subject to the MACT and therefore skewed the determination of the MACT floor. The court stated that the "universe of units … will be far smaller and more homogenous [sic]" after the solid waste units were taken out of the group of units affected. The court expects that the rule will change substantially when EPA considers the smaller pool of units.

One possible outcome is that the standards may become more stringent because the HAP emissions from the solid waste incineration units are expected to be higher. The MACT "floor" is based on the performance of the top 12 percent of the units in a category.

EPA had determined that CO was an appropriate surrogate for organic HAPs. The argument was that high CO was indicative of poor combustion and therefore, poor destruction of organic HAPs. This is a reasonable assumption.

Following are the CO limits proposed by EPA:

- New, large and limited use solid fuel units: 400 PPM @ 7% O2
- Small solid fuel units: None
- New, large and limited use liquid fuel units: 400 PPM @ 3% O2
- Small liquid fuel units: None
- New, large and limited use gaseous fuel units: 400 PPM @ 3% O2
- Small gaseous fuel units: None
- Existing units None

Small units are defined as units with a capacity less than 10 MMbtu/hr.

Gaseous-fueled units are not expected to be sources of metallic or inorganic HAP.

The MACT limit for S2, therefore, was 400 PPM @ 3% O2, which is equivalent to the BAAQMD Regulation 9, Rule 7, Nitrogen Oxides and Carbon Monoxide from Industrial, Institutional, and Commercial Boilers, Steam Generators, and Process Heaters, which was adopted in 1992.

The District does not have the resources to survey all industrial, commercial, and institutional boilers and process heaters in the United States and determine the MACT "floor." However, the District notes that the CO BACT limit in the District's BACT workbook for boilers over 50 MMbtu/hr has been 50 ppmv since 2005. For refinery process heaters over 50 MMbtu/hr, the BACT limit has been 50 ppmv since 1994. The South Coast AQMD has had BACT limits for CO of 50 ppm for boilers since 2000.

On page 1680, column 3, second paragraph, of the MACT proposal published on January 13, 2003, EPA states:

> "The approach that we use to calculate the MACT floors for new sources is somewhat different from the approach that we use to calculate the MACT floors for existing sources. While the MACT floors for existing units are intended to reflect the average performance achieved by a representative group of sources, the MACT floors for new units are meant to reflect the emission control that is achieved in practice by the best controlled source. Thus, for existing units, we are concerned about estimating the central tendency of a set of multiple units, while for new units, we are concerned about estimating the level of control that is representative of that achieved by a single best controlled source."

If we agree with EPA that low CO levels indicate low levels of organic HAPs, then lower CO levels are better than higher CO levels. Considering that the "best controlled sources" have CO levels that are 50 ppm or lower, 400 ppm cannot be considered to be the proper MACT limit for a new gaseous-fueled source. The source is subject to a BACT CO limit of 10 ppm CO @ 3% O2. This level will be considered to be presumptive MACT for this source until EPA re-proposes and re-promulgates MACT. Since it is not expected that EPA will propose a limit that is lower than this limit, the source incurs no risk from this determination. Due to the size of the source, the CEM for CO will still be required.

40 CFR 70, Title V

The facility is subject to the Title V program because it is part of a major facility (the ConocoPhillips Refinery and Carbon Plant) as defined by BAAQMD Regulation 2-6-206. The definition of "Part 70 permit" in Section 70.2 acknowledges that a "group of permits" may cover a "source." (EPA's definition of "source" is similar to the District's definition of "facility.") Because more than one permit may be given to a facility, the District may grant a separate permit to Air Liquide.

The District will propose the Title V permit after the District has received public comment on and finalized the conditions.

40 CFR 72-78, ACID RAIN

Electricity will be generated using excess heat at the hydrogen plant. The hydrogen plant will not be subject to 40 CFR 72-78 because it will not sell electricity. The hydrogen plant or ConocoPhillips will consume all electricity that is produced. The standards apply only to "utilities," which are defined in 40 CFR 72.2 as "any person who sells electricity."

PSD

The discussion of the PSD analysis is contained in the engineering evaluation for Application 13424 and is hereby incorporated by reference. However, the conclusion will be restated here.

The combined project for the ConocoPhillips refinery, the Air Liquide hydrogen plant, and the ConocoPhillips Carbon Plant was subject to PSD because the emissions increase for PM10 was over 15 tons per year. After the permit was proposed, the applicants decided to reduce the PM10 emissions by 2 tons per year, which may be accomplished either by lowering the PM10 concentration or by curtailing operations, and to withdraw the PSD application. Therefore, the project is no longer a PSD project.

6. RECOMMENDATIONS

Issue a conditional authority to construct for the following sources:

S1, Hydrogen Plant (120 MMscf/day) including HRSG and steam turbine generator (12 MW)
S2, Hydrogen Plant Furnace, 1072 MMbtu/hr abated by A1, SCR
S3, Hydrogen Plant Flare, 2200 MMbtu/hr

Issue a letter of exemption to the following sources:

S4, Cooling Tower, 3,700 gpm (exempt per BAAQMD Regulation 2-1-128.4)
S5, Ammonia Tank, 10,000 gal 19% aqueous solution (exempt per BAAQMD Regulation 2-1-113.2)

7. PERMIT CONDITIONS

Any condition that is preceded by an asterisk is not federally enforceable.

"BAAQMD Regulation 2, Rule 5" replaces the following basis for permit conditions: "Toxics Risk Management."

CONDITION 23178

S1, Hydrogen Plant

1. The production of S1, Hydrogen Plant, shall not exceed 120 MMscf H2/day, averaged over any consecutive 12-months. [Cumulative Increase]

2. The owner/operator of the electrical generator associated with the hydrogen plant shall not generate more than 12 MW at any time. The owner/operator shall ensure that the hydrogen plant or the refinery consumes all of the electricity that is produced by the generator. [2-1-301, 2-1-305]

3. The owner/operator shall not burn any fuel in the HRSG associated with the S1, Hydrogen Plant. [2-1-301, 2-1-305]

4. The owner/operator shall ensure that the emissions of POC from the deaerator vent at S1 do not exceed 4.35 lb/day. [2-1-301, 2-1-305, Cumulative Increase]

5. The owner/operator shall ensure that the emissions of NH3 from the deaerator vent at S1 do not exceed 0.64 lb/hr. [Regulation 2, Rule 5]

6. The owner/operator shall ensure that the fugitive emissions of POC from the components (valves, flanges, pumps, compressors, connectors, sample points, etc.) at the hydrogen plant do not exceed 3,000 lb/year. [Cumulative Increase, 2-1-305]

7. The owner/operator shall ensure that the concentration of total sulfur in the feed to the hydrogen plant does not exceed 35 ppmv. [Cumulative Increase, 2-1-305]

8. The owner/operator shall measure total sulfur at the outlet of the zinc oxide feed treatment system in the hydrogen plant by taking a grab sample and measuring it once per week. Alternately, the owner/operator may install an SO2 CEM on S2, Hydrogen Plant Furnace stack. [BACT, Cumulative Increase]

9. No later than 90 days from the startup of S1 and every year thereafter, the owner/operator shall conduct a District-approved source test to determine compliance with the limit in Parts 4 and 5 for POC and NH3. The owner/operator shall conduct the POC source tests in accordance with the Manual of Procedures, Volume IV, Method ST-7 or EPA Method 25 or 25A. The owner/operator shall conduct the NH3 source tests in accordance with the Manual of Procedures, Volume IV, Method ST-1B. The owner/operator shall submit the source test results to the District staff no later than 60 days after the source test. [Cumulative Increase, 2-1-305]

10. The owner/operator shall ensure that all pressure relief devices on the process unit are vented to a fuel gas recovery system, furnace, or flare with a recovery/destruction efficiency of 98%. [8-28-302, BACT]

Fugitive Components at S1, Hydrogen Plant, and S2, Hydrogen Plant Furnace

11a. The owner/operator shall equip all new light hydrocarbon control valves installed at S1 and S2 with live loaded packing systems and polished stems, or equivalent.
[BACT]

11b. The owner/operator shall comply with a leak standard of 100 ppm of TOC (measured as C1) at any new valve installed at S1 and S2. The owner/operator shall not be considered in violation of the leak standard if the owner/operator complies with the applicable minimization and repair provisions contained in Regulation 8, Rule 18. [BACT, Regulation 8, Rule 18]

12. The owner/operator shall equip all new flanges/connectors installed in the light hydrocarbon piping systems at S1 and S2 with graphitic-based gaskets unless the service requirements prevent this material. [BACT]

13. The owner/operator shall equip all new hydrocarbon centrifugal compressors installed at S1 and S2 with "wet" dual mechanical seals with a heavy liquid barrier fluid, or dual dry gas mechanical seals buffered with inert gas. [BACT]

14. The owner/operator shall equip all new light hydrocarbon centrifugal pumps installed at S1 and S2 with a seal-less design or with dual mechanical seals with a heavy liquid barrier fluid, or equivalent. [BACT]

15. The owner/operator shall comply with a leak standard of 100 ppm of TOC (measured as C1) at any new pumps and/or compressors installed at S1 and S2. The owner/operator shall not be considered in violation of the leak standard if the owner/operator complies with the applicable minimization and repair provisions contained in Regulation 8-18. All pumps and/or compressors subject to the leak standard of 100 ppm TOC shall be included in the total number of pumps and compressors used in Regulation 8-18-306.2 to determine the total number of non-repairable pumps and compressors allowed. [BACT] [BACT]

16. The Owner/Operator shall submit a count of installed pumps, compressors, valves, and flanges/connectors every 180 days starting the startup date of the first unit, S1 or S2, until construction is complete. For flanges/connectors, the owner/operator shall also provide a count of the number of graphitic-based and non-graphitic gaskets used. The owner/operator has been permitted to install fugitive components (948 valves in gas service, 48 valves in light liquid service, 4,193 flanges in gas service, 98 flanges in light liquid service, 5 pumps in light liquid service, 4 sample connections in gas service, 3 compressors in gas service) with a total POC emission rate of 1.5 ton/yr. The exact number of components may change without penalty. If there is an increase in the total fugitive component emissions, the plant's cumulative emissions for the project shall be adjusted to reflect the difference between emissions based on predicted versus actual component counts. The owner/operator shall provide to the District all additional required offsets at an offset ratio of 1.15:1 no later than 14 days after the submittal of the final POC fugitive equipment count. If the actual component count is less than the predicted, at the completion of the project, the total will be adjusted accordingly and all emission offsets applied by the owner/operator in excess of the actual total fugitive emissions will be credited back to owner/operator prior to issuance of the permits. [BACT, Cumulative Increase, Regulation 2, Rule 5]

(The sentence about changes in the exact number of components has been added in response to a comment by the applicant. This note will be removed in the final permit conditions.)

17. Inspections

    The owner/operator shall conduct inspections of new fugitive components installed at S1 and S2 in light hydrocarbon service with an initial boiling point less than or equal to 302 degree F in accordance with the frequency listed below:

    Pumps: Quarterly
    Compressors: Quarterly
    Valves: Quarterly
    Connectors (Not Flanges): Annual
    Flanges: Annual

    [BACT, Regulation 8, Rule 18]

18. In order to determine compliance with part 6, the owner/operator shall determine the daily emissions of fugitive components within 90 days of

start-up, and within 30 days of the end of every calendar quarter thereafter. The owner/operator shall use the last concentration measured in accordance with BAAQMD Regulation 8, Rule 18, for each component. The owner/operator shall use the equations in ARB publication California Implementation Guidelines for Estimating Mass Emissions of Fugitive Hydrocarbon Leaks at Petroleum Facilities. [Cumulative Increase, Regulation 2-1-305]

CONDITION 23179

S2, Hydrogen Plant Furnace

1. S2 shall use only pressure swing adsorption (PSA) off gas, refinery fuel gas and pipeline quality natural gas as fuel. [Cumulative Increase]

2. Total fuel firing at S2 shall not exceed 9,636,000 MMbtu (HHV) over any consecutive 12-month period. [Cumulative Increase]

3. Total fuel firing at S2 shall not exceed 1,072 MMbtu (HHV) during any clock hour. [Cumulative Increase]

4. The owner/operator shall ensure that the feed to S2 does not contain more than 35 ppmv total sulfur. [BACT, Cumulative Increase, 2-1-305]

5. The following emission concentration limits from S2 shall not be exceeded. These limits shall not apply during startup periods not exceeding 24 hours (120 hours when drying refractory or during the first startup following catalyst replacement) and shutdown periods not exceeding 24 hours. The District may approve other startup and shutdown durations.

   a. NOx: 5 ppmv @ 3% oxygen, averaged over any clock hour [BACT]
   b. CO: 10 ppmv @ 3% oxygen, averaged over any 1 hour period [BACT, 40 CFR 63.52(a)]
   c. POC: 0.0027 lb/MMbtu, averaged over any 1 hour period [BACT]
   d. PM10: 0.0037 lb/MMbtu, averaged over any 1 hour period [BACT]
   e. SO2: 0.0012 lb/MMbtu, averaged over any 1 hour period [BACT]
   [BACT]

(The manufacturer requires 120 hours for the drying of refractory or after a catalyst change. This is allowable because the emissions will be within the annual limits. This note will be removed in the final permit conditions.)

6. *The following emission concentration limits from S2 shall not be exceeded. NH3: 10 ppmv @ 3% oxygen (8 hr average) [Regulation 2, Rule 5]

7a. The following hourly mass emission limits from S2 shall not be exceeded. These limits shall not apply during startup periods not exceeding 24 hours (120 hours when drying refractory or during the first startup following catalyst replacement) and shutdown periods not exceeding 24 hours. The District may approve other startup and shutdown durations.

   a. NOx: 7.5 lb per clock hour [BACT]
   b. CO: 9.1 lb per clock hour [BACT]

c. POC: 3.5 lb per clock hour [BACT]
d. PM10: 4.8 lb per clock hour [BACT]
e. SO2: 1.5 lb per clock hour [BACT]

7b. The following hourly mass emission limit from S2 shall not be exceeded.
a. NOx: 50 lb per clock hour [BACT]
[BACT]

8. *The following hourly mass emission limit from S2 shall not be exceeded.
a. NH3: 6.5 lb per clock hour
[Regulation 2, Rule 5]

9. The following hourly mass emission limit from S2 shall not be exceeded.
a. Sulfuric acid mist: 0.098 lb per clock hour
[Regulation 2, Rule 5, PSD]

10. The following annual mass emission limits from S2 shall not be exceeded including periods of startup, shutdown, upset and malfunction:
a. NOx: 28.1 tons per any consecutive 12 months [BACT]
b. CO: 34.2 tons per any consecutive 12 months [BACT]
c. POC: 11.5 tons per any consecutive 12 months [BACT]
d. PM10: 13.8 tons per any consecutive 12 months [BACT]
e. SO2: 5.0 tons per any consecutive 12 months [BACT]
[Cumulative Increase]

11. *The following annual mass emission limits from S2 shall not be exceeded including periods of startup, shutdown, upset and malfunction.
a. NH3: 48,200 lb per any consecutive 12 months
[Regulation 2, Rule 5]

12. The following annual mass emission limits from S2 shall not be exceeded including periods of startup, shutdown, upset and malfunction.
a. Sulfuric acid mist: 860 lb any consecutive 12 months
[2-1-305, Regulation 2, Rule 5, PSD]

13. A1, SCR unit, shall abate the S2, Hydrogen Plant Furnace, at all times, with the following exceptions. Operation of A1 is not required for limited periods during startup and shutdown. S2 may operate without SCR abatement on a temporary basis for periods of planned or emergency maintenance. A District-approved NOx CEM shall monitor and record the S2 NOx emission rate whenever S2 operates without abatement. All emission limits applicable to S2 shall remain in effect even if it is not operated with SCR abatement. [BACT, Cumulative Increase]

14a. The owner/operator shall test refinery fuel gas prior to combustion at S2 to determine total sulfur concentration with a total sulfur analyzer (Houston Atlas or equivalent) at least once per 8-hour shift (3 times per calendar day). At least 90% of these samples shall be taken each calendar month. No readable samples or sample results shall be omitted. To demonstrate compliance with Part 4, the owner/operator shall measure and record the daily average sulfur content. The owner/operator shall keep records of

sulfur content in fuel gas for at least five years and shall make these records available to the District upon request. The owner/operator is not required to test PUC-quality natural gas for total sulfur. If the sulfur content of feed to S1, Hydrogen Plant, is monitored in accordance with Condition 23178, part 8, and the sulfur content is less than 35 ppmv, the owner/operator is not required to test PSA gas for total sulfur. [BACT, Cumulative Increase]

14b. If the owner/operator elects to install a SO2 CEM at the S2, Hydrogen Plant Furnace, stack, the owner/operator is not required to perform the monitoring in Condition 23178, parts 7 and 8 and Condition 23179, parts 4, 14a, and 15. In this case, the monitor shall comply with BAAQMD Manual of Procedures, Volume V, and 40 CFR 60.105(a)(3). The monitor shall be used to determine compliance with the SO2 limits in 40 CFR 60.105(a)(3) of 20 ppmdv @ 0% O2, the lb/MMbtu limit in part 5e, the hourly limit in part 7a, and the annual limits in part 10 and Condition 23181, part B.2.

(Parts 14b has been amended at the applicant's request to allow the use of SO2 CEM monitoring that is allowed by Condition 23179, part 14b, to determine compliance with the annual limits. This note will not appear in the final permit conditions.)

15. The owner/operator shall install, calibrate, maintain, and operate a District-approved continuous monitoring system and recorder for H2S in the gas that is burned by the heater. The owner/operator shall keep the H2S data for at least five years and shall make these records available to the District upon request. If USEPA amends 40 CFR 60, Subpart J, such that a continuous monitoring system is not required for this heater, the owner/operator will not be required to install the system. If the system has been installed, the owner/operator may remove the system. [40 CFR 60.105(a)(4), Cumulative Increase]

16. No later than 90 days from the startup of S2, the owner/operator shall conduct District-approved source tests to determine initial compliance with the limits in Parts 5, 6, 7, 8, and 9 for NOx, CO, POC, PM10, NH3, SO2, sulfuric acid mist, and POC. The owner/operator shall conduct the source tests in accordance with Part 18. The owner/operator shall submit the source test results to the District source test manager and the District Director of Compliance and Enforcement no later than 60 days after the source test. [BACT, Cumulative Increase, PSD]

17. On an annual basis, the owner/operator shall conduct District-approved source tests to determine compliance with the limits in Parts 5c, 5d, 5e, 7c, 7e, 7e, 8, and 9 for POC, PM10, NH3, SO2, and sulfuric acid mist. The owner/operator shall conduct the source tests in accordance with Part 18. The owner/operator shall submit the source test results to the District source test manager and the District Director of Compliance and Enforcement no later than 60 days after the source test. [BACT, Cumulative Increase, PSD, Regulation 2, Rule 5]

18. The owner/operator shall submit protocols for all source test procedures to the District's Source Test Section prior to conducting any tests. The owner/operator shall comply with all applicable testing requirements for continuous emissions monitors as specified in Volume V of the District's Manual of Procedures. The owner/operator shall notify the District's Source Test Section, in writing, of the source test protocols and projected test dates at least 7 days prior to testing. [BACT, Cumulative Increase, PSD]

19. The following instruments shall be installed and maintained to demonstrate compliance with Parts 5a, 5b, 7a, 7b, 9a and 9b, BAAQMD Regulation 1-520 and 40 CFR 63.52:
    a. continuous NOx analyzer/recorder
    b. continuous CO analyzer/recorder
    c. continuous O2 or CO2 analyzer/recorder
    The instruments shall operate at all times of operation of S2 including start-up, shutdown, upset, and malfunction, except as allowed by BAAQMD Regulation 1-522, BAAQMD Manual of Procedures, Volume V, and 40 CFR 63, Subpart DDDDD. If necessary to comply with this requirement, the owner/operator shall install dual-span monitors.
    [1-520, BACT, Cumulative Increase, 40 CFR 63.52(a)]

20. The owner/operator shall equip S2 with a District-approved continuous fuel flow monitor and recorder in order to determine fuel consumption. A parametric monitor as defined in Regulation 1-238 is not acceptable. The owner/operator shall keep continuous fuel flow records for at least five years and shall make these records available to the District upon request.
    [Cumulative Increase]

21. Ammonia (NH3) emission concentrations at the hydrogen plant stack shall not exceed 10 ppmv, on a dry basis, corrected to 3% O2, on a clock hour basis. This ammonia emission concentration shall be verified by the continuous recording of the ammonia solution injection rate to A1, SCR. The correlation between the heat input rates, the SCR ammonia solution injection rates, and corresponding ammonia emission concentration at the hydrogen plant stack shall be determined in accordance with permit condition 23. (Regulation 2, Rule 5)

22. The owner/operator shall demonstrate compliance with part 21 by using a properly operated and maintained continuous monitor (during all hours of operation including start-up and shutdown periods) for the ammonia solution injection rate. The owner/operator shall record the ammonia solution injection rate every 15 minutes (excluding normal calibration periods) and shall summarize the ammonia solution injection rate for each clock hour. (Regulation 2, Rule 5)

23. Within 60 days of start-up of the hydrogen plant furnace, the owner/operator shall conduct a District-approved source test on at the hydrogen plant stack to determine the corrected ammonia emission concentration to determine compliance with part 21. The source test shall determine the correlation between the heat input rates of the hydrogen plant furnace, the ammonia

solution injection rate, and the corresponding ammonia emission concentration at the emission point. The source test shall be conducted over the expected operating range of the hydrogen plant furnace to establish the range of ammonia solution injection rates necessary to achieve NOx emission reductions while maintaining ammonia slip levels. Source testing shall be repeated on an annual basis thereafter. Ongoing compliance with part 21 shall be demonstrated through calculations of corrected ammonia concentrations based upon the source test correlation and continuous records of ammonia solution injection rate. Source test results shall be submitted to the District within 45 days of conducting the tests. (Regulation 2, Rule 5)

CONDITION 23180

S3, Hydrogen Plant Flare

1. The owner/operator shall ensure that only the following streams are sent to S3, Hydrogen Plant Flare:
   a. Hydrogen
   b. Syn-gas
   c. Venting from the ammonia tank
   d. PSA Offgas

   The owner/operator shall ensure that any feed for S1, Hydrogen Plant, or any fuel including natural gas that is provided to S2, Hydrogen Plant Furnace, is not flared in S3, Hydrogen Plant Flare.
   [2-1-305]

2. S3, Hydrogen Plant Flare, may be used during startup, shutdown, upset, or malfunction of S1, Hydrogen Plant, loss of the PSA process, PSA maintenance, contractual outage, and customer constraint, as long as the emissions do not exceed the limits in part 4. [2-1-305, Cumulative Increase]

3. The owner/operator shall install a flow meter to determine the flow of gases to the flare. The flow meter shall comply with the requirements for flow meters in BAAQMD Regulation 12, Rule 11. [Cumulative increase]

4. The owner/operator shall ensure that the emissions of S3, Hydrogen Plant Flare, do not exceed the following limits:
   a. NOx: 2.8 tons/any consecutive 12 months [Cumulative increase]
   b. CO: 12.1 tons/any consecutive 12 months [Cumulative increase]
   c. NOx: 129 lb/any consecutive 60 minutes [2-1-403, CAAQS]

5. The owner/operator shall estimate the emissions every month by using the flow data to the flare and estimating emissions using the emission factors provided in Application 13678. [Cumulative increase]

6. If the limits in parts 4a and 4b are exceeded, the owner/operator shall apply to increase the annual limit within 60 days of determining that the limit has been exceeded, and shall provide offsets for the increase in the limits. If the limit in part 4c is exceeded, the owner/operator shall determine using

PSD modeling if the CAAQS or NAAQS for NO2 was exceeded during the event, and if so, shall report the exceedance to the BAAQMD Director of Enforcement and Compliance. [2-1-403, CAAQS, Cumulative increase]

7. For the purposes of these conditions, a flaring event is defined as a flow rate of vent gas flared in any consecutive 15 minutes period that continuously exceeds 330 standard cubic feet per minute (scfm). If during a flaring event, the vent gas flow rate drops below 330 scfm and then increases above 330 scfm within 30 minutes, that shall still be considered a single flaring event, rather than two separate events. For each flaring event during daylight hours (between sunrise and sunset), the owner/operator shall inspect the flare within 15 minutes of determining the flaring event, and within 30 minutes of the last inspection thereafter, using video monitoring or visible inspection following the procedure described in Part 8. [Regulation 2-6-409.2]

8. The owner/operator shall use the following procedure for the initial inspection and each 30-minute inspection of a flaring event.

