Attachment 2
ConocoPhillips Letter of February 18, 2008

ConocoPhillips

ConocoPhillips Company
San Francisco Refinery
1380 San Pablo Avenue
Rodeo, CA 94572-1354

February 18, 2008