~~a. If the owner/operator can determine that there are no visible emissions using video monitoring, then no further monitoring is necessary for that particular inspection.~~

b. If the owner/operator cannot determine that there are no visible emissions using video monitoring, the owner/operator shall conduct a visual inspection outdoors using either:

i. EPA Reference Method 9; or

ii. Survey the flare by selecting a position that enables a clear view of the flare at least 15 feet, but not more than 0.25 miles, from the emission source, where the sun is not directly in the observer's eyes.

c. If a visible emission is observed, the owner/operator shall continue to monitor the flare for at least 3 minutes, or until there are no visible emissions, whichever is shorter.

d. The owner/operator shall repeat the inspection procedure for the duration of the flaring event, or until a violation is documented in accordance with Part 9. After a violation is documented, no further inspections are required until the beginning of a new calendar day.

[Regulation 6-301, 2-1-403]

9. The owner/operator shall comply with one of the following requirements if visual inspection is used:

~~a. If EPA Method 9 is used, the owner/operator shall comply with Regulation 6-301 when operating the flare.~~

~~b. If the procedure of Part 8.b.ii is used, the owner/operator shall not operate a flare that has visible emissions for three consecutive minutes.~~

[Regulation 2-1-403]

10. The owner/operator shall keep records of all flaring events, as defined in Part 7. The owner/operator shall include in the records the name of the person performing the visible emissions check, whether video monitoring or

visual inspection (EPA Method 9 or visual inspection procedure of Part 8) was used, the results of each inspection, and whether any violation of this condition (using visual inspection procedure in Part 8) or Regulation 6-301 occurred (using EPA Method 9). [Regulation 2-1-403]

11. The owner/operator will ensure that S3, Flare, complies with all applicable provisions of 40 CFR 60, Subpart J. This provision will be deleted when the applicable citations from this standard are incorporated into the Major Facility Review permit. [40 CFR 60, Subpart J]

12. The owner/operator shall install, calibrate, maintain, and operate a District-approved continuous monitoring system and recorder for H2S in the gas that is burned by the flare. The owner/operator shall keep the H2S data for at least five years and shall make these records available to the District upon request. If USEPA amends 40 CFR 60, Subpart J, such that a continuous monitoring system is not required for this flare, the owner/operator will not be required to install the system. If the system has been installed, the owner/operator may remove the system. [40 CFR 60.105(a)(4), Cumulative Increase]

An annual PM10 limit for sources in Facilities A0016 and B7419 was added to ensure that the CFEP project does not exceed PSD thresholds for PM10.

CONDITION 23181

A. Facility Conditions

1. *The owner/operator shall notify the District in writing by fax or email no less than three calendar days in advance of any scheduled startup or shutdown of any process unit, and, for any unscheduled startup or shutdown of a process unit, within 48 hours or within the next normal business day. The notification shall be sent in writing by fax or email to the Director of Enforcement and Compliance. This requirement is not federally enforceable. [Regulation 2-1-403]

2. The owner/operator shall ensure that the concentration of ammonia in the ammonia tank is less than 20% by weight so that 40 CFR 68, Accidental Release, does not apply. [2-1-305]

B. Project Mass Emission Limits

1. Following are the sources that are subject to the project mass emission limits:
   S1, Hydrogen Plant including HRSG and steam turbine generator
   S2, Hydrogen Plant Furnace
   S3, Hydrogen Plant Flare
   [Cumulative Increase, 2-1-403]

2. The owner/operator shall ensure that the annual emissions of the above sources do not exceed the following annual emission limits, including periods of startup, shutdown, malfunction, and upset emissions.
   a. NOx 30.9 tpy [Cumulative Increase, 2-1-403]
   b. SO2 5.0 tpy [Cumulative Increase, 2-1-403]

c.	PM10	13.8 tpy [Cumulative Increase, 2-1-403]
d.	POC	13.9 tpy [Cumulative Increase, 2-1-403]
e.	CO	46.2 tpy [Cumulative Increase, 2-1-403]
f.	Sulfuric acid mist	0.43 tpy [PSD]
*g.	Ammonia	26.9 tpy [Regulation 2, Rule 5]

3. The owner/operator shall ensure that the daily emissions of the above sources do not exceed the following daily emission limit, including periods of startup, shutdown, malfunction, and upset emissions.
   a. Sulfuric acid mist 2.35 lb/day [PSD]

4. The owner/operator shall determine whether the emissions are below the allowable mass emissions for the above sources as shown below. The owner/operator calculate and report the emissions of NOX, SO2, PM10, POC, CO, ammonia, and sulfuric acid mist on an annual basis in the following manner.
   a. The owner/operator shall the use the POC emission rate determined by the annual source test data at the deaerator for S1.
   b. The owner/operator shall use the data generated by the BAAQMD Regulation 8, Rule 18, monitoring to determine the annual POC emission rate for the components.
   c. The owner/operator shall use the mass emissions data generated by the NOx and CO CEMs at S2.
   d. The owner/operator shall use the monitoring for total sulfur in the feed to the hydrogen plant or CEM monitoring of SO2 at the outlet of the hydrogen plant furnace.
   e. The owner/operator shall use the monitoring for total sulfur in the feed to the hydrogen plant furnace or CEM monitoring of SO2 at the outlet of the hydrogen plant furnace.
   f. The owner/operator shall use the emission rates of sulfuric acid mist, PM10, POC, and CO determined in annual source tests at S2 and the records of heat input to calculate emissions of sulfuric acid mist, PM10, POC, and CO.
   g. The owner/operator shall use the ammonia injection monitoring and the records of heat input to calculate emissions of ammonia.
   h. The owner/operator shall use the calculations of flare emissions required by BAAQMD Condition 23180, part 5.

   [2-1-305]

(Parts 4d and 4e have been amended to allow the use of SO2 CEM monitoring that is allowed by Condition 23179, part 14b. This note will not appear in the final permit conditions.)

5. If the annual emissions, as determined in part B.4, are above the allowable emissions for the project, the owner/operator shall supply additional offsets, where applicable, and perform additional analysis for PSD, if necessary. The results of the analysis shall be submitted to the Director of Compliance and Enforcement on an annual basis on the anniversary of the startup of S2, Hydrogen Plant Furnace. [2-1-403]

6. The annual emissions of the following sources shall not exceed 16.3 tons PM10/yr: S45, S434, and S1004 at Facility A0016, and S2 and S3 at

Facility B7419. If the emissions exceed 16.3 tons in any consecutive 12 month period, the owners/operators of Facilities A0016 and B7419 shall provide contemporaneous offsets of PM10 that comply with BAAQMD Regulations 2-2-201 and 2-2-605. [1-104, 2-2-304]

7. The owner/operator shall comply with the requirements of BAAQMD Regulation 8, Rule 18. (This part will be deleted after the Title V permit is issued.) [BAAQMD Regulation 8, Rule 18]

CONDITION 23414

S4, Cooling Tower

1. The owner/operator shall ensure that the cooling tower is designed to have a drift of no more than 0.005% of total cooling water flow. [Cumulative Increase]

2. The owner/operator shall ensure that the dissolved solids content in the cooling water at S4, Cooling Tower, does not exceed 3000 ppm total dissolved solids. [Cumulative Increase]

3. The owner/operator shall take a sample and perform a visual inspection of the cooling tower water at the cooling tower on a daily basis to check for signs of hydrocarbon in the cooling water. (Regulation 2-6-503)

4. The owner/operator shall take a sample of the cooling tower water 3 times per week at the cooling tower and analyze for chlorine content as an indicator of hydrocarbon leakage into the cooling water. On a monthly basis, the owner/operator shall sample the water in the inlet line and in the return line of the cooling tower and determine the VOC content in each line using EPA laboratory method 8015. (Regulation 2-6-503)

5. The owner/operator shall maintain monthly records of sodium hypochlorite usage at each cooling tower above. (Regulation 2-6-501)

6. The owner/operator shall sample the cooling tower water at least once per month and subject the sample to a District approved laboratory analysis to determine its total dissolved solids content. (Regulations 2-6-503)

7. If the monitoring in part 3 or part 4 indicates that there is a hydrocarbon leak into the cooling water, the owner/operator shall submit a report to the Enforcement and the Engineering divisions at the District. The owner/operator shall submit reports on a weekly basis until the monitoring indicates that no hydrocarbon leaks into the cooling water. (Regulation 1-441)

8. If the monitoring in part 3 or part 4 indicates a hydrocarbon leak, the owner/operator shall estimate the daily amount of VOC emitted using the following procedure. The owner/operator shall sample the water in the inlet line and in the return line and determine the VOC content in each line using EPA laboratory method 8015. This analysis shall be performed each week until VOC levels return to normal. The owner/operator shall report the VOC

estimates to the Enforcement and the Engineering divisions at the District on a monthly basis. The owner/operator shall use the VOC estimates to confirm that no more than 5 tons VOC per year was emitted at the source. If more than 5 tons VOC per year is emitted at the source, the facility shall submit an application for a District permit within 90 days of determining that the source is subject to District permits. If the source requires a permit, the source shall be subject to BACT and offsets. (Regulations 1-441, 2-1-424, 2-6-416.2, 2-6-501, 2-6-503)

9. The owner/operator shall maintain the following records for five years from the date of record:
   a. Records of daily visual inspection
   b. Records of chlorine content 3 times per week
   c. Records of monthly usage of sodium hypochlorite
   d. Records of monthly determination of total dissolved solids
   e. Records of any indications of hydrocarbon leaks
   f. Records of any analyses of VOC content in cooling tower inlet and outlet

   (Regulation 2-6-501)

By: _____ October 5, 2007

Brenda Cabral — Date

Supervising Air Quality Engineer

Appendix A

S1, Hydrogen Plant Emissions

The detailed calculations are available in electronic format upon request.

S2, Hydrogen Plant Furnace Emissions

The following emission calculations have been submitted by the applicant.

Hydrogen Plant Furnace Criteria Pollutant Emission Factors
Air Liquide Hydrogen Plant Operational Emissions

Pollutant	Emission Factor		EF (lb/MMBtu)	Reference
NOx	5	ppmvd @ 3% O_2	0.00658	SCAQMD BACT
SO_2	35	ppmv total S in RFG/NG	0.0012	BAAQMD BACT (PSA/fuel gas Mix)
PM10	3.8	lb/MMcf (natural gas)	0.0037	AP42 Section 1.4, Natural Gas Combustion (apply 1/2 value since 50% H2 in fuel)
POC	2.75	lb/MMcf (natural gas)	0.0027	AP42 Section 1.4, Natural Gas Combustion (apply 1/2 value since 50% H2 in fuel)
CO	10	ppmvd @ 3% O_2	0.0080	SCAQMD BACT

Assumptions for emissions factor table above:
(1) NOx, CO, and NH3 "ppm" emission factors converted to "lb/MMBtu" as follows:
(x [lb/MMBtu]) = (y ppm @ 3% O2) * (21% - 0%) / (21% - 3%) * (EPA Fd Factor [ft3/MMBtu]) / (Molar Volume [ft3/lbmol]) * (Molecular weight [lb/lbmol])

PM10 and POC "lb/MMcf" emission factors converted to "lb/MMBtu" as follows:
(x [lb/MMBtu]) = (Emission factor [lb/MMcf]) / (Natural gas heat content [Btu/scf])

Fd Factor:	9290	ft3/MMBtu (Air Liquide)
Molar volume:	379	ft3/lbmol (at STP: 25 C, 1 atm)
NOx MW:	46	lb/lbmol
CO MW:	28	lb/lbmol
NH3 MW:	17	lb/lbmol
SO2 MW:	64	lb/lbmol
PSA gas:	235	Btu/scf (ConocoPhillips)
Refinery Fuel Gas:	1340	Btu/scf (ConocoPhillips 3 year average)
Natural Gas	1020	Btu/scf (AP42 basis)

New Hydrogen Plant Furnace Criteria Pollutant Emissions

Criteria Pollutant	Emissions		
	lb/hr[(1)]	**lb/day[(1)]**	**ton/yr**
NOx	7.1	169	28.1
SO_2	1.2	30	5.0
PM10	4.0	95	15.8
POC	2.9	69	11.5
CO	8.6	206	34.2

Notes:

(1) Assumed heater rating:

Maximum daily:	1,072	MMBtu/hr
annual:	975	MMBtu/hr
Hydrogen plant capacity:	120	MMscf/day

The emission estimates above are based on an annual average heat input of 975 MMbtu/hr for 8760 hours per day. The facility has decided to limit the PM10 emissions at the furnace to 13.8 tons per year, which will either be accomplished by demonstrating that emissions are lower than 0.0037 lb/MMbtu or by curtailing operations. The resulting emissions are:

***Revised* New Hydrogen Plant Furnace Criteria Pollutant Emissions**

Criteria Pollutant	Emissions		
	lb/hr[(1)]	lb/day[(1)]	ton/yr
NOx	7.1	169	28.1
SO_2	1.2	30	5.0
PM10	4.0	95	13.8[2]
POC	2.9	69	11.5
CO	8.6	206	34.2

Notes:

(1) Assumed heater rating:

Maximum daily:	1,072	MMBtu/hr
annual:	975	MMBtu/hr
Hydrogen plant capacity:	120	MMscf/day

(2) Based on permit limit

S3, Hydrogen Plant Flare Emissions

The following emission calculations have been submitted by the applicant.

Estimated Flare Emissions
Air Liquide Hydrogen Plant Operational
Emissions

I. NOx and CO Factors

0.0641	lb NOx/MMBtu (TCEQ factor for non-steam assist, low-Btu flare, LHV)
0.5496	lb CO/MMBtu (TCEQ factor for non-steam assist, low-Btu flare, LHV)
98%	DRE for CO

II. Summary

Source	Pollutant	lb/hr	tpy
Pilot/Sweep Emissions	NOx	0.03	0.12
	CO	0.24	1.07
	SO2	0.0004	0.004

III. Calculations

A. Pilot Emissions

4	Pilots
91.9	scfh/pilot, Natural Gas
367.6	scfh total for pilots

116.7 scfh sweep gas, Natural Gas
484.3 scfh total for pilots and sweep gas
919 Btu/scf, Natural Gas LHV
10 Ppmv Sulfur in NG

NOx

484.3	scf NG	919	Btu	0.0641	lb NOx	1	MMBtu	=	0.028529 lb NOx
	hr		scf NG		MMBtu	1000000	Btu		hr
0.03	lb NOx	8760	hr	1	ton			=	0.124957 tons NOx
	hr		yr	2000	lb				yr

CO

484.3	scf NG	919	Btu	0.5496	lb CO	1	MMBtu	=	0.244611 lb CO
	hr		scf NG		MMBtu	1000000	Btu		hr
0.24	lb CO	8760	hr	1	ton			=	1.071398 tons CO
	hr		yr	2000	lb				yr

SO2

10	ft3 S	484.3	scf NG	1	lbmol S	32	lb S	=	0.000402 lb S
1000000	ft3 NG		hr	385.3	ft3 S		lbmol S		hr
0.0004	lb S	64	lb SO2					=	0.001 lb SO2
	hr	32	lb S						hr
0.00	lb SO2	8760	hr	1	ton			=	0.004 tons SO2
	hr		yr	2000	lb				yr

B. Customer Constraint

2.79 mmscfh of hydrogen

6 events per year
3.75 Hours per event
274 Btu/scf, HHV Hydrogen

NOx

2.79	mmscf H2	274	MMBtu	0.0641	lb CO			=	49.00 lb NOx
	hr		mmscf		MMBtu				hr
49.00	lb NOx	3.75	hours	6	events	1	ton	=	0.55 tons NOx
	hr		event		yr	2000	lbs		yr

C. Loss of PSA

7.74 mmscfh syngas
0.0516 scf Methane/scf Syngas
909 Btu/scf, methane
261.1 Btu/scf, syngas
835.31 Lbmol/hr CO
28 lb CO/lbmol
98% DRE for CO
1 Event/yr
5.3 hrs/event

CO

thermal

7.74	mmscf Syngas	0.0516	scf Methane	909	MMBtu	0.5496	lb CO	=	199.53 lb CO
	hr		scf Syngas		MMscf		MMBtu		hr

destroyed

835.31	lbmol CO	28	lb CO	0.98	DRE		=	467.77 lb CO
	hr		lbmol CO					hr

667.30	lb CO	1	event	5.3	hrs	1	ton	=	1.77	tons CO
	hr		yr		event	2000	lbs			yr

NOx

7.74	mmscf Syngas	261.1	MMBtu	0.0641	lb NOx			=	129.54	lb NOx
	hr		MMScf SG		MMBtu					hr

129.54	lb NOx	1	event	5.3	hrs	1	ton	=	0.34	tons NOx
	hr		yr		event	2000	lbs			yr

D. PSA Maintenance

Since the PSA has 12 beds, emissions are estimated by taking 2/12ths of the emissions from losing the entire PSA.

6 events/yr
1 hr/event

NOx	21.59	lb/hr
	0.06	Tpy
CO	111.22	lb/hr
	0.33	Tpy

E. Plant Maintenance

Maximum flaring will occur when the plant is operating at 50% capacity. Therefore, emissions are estimated by taking 1/2 of the Loss of PSA case.

2 events/yr
9 hrs/event

NOx	64.77	lb/hr

	0.57	tpy
CO	333.65	lb/hr
	2.94	tpy

F. Contractual Outage

Maximum flaring will occur when the plant is operating at 50% capacity. Therefore, emissions are estimated by taking 1/2 of the Loss of PSA case.

	4	events/yr
	9	hrs/event
NOx	64.77	lb/hr
	1.15	tpy
CO	333.65	lb/hr
	5.94	tpy

Total Estimated Flare Process Emissions

NOx	2.68	tpy
CO	10.98	tpy

Table 3-7

Estimated Hydrogen Plant Cooling Tower Emissions

Operations parameter	Value
Tower Capacity, MM gal/day	5.3
Maximum water hardness, ppm TDS	1300
Drift Loss, % of flow capacity[1]	0.0044%
Weight of water, lb/gal	8.34
Maximum PM10 emissions, lb/yr[2]	927.7
Maximum PM10 emissions, ton/yr[2]	0.46
POC Emission Factor [3]	1.50
Maximum POC emissions, lb/day	8.0
Maximum POC emissions, lb/yr	2917
Maximum POC emissions, ton/yr	1.5

[1]Vender Estimate

[2]Calculation method from Section VI (Engineering Evaluation Template) of BAAQMD Permit Handbook Chapters, Cooling Towers

[3]EPA AP-42 Table 5.1-2. Uncontrolled emission factor is 6 lbs POC/MMgal. Emission factor reduced to 1/4 of referenced value due to POC content of stream.

APPENDIX B

ConocoPhillips Analysis of BACT for NOx and PM10 for Facility A0016, ConocoPhillips Refinery, and Facility B7419, Air Liquide

Following is ConocoPhillips' review of Best Available Control Technology for S45, Heater, S1004, Sulfur Recovery Unit, and Facility B7149, S2, Heater from Prevention of Significant Deterioration Application submitted on June 2, 2006

4.0 BEST AVAILABLE CONTROL TECHNOLOGY

This section addresses BACT requirements for the proposed ConocoPhillips CFEP, as well as the related new Hydrogen Plant on the Refinery site to be owned and operated by Air Liquide Large Industries U.S. LP.

BAAQMD Rule 2-2-301 requires BACT to be applied to:

"…any new or modified source which results in an emission from a new source, or an increase in emissions from a modified source, and which has the potential to emit 10.0 pounds or more per highest day of precursor organic compounds (POC), non-precursor organic compounds (NPOC), nitrogen oxides (NO_x), sulfur dioxide (SO_2), PM_{10}, or carbon monoxide (CO)."

Proposed controlled emission levels to meet BAAQMD BACT requirements, from recent BAAQMD BACT determinations and the BAAQMD BACT Guidelines (BAAQMD 2005) can be found in the *Clean Fuels Project Application for Authority to Construct and Significant Revision to Major Facility* (ConocoPhillips 2006) and the *Hydrogen Plant Project Application for Authority to Construct and Major Facility Review Permit* (Air Liquide 2005).

Included in BAAQMD Regulation 2, Rule 2, are provisions that implement federal PSD requirements. USEPA policy includes a "top-down" BACT analysis for all pollutants emitted in PSD-significant quantities from new and modified emissions. As described in Section 3.0, PSD requirements apply to NO_x and PM_{10} in this proposed action. To supplement the BACT analysis presented in the above-referenced BAAQMD Authority to Construct (ATC) Applications, the remainder of this section presents "top-down" BACT analyses for the proposed new and modified sources of NO_x and $PM_{10,}$ based on the USEPA RACT/BACT/LAER Clearinghouse (RBLC), California Air Resources Board (CARB) BACT Clearinghouse, and available information on other recently issued permits.

USEPA guidance for a "top-down" BACT analysis requires reviewing all possible control options starting at the top level of control efficiency. In the course of the BACT analysis, one or more options may be eliminated from consideration because they are demonstrated to be technically infeasible or have unacceptable energy, economic, or environmental impacts on a case-by-case (site-specific) basis. The steps required for a "top-down" BACT review are:

~~1.~~6. Identify All Available Control Technologies

~~2.~~7. Eliminate Technically Infeasible Options

~~3.~~8. Rank Remaining Technologies

~~4.~~9. Evaluate Remaining Technologies (in terms of economic, energy, and environmental impacts)

~~5.~~10. Select BACT (the most efficient technology that cannot be rejected for economic, energy, or environmental impact reasons is BACT)

4.1 U246 HEAVY GAS OIL (HGO) FEED HEATER

The proposed new U246 HGO Feed Heater supporting the modified Unit 240/246 Unicracker is proposed to be fired on refinery fuel gas (RFG), with natural gas as a backup fuel. The new HGO Feed Heater would be a natural draft process heater rated at 85 million British thermal units per hour (MMBtu/hr).

4.1.1 NO_x BACT – U246 HGO Feed Heater

1. Identify All Available Control Technologies

Table 3 lists the technologies identified for controlling NO_x emissions from process heaters fired on RFG or natural gas.

Table 3 NO_x Control Technologies

Control Technology
No Controls (Base Case)
Water/Steam Injection
Selective Non-Catalytic Reduction (SNCR)
Combustion Controls (Low-NO_X Burners)
Selective Catalytic Reduction (SCR)
Low-NO_X Burners and SNCR
Low-NO_X Burners and SCR
SCONOx

2. Eliminate Technically Infeasible Options

All the control methods identified in Table 3 are considered technically feasible for a process heater fired on RFG, except SCONOx™, SNCR, and water/steam injection.

SCONOx. SCONOx™ uses a potassium carbonate (K_2CO_3) coated catalyst to reduce NO_x emissions. The catalyst oxidizes carbon monoxide (CO) to carbon dioxide (CO_2), and nitric oxide (NO) to NO_2. The CO_2 is exhausted while the NO_2 absorbs onto the catalyst to form potassium nitrite (KNO_2) and potassium nitrate (KNO_3). Dilute hydrogen gas is passed periodically across the surface of the catalyst to convert the KNO_2 and KNO_3 to K_2CO_3, water (H_2O), and elemental nitrogen (N_2), thereby regenerating the K_2CO_3 coating for further absorption. The H_2O and N_2 are exhausted.

SCONOx has not been demonstrated on RFG-fired process heaters (Arizona Department of Environmental Quality [ADEQ] 2005). It has only been demonstrated on combustion sources burning exclusively natural gas. The performance of SCONOx is sensitive to sulfur in the exhaust stream. In addition, the heat ratings on natural gas burners demonstrated with SCONOx are lower than the proposed HGO Feed Heater. Thus, there are significant technical differences between the proposed source and those few sources where SCONOx has been demonstrated in practice. These preclude a finding that SCONOx has been demonstrated to function efficiently on sources identical or similar to the proposed process heater.

Selective Non-Catalytic Reduction (SNCR). SNCR is a post-combustion NO_x control technology based on the reaction of urea or ammonia (NH_3) and NO_x. SNCR involves injecting urea/NH_3 into the combustion gas path to reduce the NO_x to nitrogen and water. This is described by the following chemical equations:

$$2\ CO(NH_2)_2\ (\textit{urea}) + 4\ NO + O_2 \rightarrow 4\ N_2 + 2\ CO_2 + 4\ H_2O$$
$$4\ CO(NH_2)_2 + 2\ NO_2 + 4\ O_2 \rightarrow 5\ N_2 + + 4\ CO_2 + 8\ H_2O$$

$$4\ NH_3\ (\textit{ammonia}) + 4\ NO + O_2 \rightarrow 3\ N_2 + 6\ H_2O$$
$$4\ NH_3 + 2\ NO_2 + O_2 \rightarrow 3\ N_2 + 6\ H_2O$$

Temperatures ranging from 1,200°F to 2,000°F are required for optimum SNCR performance. Operation at temperatures below this range results in NH_3 slip, while operation above this temperature range results in oxidation of NH_3, forming additional NO_x. Exhaust temperatures of process heaters are typically below the optimum temperature range. In addition, the urea/ammonia must have sufficient residence time, approximately 3 to 5 seconds, at the optimum operating temperatures for efficient NO_x reduction.

SNCR can only be used in induced draft process heaters because of the need to recirculate the flue gas. The HGO Feed Heater will be a natural draft process heater. In addition, existing information on SCNR systems indicate they achieve NO_x reductions ranging from 30 to 75 percent (USEPA 2001), thus SNCR is an inferior control technology to either SCR or modern combustion controls for an

RFG-fired process heater. Therefore, SNCR is considered infeasible for this review.

Water/Steam Injection. The injection of steam or water into the combustion zone can decrease peak flame temperatures, thus reducing thermal NO_x formation. Steam injection is predominantly used with gas turbines. There is little data available to document the effectiveness of water/steam injection for process heaters and no application of this type could be found. Steam injection has been specified as a control method for boilers on a very limited basis. Only one was listed in the USEPA RBLC database during the ADEQ's recent review of the Arizona Clean Fuels Yuma, LLC project (ADEQ 2005). This review showed a controlled emission rate higher than low NO_x burners produced today. Additionally, there are operating issues concerning flame stability using low NO_x burners with steam injection. Therefore, water/steam injection is considered infeasible for this review.

3. Rank Remaining Technologies

Technically feasible NO_x control technologies are listed in Table 4 with typical emission levels, ranked from most efficient to least efficient.

Combustion Controls. Combustion controls reduce NO_x emissions by controlling the combustion temperature or the availability of oxygen (O_2). These are referred to as "low NO_x burners" or "ultra-low NO_x burners." There are several designs of low/ultra-low NO_x burners currently available. These burners combine two NO_x reduction steps into one burner, typically staged air with internal flue gas recirculation (IFGR) or staged fuel with IFGR, without any external equipment.

In staged air burners with IFGR, fuel is mixed with part of the combustion air to create a fuel-rich zone. High-pressure atomization of the fuel creates the recirculation. Secondary air is routed by means of pipes or ports in the burner block to optimize the flame and complete combustion. This design is predominantly used with liquid fuels.

Table 4 NO_x Control Hierarchy for Process Heaters Fired on Refinery Fuel Gas

Technology	Typical Emission Level	
	ppmv[1]	**lb/MMBtu[2]**
Combustion Controls and SCR[3]	7	0.0085
Selective Catalytic Reduction (SCR)	18	0.022
Combustion Controls	29	0.035
No Controls[4]	89	0.11

Source: *Petroleum Refinery Tier 2 BACT Analysis Report*, *Final Report* (EPA, 2001).

[1] Parts per million by volume (ppmv), dry basis, corrected to 3% oxygen.

[2] Pounds (lbs) of NO_x produced per MMBtu of fuel heat input.

[3] Recent data show a range of values, with 7 ppmv representing the low end of current permitted levels on RFG-fired refinery heaters. See discussion of current BACT determinations in text for more details.

[4] Emission level shown is for a natural draft heater; an induced draft heater would typically have higher uncontrolled NO_x levels, on the order of 179 ppmv at 3% O_2, dry (USEPA 2001).

In staged fuel burners with IFGR, fuel pressure induces the IFGR, which creates a fuel lean zone and a reduction in oxygen partial pressure. This design is predominantly used for gas fuel applications.

The range of performance achieved in practice for the best combustion controls is 25 to 29 ppmv at 3% O_2, dry (0.03 to 0.035 lb/MMBtu), with the upper end of range representing heaters firing gas with high hydrogen content (USEPA 2001). Burners that could achieve 10 ppmv or lower are under development, but are not currently available for process heaters.

RFG is high in hydrogen content, so for heaters burning RFG or a mixture of RFG and natural gas, the upper end of the demonstrated range (29 ppmv at 3% O_2, dry, or 0.035 lb/MMBtu) would be appropriate as the achievable performance level for combustion controls on RFG-fired process heaters.

Selective Catalytic Reduction (SCR). SCR is a process that involves post-combustion removal of NO_x from flue gas with a catalytic reactor. In the SCR process, ammonia injected into the exhaust gas reacts with nitrogen oxides and oxygen to form nitrogen and water. SCR converts nitrogen oxides to nitrogen and water by the following reactions:

$$4\ NO + 4\ NH_3 + O_2 \rightarrow 4\ N_2 + 6\ H_2O$$

$$6\ NO + 4\ NH_3 \rightarrow 5\ N_2 + 6\ H_2O$$

$$2\ NO_2 + 4\ NH_3 + O_2 \rightarrow 3\ N_2 + 6\ H_2O$$

$$6\ NO_2 + 8\ NH_3 \rightarrow 7\ N_2 + 12\ H_2O$$

The reactions take place on the surface of a catalyst. The function of the catalyst is to effectively lower the activation energy of the NO_x decomposition reaction. Technical factors related to this technology include the catalyst reactor design, optimum operating temperature, sulfur content of the fuel, catalyst deactivation due to aging, ammonia slip emissions, and design of the NH_3 injection system. The most common catalysts are composed of vanadium, titanium, molybdenum, and zeolite. Sulfur dioxide and sulfur trioxide are generated in the flue gas when sulfur-containing compounds in fuel are combusted. Catalyst systems promote partial oxidation of sulfur dioxide (from sulfur and mercaptans in the fuel) to sulfur trioxide, which combines with water to form sulfuric acid, causing corrosion over time. In addition, sulfur trioxide and sulfuric acid reacts with excess ammonia to form ammonium salts. These ammonium salts may condense as the flue gases are cooled, which over time can accumulate on the catalyst causing “plugging”

and catalyst deterioration, often referred to as “fouling.” These effects can be minimized by proper operation, including:

Controlling the amount of sulfur in the fuel.

Using a properly designed ammonia injection system to maximize the efficient mixing of ammonia and flue gas without colder surfaces present on which ammonium salts can condense.

Operating with the lowest amount of ammonia needed to achieve the desired performance. To achieve high NO_x reduction rates, SCR vendors suggest a higher ammonia injection rate than stoichiometrically required, which necessarily results in ammonia slip. Thus, an emissions tradeoff between NO_x and ammonia occurs in high NO_x reduction applications.

Operating at temperatures above the dew point of ammonium salts and sulfuric acid.

Optimal operating temperatures vary by catalyst but generally range from 500 to 800°F. Operating above the maximum temperature results in oxidation of NH_3 to either nitrogen oxides (thereby adding NO_x emissions) or ammonium nitrate. Operating below the optimal temperature increases ammonia slip and catalyst fouling. Refinery process heaters typically operate in the range of 450 to 700°F, thus would be expected to operate above the dew point of ammonium salts and sulfuric acid to minimize fouling and corrosion. SCR systems have been used on process heaters burning mixtures of RFG and natural gas.

SCR systems achieve 80 to 90 percent reductions in NO_x emissions (USEPA 2001). The 90 percent reduction is relative to an uncontrolled induced draft heater since the higher NO_x emissions (approximately 179 ppmv at 3% O_2, dry, or 0.22 lb/MMBtu) versus a natural draft heater (approximately 89 ppmv at 3% O_2, dry, 0.11 lb/MMBtu) provides a greater driving force for increased mass transfer and also enhances the SCR’s mechanical draft requirements. This yields an outlet NO_x emission level of approximately 18 ppmv at 3% O_2, dry, or 0.011 lb/MMBtu. For a natural draft heater, maximum SCR control efficiency is on the order of 80 percent due to lower uncontrolled emission rates, yielding approximately the same controlled NO_x emission rate. Thus, a typical achievable performance level for SCR systems on RFG-fired process heaters is 18 ppmv at 3% O_2, dry, or 0.011 lb/MMBtu.

SCR and Combustion Controls. This control option uses SCR downstream of combustion controls to reduce NO_x emissions. With this combination, the inlet NO_x level to the SCR is lower, so lower outlet NO_x can be achieved. However, the SCR may not achieve the same percent reduction performance compared to no upstream combustion controls because of the lower NO_x inlet levels. As is discussed further below, a review of the USEPA RBLC and CARB BACT Clearinghouse showed permit limits of 7 ppmv NO_x at 3% O_2, dry, as the lowest level achieved in practice on refinery process heaters with SCR and combustion controls fired on a combination of RFG and natural gas. Therefore, the

achievable performance level for SCR and combustion controls on RFG-fired process heaters is 7 ppmv at 3% O_2, dry, or about 0.0085 lb/MMBtu.

4. Evaluate Remaining Technologies

Technically feasible technologies are reviewed on a case-by-case basis taking into consideration energy, environmental, and economic impacts beginning with the top option. If the top option is not selected as BACT, the next most effective control is evaluated until it cannot be ruled out for energy, environmental, or economic reasons.

In this case, the top technically feasible control option, SCR with combustion controls, is the proposed control technology. Therefore, the selection of BACT consists of establishing the lowest controlled NO_x emission level achievable with this control technology, taking into consideration the lowest controlled NO_x emissions currently achieved in practice, and if necessary, energy, environmental and economic impacts between different potential controlled emission levels using this technology.

A review of the USEPA RLBC and CARB BACT Clearinghouse was conducted. These reviews resulted in the lowest NO_x emission limits for refinery heaters fired on RFG/natural gas found in the South Coast Air Quality Management District (SCAQMD). A review of the BACT Determinations published by the SCAQMD provided further details.

There were three SCAQMD BACT Determinations for 7 ppmv NO_x at 3% O_2, dry, documented in the USEPA *Petroleum Refinery Tier 2 BACT Analysis Report* (USEPA 2001) for process heaters burning natural gas or a combination of RFG and natural gas. These were for: (1) Chevron El Segundo Refinery (Permit No. D64697, D62860, D64621); (2) TOSCO Refinery, Wilmington (Application 326118);[4] and (3) CENCO Refinery, Santa Fe Springs (Application 352869).

The ADEQ (2005) recently issued a permit for a similar project, Arizona Clean Fuels Yuma, LLC (ADEQ Permit Number 1001205). In their top-down BACT finding issued on 3 February 2005, the ADEQ summarized the following findings for the highest efficiencies achievable with SCR and combustion controls on RFG-fired process heaters (all 3-hour averages):

High-Efficiency SCR:

NO_x: 0.0085 lb/MMBtu (7 ppmv at 3% O_2, dry)[5]

Moderate-Efficiency SCR:

NO_x: 0.0125 lb/MMBtu (10 ppmv at 3%O_2, dry)

The ADEQ concluded for Arizona Clean Fuels Yuma LLC that the beneficial environmental impacts of increased NO_x control for the high-efficiency SCR was outweighed by adverse environmental impacts of increased ammonia slip.

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[4] Noted in the SCAQMD BACT Determinations to be for a 460-MMBtu/hr Hydrogen Reforming Furnace also combusting Pressure Swing Absorption (PSA) off gas.

[5] Although the NO_x permit limit for Arizona Clean Fuels Yuma LLC is presented as ppm corrected to 3% O_2, dry, the ADEQ Technical Report presents results in ppm corrected to 0% O_2, dry. These have been converted to 3% O_2, dry, for the purposes of the ConocoPhillips analysis.

Therefore, the NO_x emissions level found to be BACT was 10 ppmv at 3% O_2, dry.
The proposed NO_x emission limit for the ConocoPhillips HGO Feed Heater is 7 ppmv at 3% O_2, dry. This is equivalent to the high-efficiency SCR option that was ruled out by ADEQ, and matches the lowest NO_x emission limit achieved in practice. No further energy, environmental, or economic impact assessment is needed.
5. Select BACT/ Document the Selection is BACT
Based on this review, NO_x BACT is proposed as SCR with combustion controls (low NO_x burners) at 7 ppmv at 3% O_2, dry, or 0.0086 lb/MMBtu.[6]

4.1.2 PM_{10} BACT – U246 HGO Feed Heater
1. Identify All Available Control Technologies
Table 5 lists the control technologies identified for controlling PM_{10} emissions from process heaters fired on natural gas or RFG.

Table 5 PM_{10} Control Technologies

Control Technology
Good Combustion Practice
Cyclone
Wet Gas Scrubber
Electrostatic Precipitator
Baghouse/Fabric Filters

Good Combustion Practice. By maintaining heaters in good working order and limiting the sulfur in the feed fuels, PM_{10} emissions are controlled.
Cyclone. A cyclone operates on the principle of centrifugal force. Exhaust gas enters tangentially at the top of the cyclone and spirals towards the bottom. As the gas spins, heavier particles hit the outside wall and are collected at the bottom. Cleaned gas escapes through an inner tube.
Wet Gas Scrubber. A wet gas scrubber uses gas/liquid contacting to remove particles primarily by inertial impaction on liquid droplets, followed by collection of the larger liquid droplets as liquid waste.
Electrostatic Precipitator (ESP). An ESP uses an electric field to charge and collect particles in a gas stream, followed by collection of the particles on oppositely charged plates.
Baghouse/Fabric Filter. A baghouse is a metal housing containing many fabric bags. A partial vacuum pulls the dirty air through the fabric bags, filtering the particles from the exhaust stream.

[6] Slight difference from the previous conversions from 7 ppmv at 3% O_2, dry, due to fuel heat value assumptions and/or rounding.

2. Eliminate Technically Infeasible Options

All options in Table 5 are technically feasible.

3. Rank Remaining Technologies

See next (Step 4) discussion.

4. Evaluate Remaining Technologies

While the listed control technologies are all technically feasible, only good combustion practice is used for controlling PM_{10} emissions from gas-fired heaters. The other technologies are not used because of inherently low PM_{10} emissions from gaseous fuel combustion. A cyclone would be ineffective in capturing the extremely small particles generated from gaseous fuel combustion, and costs associated with designing the other add-on systems to capture minute particles in low concentrations would be economically infeasible. This is a well-accepted finding of all past BACT determinations for the control of PM_{10} from combustion of gaseous fuels.

A review of the USEPA RLBC and CARB BACT Clearinghouse was conducted for currently achieved control levels. Findings were the same as summarized by the ADEQ for the Arizona Clean Fuels Yuma LLC (ADEQ 2005). ADEQ proposed a PM_{10} emission limit of 0.0075 lb/MMBtu as representative of good combustion practice with gas-fired process heaters, based on the AP-42 emission factor (USEPA 1995a et seq.) for natural gas combustion and typical natural gas heat content. This is consistent with the lowest level achieved in practice.

5. Select BACT/ Document the Selection is BACT

Based on this review, PM_{10} BACT is proposed as good combustion practice. The USEPA AP-42 natural gas combustion factor was adjusted with the estimated fuel heat content of the proposed RFG/natural gas mixture to calculate a proposed PM_{10} BACT emission level of
0.0057 lb/MMBtu.

4.2 HYDROGEN PLANT REFORMER Furnace

The proposed new Hydrogen Plant Steam Methane Reformer (SMR) Furnace is proposed to be fired on a mix of approximately 85 percent Pressure Swing Absorption (PSA) off gas and 15 percent RFG/natural gas.

4.2.1 NO_x BACT – Hydrogen Plant Reformer Furnace

1. Identify All Available Control Technologies

The available technologies are the same as listed in Table 3 of Section 4.1.1.

2. Eliminate Technically Infeasible Options

All the control methods identified in Table 3 are considered technically feasible for a Hydrogen Plant Reformer fired on the proposed mix of fuels, except SCONOx, SNCR, and water/steam injection, for the same reasons provided for a refinery process heater in Section 4.1.1.

3. Rank Remaining Technologies

Technically feasible NO_x control technologies are the same as listed in Table 4 of Section 4.1.1. Since the proposed mix of fuels includes natural and RFG, the emission levels presented in Table 4 can still be considered typical for this application. Inclusion of PSA off gas, however, affects combustion characteristics, and hence, can impact the actual achievable emission levels. Consideration of PSA off gas is included in the following BACT evaluation discussion.

4. Evaluate Remaining Technologies

Technically feasible technologies are reviewed on a case-by-case basis taking into consideration energy, environmental, and economic impacts beginning with the top option. If the top option is not selected as BACT, the next most effective control is evaluated until it cannot be ruled out for energy, environmental, or economic reasons.

In this case, the top technically feasible control option, SCR with combustion controls, is the proposed control technology. Therefore, the selection of BACT consists of establishing the lowest controlled NO_x emission level achievable with this control technology, taking into consideration the lowest controlled NO_x emissions currently achieved in practice, and if necessary, energy, environmental and economic impacts between different potential controlled emission levels using this technology.

A review of the USEPA RLBC and CARB BACT Clearinghouse was conducted. These reviews resulted in the lowest NO_x emission limits for hydrogen reformer furnaces fired on PSA off gas and RFG/natural gas found in the SCAQMD. A review of the SCAQMD BACT Determinations provided further details.

PSA off gas is high in hydrogen content, and therefore has the potential to form less NO_x and PM_{10}. There were five SCAQMD BACT Determinations for hydrogen reformer furnaces. In reverse chronological order, these NO_x emission limits were: (1) Chevron El Segundo Refinery (Application 411357, 5/19/2004, 5 ppmv at 3% O_2, dry); (2) Praxair, Ontario (Application 389926, 7/17/2002, 5 ppmv at 3% O_2, dry); (3) TOSCO Refinery, Wilmington (Application 326118, 9/9/1999, 7 ppmv at 3% O_2, dry); (4) Chevron El Segundo Refinery (Application 341340, 7/14/1999, 5 ppmv at 3% O_2, dry) and (5) Air Products and Chemicals, Inc. (Application 337979, 6/16/1999, 5 ppmv at 3% O_2, dry).
The proposed NO_x emission limit for the Air Liquide Hydrogen Reformer is 5 ppmv at 3% O_2, dry. Since this is the lowest NO_x emission limit achieved in practice, no further energy, environmental, or economic impact assessment is needed.
5. Select BACT/ Document the Selection is BACT
Based on this review, NO_x BACT is proposed as SCR with combustion controls (low NO_x burners) at 5 ppmv at 3% O_2, dry, or 0.0058 lb/MMBtu.

4.2.2 PM_{10} BACT – Hydrogen Plant Reformer Furnace
1. Identify All Available Control Technologies
The available technologies are the same as listed in Table 5 of Section 4.1.2.
2. Eliminate Technically Infeasible Options
All options in Table 5 are technically feasible.
3. Rank Remaining Technologies
See next (Step 4) discussion.
4. Evaluate Remaining Technologies
While the listed control technologies are all technically feasible, only good combustion practice is used for controlling PM_{10} emissions from gas-fired heaters, as described in Section 4.1.2.
A review of the USEPA RLBC and CARB BACT Clearinghouse was conducted for currently achieved control levels. No applicable PM_{10} BACT emission levels were found. The five SCAQMD BACT Determinations for hydrogen reformer furnaces did not include PM_{10}, thus, from Section 4.1.2, a PM_{10} emission limit of 0.0075 lb/MMBtu is representative of good combustion practice with gas-fired process heaters. In this case, the proposed Hydrogen Reformer will fire up to 85 percent PSA off gas, which produces less PM_{10} emissions due to high hydrogen content. It is proposed that with the inclusion of PSA off gas, a reasonable PM_{10} emission limit would be half the amount produced by natural gas alone, or 0.0037 lb/MMBtu.
5. Select BACT/ Document the Selection is BACT
Based on this review, PM_{10} BACT is proposed as good combustion practice at 0.0037 lb/MMBtu. The proposed PM_{10} emissions level is consistent with the lowest level achieved in practice, with further consideration given for the PSA off gas in the fuel mixture.

4.3 SULFUR RECOVERY UNIT (SRU)

The proposed new Unit 235 SRU will be a closed Claus process supported by an amine-based TGTU to convert unreacted hydrogen sulfide (H_2S) from the Claus process. The TGTU is also a closed process. Any unreacted H_2S in the tail gas passing through the TGTU will be oxidized in a new tail gas incinerator, which is the emission point for the process. Vents from the new sulfur loading rack will also be routed to the tail gas incinerator for oxidation of H_2S. Therefore, BACT for the SRU was assessed for NO_x and PM_{10} from the tail gas incinerator.

4.3.1 NO_x BACT – SRU Tail Gas Incinerator

1. Identify All Available Control Technologies

The available technologies are the same as listed in Table 3 of Section 4.1.1.

2. Eliminate Technically Infeasible Options

The only option listed in Table 3 that is technically feasible for an SRU tail gas incinerator is combustion control with low-NOx burners. The other technologies are either based on lowering flame temperature, which is not compatible with the primary function of the incinerator (i.e., efficient oxidation of reduced sulfur compounds), or add-on controls that have not been demonstrated technically feasible for a thermal oxidizer. There are significant technical differences between thermal oxidizers and the combustion sources for which these technologies have been demonstrated in practice.

3. Rank Remaining Technologies

The only technically feasible NO_x control technology is combustion control with low-NOx burners.

4. Evaluate Remaining Technologies

Technically feasible technologies are reviewed on a case-by-case basis taking into consideration energy, environmental, and economic impacts beginning with the top option. If the top option is not selected as BACT, the next most effective control is evaluated until it cannot be ruled out for energy, environmental, or economic reasons.

In this case, a review of the USEPA RLBC and CARB BACT Clearinghouse was conducted for the most efficient low-NOx burners achieved in practice for tail gas thermal oxidizers for SRU TGTUs. These reviews resulted in the lowest NO_x emission limit achieved in practice as 42.2 ppmv @ 7% O_2, dry, or 0.0667 lb/MMBtu, associated with the recently issued PSD permit for the SRU TGTU at the ConocoPhillips Ferndale Refinery. This level, for a unit currently in operation, is similar to the 0.06 lb/MMBtu level proposed by the ADEQ for the Arizona Clean Fuels Yuma LLC (ADEQ 2005), a facility not yet in operation.

5. Select BACT/ Document the Selection is BACT

Based on this review, NO_x BACT is proposed as combustion control with low-NOx burners at 42.2 ppmv at 7% O_2, dry, or 0.0667 lb/MMBtu.

4.3.2 PM_{10} BACT – SRU Tail Gas Incinerator

1. Identify All Available Control Technologies

The available technologies are the same as listed in Table 5 of Section 4.1.2.

2. Eliminate Technically Infeasible Options

All options in Table 5 are technically feasible.

3. Rank Remaining Technologies

See next (Step 4) discussion.

4. Evaluate Remaining Technologies

While the listed control technologies are all technically feasible, only good combustion practice is used for controlling PM_{10} emissions from the combustion of gaseous fuels, as described in Section 4.1.2.

A review of the USEPA RLBC and CARB BACT Clearinghouse was conducted for currently achieved control levels. No applicable PM_{10} BACT emission levels were found. It is proposed that reasonable PM_{10} emission limit would be the amount produced by natural gas alone, or 0.0075 lb/MMBtu.

5. Select BACT/ Document the Selection is BACT

Based on this review, PM_{10} BACT is proposed as good combustion practice at 0.0075 lb/MMBtu. The proposed PM_{10} emissions level is consistent with the lowest level achieved in practice.

4.4 New Flaring

The proposed project includes a new Hydrogen Plant flare that would operate during planned and unplanned events. The shutdown and startup of the new Unit 240/246 would also cause new flaring emissions from the existing Main Flare, but this is estimated to occur only once every three years.

Flares operate primarily as air pollution control devices, but are nonetheless emission sources subject to BACT analyses. The technically feasible control options for emissions of all pollutants from flares are equipment design specifications and work practices: minimizing exit velocity, ensuring adequate heat value of combusted gases, and minimizing the quantity of gases combusted. Each of these control options is technically feasible and is required for the operation of emergency flares at the refinery.

The equipment design criteria for emergency flares are based largely on the parallel requirements set forth in the NSPS regulations (40 CFR 60.18) and the National Emission Standards for Hazardous Air Pollutants (NESHAP) regulations (40 CFR 63.11). These include a maximum allowable exit velocity, a requirement for smokeless operation, and a minimum allowable net heating value for gases combusted in the flares. ConocoPhillips is not aware of any more stringent requirements imposed on flares at any other petroleum refinery, nor any other technically feasible control options for emissions of any pollutants from flares.

Appendix C

CEQA FINDINGS

CONOCOPHILLIPS – SAN FRANCISCO REFINERY

PROPOSED CLEAN FUELS EXPANSION PROJECT

FINDINGS AND SUPPORTING FACTS REGARDING THE ENVIRONMENTAL IMPACT REPORT

ConocoPhillips - San Francisco Refinery (The Refinery) has proposed to construct the Clean Fuels Expansion Project (CFEP) at its Rodeo Refinery. The CFEP includes new equipment and modifications to existing equipment that would enable the Refinery to process heavy gas oil (HGO), which is a by-product that is currently produced onsite and exported. Implementation of the CFEP would allow overall Refinery production to increase by up to 1,000,000 gallons per day (30 percent over current levels).

The CFEP includes the following: (1) construction of a new Hydrogen Plant to be built by Air Liquide with a capacity of 120 million standard cubic feet per day; (2) construction of a new Sulfur Recovery Unit with a capacity increase of 200 long tons per day; (3) conversion of a retired lube oil rail car loading rack into a butane rail car loading rack; (4) expansion of the Unicracker to allow for HGO hydrocracking and resulting in an increase in capacity of 23,000 barrels per day (bbl/day); (5) Reformer (Unit 244) modifications resulting in a capacity increase from 16,087 bbl/day to 18,500 bbl/day; (6) UNISAR (Unit 248) modifications resulting in a capacity increase from 8,812 bbl/day to 16,740 bbl/day; (7) Product Blending Unit (Unit 76) modifications resulting in a capacity increase from 90,411 bbl/day to 113,150 bbl/day; (8) Deisobutanizer (Unit 215 DIB) modifications resulting in a capacity increase from 7,600 bbl/day to 10,200 bbl/day; (9) Sulfur Recovery Plant (Units 234, 236, 238) modifications that would include a new sulfur degassing system, a new sulfur loading rack, a modified or replaced amine regenerator and an increase in sulfur storage capacity; and (10) modifications to ancillary facilities such as pumps, heat exchangers, instrumentation, utilities and piping.

Contra Costa County Community Development Department (CDD) acted as Lead Agency under the California Environmental Quality Act (CEQA) for this project. As a responsible agency under CEQA, the Bay Area Air Quality Management District (BAAQMD) participated in the EIR process, including reviewing and commenting on the Draft EIR. The following timeline illustrates the land use permit application's progress from approval by County Planning Commission (CPC) to present:

- April 24, 2007 – Public hearing held before the CDD in Martinez to consider certification of the Final EIR and approval of the CFEP.

- May 8, 2007 – Second CPC hearing held in Martinez. Final EIR was certified and project was approved with new and modified Conditions of Approval.

- May 17, 2007 – Appeal received from Communities for a Better Environment and Center for Biological Diversity (CBE/CBD), joint appellants.

- May 18, 2007 – Appeal received from ConocoPhillips Company and appeal received from the California State Attorney General.

- September 10, 2007 – California Attorney General withdrew his May 18, 2007 appeal and submits a copy of Settlement Agreement with ConocoPhillips Company. Concurrently, ConocoPhillips requests that the County include language from the Settlement Agreement in the County's action on its appeal.

- September 25, 2007 – Board of Supervisors hearing held in Martinez. Final EIR was certified and project was approved. Board accepted the September 10, 2007 letter from the California Attorney General withdrawing their May 18, 2007 appeal. The Board denied the appeals of Communities for a Better Environment (CBE) and Center for Biological Diversity (CBD). The Board also granted the appeal of ConocoPhillips Company based on their revised proposed condition of approval addressing the storage of rail cars.

The EIR identified certain potentially significant environmental impacts that could occur as a result of the CFEP. The following discussion summarizes the air quality related effects identified in the EIR and during the District's review of the ConocoPhillips and Air Liquide permit applications, makes one or more of the findings required under Section 15091 of the State CEQA Guidelines, and presents facts to support the findings. All of these effects have been mitigated to a level of insignificance.

Impact 1 – Construction activities associated with CFEP would generate short-term emissions of criteria pollutants, including suspended and respirable particulate matter and equipment exhaust emissions, which would contribute to existing air quality violations.

Mitigated to insignificance. Particulate emissions will be mitigated by implementation of comprehensive dust control measures including watering all active construction areas at least twice daily; covering of haul trucks or requiring all trucks to maintain at least two feet of freeboard; paving or otherwise stabilizing haul roads, parking and staging areas; and sweeping daily with water sweepers all paved access roads, parking areas and staging areas at construction sites. The following "enhanced" control measures will also be implemented: Hydroseeding or application of non-toxic soil stabilizers to inactive construction areas; enclosing, covering, watering twice daily or application of non-toxic soil binders to exposed stockpiles; installation of sandbags or other erosion control measures to prevent silt runoff to public roadways; suspension of excavation and grading activity when winds exceed 25 mph; installation of wheel washers for all exiting trucks, or washing off the tires or tracks of all trucks and equipment leaving the site.

Equipment emissions will be mitigated by regular equipment maintenance and limits to unnecessary idling. Other equipment mitigation measures include the following: use of alternative fuels and/or alternatively fueled equipment; use of post-1996 model diesel trucks only at the site or for on-road hauling of construction material; requirement for all construction diesel engines with a rating of 100 hp or more to meet at a minimum the Tier 2 California Emission Standards for Off-Road Compression –Ignition Engines unless certified by the onsite Construction Air Quality Mitigation Manager (CAQMM) that such an engine is not available for a particular item of equipment; offering incentives to encourage construction workers to carpool or employ other means of transportation; scheduling construction activities to allow at least 33% of the construction workforce to avoid the morning and afternoon peak traffic periods; and use of on-site power to minimize reliance on portable generators.

Impact 2 – Operational activities associated with the implementation of the CFEP would increase air pollutant emissions, contributing to existing air quality violations.

Mitigated to insignificance. As required by BAAQMD Rules and Regulations, project emissions will be mitigated by application of Best Available Control Technology (BACT) and by obtaining emission offsets. Specifically, following mitigation measures will be implemented:

- The four Dissolved Air Flotation (DAF) vents associated with the onsite wastewater treatment plant will be routed to a Thermal Oxidizer with a destruction efficiency of no less than 98 percent. The DAF outlet channel and downstream sumps will be sealed by a solid cover with gaskets. Any vents installed on the covered channel will be routed to the thermal oxidizer. Installation of these controls will reduce organic emissions by at least 242 pounds per day and 44.1 tons per year.

- The Refinery Steam Power Plant uses three gas turbines to generate electricity, and uses gas turbine waste heat to generate steam. Each gas turbine has a nitrogen oxide (NOx) catalyst system located at the base of the exhaust stack. The Refinery will take a new permit limit to achieve a reduction of NOx concentration in each stack by 1 ppm from its current operating baseline. This 1 ppm of NOx equates to a reduction of 81 pounds per day and 14.7 tons per year.

- Operations at the ConocoPhillips' Carbon Plant will be modified to result in a decrease in SO2 emissions of at least 230 pounds per day and 42 tons per year. The refinery will take a new permit limit to reflect this reduction.

- The baghouse at the Carbon Plant will use improved bag technology to capture particulate matter (PM_{10}) from the calcined coke operation. Installation of the improved bag-technology will reduce PM_{10} emissions by at least 43.8 pounds per day and 8.0 tons per year. The refinery will take a new permit limit to reflect this reduction.

- Net reductions in ROG emissions associated with the mitigated CFEP will be used to offset 36 pounds per day and 7.6 tons per year of NOx associated with the CFEP.

Impact 3 – The CFEP would contribute to cumulative regional air emissions; however, it would not be cumulatively considerable and it would not conflict with or obstruct implementation of the applicable air quality plan.

Mitigated to insignificance. As discussed in Impact 2, with the proposed mitigation measures, the CFEP would have a less-than-significant impact on air quality. Furthermore, as discussed in Section 4.10, Land Use, in Final EIR, the CFEP is consistent with the Contra Costa County General Plan which in turn is consistent with the BAAQMD's current air quality plan (2005 Ozone Strategy).

Impact 4 – Operational activities associated with the implementation of the CFEP could lead to increases in odorous emissions. This would be a less-than-significant impact.

No mitigation required. The CFEP will not result in increased odors because the hydrocracking process that would be used to process heavy gas oil produces clean intermediate feedstocks and blendstocks. Storing these products in existing tanks will not increase odors. Also, CFEP contains numerous design features that will reduce odor emissions from existing equipment and minimize the likelihood of odor emissions from the project's new equipment. CFEP-related design features include the following:

- A fourth compressor will be added to the odor abatement system. This will increase the robustness of the odor control system. The new compressor will be sized at approximately 3.3 MMSCFD and is slated to commence operation in March 2009.

- The new compressor will primarily be loaded with odor abatement gases but will be operated so that during most periods, it can pick up the swings that occur during brief peak loading on the existing G-503, Flare Gas Recovery (FGR) compressor. This new compressor will also be used to mitigate flaring when the G-503 FGR compressor is down for planned or emergency maintenance. This additional flare gas recovery capacity will further reduce odor-causing flaring.

- The vapor recovery will be installed on existing fixed-roof tanks that will change service to store heavy gas oil and sour water.

- The Odor abatement system will be subject to new and more stringent permit conditions by the BAAQMD to eliminate and/or minimize odor complaints.

- A new sulfur recovery unit will increase system redundancy and improve the refinery's ability to react to upset conditions for processing sulfur gases. This will reduce the number of refinery upsets and shutdowns.

- Molten sulfur loaded into trucks will be degassed prior to loading, which will reduce the H_2S emissions.

- The Dissolved Air Flotation unit at the wastewater treatment plant will be vented to a thermal oxidizer.

- After startup of the CFEP, less heavy gas oil will be loaded onto barges, which vent to the atmosphere.

As required by the State CEQA Guidelines, the BAAQMD, as a Responsible Agency for the ConocoPhillips CFEP, hereby finds that, for each of the impacts identified in the final EIR and discussed above, changes or alterations have been required in, or incorporated into, the project which avoid or substantially lessen the significant environmental effect as identified in the final EIR. In addition, for those mitigation measures that are identified in the final EIR to lessen impacts associated with construction activities and vehicle emissions and that are within the responsibility or jurisdiction of another public agency, the BAAQMD hereby finds that such measures either have been or can and should be adopted by such other agency.

In accordance with BAAQMD Rules and Regulations, the BAAQMD has fully considered the EIR prepared and certified by the Contra Costa County and has incorporated the EIR's analysis into its decision-making process. The BAAQMD granted an Authority to Construct for the proposed project on October 5, 2007.

The documents and other materials that constitute the record of proceedings upon which this decisions is based are located at the BAAQMD office at 939 Ellis Street, San Francisco, California, and the custodian of the materials is Rochelle Henderson.

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Jack P. Broadbent
Executive Officer/Air Pollution Control Officer
Bay Area Air Quality Management District

APPENDIX D

EVALUATION FOR APPLICATION 16940

ENGINEERING EVALUATION
CONOCOPHILLIPS - SAN FRANCISCO REFINERY; PLANT 16
APPLICATION 16940

1.0 BACKGROUND

ConocoPhillips – San Francisco Refinery (ConocoPhillips) has submitted this permit application under the District's Accelerated Permitting Program (APP) to obtain a Permit to Operate (P/O) for the following new tank:

S506 Tank #257, Fixed Roof, 80K barrels, stores heavy unicrackate; abated by A7, Vapor Recovery System

ConocoPhillips is proposing to replace S158 (Tank # 258) with new tank S506 as S158 is scheduled to be put out of service and eventually torn down. S506 will store the same material (e.g. heavy unicrackate) that is currently stored in S158. Heavy unicrackate is a jet fuel blend stock. S158 is being removed because it is a riveted tank, and is at the end of its service life. S506 will be a welded tank. It is industry practice to replace riveted tanks with welded tanks because welded tanks are less likely to develop leaks.

S158 currently operates as part of the fuel gas vapor recovery system (A7) and new tank, S506, will also operate as part of the vapor recovery system when in service. S506 will be subject to the existing permit condition 23724 for tanks on the vapor recovery system, which was included as part of the Clean Fuel Expansion Project (Application # 13424) Authority to Construct issued on October 5, 2007.

The maximum working pressure of the new tank S506 will be 2.47 inches H_2O. ConocoPhillips is proposing to equip S506 with two pressure/vacuum (PV) pilot valves and one emergency hatch. One PV valve will have pressure relief setting of 2.2 inches H_2O. Second PV valve will have pressure relief setting of 2.2 inches H_2O or higher. The emergency hatch set point will be approximately 2.4 inches H_2O. S506 will be designed to operate at a pressure well below 2.2" H_2O and hence, the PV valves will normally be closed.

This permit application is exempt from the Authority to Construct (ATC) requirements of Regulation 2-1-301 because it meets the requirements of the limited exemption under the Accelerated Permitting Program (Regulation 2-1-106).

The proposed project would not increase the throughput rate or capacity of any equipment associated with S158 and S506. Daily or annual emission levels of any regulated air pollutant would not exceed emission levels currently approved by the BAAQMD in the Major Facility Review permit. Therefore, this permit application qualifies for the Accelerated Permitting Program.
This is a minor revision of the Major Facility Review permit for the following reasons:

- The change is not considered a major modification under 40 CFR Parts 51 (NSR) or 52 (PSD).
- The change is not considered a modification under 40 CFR Parts 60 (NSPS), 61 (NESHAPS), or Section 112 of the Clean Air Act (HAP).
- There is no significant change or relaxation of monitoring.
- No term is established to allow the facility to avoid an applicable requirement.
- No case-by case determination has been made.
- No facility-specific determination for ambient impacts, visibility analysis, or increment analysis on portable sources has been made.
- No new federal requirement has been imposed.

2.0 EMISSIONS SUMMARY

ConocoPhillips states that proposed tank S506 like existing tank S158 is blanketed with natural gas and is routed to A7, the fuel gas vapor recovery system. Therefore, the facility concluded that there would be no increase in emissions. The District concurs that the emissions that are routed to the fuel gas system merely displace natural gas that would be burned in the heaters. Therefore, there will be no emissions increase at the heaters. Also, ConocoPhillips in an e-mail dated November 26, 2007, has stated that there will be no change in fugitive emissions. Per ConocoPhillips, for every component added for S506, there will be a like component removed as part of removing S158 from service. In addition, since there is no change to the material stored as mentioned in Background section above, there will be no increase in potential HAP emissions from fugitives or from the storage tank itself.

2.1 PLANT CUMULATIVE INCREASE

The cumulative emission increase is zero for all the criteria pollutants because annual emissions for this plant are not increasing due to this application.

2.2 BEST AVAILABLE CONTROL TECHNOLOGY

In accordance with BAAQMD Regulation 2, Rule 2, Section 301, a source with the potential to emit 10 pounds or more per highest day of POC, NPOC, NOx, CO, SO_2 or PM_{10} must use BACT. For this application, BACT is not triggered because installation of new source S506 will not result in an increase in any emissions as mentioned in Emissions Summary section above.

2.3 TOXICS

New source review of Toxic Air Contaminants (BAAQMD Rule 2-5) requires the Best Available Control Technology for Toxics (TBACT) for sources that result in cancer risk greater than 1.0 in one million and/or chronic hazard index greater than 0.20. The proposed installation of S506 would not result in an increase in toxic emissions, thus the New Source Review of Toxic Air Contaminants does not apply.

2.4 OFFSETS

Since there is no increase in emissions at this plant as mentioned in Section 2.0 above, offsets are not required for this application.

3.0 STATEMENT OF COMPLIANCE

(i) AUTHORITY TO CONSTRUCT / PERMIT TO OPERATE

In accordance with BAAQMD Rule 2-1-301, any person who "puts in place, builds, erects, installs, modifies, modernizes, alters, or replaces any article, machine, equipment, or other contrivance, the use of which may cause, reduce or control the emissions of air contaminants" shall first obtain an ATC from BAAQMD. In addition, any person who "uses or operates any article, machine, equipment or other contrivance, the use of which may cause, reduce or control the emissions of air contaminants" shall first obtain a P/O. However, BAAQMD Rule 2-1-106 allows for projects that satisfy the APP requirements to be exempt from the ATC requirements of Rule 2-1-301. This permit application is exempt from the ATC requirements of Regulation 2-1-301 because it meets the criteria set forth in Sections 2-1-106.1 through 106.3. Projects that qualify under the APP may install and operate a new or modified source after submittal of a complete permit application.

ConocoPhillips certifies that the proposed project meets the accelerated permitting criteria below and therefore is eligible for the APP.

106.1 Uncontrolled emissions of POC, NPOC, NOx, SO2, PM_{10}, and CO are each less than 10 pounds per highest day and

106.2 Emissions of toxic compounds do not exceed the trigger levels identified in Table 2-5-1 of Regulation 2, Rule 5; and

106.3 The source is not subject to the public notice requirements of Section 2-1-412.

REGULATION 8, RULE 5, STORAGE OF ORGANIC LIQUIDS

S506 is larger than 39,626 gallons and will store heavy unicrackate that has a true vapor pressure up to 1.5 psia; therefore it must be controlled with an internal floating roof, an external floating roof or an approved emission control system. The tank is a fixed roof tank that is vented to the fuel gas system, A7, which is an approved emission control system with VOC control efficiency of at least 98% by weight. This estimate is based on similar control efficiencies at Evergreen Oil and Tesoro.

S506 will be subject to Sections 8-5-301, 8-5-303, 8-5-306, 8-5-307.1, 8-5-403, 8-5-404, 8-5-501.1, and 8-5-605. Section 8-5-307.3 does not apply to S506 because it is blanketed with natural gas.
S506 will comply with Sections 8-5-301 and 8-5-306 because it is controlled with an approved emission control system that has abatement efficiency at least 95%.

The pressure/vacuum valves on the tank will comply with the requirement to be set to a pressure within 10% of the maximum allowable working pressure in Section 8-5-303.1. The maximum working pressure of the new tank will be 2.47" H_2O. The minimum set

pressure on the PV valve will be 2.2" H_2O, which is 90% of the maximum working pressure and hence meets the requirement in Section 8-5-303.1.

S506 is expected to comply with Section 8-5-307.1 because it is a new welded tank. Welded tanks are considered more robust than riveted tanks because they are less likely to develop leaks.

The valves are expected to comply with the "gas-tight" requirement in Section 8-5-303.2 because they will be inspected twice per year in accordance with Section 8-5-403. The facility has stated that S506 will comply with this requirement.

Additional monitoring and recordkeeping conditions will not be written for this tank because BAAQMD Regulation 8, Rule 5 and Condition 23724 already contain sufficient monitoring and recordkeeping.

MONITORING ANALYSIS

BAAQMD Regulation 8, Rule 5 and Condition 23724 contain the sufficient monitoring and recordkeeping to ensure compliance with all requirements. Section 8-5-501.1 requires records of the type and amount of liquids stored, type of blanket gases used, and the true vapor pressure ranges of such liquids and gases. Section 8-5-403 requires inspection of the pressure/vacuum valves twice per year. Monitoring of the destruction efficiency of the fuel gas system is not technically feasible, but the abatement efficiency is presumed to be at least 98%, which is higher than the requirement of 95% in Section 8-5-306.

Part 3 of Condition 23724 will ensure that S506 is equipped with a District-approved pressure-monitoring device before it starts operation. Part 4 of the same condition will ensure that S506 operates at all times below its minimum set pressure of 2.2" H2O.

NSPS

Subpart Kb

The new tank S506 will be subject to NSPS Subpart Kb [Standards Of Performance For Volatile Organic Liquid Storage Vessels (including Petroleum Liquid Storage Vessels) For Which Construction, Reconstruction, Or Modification Commenced After July 23, 1984].

S506 will comply with the requirements of Subpart Kb for fixed roof tanks with a closed vent system and control device. Section 60.112b(a)(3)(i) requires that the closed vent system collect all vapors and operate with no detectable emissions as indicated by an instrument reading of less than 500 ppm above background and visual inspections, as determined in part 60, Subpart VV, Section 60.485(b).

Section 60.112b(a)(3)(i) requires that VOC emissions be controlled by 95% or greater. The tank emissions are routed to the fuel gas system, which is expected to achieve 98% control or greater.

Subpart J

40 CFR 60, Subpart J defines “fuel gas” as “any gas which is generated at a petroleum refinery and which is combusted.” Fuel gas includes natural gas when it is combined with other fuel gas and burned. S506 is vented to the fuel gas system; therefore all of the gas vented is subject to Subpart J. The standard is that the fuel gas may not contain more than 0.10 gr S/dscf.

The fuel gas system desulfurizes the gases prior to combustion and therefore this project will not cause non-compliance with Subpart J.

CEQA

The project is considered to be ministerial under the District's CEQA Regulation 2-1-311 and therefore is not subject to CEQA review. The engineering review for this project requires only the application of standard permit conditions and standard emissions factors as outlined in the District Permit Handbook Chapter 4.

NESHAPS

S506 is not subject to 40 CFR 63, Subpart CC, because Section 63.640(d)(5) states that emission points routed to a fuel gas system are not subject.

PSD

The project is exempt from PSD requirements since the project emissions will not exceed any of the thresholds listed in Regulations 2-2-304 through 2-2-306 or 40 CFR 52.21.

PUBLIC NOTICE

The proposed project is not located within 1,000 feet of any school. Therefore, it is not subject to public notification requirements of Regulation 2-1-412.

4.0 PERMIT CONDITIONS

Current permit condition 23724 applicable to tanks that are on vapor recovery system will be modified to include new tank S506 and delete S158, which will be put out of service and eventually dismantled after S506 becomes operational.

Besides modifying current permit condition 23724, a new permit condition will be proposed for S506.

(ii) CONDITION 23724

COND# 23724 ----------

For Sources S135 (Tank 200), S137 (Tank 202), S139 (Tank 204), S140 (Tank 205), ~~S158 (Tank 258),~~ S168 (Tank 269), S173 (Tank 280), S174 (Tank 281), S175 (Tank 284), S182 (Tank 294), S360 (Tank 223), S445 (Tank 271), S449 (Tank 285), Tank 235, ~~and~~ Tank 236, and S506 (Tank 257).

~~This condition was amended by Application 13424 in October, 2007.~~ This condition was imposed by Application 13424 and amended by Application 16940 in January 2008.

1a. The owner/operator shall ensure that all sources subject to this permit condition are abated by A7, Vapor Recovery System except for S168, S173, S174, which shall be abated prior to startup of S434. [Basis: Regulation 2-1-403]

1b. The owner/operator shall ensure that a fourth compressor is added to A7, Odor Abatement System, before the following sources are controlled by A7: S168, S173, S174. [Basis: Regulation 2-1-301, 2-1-305, 2-1-403, CEQA]

1c. The new odor abatement compressor, or a dedicated compressor, shall be designed and installed to supplement G-503, Flare Gas Recovery Compressor. [CEQA]

2. The owner/operator shall ensure that all tanks subject to this permit condition are blanketed by utility-grade natural gas. [Basis: Regulation 2-1-403]

3. Within 21 months of issuance of the Authority to Construct, the owner/operator shall equip all tanks subject to this permit condition with District-approved pressure monitoring devices. Within 3 months of issuance of the Authority to Construct, the owner/operator shall equip the following tanks with District-approved pressure monitoring devices: S139, S140, S182, S360, S445, and S449. Upon startup, the owner/operator shall equip S506 with a District-approved pressure-monitoring device. [Basis: Regulation 2-1-403]

4. After the pressure monitoring devices are installed, the owner/operator shall ensure that tanks listed below operate at all times below their respective minimum set pressures, as shown in 4a and 4b of this

condition. Any recorded pressure in excess of the minimum pressure shall be reported to the District's Enforcement and Engineering Divisions within 10 days of the pressure excess. The owner/operator must conduct an investigation of the incident to determine if the pressure excess resulted in the pressure/vacuum (PV) valve lifting to atmosphere and if so, why there was a pressure excess that resulted in the PV valve lifting to atmosphere. Results of the investigation must be reported to the District's Enforcement and Engineering Division within 30 days of the initial report. Any recorded pressure in excess of the minimum set pressure shall be considered an indication of a valve lift to atmosphere unless a District approved tell-tale indicator on the PV valve shows that the valve did not lift, or the owner/operator demonstrates to the satisfaction of the APCO that the recorded pressure excess was the result of a monitoring, recording or other malfunction.

The minimum set pressure for each storage tank must be submitted in a report to the District's Enforcement and Engineering Divisions within 21 months of issuance of the Authority to Construct and within 3 months of issuance of the Authority to Construct for the following tanks: S139, S140, S182, S360, S445, S449.

a. Source Number Minimum Set Pressure (inches H2O)

135	TBD
137	TBD
139	TBD
140	TBD
168	TBD
182	TBD
360	TBD
445	TBD
449	TBD
506	2.2

The owner/operator shall submit an accelerated permit application to include any change to any of the pressures above. Any amendment to the Title V permit to include the pressures above shall be submitted as a minor revision to the Title V permit.
[Basis: Regulation 8, Rule 5]

b. Source Number Minimum Set Pressure (inches H2O)

~~158~~	~~TBD~~
173	TBD
174	TBD
175	TBD
Tank 235	TBD
Tank 236	TBD

The owner/operator shall submit an accelerated permit application to include any change to any of the pressures above. Any amendment to the Title V permit to include the pressures above shall be submitted as a minor revision to the Title V permit.
[Basis: Regulation 2-1-403]

5. The owner/operator shall ensure that each pressure relief valve for each tank must be set at or above its nominal set pressure listed in Part 4 of this permit condition. [Basis: Regulation 2-1-403]

6. Corrective Plan

The corrective plan is a means for ConocoPhillips to correct occasional exceedances, to stay within the working pressure limits and thus to remain in compliance with District Regulations. If a PV valve has been determined to have lifted three times in a 12 month period, ConocoPhillips shall implement abatement measures to prevent the recurrence of the type of incident which caused the valve to lift. This plan is intended to provide a mechanism for bringing ConocoPhillips back into compliance should a temporary exceedance occur. This plan does not constitute an alternative means of compliance.
[Basis: Regulation 2-1-403]

a. If, during any consecutive 12-month period, more than three instances of a PV valve release to atmosphere attributed to a storage tank subject to this permit condition are reported, ConocoPhillips shall propose a method to correct the exceedance and to ensure compliance with District regulations and permit conditions. The proposed method is subject to approval by the Air Pollution Control Officer. Potential methods include but are not limited to increasing the nominal set pressure of the pressure/vacuum valve, bladder tank(s)

for additional short-term vapor storage capacity, dedicated vapor recovery flare, pilot control on pressure relief valves, flow meters on vapor recovery tanks to monitor blanket gas flows, replacement of tanks, and naphtha degassers. [Basis: Regulation 2-1-403]

7. To determine compliance with the above conditions, the owner/operator shall maintain the following records and provide all of the data necessary to evaluate compliance with the above parts, including, but not necessarily limited to the following information:

   a. Pressure measurements from tanks listed in part 4 of this condition. Pressure shall be recorded at least for one-minute interval for each tank.

All records shall be retained on site for five years, from the date of entry and made available for inspection by the District staff upon request. These recordkeeping requirements shall not replace the recordkeeping requirements contained in any applicable District regulation. [Basis: Regulation 2-1-403]

8. The requirement to report pressures in excess of the minimum pressure as described in part 4 of this permit condition, shall start after 21 months of issuance of the Authority to Construct and 3 months after issuance of the Authority to Construct for the following tanks: S139, S140, S182, S360, S445, S449. [Basis: 2-1-403]

9. The permit to operate is contingent upon compliance with Regulation 1-301, Standard for Public Nuisance, and Regulation 7, Odorous Substances. Upon receipt of a violation for either of these regulations, the Air Pollution Control Officer may require the owner/operator to install additional emission control measures as stated in Part 6 of this permit condition. [Basis: Regulations 1-301, 7-301, 7-302]

New Permit Condition for S506 (Tank #257)

1. The owner/operator shall ensure that S506 stores only petroleum products with a true vapor pressure less than or equal to 1.5 psia. [Basis: Cumulative Increase]

2. The owner/operator shall ensure that S158 (Tank #258) is taken out of service and dismantled once S506 becomes operational. [Basis: Regulation 2-1-403]

5.0 RECOMMENDATION

Staff recommends the following:

a. Waive the authority to construct and issue a permit to operate for the following source:

S506 Tank #257, Fixed Roof, 80K barrels, stores heavy unicrackate; abated by A7, Vapor Recovery System

b. Archive the following source in District databank:

S158 Tank #258, Fixed Roof; abated by A7, Vapor Recovery System

By: _____

Sanjeev Kamboj Date
Senior Air Quality Engineer

APPENDIX E

DISCUSSION OF MONITORING FOR
BAAQMD REGULATION 9-3-313.2
FROM STATEMENT OF BASIS FOR APPLICATION 12433

Discussion of Monitoring for BAAQMD Regulation 9-3-313.2 from Statement of Basis for Application 12433 (Issued 11/20/06)

Compliance with Regulation 9-1-313.2

The District is proposing deletion of Title V permit conditions in the five Bay Area refinery permits related to monitoring for compliance with 9-1-313.2. Regulation 9-1-313 allows three options for compliance, but is complied with at all Bay Area refineries through section 313.2, which requires operation of a sulfur removal and recovery system that achieves 95% reduction of H2S from refinery fuel gas. Conditions were established in the 2003 issuance of these permits to periodically verify that a 95% reduction is being achieved. Though details vary amongst the five refineries, all permits require some form of compliance demonstration, generally involving inlet-outlet source testing. The refineries have consistently objected to these conditions, noting that source testing for H2S reduction is, on the one hand, costly and a significant safety risk, and on the other, unlikely to yield data useful to determining compliance. Having reconsidered the issue, the District is now proposing deletion of the conditions.

The monitoring in all five refinery permits was established pursuant to 2-6-409.2, which provides that, where the applicable requirement does not contain periodic monitoring or testing, "the permit shall contain periodic monitoring sufficient to yield reliable data from the relevant time periods that is representative of the source's compliance with the permit." This provision was established in 2-6 to satisfy EPA's program approval criteria found in 40 CFR 70.6(a)(1)(iii), commonly known as the periodic monitoring requirement. The District has consistently applied a balancing test to determinations of periodic monitoring, considering, among other things, the likelihood of a violation during normal operation, variability in the operation and in the control device, the technical feasibility and probative value of the monitoring under consideration, and cost. Applying these factors to 9-1-313.2, the District now believes that compliance with 9-1-313.2 is sufficiently assured without the addition of Title V monitoring.

A periodic monitoring determination should take as its starting point the intent of the underlying requirement. While some District regulations impose a reduction efficiency with the intent that it be measured on an ongoing basis, other regulations use reduction efficiency to describe the requisite design of equipment to be installed. The latter are sometimes referred to as design standards.

Regarding 9-1-313.2, both the rule language and contemporaneous explanations of the rule suggest that the 95% reduction requirement was intended as a design standard. Furthermore, the target of 95% was aimed at ensuring that no significant fuel gas stream went untreated, rather than acting as a performance standard for treatment systems. Regulation 9-1-313 prohibits operation of a refinery of a certain size unless one of three conditions is met, one of which (§ 313.2) is that "*there is a* sulfur removal and recovery system that removes and recovers, on a refinery wide basis, 95% of H2S from refinery fuel gas" (emphasis added). This phrasing places primacy on the presence of a system capable of achieving a reduction, rather than achievement of the reduction. Moreover, another of the three possible methods of compliance with Section

313 (§ 313.3) allows (prior to a certain date) compliance merely by way of an enforceable commitment to construct such a system. This third compliance option reinforces the inference that the primary intent of Section 313 was to require operation of a sulfur recovery and removal system.

Regulation 9-1-313 was adopted in 1990, at a time when all but one Bay Area gasoline-producing refinery were already operating SRU's. The remaining gasoline-producing refinery, Pacific Refining (which has since closed), was instead using a caustic scrubbing system, and had a history of causing odor problems in the community due, in part, to high H2S levels in fuel gas. The 1990 District staff reports evidence that the primary purpose of the rule was to require installation of an SRU at this facility. This also happens to be the purpose of the Section 313.3 compliance option. The staff reports do not evidence a concern with ensuring a certain level of performance at facilities with existing SRU's. Nor do the staff reports characterize Section 303 as being in any way intended to fulfill a requirement of the federal Clean Air Act. The 1990 staff reports indicate that Bay Area refineries with SRU's were known at the time to be reducing sulfur content in fuel gas to well below applicable regulatory standards.

In 1995 the District revised 9-1-313.2 to add a requirement that a refinery removing more than 16.5 tons of elemental sulfur per day must install a sulfur recovery plant or sulfuric acid plant. The content of the accompanying staff report suggests that, once again, this rulemaking was directed at one facility, Pacific Refining. The caustic scrubbing system in use at Pacific Refining had not resolved the odor problem at the refinery. The rule revision was intended to require Pacific Refining to install a sulfur plant. Most relevant to today's proposal, the staff report includes a statement that while a caustic scrubbing system can be expected to achieve a 95% H2S reduction, reduction at an SRU typically exceeds 99%.

The language of 9-1-313.2 and District staff reports are consistent with the view that the intent of the rule was to require Bay Area refineries to install and operate an SRU. Though there is an expressed assumption that reduction of better than 99% can be achieved by an SRU, there is no mention in the rule or in the staff reports of how a 95% reduction could be verified on an ongoing basis. This is consistent with the characterization of section 313.2 as a design standard that is satisfied by installation and operation of an adequately designed system.

The discussion that follows explains why periodic monitoring would not be appropriate even if the 95% reduction requirement of section 313.2 is characterized as a performance standard. Although the following discussion can stand alone as a justification for not imposing additional monitoring, it can also be viewed as overlapping with discerning the original intent of the rule. The technical considerations weighing against establishing monitoring through Title V today are synonymous with the policy reasons for why monitoring was not included in the rule as adopted in 1990, and why that rule is most accurately viewed as a design standard.

The District believes that monitoring to verify a 95% reduction is not appropriate. The monitoring would be costly and burdensome. To attempt measurement of inlet and outlet concentrations would require that samples be taken from multiple points simultaneously. The refineries have asserted this is not possible. The District acknowledges that doing so is at the least costly, complicated, and, to the District's knowledge, unprecedented. The task is made more difficult due to the risks of exposure to H2S during sampling, particularly at inlet

concentrations. Safety precautions would require 2-3 personnel at each sample point, and additional precautions during sample transport and handling. Because the standard is expressed as a refinery-wide standard, samples would need to be taken simultaneously at each fuel gas treatment system in order to determine compliance.

A monitoring regime may be burdensome and yet still justifiable if, among other things, results are accurate and probative regarding compliance with the standard. This is not the case regarding the 95% reduction goal of section 313.2. The accuracy of inlet-outlet source testing would be hampered by the limits of available methods for analyzing H2S samples at these levels of dilution. Moreover, many of the other sulfur species present interfere with measurement of H2S, and as a result routine fluctuation in sulfide species will tend to confound calculations comparing inlet and outlet H2S concentrations. There is no recognized method for quantifying and taking this into account.

Moreover, the District believes the margin of compliance with the 95% reduction goal is likely very large. Of course, due to the considerations discussed above, this cannot be verified with significant accuracy. However, each refinery has regulatory and operational reasons for employing an SRU to maintain H2S concentrations at very low levels. NSPS Subpart J, for instance, requires that fuel gas contain no more than 230 ppm H2S. Concentrations at the Bay Area refineries are typically far below this level in all gas combusted as fuel. While the actual percentage of reduction would depend on the inlet concentrations, the low concentrations found post-SRU fuel gas yields a safe assumption that reductions well in excess of 95% are occurring.

In summary, 9-1-313 was adopted primarily to force installation of an SRU at a single refinery that no longer operates. Though not stated in the staff reports, the expression of a 95% reduction goal was likely inserted in the rule to ensure that any SRU installed would address fuel gas comprehensively, not merely in part. H2S reduction efficiency for an entire fuel gas system can be estimated but cannot be accurately measured. The District believes there is a high degree of certainty that when all fuel gas is processed in an SRU, an H2S reduction efficiency well above 95% will be achieved. However, monitoring for this result would entail high costs and safety risks for measurements insufficiently exact to be relied on as a measurement of compliance. Such monitoring is therefore not justified for a District regulation that has no historical and no direct functional relationship to a federal Clean Air Act requirement.

The District solicits comment on this proposal and on possible alternative approaches to verifying compliance with the 95% reduction goal of section 313.2. The District knows of no examples in which monitoring for such a standard has been successfully implemented in other jurisdictions. Finally, the District notes that it is considering revision of 9-1-313 that would shift the focus from reduction efficiency to a standard that is both more pertinent to air quality protection and more verifiable.

APPENDIX F

EPA LETTER OF JULY 2, 2007 REGARDING
ALTERNATIVE MONITORING PLANS

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105-3901

JUL 02 2007

SFR - RODEO
CALIFORNIA
RECEIVED

JUL 09 2007

ENVIRONMENTAL
SERVICES
DEPARTMENT

Philip C. Stern
Superintendent, Environmental Services
ConocoPhillips Company
1380 San Pablo Avenue
Rodeo, CA 94572-1354

Dear Mr. Stern:

The United States Environmental Protection Agency ("USEPA") has reviewed ConocoPhillips' March 14, 2007 request for an approval of four alternative monitoring plans in place of continuous emission monitoring system ("CEMS") for the following fuel gas streams/combustion devices at its San Francisco Refinery ("The Facility"):

1. Gasoline and gasoline blend stocks/Marine Terminal Thermal Oxidizer ("TO") (A-420);

2. Pressure Swing Absorber ("PSA") Off-Gas/Unit 110 Heater (BAAQMD S-438);

3. Unit 233 and Unit 240 Sweet Unicracker ("UK") Gas/Steam Power Plant, Unit 110 Heater (BAAQMD S-352/355, 353/356, 354/357, S-438);

4. Commercial Grade – Purchased Natural Gas/Steam Power Plant (BAAQMD S-352/355, 353/356, 354/357, S-438)

Section 60.104(a)(1) of New Source Performance Standard ("NSPS") Subpart J prohibits the burning of any fuel gas that contains hydrogen sulfide (H_2S) in excess of 230 mg/dscm (0.10 gr/dscf). Section 60.105(a)(3) requires a CEMS for continuously monitoring and recording the concentration by volume (dry basis, zero percent excess air) of SO_2 emissions into the atmosphere except where an H_2S monitor is installed as specified in Section 30.104(a)(4). Pursuant to 40 C.F.R. Section 60.13 (i), after receipt and consideration of written application, the Administrator may approve alternative monitoring procedures or requirements of [Part 60]....

Based on the information submitted by the facility, USEPA approves your request for alternative monitoring plans as follows:

1. **Gasoline and gasoline blend stocks/Marine Terminal Thermal Oxidizer ("TO") (A-420)**

Process Description:

The TO controls vapors emitted from loading gasoline and gasoline blend stocks onto ships and barges at the facility. The TO was installed in 1991 to comply with BAAQMD regulation 8-44. The displaced vapors from ship or barge tank loading are collected in dedicated collection lines and directed through flame and detonation arrestors and a water seal to the TO. The TO contains a single burner fired solely on natural gas. Natural gas is also added when vapors enter the piping on the Marine Terminal to ensure vapors are always above the explosive limit for safety purposes. The only other connection to this system is nitrogen for purging the system.

Basis for low H_2S content:

The TO is only used for loading light products (TVP > 0.5 psi). The light products are finished gasoline products and gasoline blendstocks both of which have California Air Resources Board ("CARB") specifications for H_2S. The light products are only loaded into "clean ships" (ships that have not previously held any product containing H_2S) to prevent contamination with H_2S. Loading records reviewed since 2002 do not indicate any loading event into a tank which had the potential to contain H_2S. Seven monitoring samples were collected from January 30, 2007 through March 1, 2007. The samples were collected using length-of-stain tubes in accordance with the method described in ASTM 4913-00 Standard Practice for Determining Concentration of Hydrogen Sulfide by Reading Length of Stain, Visual Chemical Indicators. The Facility used detector tubes with ranges of 0 – 100 ppmv. Hydrogen sulfide was not detected in any of the samples.

Conditions of Approval:

1. One detection tube sampling shall be conducted on the commercial natural gas, and the vapors collected during a loading event for each grade of gasoline and blend stock (including ethanol or MTBE or similar material);
2. Detector tube ranges shall be 0-10/0-100 ppm (N=10/1), unless the H_2S level is above 100 ppm then a 0-500 ppm range shall be used. The facility shall use ASTM 4913-00 Standard Practice for Determining Concentration of Hydrogen Sulfide by Reading Length of Stain, Visual Chemical Detectors.
3. Upon USEPA request, the Facility shall conduct a test audit for any gas stream with an approved AMP. For the Marine Terminal Thermal Oxidizer, the audit shall consist of detector tube H_2S sampling of three consecutive loading events.
4. Records of the H_2S detection tube data shall be maintained and kept for at least five years.
5. If the gas stream composition changes, or if the gas stream will no longer be required to meet product specifications, then the gas stream must be resubmitted for approval under the Alternative Monitoring Plan.

1. **Pressure Swing Adsorber ("PSA") Off-Gas Unit 110 Heater (BAAQMD S-438)**

Process description: The Unit 110 hydrogen plant is designed to produce 24 million SCFD of very high purity (99.99 +% pure) from natural gas and steam. The hydrogen is produced by the natural gas/steam reforming process. Natural gas/Butane feed and superheated steam react over a catalyst and pressure to produce hydrogen and some byproducts. The hydrogen is then cooled and purified before export to Units 228, 240, and MP-30. There are two main fuel supplies to the Hydrogen Reformer Heater, H-1 (S-438). The heater utilizes Pressure Swing Adsorber off-gas and a blend of Refinery Fuel Gas combined with Unit 240 Unicracker Sweet Gas. The off gas is a low BTU by-product of the PSA process.

Current Process Parameter Monitoring: Grab sampling, three times per week as required by BAAQMD, Plant 16, title V – VI, Permit Condition 1694-E3, E5, and E6. Requirements: PSA off gas used as fuel at S-438 shall not exceed 1.0 ppm (by weight) total reduced sulfur ("TRS"), averaged over any calendar month. TRS shall include hydrogen sulfide, methyl mercaptan, methyl sulfide, dimethyl disulfide. The concentration of TRS in the blended fuel gas shall not exceed 50 ppmv averaged over any calendar month.

Basis for Unit 110 PSA Off Gas Low H_2S content:
Feed to the Unit 110 is comprised of purchased Natural Gas and Butane that is low in H_2S. H_2S is a poison to Unit 110 Hydrogen Reformer Catalyst. An H_2S removal system is engineered on the front end of the unit to ensure trace amounts of TRS and H_2S are removed. The removal system consists of a hydrotreating reactor to convert TRS to H_2S followed by two H_2S removal absorbent beds. Hydrogen (H_2) produced at Unit 110 is purified in the PSA. The PSA produces high purity hydrogen and off gas. Off gas is composed primarily of CO_2, H_2, and methane (by volume). Thus, the H_2S content of the off gas must be low due to low H_2S feed and the sulfur sensitive catalyst operated at high temperature and pressure. Fourteen daily monitoring samples were obtained during the two week period from January 29, 2007 through February 11, 2007. The samples were obtained using length-of-stain tubes in accordance with the method described in ASTM 4913-00 Standard Practice for Determining Concentration of Hydrogen Sulfide by Reading Length of Stain, Visual Chemical Indicators. The Facility used detector tubes with a range of 0-100 ppmv. Hydrogen sulfide was not detected in any of the samples.

Conditions of Approval:
1. Grab samples from Sample Point U215 which is located at the outlet of the third F-123 vessel shall be obtained three times per week in accordance with BAAQMD permit condition 1694 – E3.
2. Detector tube ranges shall be 0-10/0-100 ppm (N=10/1), unless the H_2S level is above 100 ppm then a 0-500 ppm range shall be used. The facility shall use

ASTM 4913-00 Standard Practice for Determining Concentration of Hydrogen Sulfide by Reading Length of Stain, Visual Chemical Detectors.

3. Upon agency request, the Facility shall conduct a test audit for any gas stream with an approved AMP. For the Pressure Swing Adsorber ("PSA") Off-Gas Unit 110 Heater, the audit shall consist of detector tube H_2S sampling of three consecutive loading events.
4. Records of the H_2S detection tube data shall be maintained and kept for at least five years.
5. If, at any time, a single detector tube sample value is equal or greater than 81 ppm H_2S, then the gas stream shall be sampled with detector tubes on a daily basis for seven days. If the average detector tube result plus three (3) standard deviations for those seven (7) samples is less than 81 ppm H_2S, the date and value of change in H_2S concentration shall be included in the next semiannual report, and the Facility shall continue monitoring in accordance with the schedule of the monitoring described in Condition Number 1. If the average detector tube result plus three (3) standard deviations indicates a potential for the 81 ppm H_2S emission limit to be exceeded, then proceed to Condition Number 6.
6. If the H_2S detector tube data indicates a potential for the emission limit to be exceeded then the Facility shall notify USEPA of those results before the end of the next business day following the last sample day. The gas stream shall subsequently be tested daily for a two (2) week period (14 samples). After the two week period is complete, sampling will continue once per week until USEPA approves a revised sampling plan schedule from the Facility, or until USEPA makes a determination to withdraw approval of the Alternative Monitoring Plan ("AMP"). An H_2S detector tube that measures a value in excess of 162 ppm H_2S is evidence that the emission standard has been violated.

2. **Unit 240 Sweet Unicracker Gas Steam Power Plant, Unit 110 Heater (BAAQMD S -352/355, 353/356, 354/357, S-438**

Process Description: The Unit 110 Hydrogen Reformer and Steam Power Plant Turbines use a combination of Refinery Fuel Gas from Unit 233 and Unit 240 Sweet Unicracker ("UK") Gas as fuel sources. PSA off gas is also used as a fuel source for Unit 110. Unit 233 Fuel Gas center is the main source of fuel gas to the refinery heaters and Steam Power Plant. Prior to exiting Unit 233, the fuel gas is analzed by an NSPS Subpart J H_2S Monitor to ensure compliance with 60.104(a)(1) limits. For the Steam Power Plant Turbines, the Unit 240 Sweet UK Gas is a desirable gas to be blended with the Unit 233 Fuel Gas. The low H_2S levels in the gas enhance the performance of the Selective Catalytic Reduction ("SCR") sytem for controlling NO_x emissions required by BAAQMD regulations. This gas helps reduce the formation of salts that can plug the SCR catalyst beds.

Unit 240 Sweet UK Gas Overview:

Unit 240 Sweet Gas is primarily utilized as a feed to Unit 240, Plant 4 Hydrogen Plant (reformer), with natural gas as an alternate feed. The source of this gas is from Unit 240 (Hydrocracking Unit), Plant 3 (Fractionation Section) Depropanizer and Butane Absorber overheads. These overhead gas streams are combined and treated at an H_2S Absorber (D401). The H_2S Absorber removes organic sulfur compounds and H_2S through DiGlycolamine ("DGA") agent contact. The target H_2S content exiting the D-401 tower is less than 5 ppm. Additional H_2S removal takes place downstream of the D-401 tower. H_2S acts as a poison to the Hydrogen Reforming catalyst in levels as low as 0.1 ppm. Thus, care is taken to treat and monitor H_2S content of feed steams to ensure the reformer catalyst is not poisoned. The H_2S content of the Unit 240 Sweet UK Gas is monitored from a process control standpoint to ensure catalyst poisoning does not occur. High inlet H_2S levels could require more frequent shutdowns to replace downsteam zinc oxide absorber catalyst, which is undesirable for both process and environmental
reasons. H_2S levels in the Sweet UK Gas are constrained by the process to keep these levels low. If high H_2S levels are detected in this Sweet UK Gas, a Standard Operating Procedure (SOP) in place directs operators to redirect this gas to the Refinery Fuel Gas system for clean-up prior to use as fuel. Natural gas is then used as Hydrogen plant feed. Records (1/1/03 to present) of H_2S process analyzer indicate that the H_2S values of this stream are consistently below 3 ppm.

Current Process Parameter Monitoring:

Unit 240 Sweet Unicracker Gas – Continuous H_2S process analyzer is in place to monitor H_2S content of process stream. Process alarms on the digital control system ("DCS") are in place to warn operators of potential higher than normal H_2S values for the stream. Weekly Draeger tube samples are collected in order to monitor H_2S content of process stream.

Blended Unit 233 Refinery Fuel Gas & Unit 240 Sweet Unicracker Gas:

BAAQMD, Plant 16, title V – VI, Permit condition 1694: 3a requires that the refinery fuel gas be tested for TRS concentration by GC analysis at least once per 8 hour shift (three (3) times per calendar day). At least 90% of those samples must be taken per calendar month. The permit also requires that no readable sample be omitted. TRS shall include hydrogen sulfide, methyl mercaptan, methyl sulfide, and dimethyl disulfide.

Basis for Unit 240 Sweet Unicracker Gas Low H_2S Content

H_2S levels in the Sweet UK Gas are constrained by the process Unit 240 Hydrogen Reformer need to keep these H_2S levels low. If high H_2S levels are detected in this Sweet UK Gas there is an SOP in place which directs oprators to redirect this gas to the Refinery Fuel Gas system for cleanup prior to use as fuel, natural gas is then used as Hydrogen plant feed. Records (1/1/03 to present) of

H_2S process analyzer indicate that the H_2S values of this stream are consistently below 3 ppm.

Conditions of Approval:

1. Unit 240 Sweet Unicracker Gas: Continuous H_2S process analyzer must be in place to monitor H_2S content of process stream.
2. Upon USEPA request, the Facility shall conduct a test audit for any gas stream with an approved AMP.
3. If, at any time, the process parameter data indicates an H_2S concentration of 5 ppm or greater exiting the H_2S Absorber Tower (D401) is greater than 5 ppm, the facility shall conduct detector tube sampling at the AMP monitoring location on a daily basis for seven days. If the average detector tube result plus 3 standard deviations for those seven samples is greater than or equal to 81 ppm H_2S, the Facility shall submit the date and value of the process parameter monitoring that triggered the additional sampling and the 7 day sampling results in a written report submitted within 30 days after the conclusion of the 7 day sampling. If the average plus three standard deviations for those seven samples is equal to or greater than 81 ppm H_2S , the facility will proceed to Condition Number 3.
4. If the H_2S detector tube data indicates a potential for the emission limit to be exceeded then the Facility shall notify USEPA of those results before the end of the next business day following the last sample day. The gas stream shall subsequently be tested daily for a two (2) week period (14 samples). After the two week period is complete, sampling will continue once per week until USEPA approves a revised sampling plan schedule from the Facility, or until USEPA makes a determination to withdraw approval of the Alternative Monitoring Plan ("AMP"). An H_2S detector tube that measures a value in excess of 162 ppm H_2S is evidence that the emission standard has been violated.
5. Blended Unit 233 Refinery Fuel Gas & Unit 240 Sweet Unicracker Gas: In accordance with BAAQMD, Plant 16, Title V – VI. Permit Condition 1694: 3a: The refinery fuel gas shall be tested for Total Reduced Sulfur ("TRS") concentration by GC analysis at least once per 8 hour shift (3 times per calendar day). At least 90% of these samples shall be taken each calendar month. No readable samples or sample results shall be omitted. TRS shall include hydrogen sulfide, methyl mercaptan, methyl sulfide, dimethyl sulfide.

4. Commercial Grade Purchased Natural Gas, Steam Power Plant (BAAQMD S—352/355, 353/356, 354/357, S-438)

Overview: Purchased, commercial grade natural gas is used as one of the fuels supplied to the Steam Power Plant Turbines. The natural gas is blended with Refinery Fuel gas and Unit 240 Unicracker Sweet Gas before it is burned in the Steam Power Plant Turbines. The blend ratio of Natural Gas and Refinery

produced gas is based on economics and operating objectives. Additionally, the natural gas can be utilized in case of emergency if Unit 233 Refinery Fuel Gas and Unit 240 Unicracker Sweet Gas is not available. The purchased natural gas is guaranteed to be low in H_2S by the supplier.

Basis for low H_2S Content:
The supplier of the natural gas has provided a guarantee on the level of H_2S in the fuel gas. This gas is provided to many users, such as residential cutomers, who also expect and demand low H_2S content.

Current Process Parameter Monitoring:
No regular monitoring takes place for the commercial grade purchased natural gas. The supplier of the natural gas has provided guaranteed Hydrogen Sulfide limit of 0.25 grains/100 SCF (equivalent to 4 ppmv). The natural gas was sampled on May 10, 2007 for H_2S using a Draeger Tube. Hydrogen Sulfide was not detected.

Conditions of Approval:
1. Upon request, Certification of the natural gas supplier's H_2S content guarantee will be provided to USEPA.

If you have any questions or comments regarding anything contained in this letter, please contact Margaret Waldon of my staff at (415) 972-3987.

Sincerely,

Douglas K. McDaniel
Chief, Enforcement Office
Air Division

cc: Kelly Wee, BAAQMD

APPENDIX G

CONOCO LETTER OF JUNE 8, 2004 REGARDING
SUBPART QQQ

ConocoPhillips

San Francisco Refinery
1380 San Pablo Avenue
Rodeo, CA 94572-1354
phone 510.799.4411
fax 510.245.4476

June 8, 2004

ESDR-233-04
05-A-01-C

VIA E MAIL

Mr. Steve Hill
Bay Area Air Quality Management District
939 Ellis Street
San Francisco, CA 94109

Subject: Title V Permit Corrections

Dear Mr. Hill:

ConocoPhillips Company requests that the attached changes for storage tanks be made either by administrative amendment to the current Title V permit ("TV permit") or in Revision 1 of the TV permit for its San Francisco Refinery (Plant #A0016).

We recently reviewed the applicability of BAAQMD 8-8 and 40 CFR Subpart QQQ and discovered that some storage tanks had the wrong applicability listed in the permit. We have summarized the changes in Attachment 1. Attachment 2 contains revised Table IV's and Attachment 3 contains revised Table VII's based on the Draft Revision 1 of the TV permit.

If you have any questions or need further clarifications, please contact Ms. Valerie Uyeda at (510) 245-5249.

Sincerely,

Philip C. Stern
Environmental Superintendent

Attachments

cc: Julian Elliot, BAAQMD Permit Engineer

bcc (w/ attachments):
V. Uyeda, Environmental
05-A-01-C Title V Permit Corrections
(Keywords: QQQ, 8-8, S-195, S-196, S-388, S-433, wastewater tanks)

PDF only (w/ Attachments)

D. Erfert, Technical Services
P. Hamada, Legal
V. Uyeda, Environmental
J. Ahlskog, Environmental
V. Row, Environmental
Mike Rockett, Pillsbury-Winthrop

Attachment 1
Corrections to ConocoPhillips San Francisco Refinery (Plant A0016)
Title V Permit for BAAQMD 8-8 and 40 CFR Subpart QQQ

Comment Number	Source	Section and Table Number	Listed Requirement	Permit Page Number	Change to Permit and Rationale
1	S-195 (Tank 501)	IV-B5	Regulation Title or Description of Requirement	173	Delete BAAQMD 8-8-304 and add BAAQMD 8-8-305 applicability. Tank is not a sludge-dewatering unit. Tank receives API bottoms (sludge) and Dissolved Air Floatation Unit flocculant, which falls within the definition of oil-water separator slop oil per 8-8-205. Tank should be classified as a slop oil vessel per BAAQMD 8-8-213. The standard at 8-8-305 applies.
2	S-195 (Tank 501)	IV-B5	Regulation Title or Description of Requirement	174-175	Delete NSPS Title 40 Part 60 Subpart QQQ applicability. Tank receives API bottoms (sludge) and Dissolved Air Floatation Unit flocculant. Tank does not receive floating oil or solids that accumulate on the surface of the API separator. Since tank does not receive slop oil as defined at 40 CFR 60.691 QQQ does not apply.
3	S-195 (Tank 501)	VII-B5	Monitoring Requirement Citation	415	Delete BAAQMD 8-8-304 and add BAAQMD 8-8-305 applicability. Same as Comment 1.
4	S-195 (Tank 501)	VII-B5	Monitoring Requirement Citation	415	Delete NSPS Title 40 Part 60 Subpart QQQ applicability. Same as Comment 2.
5	S-196 (Tank 502)	IV-B5	Regulation Title or Description of Requirement	173	Delete BAAQMD 8-8-304 and add BAAQMD 8-8-305 applicability. Same as Comment 1.
6	S-196 (Tank 502)	IV-B5	Regulation Title or Description of Requirement	174-175	Delete NSPS Title 40 Part 60 Subpart QQQ applicability. Same as Comment 2.

Attachment 1
Corrections to ConocoPhillips San Francisco Refinery (Plant A0016)
Title V Permit for BAAQMD 8-8 and 40 CFR Subpart QQQ

Comment Number	Source	Section and Table Number	Listed Requirement	Permit Page Number	Change to Permit and Rationale
7	S-196 (Tank 502)	VII-B5	Monitoring Requirement Citation	415	Delete BAAQMD 8-8-304 and add BAAQMD 8-8-305 applicability. Same as Comment 1.
8	S-196 (Tank 502)	VII-B5	Monitoring Requirement Citation	415	Delete NSPS Title 40 Part 60 Subpart QQQ applicability. Same as Comment 2.
9	S-388 (Tank 276)	IV-B5	Regulation Title or Description of Requirement	173	Delete BAAQMD 8-8-304 and add BAAQMD 8-8-305 applicability. Same as Comment 1.
10	S-388 (Tank 276)	IV-B5	Regulation Title or Description of Requirement	174-175	Delete NSPS Title 40 Part 60 Subpart QQQ applicability. Same as Comment 2.
11	S-388 (Tank 276)	VII-B5	Monitoring Requirement Citation	415	Delete BAAQMD 8-8-304 and add BAAQMD 8-8-305 applicability. Same as Comment 1.
12	S-388 (Tank 276)	VII-B5	Monitoring Requirement Citation	415	Delete NSPS Title 40 Part 60 Subpart QQQ applicability. Same as Comment 2.
13	S-433 (MOSC Tank)	IV-B1	Regulation Title or Description of Requirement	168	Delete BAAQMD 8-8-304 and add BAAQMD 8-8-305 applicability. Same as Comment 1.
14	S-433 (MOSC Tank)	IV-B1	Regulation Title or Description of Requirement	169-170	Delete NSPS Title 40 Part 60 Subpart QQQ applicability. Same as Comment 2.

Attachment 1
Corrections to ConocoPhillips San Francisco Refinery (Plant A0016)
Title V Permit for BAAQMD 8-8 and 40 CFR Subpart QQQ

Comment Number	Source	Section and Table Number	Listed Requirement	Permit Page Number	Change to Permit and Rationale
15	S-433 (MOSC Tank)	VII-B1	Monitoring Requirement Citation	411	Delete BAAQMD 8-8-304 and add BAAQMD 8-8-305 applicability. Same as Comment 1.
16	S-433 (MOSC Tank)	VII-B1	Monitoring Requirement Citation	411	Delete NSPS Title 40 Part 60 Subpart QQQ applicability. Same as Comment 2.
17	No source number - Tank 235	IV-B27	Regulation Title or Description of Requirement	269-270	Delete NSPS Title 40 Part 60 Subpart QQQ applicability. Tank receives treated water and does not receive oily wastewater as defined at 40 CFR 60.691; therefore, QQQ does not apply.
18	No source number - Tank 235	VII-B27	Monitoring Requirement Citation	455-456	Delete NSPS Title 40 Part 60 Subpart QQQ applicability. See Comment 17.
19	No source number - Tank 236	IV-B27	Regulation Title or Description of Requirement	269-270	Delete NSPS Title 40 Part 60 Subpart QQQ applicability. See Comment 17.
20	No source number - Tank 236	VII-B27	Monitoring Requirement Citation	455-456	Delete NSPS Title 40 Part 60 Subpart QQQ applicability. See Comment 17.
21	No source number - Tank 237	IV-B28	Regulation Title or Description of Requirement	271	Delete NSPS Title 40 Part 60 Subpart QQQ applicability. Tank is out of service and does not receive oily wastewater as defined at 40 CFR 60.691; therefore, QQQ does not apply.
22	No source number - Tank 237	VII-B28	Regulation Title or Description of Requirement	456-457	Delete NSPS Title 40 Part 60 Subpart QQQ applicability. See Comment 21.

Attachment 2

Corrections to ConocoPhillips San Francisco Refinery (Plant A0016) Title V Permit for BAAQMD 8-8 and 40 CFR 60 Subpart QQQ

Table IV – B1

Source-Specific Applicable Requirements

NSPS Kb Low Vapor Pressure Permitted Wastewater Sludge Tank: with Vapor Recovery to Fuel Gas

S-433 (F224-MOSC)

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date	
BAAQMD · Regulation 8, Rule 5	**Organic Compounds, Storage of Organic Liquids (11/27/02) EXEMPT**			
8-5-117	Exemption, Low Vapor Pressure	Y		
BAAQMD · Regulation 8, Rule 8	**Organic Compounds, Wastewater (Oil-Water Separators) (6/15/1994) REQUIREMENTS FOR SLUDGE DEWATERING UNITS**			
8-8-113	Exemption, Secondary Wastewater Treatment Processes and Stormwater Sewer Systems (segregated) are exempt from 8-8-301, 8-8-302, 8-8-306, 8-8-308	Y		
8-8-303	Standards: Gauging and Sampling Devices	Y		
~~8-8-304~~	~~Standards: Sludge dewatering Unit~~	~~Y~~		
8-8-304	Standards: Slop Oil Vessels	Y		
8-8-504	Monitoring and Records: Portable Hydrocarbon Detector	Y		
8-8-602	Manual of Procedures: Determination of Emissions	Y		
8-8-603	Manual of Procedures: Inspection Procedures	Y		
NESHAPS Title 40 Part 63 Subpart CC	**National Emission Standards for Hazardous Air Pollutants for Petroleum Refining (8/18/95) REQUIREMENTS FOR EMISSION POINTS ROUTED TO FUEL GAS**			
40 CFR 63.640(c)(2)	Applicability and Designation of Storage Vessels	Y		
40 CFR 63.640(d)(5)	Exemption for emission points routed to fuel gas system	Y		
~~**NSPS Title 40 Part 60 Subpart QQQ**~~	~~**NSPS Subpart QQQ VOC Emissions from Petroleum Refinery Wastewater Systems REQUIREMENTS FOR FIXED ROOF TANKS ROUTED TO FUEL GAS**~~			
~~40 CFR 60.690(a)(1)~~	~~Applicability and Designation of Affected Facility~~	~~Y~~		
~~40 CFR 60.690(a)(3)~~	~~Applicability and Designation of Affected Facility~~	~~Y~~		
~~40 CFR 60.691~~	~~Definitions: Closed Vent System. If gas or vapor from regulated equipment are routed to a process (e.g., petroleum refinery fuel gas system), the process shall not be considered a closed vent system and is not subject to the closed vent system standards.~~	~~Y~~		
~~40 CFR 60.692-1~~	~~Standards: General~~	~~Y~~		
~~40 CFR 60.692-1(a)~~	~~Standards: General~~	~~Y~~		
~~40 CFR 60.692-1(b)~~	~~Standards: General~~	~~Y~~		
~~40 CFR 60.692-3~~	~~Standards: Oil-Water Separators (includes storage vessels)~~	~~Y~~		
~~40 CFR 60.692-3(a)~~	~~Standards: Oil-Water Separators (includes storage vessels)~~	~~Y~~		
~~40 CFR 60.692-3(a)(1)~~	~~Standards: Oil-Water Separators (includes storage vessels)~~	~~Y~~		

Attachment 2

Corrections to ConocoPhillips San Francisco Refinery (Plant A0016) Title V Permit for BAAQMD 8-8 and 40 CFR 60 Subpart QQQ

Table IV – B1

Source-Specific Applicable Requirements

NSPS Kb Low Vapor Pressure Permitted Wastewater Sludge Tank with Vapor Recovery to Fuel Gas

S-433 (F224-MOSC)

~~40 CFR 60.692-3(a)(2)~~	~~Standards: Oil-Water Separators (includes storage vessels)~~	~~Y~~		
~~40 CFR 60.692-3(a)(3)~~	~~Standards: Oil-Water Separators (includes storage vessels)~~	~~Y~~		
~~40 CFR 60.692-3(a)(4)~~	~~Standards: Oil-Water Separators (includes storage vessels)~~	~~Y~~		
~~40 CFR 60.692-3(a)(5)~~	~~Standards: Oil-Water Separators (includes storage vessels)~~	~~Y~~		
~~40 CFR 60.692-3(f)~~	~~Standards: Oil-Water Separators (includes storage vessels)~~	~~Y~~		
~~40 CFR 60.692-6~~	~~Standards: Delay of Repair~~	~~Y~~		
~~40 CFR 60.692-6(a)~~	~~Standards: Delay of Repair~~	~~Y~~		
~~40 CFR 60.692-6(b)~~	~~Standards: Delay of Repair~~	~~Y~~		
~~40 CFR 60.697~~	~~Recordkeeping Requirements~~	~~Y~~		
~~40 CFR 60.697(a)~~	~~Recordkeeping Requirements~~	~~Y~~		
~~40 CFR 60.697(e)~~	~~Recordkeeping Requirements~~	~~Y~~		
~~40 CFR 60.697(e)(1)~~	~~Recordkeeping Requirements~~	~~Y~~		
~~40 CFR 60.697(e)(2)~~	~~Recordkeeping Requirements~~	~~Y~~		
~~40 CFR 60.697(e)(3)~~	~~Recordkeeping Requirements~~	~~Y~~		
~~40 CFR 60.697(e)(4)~~	~~Recordkeeping Requirements~~	~~Y~~		
~~40 CFR 60.697(f)(1)~~	~~Recordkeeping Requirements~~	~~Y~~		
~~40 CFR 60.697(f)(2)~~	~~Recordkeeping Requirements~~	~~Y~~		
~~40 CFR 60.698(e)~~	~~Reporting Requirements~~	~~Y~~		
NSPS Title 40 Part 60 Subpart Kb	**NSPS Subpart Kb for Tanks (12/14/2000) REQUIREMENTS FOR RECORDKEEPING ONLY**			
40 CFR 60.110b(a)	Applicability and Designation of Affected Facility; Volatile organic liquid storage vessels > or = to 40 cu m, after 7/23/1984	Y		
40 CFR 60.110b(c)	Applicability and Designation of Affected Facility; Exemptions for storage vessels > or = to 75 cu m	Y		
40 CFR 60.116b(a)	Monitoring of Operations; Record retention	Y		
40 CFR 60.116b(b)	Monitoring of Operations; Permanent record requirements	Y		
40 CFR 60.116b(e)	Monitoring of Operations; Determine TVP	Y		
40 CFR 60.116b(e)(3)	Monitoring of Operations; Determine TVP-other liquids	Y		
40 CFR 60.116b(f)	Monitoring of Operations; Waste storage tanks (indeterminate or variable composition)	Y		
40 CFR 60.116b(g)	Monitoring of Operations; Exemption from 40 CFR 60.116b(c) and 40 CFR 60.116b(d) for tanks with closed vent system and control device	Y		

Attachment 2

Corrections to ConocoPhillips San Francisco Refinery (Plant A0016) Title V Permit for BAAQMD 8-8 and 40 CFR 60 Subpart QQQ

Table IV – B1

Source-Specific Applicable Requirements

NSPS Kb Low Vapor Pressure Permitted Wastewater Sludge Tank: with Vapor Recovery to Fuel Gas

S-433 (F224-MOSC)

BAAQMD Condition 7353	APPLICABLE TO S-433		
Part 1	Requirement to vent tank to fuel gas system [Basis: Cumulative Increase]	Y	
Part 2	Valve, pump design requirements [Basis: Cumulative Increase]	Y	
Part 3	Limitation on material stored [Basis: Cumulative Increase]	Y	
Part 4	Annual throughput limit [Basis: Cumulative Increase]	Y	
Part 5	Weekly throughput records [Basis: Recordkeeping]	Y	
BAAQMD Condition 20773			
Part 1	Requirement to verify exempt status of tank based on true vapor pressure of contents [Basis: Regulation 8-5-117, 2-6-409.2]	Y	4/1/04
Part 2	Record retention requirement [Basis: Regulation 2-6-409.2]	Y	4/1/04

Attachment 2
Corrections to ConocoPhillips San Francisco Refinery (Plant A0016) Title V Permit for BAAQMD 8-8 and 40 CFR 60 Subpart QQQ

Table IV – B5
Source-Specific Applicable Requirements
NSPS Kb Low Vapor Pressure Permitted Fixed Roof Wastewater Sludge Tanks
S-195 (Tank 501), S-196 (Tank 502), S-388 (Tank 276/F205)

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date	
BAAQMD - Regulation 8, Rule 5	**Organic Compounds, Storage of Organic Liquids (11/27/02) EXEMPT**			
8-5-117	Exemption, Low Vapor Pressure	Y		
BAAQMD - Regulation 8, Rule 8	**Organic Compounds, Wastewater (Oil-Water Separators) (6/15/1994) REQUIREMENTS FOR SLUDGE DEWATERING UNITS**			
8-8-113	Exemption, Secondary Wastewater Treatment Processes and Stormwater Sewer Systems (segregated) are exempt from 8-8-301, 8-8-302, 8-8-306, 8-8-308	Y		
8-8-303	Standards: Gauging and Sampling Devices	Y		
~~8-8-304~~	~~Standards: Sludge dewatering Unit~~	~~Y~~		
8-8-305	Standards: Slop Oil Vessels			
8-8-504	Monitoring and Records: Portable Hydrocarbon Detector	Y		
8-8-602	Manual of Procedures: Determination of Emissions	Y		
8-8-603	Manual of Procedures: Inspection Procedures	Y		
NESHAPS Title 40 Part 63 Subpart CC	**National Emission Standards for Hazardous Air Pollutants for Petroleum Refining (8/18/95) REQUIREMENTS FOR TANKS ALSO SUBJECT TO NSPS Kb**			
40 CFR 63.640(c)(2)	Applicability and Designation of Storage Vessels	Y		
40 CFR 63.640(n)(1)	Applicability and Designation of Affected Source Overlap for Storage Vessels--Existing Group 1 or Group 2 also subject to Kb only subject to Kb and 63.640(n)(8).	Y		
40 CFR 63.640(n)(8)	Applicability and Designation of Affected Source Overlap for Storage Vessels--Additional requirements for Kb storage vessels	Y		
NSPS Title 40 Part 60 Subpart Kb	**NSPS Subpart Kb for Tanks (12/14/2000) REQUIREMENTS FOR RECORDKEEPING ONLY**			
40 CFR 60.110b(a)	Applicability and Designation of Affected Facility; Volatile organic liquid storage vessels > or = to 40 cu m, after 7/23/1984	Y		
40 CFR 60.110b(c)	Applicability and Designation of Affected Facility; Exemptions for storage vessels > or = to 75 cu m	Y		
40 CFR 60.116b(a)	Monitoring of Operations; Record retention	Y		
40 CFR 60.116b(b)	Monitoring of Operations; Permanent record requirements	Y		
40 CFR 60.116b(d)	Monitoring of Operations; 30-day notification for TVP exceedances	Y		
40 CFR 60.116b(e)	Monitoring of Operations; Determine TVP	Y		
40 CFR 60.116b(e)(3)	Monitoring of Operations; Determine TVP-other liquids	Y		
40 CFR 60.116b(f)	Monitoring of Operations; Waste storage tanks (indeterminate or variable composition)	Y		
~~NSPS Title 40 Part 60 Subpart QQQ~~	~~NSPS Subpart QQQ VOC Emissions from Petroleum Refinery Wastewater Systems REQUIREMENTS FOR STORAGE VESSELS NOT SUBJECT TO NSPS Kb CONTROL REQUIREMENTS (60.112b)~~			
~~40 CFR 60.690(a)(1)~~	~~Applicability and Designation of Affected Facility~~	~~Y~~		
~~40 CFR 60.690(a)(3)~~	~~Applicability and Designation of Affected Facility~~	~~Y~~		

Attachment 2

Corrections to ConocoPhillips San Francisco Refinery (Plant A0016) Title V Permit for BAAQMD 8-8 and 40 CFR 60 Subpart QQQ

Table IV – B5

Source-Specific Applicable Requirements

NSPS Kb Low Vapor Pressure Permitted Fixed Roof Wastewater Sludge Tanks

S-195 (Tank 501), S-196 (Tank 502), S-388 (Tank 276/F205)

~~40 CFR 60.692-1~~	~~Standards: General~~	~~Y~~		
~~40 CFR 60.692-1(a)~~	~~Standards: General~~	~~Y~~		
~~40 CFR 60.692-1(b)~~	~~Standards: General~~	~~Y~~		
~~40 CFR 60.692-3~~	~~Standards: Oil-Water Separators (includes storage vessels)~~	~~Y~~		
~~40 CFR 60.692-3(a)~~	~~Standards: Oil-Water Separators (includes storage vessels)~~	~~Y~~		
~~40 CFR 60.692-3(a)(1)~~	~~Standards: Oil-Water Separators (includes storage vessels)~~	~~Y~~		
~~40 CFR 60.692-3(a)(2)~~	~~Standards: Oil-Water Separators (includes storage vessels)~~	~~Y~~		
~~40 CFR 60.692-3(a)(3)~~	~~Standards: Oil-Water Separators (includes storage vessels)~~	~~Y~~		
~~40 CFR 60.692-3(a)(4)~~	~~Standards: Oil-Water Separators (includes storage vessels)~~	~~Y~~		
~~40 CFR 60.692-3(a)(5)~~	~~Standards: Oil-Water Separators (includes storage vessels)~~	~~Y~~		
~~40 CFR 60.692-3(f)~~	~~Standards: Oil-Water Separators (includes storage vessels)~~	~~Y~~		
~~40 CFR 60.692-6~~	~~Standards: Delay of Repair~~	~~Y~~		
~~40 CFR 60.692-6(a)~~	~~Standards: Delay of Repair~~	~~Y~~		
~~40 CFR 60.692-6(b)~~	~~Standards: Delay of Repair~~	~~Y~~		
~~40 CFR 60.697~~	~~Recordkeeping Requirements~~	~~Y~~		
~~40 CFR 60.697(a)~~	~~Recordkeeping Requirements~~	~~Y~~		
~~40 CFR 60.697(e)~~	~~Recordkeeping Requirements~~	~~Y~~		
~~40 CFR 60.697(e)(1)~~	~~Recordkeeping Requirements~~	~~Y~~		
~~40 CFR 60.697(e)(2)~~	~~Recordkeeping Requirements~~	~~Y~~		
~~40 CFR 60.697(e)(3)~~	~~Recordkeeping Requirements~~	~~Y~~		
~~40 CFR 60.697(e)(4)~~	~~Recordkeeping Requirements~~	~~Y~~		
~~40 CFR 60.697(f)(1)~~	~~Recordkeeping Requirements~~	~~Y~~		
~~40 CFR 60.697(f)(2)~~	~~Recordkeeping Requirements~~	~~Y~~		
~~40 CFR 60.698(e)~~	~~Reporting Requirements~~	~~Y~~		
BAAQMD Condition 1860	**APPLICABLE TO S-388**			
Part 1	No detectable VOC emissions [Basis: Cumulative Increase]	Y		
Part 2	Requirement to vent to fuel gas recovery system [Basis: Cumulative Increase]	Y		
Part 3	Requirement to include S-388 in fugitive inspection program to verify compliance with Part 1 [Basis: Cumulative Increase]	Y		
BAAQMD Condition 20773				
Part 1	Requirement to verify exempt status of tank based on true vapor pressure of contents [Basis: Regulation 8-5-117, 2-6-409.2]	Y	4/1/04	
Part 2	Record retention requirement [Basis: Regulation 2-6-409.2]	Y	4/1/04	
BAAQMD Condition 20989, Part A	Throughput limits for sources S-195 [Basis: 2-1-234.3]	N		
BAAQMD Condition 20989, Part A	Throughput limits for source S-196, S-388 [Basis: 2-1-234.3]	Y		

Attachment 2
Corrections to ConocoPhillips San Francisco Refinery (Plant A0016) Title V Permit for
BAAQMD 8-8 and 40 CFR 60 Subpart QQQ

Table IV – B27
Source-Specific Applicable Requirements
NSPS Kb Exempt Fixed Roof Wastewater Tanks Vented to Fuel Gas
Tank 235, Tank 236

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date	
BAAQMD · Regulation 8, Rule 5	**Organic Compounds, Storage of Organic Liquids (11/27/02) EXEMPT**			
8-5-117	Exemption, Low Vapor Pressure	Y		
NESHAPS Title 40 Part 63 Subpart CC	**National Emission Standards for Hazardous Air Pollutants for Petroleum Refining (8/18/95) REQUIREMENTS FOR EMISSION POINTS ROUTED TO FUEL GAS**			
40 CFR 63.640(c)(3)	Wastewater streams and treatment operations associated with petroleum refining process units meeting the criteria of section 63.640(a)	Y		
40 CFR 63.640(d)(5)	Exemption for emission points routed to fuel gas system	Y		
~~**NSPS Title 40 Part 60 Subpart QQQ**~~	~~**NSPS Subpart QQQ VOC Emissions from Petroleum Refinery Wastewater Systems REQUIREMENTS FOR FIXED ROOF TANKS ROUTED TO FUEL GAS**~~			
~~40 CFR 60.690(a)(1)~~	~~Applicability and Designation of Affected Facility~~	~~Y~~		
~~40 CFR 60.690(a)(3)~~	~~Applicability and Designation of Affected Facility~~	~~Y~~		
~~40 CFR 60.691~~	~~Definitions: Closed Vent System. If gas or vapor from regulated equipment are routed to a process (e.g., petroleum refinery fuel gas system), the process shall not be considered a closed vent system and is not subject to the closed vent system standards.~~	~~Y~~		
~~40 CFR 60.692-1~~	~~Standards: General~~	~~Y~~		
~~40 CFR 60.692-1(a)~~	~~Standards: General~~	~~Y~~		
~~40 CFR 60.692-1(b)~~	~~Standards: General~~	~~Y~~		
~~40 CFR 60.692-3~~	~~Standards: Oil-Water Separators (includes storage vessels)~~	~~Y~~		
~~40 CFR 60.692-3(a)~~	~~Standards: Oil-Water Separators (includes storage vessels)~~	~~Y~~		
~~40 CFR 60.692-3(a)(1)~~	~~Standards: Oil-Water Separators (includes storage vessels)~~	~~Y~~		
~~40 CFR 60.692-3(a)(2)~~	~~Standards: Oil-Water Separators (includes storage vessels)~~	~~Y~~		
~~40 CFR 60.692-3(a)(3)~~	~~Standards: Oil-Water Separators (includes storage vessels)~~	~~Y~~		
~~40 CFR 60.692-3(a)(4)~~	~~Standards: Oil-Water Separators (includes storage vessels)~~	~~Y~~		
~~40 CFR 60.692-3(a)(5)~~	~~Standards: Oil-Water Separators (includes storage vessels)~~	~~Y~~		
~~40 CFR 60.692-3(f)~~	~~Standards: Oil-Water Separators (includes storage vessels)~~	~~Y~~		
~~40 CFR 60.692-6~~	~~Standards: Delay of Repair~~	~~Y~~		
~~40 CFR 60.692-6(a)~~	~~Standards: Delay of Repair~~	~~Y~~		
~~40 CFR 60.692-6(b)~~	~~Standards: Delay of Repair~~	~~Y~~		
~~40 CFR 60.697~~	~~Recordkeeping Requirements~~	~~Y~~		
~~40 CFR 60.697(a)~~	~~Recordkeeping Requirements~~	~~Y~~		
~~40 CFR 60.697(e)~~	~~Recordkeeping Requirements~~	~~Y~~		
~~40 CFR 60.697(e)(1)~~	~~Recordkeeping Requirements~~	~~Y~~		
~~40 CFR 60.697(e)(2)~~	~~Recordkeeping Requirements~~	~~Y~~		
~~40 CFR 60.697(e)(3)~~	~~Recordkeeping Requirements~~	~~Y~~		

Attachment 2

Corrections to ConocoPhillips San Francisco Refinery (Plant A0016) Title V Permit for BAAQMD 8-8 and 40 CFR 60 Subpart QQQ

Table IV – B27

Source-Specific Applicable Requirements

NSPS Kb Exempt Fixed Roof Wastewater Tanks Vented to Fuel Gas

Tank 235, Tank 236

~~40 CFR 60.697(e)(4)~~	~~Recordkeeping Requirements~~	~~Y~~		
~~40 CFR 60.697(f)(1)~~	~~Recordkeeping Requirements~~	~~Y~~		
~~40 CFR 60.697(f)(2)~~	~~Recordkeeping Requirements~~	~~Y~~		
~~40 CFR 60.698(e)~~	~~Reporting Requirements~~	~~Y~~		
NSPS Title 40 Part 60 Subpart Kb	**NSPS Subpart Kb for Tanks (12/14/2000) REQUIREMENTS FOR RECORDKEEPING ONLY**			
40 CFR 60.110b(a)	Applicability and Designation of Affected Facility; Volatile organic liquid storage vessels > or = to 40 cu m, after 7/23/1984	Y		
40 CFR 60.110b(c)	Applicability and Designation of Affected Facility; Exemptions for storage vessels > or = to 75 cu m	Y		
40 CFR 60.116b(a)	Monitoring of Operations; Record retention	Y		
40 CFR 60.116b(b)	Monitoring of Operations; Permanent record requirements	Y		
40 CFR 60.116b(e)	Monitoring of Operations; Determine TVP	Y		
40 CFR 60.116b(e)(3)	Monitoring of Operations; Determine TVP-other liquids	Y		
40 CFR 60.116b(f)	Monitoring of Operations; Waste storage tanks (indeterminate or variable composition)	Y		
40 CFR 60.116b(g)	Monitoring of Operations; Exemption from 40 CFR 60.116b(c) and 40 CFR 60.116b(d) for tanks with closed vent system and control device	Y		
BAAQMD Condition 20773				
Part 1	Requirement to verify exempt status of tank based on true vapor pressure of contents [Basis: Regulation 8-5-117, 2-6-409.2]	Y	4/1/04	
Part 2	Record retention requirement [Basis: Regulation 2-6-409.2]	Y	4/1/04	

Attachment 2
Corrections to ConocoPhillips San Francisco Refinery (Plant A0016) Title V Permit for BAAQMD 8-8 and 40 CFR 60 Subpart QQQ

Table IV – B28
Source-Specific Applicable Requirements
NSPS Kb Exempt Fixed Roof Wastewater Tank
Tank 237

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date	
BAAQMD · Regulation 8, Rule 5	**Organic Compounds, Storage of Organic Liquids (11/27/02) EXEMPT**			
8-5-117	Exemption, Low Vapor Pressure	Y		
40 CFR 63 Subpart CC	**National Emission Standards for Hazardous Pollutants for Petroleum Refining (8/18/95) REQUIREMENTS FOR GROUP 2 WASTEWATER SOURCES**			
40 CFR 63.640(c)(3)	Wastewater streams and treatment operations associated with petroleum refining process units meeting the criteria of section 63.640(a)	Y		
40 CFR 63.641	Definitions: Group 1 and Group 2 Wastewater Streams	Y		
40 CFR 63.654(a)	Reporting and Recordkeeping Requirements: Wastewater – no reporting and recordkeeping requirements for wastewater except for Group 1 wastewater streams	Y		
~~**NSPS Title 40 Part 60 Subpart QQQ**~~	~~**NSPS Subpart QQQ VOC Emissions from Petroleum Refinery Wastewater Systems REQUIREMENTS FOR FIXED ROOF TANKS NOT ROUTED TO FUEL GAS**~~			
~~40 CFR 60.690(a)(1)~~	~~Applicability and Designation of Affected Facility~~	~~Y~~		
~~40 CFR 60.690(a)(3)~~	~~Applicability and Designation of Affected Facility~~	~~Y~~		
~~40 CFR 60.692-1~~	~~Standards: General~~	~~Y~~		
~~40 CFR 60.692-1(a)~~	~~Standards: General~~	~~Y~~		
~~40 CFR 60.692-1(b)~~	~~Standards: General~~	~~Y~~		
~~40 CFR 60.692-3~~	~~Standards: Oil-Water Separators (includes storage vessels)~~	~~Y~~		
~~40 CFR 60.692-3(a)~~	~~Standards: Oil-Water Separators (includes storage vessels)~~	~~Y~~		
~~40 CFR 60.692-3(a)(1)~~	~~Standards: Oil-Water Separators (includes storage vessels)~~	~~Y~~		
~~40 CFR 60.692-3(a)(2)~~	~~Standards: Oil-Water Separators (includes storage vessels)~~	~~Y~~		
~~40 CFR 60.692-3(a)(3)~~	~~Standards: Oil-Water Separators (includes storage vessels)~~	~~Y~~		
~~40 CFR 60.692-3(a)(4)~~	~~Standards: Oil-Water Separators (includes storage vessels)~~	~~Y~~		
~~40 CFR 60.692-3(a)(5)~~	~~Standards: Oil-Water Separators (includes storage vessels)~~	~~Y~~		
~~40 CFR 60.692-3(f)~~	~~Standards: Oil-Water Separators (includes storage vessels)~~	~~Y~~		
~~40 CFR 60.692-6~~	~~Standards: Delay of Repair~~	~~Y~~		
~~40 CFR 60.692-6(a)~~	~~Standards: Delay of Repair~~	~~Y~~		
~~40 CFR 60.692-6(b)~~	~~Standards: Delay of Repair~~	~~Y~~		
~~40 CFR 60.697~~	~~Recordkeeping Requirements~~	~~Y~~		
~~40 CFR 60.697(a)~~	~~Recordkeeping Requirements~~	~~Y~~		
~~40 CFR 60.697(c)~~	~~Recordkeeping Requirements~~	~~Y~~		
~~40 CFR 60.697(e)(1)~~	~~Recordkeeping Requirements~~	~~Y~~		
~~40 CFR 60.697(e)(2)~~	~~Recordkeeping Requirements~~	~~Y~~		
~~40 CFR 60.697(e)(3)~~	~~Recordkeeping Requirements~~	~~Y~~		

Attachment 2

Corrections to ConocoPhillips San Francisco Refinery (Plant A0016) Title V Permit for BAAQMD 8-8 and 40 CFR 60 Subpart QQQ

Table IV – B28

Source-Specific Applicable Requirements

NSPS Kb Exempt Fixed Roof Wastewater Tank

Tank 237

~~40 CFR 60.697(e)(4)~~	~~Recordkeeping Requirements~~	~~Y~~		
~~40 CFR 60.697(f)(1)~~	~~Recordkeeping Requirements~~	~~Y~~		
~~40 CFR 60.697(f)(2)~~	~~Recordkeeping Requirements~~	~~Y~~		
~~40 CFR 60.698(e)~~	~~Reporting Requirements~~	~~Y~~		
NSPS Title 40 Part 60 Subpart Kb	**NSPS Subpart Kb for Tanks (12/14/2000) REQUIREMENTS FOR RECORDKEEPING ONLY**			
40 CFR 60.110b(a)	Applicability and Designation of Affected Facility; Volatile organic liquid storage vessels > or = to 40 cu m, after 7/23/1984	Y		
40 CFR 60.110b(c)	Applicability and Designation of Affected Facility; Exemptions for storage vessels > or = to 75 cu m	Y		
40 CFR 60.116b(a)	Monitoring of Operations; Record retention	Y		
40 CFR 60.116b(b)	Monitoring of Operations; Permanent record requirements	Y		
40 CFR 60.116b(d)	Monitoring of Operations; 30-day notification for TVP exceedances	Y		
40 CFR 60.116b(e)	Monitoring of Operations; Determine TVP	Y		
40 CFR 60.116b(e)(3)	Monitoring of Operations; Determine TVP-other liquids	Y		
40 CFR 60.116b(f)	Monitoring of Operations; Waste storage tanks (indeterminate or variable composition)	Y		
BAAQMD Condition 20773				
Part 1	Requirement to verify exempt status of tank based on true vapor pressure of contents [Basis: Regulation 8-5-117, 2-6-409.2]	Y	4/1/04	
Part 2	Record retention requirement [Basis: Regulation 2-6-409.2]	Y	4/1/04	

Attachment 3
Corrections to ConocoPhillips San Francisco Refinery (Plant A0016) Title V Permit for
BAAQMD 8-8 and 40 CFR 60 Subpart QQQ

Table VII – B1
Applicable Limits and Compliance Monitoring Requirements
NSPS Kb Low Vapor Pressure Permitted Wastewater Sludge Tanks with Vapor Recovery to Fuel Gas
S-433 (F224 - MOSC)

Type of Limit	Emission Limit Citation	FE Y/N	Future Effective Date	Emission Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type
	BAAQMD 8-5 - Organic Compounds - STORAGE OF ORGANIC LIQUIDS Exempt per 8-5-117. Low vapor pressure						
POC	8-5-117 & Condition 20773, Part 1	Y	4/1/04	Exemption from Regulation 8-5 when true vapor pressure is less than 25.8 mm Hg (0.5 psia).	2-6-409.2 & Condition 20773, Part 2	P/E	Vapor pressure determination upon material change
BAAQMD 8-8	**BAAQMD 8-8 – Organic Compounds – Wastewater (Oil Water Separators)**						
VOC	BAAQMD 8-8-303	Y		Vapor tight gauging and sampling devices	BAAQMD 8-8-504 8-8-603	N	Portable hydrocarbon detector
~~VOC~~	~~BAAQMD 8-8-304~~	~~Y~~		~~Combined collection/destruction efficiency of 95% by weight.~~	~~BAAQMD 8-8-602~~	~~N~~	~~Source test or EPA Method 25 or 25A~~
VOC	BAAQMD 8-8-305.1	Y		Slop oil tank vessel roof criteria; includes gap criteria	BAAQMD 8-8-305.1	Periodic initially & semi-annually	Visual inspection
NONE	**40 CFR 63 Subpart CC – NESHAPS for Petroleum Refineries Exempt per 63.640(d)(5). Emission point routed to fuel gas system.**						
NSPS QQQ	**40 CFR 60 Subpart QQQ – VOC Emissions from Petroleum Refinery Wastewater Systems**						
~~VOC~~	~~40 CFR 60.692-3(a)~~	~~Y~~		~~Fixed roof closure standards~~	~~40 CFR 60.692-3(a)(4)~~	~~periodic initially and semi-annually~~	~~Visual inspection~~
~~VOC~~		~~Y~~		~~Problems identified during 40 CFR 60.692-3(a) inspections that could result in VOC emissions~~	~~40 CFR 60.697(c)~~	~~periodic when problem is identified~~	~~Records~~
~~VOC~~		~~Y~~		~~Problems identified during 40 CFR 60.692-3(a) inspections that could result in VOC emissions~~	~~40 CFR 60.698(c)~~	~~periodic initially and semi-annually~~	~~Report~~
NSPS Kb	**40 CFR 60 Subpart Kb – NSPS for VOL Storage Vessels MONITORING FOR RECORDKEEPING ONLY**						

Attachment 3
Corrections to ConocoPhillips San Francisco Refinery (Plant A0016) Title V Permit for
BAAQMD 8-8 and 40 CFR 60 Subpart QQQ

Table VII – B1
Applicable Limits and Compliance Monitoring Requirements
NSPS Kb Low Vapor Pressure Permitted Wastewater Sludge Tanks with Vapor Recovery to Fuel Gas
S-433 (F224 - MOSC)

Type of Limit	Emission Limit Citation	FE Y/N	Future Effective Date	Emission Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type
VOC	40 CFR 60.110b(c)	Y		True vapor pressure less than 3.5 kPa.	40 CFR 60.116b (b)	periodic initially and upon change of service	Record
BAAQMD Permit	**PERMIT CONDITIONS**						
throughput	BAAQMD Condition 7353, Part 4	Y		138,700 bbl/yr	BAAQMD Condition 7353, Part 5	P/W	records

Attachment 3
Corrections to ConocoPhillips San Francisco Refinery (Plant A0016) Title V Permit for
BAAQMD 8-8 and 40 CFR 60 Subpart QQQ

Table VII – B5
Applicable Limits and Compliance Monitoring Requirements
NSPS Kb Low Vapor Pressure Permitted Wastewater Sludge Tanks
S-195 (Tank 501), S-196 (Tank 502), S-388 (Tank 276/F205)

Type of Limit	Emission Limit Citation	FE Y/N	Future Effective Date	Emission Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type
	BAAQMD 8-5 - Organic Compounds - STORAGE OF ORGANIC LIQUIDS Exempt per 8-5-117. Low vapor pressure						
POC	8-5-117 & Condition 20773, Part 1	Y	4/1/04	Exemption from Regulation 8-5 when true vapor pressure is less than 25.8 mm Hg (0.5 psia).	2-6-409.2 & Condition 20773, Part 2	P/E	Vapor pressure determination upon material change
BAAQMD 8-8	**BAAQMD 8-8 – Organic Compounds – Wastewater (Oil Water Separators)**						
VOC	BAAQMD 8-8-303	Y		Vapor tight gauging and sampling devices	BAAQMD 8-8-504 8-8-603	N	Portable hydrocarbon detector
~~VOC~~	~~BAAQMD 8-8-304~~	~~Y~~		~~Combined collection/destruction efficiency of 95% by weight.~~	~~BAAQMD 8-8-602~~	~~N~~	~~Source test or EPA Method 25 or 25A~~
VOC	BAAQMD 8-8-305.1	Y		Slop oil tank vessel roof criteria; includes gap criteria	BAAQMD 8-8-305.1	Periodic initially & semi-annually	Visual inspection
NESHAPS CC and NSPS Kb	**40 CFR 63 Subpart CC – NESHAPS for Petroleum Refineries 40 CFR 60 Subpart Kb - NSPS for VOL Storage Vessels at Petroleum Refineries RECORDKEEPING ONLY**						
Vapor pressure	40 CFR 63.640(n)(1) 60.110b(c)	Y		True vapor pressure less than 3.5 kPa.	40 CFR 63.640(n)(8) 60.116b(b)	P/E	Record
Vapor pressure		Y		TVP exceedances (> 5.2 kPa).	40 CFR 63.640(n)(8) 60.116b(d)	periodic within 30 days of exceedance	Notification
~~**NSPS QQQ**~~	~~**40 CFR 60 Subpart QQQ – VOC Emissions from Petroleum Refinery Wastewater Systems**~~						
~~VOC~~	~~40 CFR 60.692-3(a)~~	~~Y~~		~~Fixed roof closure standards~~	~~40 CFR 60.692-3(a)(4)~~	~~periodic initially and semi-annually~~	~~Visual inspection~~
~~VOC~~		~~Y~~		~~Problems identified during 40 CFR 60.692-3(a) inspections that could result in VOC emissions~~	~~40 CFR 60.697(c)~~	~~periodic when problem is identified~~	~~Records~~
~~VOC~~		~~Y~~		~~Problems identified during 40 CFR 60.692-3(a) inspections that could result in VOC emissions~~	~~40 CFR 60.698(c)~~	~~periodic initially and semi-annually~~	~~Report~~

Attachment 3
Corrections to ConocoPhillips San Francisco Refinery (Plant A0016) Title V Permit for
BAAQMD 8-8 and 40 CFR 60 Subpart QQQ

Table VII – B5
Applicable Limits and Compliance Monitoring Requirements
NSPS Kb Low Vapor Pressure Permitted Wastewater Sludge Tanks
S-195 (Tank 501), S-196 (Tank 502), S-388 (Tank 276/F205)

Type of Limit	Emission Limit Citation	FE Y/N	Future Effective Date	Emission Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type
BAAQMD Permit	**PERMIT CONDITIONS**						
Condition 1860 applies to S-388 only							
VOC	BAAQMD Condition 1860, Part 1	Y		fugitive emissions (300 ppm as methane above background)	BAAQMD Condition 1860, Part 3	periodic as required by BAAQMD Regulation 8, Rule 18	VOC monitor
throughput	BAAQMD Condition 20989, Part A	N		S-195: 5.0 E 4 bbl/yr	BAAQMD Condition 20989, Part A	P/M	Records
throughput	BAAQMD Condition 20989, Part A	Y		S-196: 5.0 E 4 bbl/yr S-388: 153,300 ton/yr	BAAQMD Condition 20989, Part A	P/M	Records

Attachment 3
Corrections to ConocoPhillips San Francisco Refinery (Plant A0016) Title V Permit for
BAAQMD 8-8 and 40 CFR 60 Subpart QQQ

Table VII – B27
Applicable Limits and Compliance Monitoring Requirements
NSPS Kb Exempt Fixed Roof Wastewater Tanks Vented to Fuel Gas
Tank 235, Tank 236

Type of Limit	Emission Limit Citation	FE Y/N	Future Effective Date	Emission Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type
	BAAQMD 8-5 - Organic Compounds - STORAGE OF ORGANIC LIQUIDS **Exempt per 8-5-117. Low vapor pressure**						
POC	8-5-117 & Condition 20773, Part 1	Y	4/1/04	Exemption from Regulation 8-5 when true vapor pressure is less than 25.8 mm Hg (0.5 psia).	2-6-409.2 & Condition 20773, Part 2	P/E	Vapor pressure determination upon material change
NONE	**40 CFR 63 Subpart CC – NESHAPS for Petroleum Refineries** **Exempt per 63.640(d)(5). Emission point routed to fuel gas system.**						
NSPS Kb	**40 CFR 60 Subpart Kb - NSPS for VOL Storage Vessels at Petroleum Refineries** **RECORDKEEPING ONLY**						
Vapor pressure	40 CFR 60.110b(c)	Y		True vapor pressure less than 3.5 kPa.	40 CFR 60.116b(b)	P/E	Record
~~NSPS QQQ~~	~~40 CFR 60 Subpart QQQ – VOC Emissions from Petroleum Refinery Wastewater Systems~~						
~~VOC~~	~~40 CFR 60.692-3(a)~~	~~Y~~		~~Fixed roof closure standards~~	~~40 CFR 60.692-3(a)(4)~~	~~periodic initially and semi-annually~~	~~Visual inspection~~
~~VOC~~		~~Y~~		~~Problems identified during 40 CFR 60.692-3(a) inspections that could result in VOC emissions~~	~~40 CFR 60.697(c)~~	~~periodic when problem is identified~~	~~Records~~
~~VOC~~		~~Y~~		~~Problems identified during 40 CFR 60.692-3(a) inspections that could result in VOC emissions~~	~~40 CFR 60.698(c)~~	~~periodic initially and semi-annually~~	~~Report~~

Attachment 3
Corrections to ConocoPhillips San Francisco Refinery (Plant A0016) Title V Permit for BAAQMD 8-8 and 40 CFR 60 Subpart QQQ

Table VII – B28
Applicable Limits and Compliance Monitoring Requirements
NSPS Kb Exempt Fixed Roof Wastewater Tank
Tank 237

Type of Limit	Emission Limit Citation	FE Y/N	Future Effective Date	Emission Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type
	BAAQMD 8-5 - Organic Compounds - STORAGE OF ORGANIC LIQUIDS Exempt per 8-5-117. Low vapor pressure						
POC	8-5-117 & Condition 20773, Part 1	Y	4/1/04	Exemption from Regulation 8-5 when true vapor pressure is less than 25.8 mm Hg (0.5 psia).	2-6-409.2 & Condition 20773, Part 2	P/E	Vapor pressure determination upon material change
NONE	**40 CFR 63 Subpart CC – NESHAPS for Petroleum Refineries NO MONITORING REQUIREMENTS FOR GROUP 2 WASTEWATER SOURCES**						
NSPS Kb	**40 CFR 60 Subpart Kb - NSPS for VOL Storage Vessels at Petroleum Refineries RECORDKEEPING ONLY**						
Vapor pressure	40 CFR 60.110b(c)	Y		True vapor pressure less than 3.5 kPa.	40 CFR 60.116b(b)	P/E	Record
Vapor pressure		Y		TVP exceedances (> 5.2 kPa).	40 CFR 60.116b(d)	periodic within 30 days of exceedance	Notification
~~NSPS QQQ~~	~~40 CFR 60 Subpart QQQ – VOC Emissions from Petroleum Refinery Wastewater Systems~~						
~~VOC~~	~~40 CFR 60.692-3(a)~~	~~Y~~		~~Fixed roof closure standards~~	~~40 CFR 60.692-3(a)(4)~~	~~periodic initially and semi-annually~~	~~Visual inspection~~
~~VOC~~		~~Y~~		~~Problems identified during 40 CFR 60.692-3(a) inspections that could result in VOC emissions~~	~~40 CFR 60.697(c)~~	~~periodic when problem is identified~~	~~Records~~
~~VOC~~		~~Y~~		~~Problems identified during 40 CFR 60.692-3(a) inspections that could result in VOC emissions~~	~~40 CFR 60.698(c)~~	~~periodic initially and semi-annually~~	~~Report~~

APPENDIX H

EVALUATION REPORT FOR APPLICATION 18743

ENGINEERING EVALUATION
CONOCOPHILLIPS - SAN FRANCISCO REFINERY; PLANT 16
APPLICATION 18743

BACKGROUND

ConocoPhillips – San Francisco Refinery (ConocoPhillips) has submitted this permit application to request the following permit condition change:

- **Modify permit condition 22963 to change true vapor pressure and throughput limits of S98, Tank No. 101**

S98 currently has an Authority to Construct (A/C) per Clean Fuels Expansion Project (CFEP) Application 13424. The A/C was issued on October 5, 2007.

In the current version of permit condition 22963, S98 has a true vapor pressure (TVP) limit of 10 psia and petroleum liquids throughput limit of 7,446,000 barrels in any consecutive 12-month period. ConocoPhillips requests that the TVP limit for April through September be changed to 8.5 psia and for October through March be changed to 11 psia. The throughput limits will be modified to 3,723,000 barrels for April through September and 3,723,000 for October through March. This will allow for seasonal changes in material stored in S98 due to CARB specifications, with no net increase in annual throughput.

The proposed project would not increase the throughput rate or capacity of any equipment associated with S98. Daily or annual emission levels of any regulated air pollutant would not exceed emission levels currently approved by the BAAQMD CFEP Application 13424.

This is a minor revision of the Major Facility Review permit for the following reasons:

- The change is not considered a major modification under 40 CFR Parts 51 (NSR) or 52 (PSD).
- The change is not considered a modification under 40 CFR Parts 60 (NSPS), 61 (NESHAPS), or Section 112 of the Clean Air Act (HAP).
- There is no significant change or relaxation of monitoring.
- No term is established to allow the facility to avoid an applicable requirement.
- No case-by case determination has been made.
- No facility-specific determination for ambient impacts, visibility analysis, or increment analysis on portable sources has been made.
- No new federal requirement has been imposed.

3.0 EMISSIONS SUMMARY

The POC emission increase associated with the current TVP limit of 10 psia that was permitted, as part of the CFEP Application 13424 was 12,373 lbs/year. To demonstrate no net emissions increase, US EPA Tanks 4.0.9d software was run to estimate emissions from S98 using the updated TVP limits. POC emissions of 12,339 lbs/year were calculated which demonstrates that there is no net emissions increase due to the changes proposed in this application. Output from Tanks 4.0.9d is included in Attachment A.

There will be no change in fugitive emissions, as components count will stay the same. In addition, since S98 will continue to store petroleum liquids only, there will be no increase in potential HAP emissions from fugitives or from the storage tank itself.

2.1 PLANT CUMULATIVE INCREASE

The cumulative emission increase is zero for all the criteria pollutants because annual emissions for this plant are not increasing due to this application.

2.3 BEST AVAILABLE CONTROL TECHNOLOGY

In accordance with BAAQMD Regulation 2, Rule 2, Section 301, a source with the potential to emit 10 pounds or more per highest day of POC, NPOC, NOx, CO, SO_2 or PM_{10} must use BACT. For this application, BACT is not triggered because proposed changes at S98 will not result in an increase in any emissions as mentioned in Emissions Summary section above.

2.4 TOXICS

New source review of Toxic Air Contaminants (BAAQMD Rule 2-5) requires the Best Available Control Technology for Toxics (TBACT) for sources that result in cancer risk greater than 1.0 in one million and/or chronic hazard index greater than 0.20. The proposed changes at S98 would not result in an increase in toxic emissions, thus the New Source Review of Toxic Air Contaminants does not apply.

2.5 OFFSETS

Since there is no increase in emissions at this plant as mentioned in Section 2.0 above, offsets are not required for this application.

6.0 STATEMENT OF COMPLIANCE

REGULATION 8, RULE 5, STORAGE OF ORGANIC LIQUIDS

S98 will continue to comply with the permit condition 22963, part 4, which states:

"The owner/operator shall equip S98, S122, and S128 with a BAAQMD approved roof with mechanical shoe primary seal and zero gap secondary seal meeting the design criteria of BAAQMD Regulation 8, Rule 5. The owner/operator shall ensure that there are no ungasketed roof penetrations, no slotted pipe guide poles unless equipped with float and wiper seals, and no adjustable roof legs unless fitted with vapor seal boots or equivalent. [BACT, Cumulative Increase]."

Section 8-5-301 requires control by an internal floating roof, an external floating roof, or an approved emission control system. S98 has an external floating roof. The tank will continue to comply with Sections 8-5-111, 8-5-112, 8-5-301, 8-5-304, 8-5-320, 8-5-321, 8-5-322, 8-5-328, 8-5-331, 8-5-332, 8-5-401, and 8-5-501.

NSPS

Subpart Kb

S98 will not be subject to NSPS Subpart Kb [Standards Of Performance For Volatile Organic Liquid Storage Vessels (including Petroleum Liquid Storage Vessels) For Which Construction, Reconstruction, Or Modification Commenced After July 23, 1984] because EPA has determined in the May 17, 1999 letter from Gerald Potamis of EPA Region 1 to Paul Flaherty of Arthur D. Little (included in CFEP Application 13424) that switching from one petroleum fluid to another is not a modification pursuant to 40 CFR 60.14. Therefore, S98 will not be subject to Subpart Kb.

CEQA

The project is considered to be ministerial under the District's CEQA Regulation 2-1-311 and therefore is not subject to CEQA review. The engineering review for this project requires only the application of standard permit conditions and standard emissions factors as outlined in the District Permit Handbook Chapter 4.

NESHAPS

Subpart CC
Tanks

S98 will continue to comply with the requirements for Group 1 storage vessels.

PSD

The project is exempt from PSD requirements since the project emissions will not exceed any of the thresholds listed in Regulations 2-2-304 through 2-2-306 or 40 CFR 52.21.

PUBLIC NOTICE

The proposed project is not located within 1,000 feet of any school. Therefore, it is not subject to public notification requirements of Regulation 2-1-412.

7.0 PERMIT CONDITIONS

Current permit condition 22963 will be modified as follows:

(iii) CONDITION 22963

COND# 22963 ----------

For Sources S98 (Tank 101), S118 (Tank 163), S122 (Tank 167), S128 (Tank 174), S139 (Tank 204); S140 (Tank 205)

This condition was amended by Application ~~13424~~ 18743 in ~~October~~February, ~~2007~~2009.

1. The owner/operator shall ensure that the following tanks contain only petroleum liquids with true vapor pressures less than or equal the vapor pressures below.
   a. S98 ~~10~~ 11.00 psia October through March
   b. S98 8.50 psia April through September
   ~~b~~c. S118 0.5 psia
   ~~c~~d. S122 11 psia
   ~~d~~e. S128 4.4 psia
   [Cumulative Increase]

2. The owner/operator shall ensure that the throughput of petroleum liquids at the following tanks do not exceed the following throughput limits.
   a. S98 ~~7,446,000~~3,723,000 barrels ~~per consecutive 12-month period~~ October through March
   b. S98 3,723,000 barrels April through September
   ~~b~~c. S118 900 barrels per consecutive 12-month period
   ~~c~~d. S122 2,000,000 barrels per consecutive 12-month period
   ~~d~~e. S128 5,100,000 per consecutive 12-month period
   [Cumulative Increase]

3. The owner/operator shall ensure that S139 and S140 are abated by A7, Vapor Recovery System. [8-5-301, 40 CFR 61, Subpart FF]

4. The owner/operator shall equip S98, S122, and S128 with a BAAQMD approved roof with mechanical shoe primary seal and zero gap secondary seal meeting the design criteria of BAAQMD Regulation 8, Rule 5. The owner/operator shall ensure that there are no ungasketed roof penetrations, no slotted pipe

guide poles unless equipped with float and wiper seals, and no adjustable roof legs unless fitted with vapor seal boots or equivalent. [BACT, cumulative increase]

8.0 RECOMMENDATION

Issue modified Authority to Construct to ConocoPhillips after approving the following permit condition change:

- **Modify permit condition 22963 to change true vapor pressure and throughput limits of S98, Tank No. 101**

By: _____

Sanjeev Kamboj Date

Senior Air Quality Engineer

APPENDIX I

EVALUATION REPORT FOR APPLICATION 18746

ENGINEERING EVALUATION
CONOCOPHILLIPS - SAN FRANCISCO REFINERY; PLANT 16
APPLICATION 18746

2.0 BACKGROUND

ConocoPhillips – San Francisco Refinery (ConocoPhillips) has submitted this permit application under the District's Accelerated Permitting Program (APP) to request the following permit condition change:

- **Modify permit condition 23724 to allow for controlling S174 (Tank #281) with A7 (Vapor Recovery System) as a replacement for S175 (Tank #284) while it is temporarily removed from A7 for periodic preventive maintenance.**

The proposed change would allow the facility to have S174 controlled by A7 prior to adding the fourth compressor to the system as required by permit condition 23724, part 1b. S174 will store the same material, Gas Oil, which is currently stored in S175. Both tanks S174 and S175 have same capacity of 5,628K gallons. Therefore, there will be no change in the type or amount of material controlled by the vapor recovery system.

S174 will have pressure-monitoring device as required by permit condition 23724, part 3, upon being controlled by the vapor recovery system.

S174 will have a minimum set pressure of 1.75 inches H_2O. Permit condition 23724, part 4b, will be modified to include this pressure.

This permit application is exempt from the Authority to Construct (ATC) requirements of Regulation 2-1-301 because it meets the requirements of the limited exemption under the Accelerated Permitting Program (Regulation 2-1-106).

The proposed project would not increase the throughput rate or capacity of any equipment associated with S174 and S175. Daily or annual emission levels of any regulated air pollutant would not exceed emission levels currently approved by the BAAQMD in the Major Facility Review permit. Therefore, this permit application qualifies for the Accelerated Permitting Program.

This is a minor revision of the Major Facility Review permit for the following reasons:

- The change is not considered a major modification under 40 CFR Parts 51 (NSR) or 52 (PSD).
- The change is not considered a modification under 40 CFR Parts 60 (NSPS), 61 (NESHAPS), or Section 112 of the Clean Air Act (HAP).
- There is no significant change or relaxation of monitoring.
- No term is established to allow the facility to avoid an applicable requirement.

- No case-by case determination has been made.
- No facility-specific determination for ambient impacts, visibility analysis, or increment analysis on portable sources has been made.
- No new federal requirement has been imposed.

4.0 EMISSIONS SUMMARY

Replacement tank S174 like existing tank S175 will be blanketed with natural gas and routed to A7, the fuel gas vapor recovery system. Therefore, there would be no increase in emissions. The District concurs that the emissions that are routed to the fuel gas system merely displace natural gas that would be burned in the heaters. Therefore, there will be no emissions increase at the heaters. Also, there will be no change in fugitive emissions, as components count will stay the same. In addition, since there is no change to the material stored as mentioned in Background section above, there will be no increase in potential HAP emissions from fugitives or from the storage tank itself.

2.1 PLANT CUMULATIVE INCREASE

The cumulative emission increase is zero for all the criteria pollutants because annual emissions for this plant are not increasing due to this application.

2.4 BEST AVAILABLE CONTROL TECHNOLOGY

In accordance with BAAQMD Regulation 2, Rule 2, Section 301, a source with the potential to emit 10 pounds or more per highest day of POC, NPOC, NOx, CO, SO_2 or PM_{10} must use BACT. For this application, BACT is not triggered because replacement of S175 with S174 will not result in an increase in any emissions as mentioned in Emissions Summary section above.

2.5 TOXICS

New source review of Toxic Air Contaminants (BAAQMD Rule 2-5) requires the Best Available Control Technology for Toxics (TBACT) for sources that result in cancer risk greater than 1.0 in one million and/or chronic hazard index greater than 0.20. The proposed replacement of S175 with S174 would not result in an increase in toxic emissions, thus the New Source Review of Toxic Air Contaminants does not apply.

2.6 OFFSETS

Since there is no increase in emissions at this plant as mentioned in Section 2.0 above, offsets are not required for this application.

9.0 STATEMENT OF COMPLIANCE

(iv) AUTHORITY TO CONSTRUCT / PERMIT TO OPERATE

In accordance with BAAQMD Rule 2-1-301, any person who "puts in place, builds, erects, installs, modifies, modernizes, alters, or replaces any article, machine, equipment, or other contrivance, the use of which may cause, reduce or control the emissions of air contaminants" shall first obtain an ATC from BAAQMD. In addition, any person who "uses or operates any article, machine, equipment or other contrivance, the use of which may cause, reduce or control the emissions of air contaminants" shall first obtain a P/O. However, BAAQMD Rule 2-1-106 allows for projects that satisfy the APP requirements to be exempt from the ATC requirements of Rule 2-1-301. This permit application is exempt from the ATC requirements of Regulation 2-1-301 because it meets the criteria set forth in Sections 2-1-106.1 through 106.3. Projects that qualify under the APP may install and operate a new or modified source after submittal of a complete permit application.

ConocoPhillips certifies that the proposed project meets the accelerated permitting criteria below and therefore is eligible for the APP.

106.1 Uncontrolled emissions of POC, NPOC, NOx, SO2, PM_{10}, and CO are each less than 10 pounds per highest day and

106.2 Emissions of toxic compounds do not exceed the trigger levels identified in Table 2-5-1 of Regulation 2, Rule 5; and

106.3 The source is not subject to the public notice requirements of Section 2-1-412.

REGULATION 8, RULE 5, STORAGE OF ORGANIC LIQUIDS

S174 will store gas oil that has a true vapor pressure of less than 0.5 psia; therefore it qualifies for low vapor pressure exemption of Regulation 8-5-117. The tank is a fixed roof tank that will be vented to the fuel gas system, A7, which is an approved emission control system with VOC control efficiency of at least 98% by weight. This estimate is based on similar control efficiencies at Evergreen Oil and Tesoro.

S174 is expected to comply with leakage requirement of Section 8-5-307.1. Section 8-5-307.3 does not apply to S174 because it is blanketed with natural gas.

Additional monitoring and recordkeeping conditions will not be written for this tank because BAAQMD Regulation 8, Rule 5 and Condition 23724 already contain sufficient monitoring and recordkeeping.

MONITORING ANALYSIS

BAAQMD Regulation 8, Rule 5 and Condition 23724 contain the sufficient monitoring and recordkeeping to ensure compliance with all requirements. Section 8-5-501.1 requires records of the type and amount of liquids stored, type of blanket gases used, and the true vapor pressure ranges of such liquids and gases. Section 8-5-403 requires inspection of the pressure/vacuum valves twice per year. Monitoring of the destruction efficiency of the fuel gas system is not technically feasible, but the abatement efficiency

is presumed to be at least 98%, which is higher than the requirement of 95% in Section 8-5-306.

Part 3 of Condition 23724 will ensure that S174 is equipped with a District-approved pressure-monitoring device before it starts operation. Part 4 of the same condition will ensure that S174 operates at all times below its minimum set pressure of 1.75” H2O.

NSPS

Subpart Kb

The replacement tank S174 will not be subject to NSPS Subpart Kb [Standards Of Performance For Volatile Organic Liquid Storage Vessels (including Petroleum Liquid Storage Vessels) For Which Construction, Reconstruction, Or Modification Commenced After July 23, 1984] because tanks with a true vapor pressure less than 0.5 psia (3.5 KPa) are exempted by Section #60.110b(c).

Subpart J

40 CFR 60, Subpart J defines “fuel gas” as “any gas which is generated at a petroleum refinery and which is combusted.” Fuel gas includes natural gas when it is combined with other fuel gas and burned. S174 will be vented to the fuel gas system; therefore all of the gas vented is subject to Subpart J. The standard is that the fuel gas may not contain more than 0.10 gr S/dscf.

The fuel gas system desulfurizes the gases prior to combustion and therefore this project will not cause non-compliance with Subpart J.

CEQA

The project is considered to be ministerial under the District's CEQA Regulation 2-1-311 and therefore is not subject to CEQA review. The engineering review for this project requires only the application of standard permit conditions and standard emissions factors as outlined in the District Permit Handbook Chapter 4.

NESHAPS

S174 is not subject to 40 CFR 63, Subpart CC, because Section 63.640(d)(5) states that emission points routed to a fuel gas system are not subject.

PSD

The project is exempt from PSD requirements since the project emissions will not exceed any of the thresholds listed in Regulations 2-2-304 through 2-2-306 or 40 CFR 52.21.

PUBLIC NOTICE

The proposed project is not located within 1,000 feet of any school. Therefore, it is not subject to public notification requirements of Regulation 2-1-412.

10.0 PERMIT CONDITIONS

Current permit condition 23724 applicable to tanks that are on the vapor recovery system will be modified as follows:

(v) CONDITION 23724

COND# 23724 ----------

For Sources S135 (Tank 200), S137 (Tank 202), S139 (Tank 204), S140 (Tank 205), S168 (Tank 269), S173 (Tank 280), S174 (Tank 281), S175 (Tank 284), S182 (Tank 294), S360 (Tank 223), S445 (Tank 271), S449 (Tank 285), Tank 235, Tank 236, and S506 (Tank 257)

This condition was imposed by Application 13424 and amended by Application 16940 in January 2008.

1a. The owner/operator shall ensure that all sources subject to this permit condition are abated by A7, Vapor Recovery System except for S168~~,~~and S173, ~~S174, -~~which shall be abated prior to startup of S434. [Basis: Regulation 2-1-403]

1b. The owner/operator shall ensure that a fourth compressor is added to A7, Odor Abatement System, before the following sources are controlled by A7: S168, S173, ~~S174~~S175. [Basis: Regulation 2-1-301, 2-1-305, 2-1-403, CEQA]

1c. The new odor abatement compressor, or a dedicated compressor, shall be designed and installed to supplement G-503, Flare Gas Recovery Compressor. [CEQA]

2. The owner/operator shall ensure that all tanks subject to this permit condition are blanketed by utility-grade natural gas. [Basis: Regulation 2-1-403]

3. Within 21 months of issuance of the Authority to Construct, the owner/operator shall equip all tanks subject to this

permit condition with District-approved pressure monitoring devices. Within 3 months of issuance of the Authority to Construct, the owner/operator shall equip the following tanks with District-approved pressure monitoring devices: S139, S140, S182, S360, S445, and S449. Upon startup, the owner/operator shall equip S506 with a District-approved pressure-monitoring device.[Basis: Regulation 2-1-403]

4. After the pressure monitoring devices are installed, the owner/operator shall ensure that tanks listed below operate at all times below their respective minimum set pressures, as shown in 4a and 4b of this condition. Any recorded pressure in excess of the minimum pressure shall be reported to the District's Enforcement and Engineering Divisions within 10 days of the pressure excess. The owner/operator must conduct an investigation of the incident to determine if the pressure excess resulted in the pressure/vacuum (PV) valve lifting to atmosphere and if so, why there was a pressure excess that resulted in the PV valve lifting to atmosphere. Results of the investigation must be reported to the District's Enforcement and Engineering Division within 30 days of the initial report. Any recorded pressure in excess of the minimum set pressure shall be considered an indication of a valve lift to atmosphere unless a District approved tell-tale indicator on the PV valve shows that the valve did not lift, or the owner/operator demonstrates to the satisfaction of the APCO that the recorded pressure excess was the result of a monitoring, recording or other malfunction.

The minimum set pressure for each storage tank must be submitted in a report to the District's Enforcement and Engineering Divisions within 21 months of issuance of the Authority to Construct and within 3 months of issuance of the Authority to Construct for the following tanks: S139, S140, S182, S360, S445, S449.

a.

Source Number	Minimum Set Pressure (inches H2O)
135	TBD
137	TBD

139	TBD
140	TBD
168	TBD
182	TBD
360	TBD
445	TBD
449	TBD
506	2.2

The owner/operator shall submit an accelerated permit application to include any change to any of the pressures above. Any amendment to the Title V permit to include the pressures above shall be submitted as a minor revision to the Title V permit.
[Basis: Regulation 8, Rule 5]

b. Source Number Minimum Set Pressure (inches H2O)

173	TBD
174	~~TBD~~ 1.75
175	TBD
Tank 235	TBD
Tank 236	TBD

The owner/operator shall submit an accelerated permit application to include any change to any of the pressures above. Any amendment to the Title V permit to include the pressures above shall be submitted as a minor revision to the Title V permit.
[Basis: Regulation 2-1-403]

5. The owner/operator shall ensure that each pressure relief valve for each tank must be set at or above its nominal set pressure listed in Part 4 of this permit condition. [Basis: Regulation 2-1-403]

6. Corrective Plan

The corrective plan is a means for ConocoPhillips to correct occasional exceedances, to stay within the working pressure limits and thus to remain in compliance with District Regulations. If a PV valve has been determined to have lifted three times in a 12 month period, ConocoPhillips shall implement abatement measures to prevent the recurrence of the type of incident which caused the valve to lift. This plan is intended to provide a mechanism for bringing ConocoPhillips back into compliance should a temporary exceedance occur. This plan does not constitute an alternative means of compliance.

[Basis: Regulation 2-1-403]

a. If, during any consecutive 12-month period, more than three instances of a PV valve release to atmosphere attributed to a storage tank subject to this permit condition are reported, ConocoPhillips shall propose a method to correct the exceedance and to ensure compliance with District regulations and permit conditions. The proposed method is subject to approval by the Air Pollution Control Officer. Potential methods include but are not limited to increasing the nominal set pressure of the pressure/vacuum valve, bladder tank(s) for additional short-term vapor storage capacity, dedicated vapor recovery flare, pilot control on pressure relief valves, flow meters on vapor recovery tanks to monitor blanket gas flows, replacement of tanks, and naphtha degassers. [Basis: Regulation 2-1-403]

7. To determine compliance with the above conditions, the owner/operator shall maintain the following records and provide all of the data necessary to evaluate compliance with the above parts, including, but not necessarily limited to the following information:

a. Pressure measurements from tanks listed in part 4 of this condition. Pressure shall be recorded at least for one-minute interval for each tank.

All records shall be retained on site for five years, from the date of entry and made available for inspection by the District staff upon request. These recordkeeping requirements shall not replace the recordkeeping requirements contained in any applicable District regulation. [Basis: Regulation 2-1-403]

8. The requirement to report pressures in excess of the minimum pressure as described in part 4 of this permit condition, shall start after 21 months of issuance of the Authority to Construct and 3 months after issuance of the Authority to Construct for the following tanks: S139, S140, S182, S360, S445, S449. [Basis: 2-1-403]

9. The permit to operate is contingent upon compliance with Regulation 1-301, Standard for Public Nuisance, and Regulation 7, Odorous Substances. Upon receipt of a violation for either of these regulations, the Air Pollution Control Officer may require the owner/operator to install additional emission control measures as stated in Part 6 of this permit condition. [Basis: Regulations 1-301, 7-301, 7-302]

11.0 RECOMMENDATION

Issue modified Permit to Operate to ConocoPhillips after approving the following permit condition change:

- **Modify permit condition 23724 to allow for controlling S174 (Tank #281) with A7 (Vapor Recovery System) as a replacement for S175 (Tank #284) while it is temporarily removed from A7 for periodic preventive maintenance.**

By: _____

Sanjeev Kamboj Date
Senior Air Quality Engineer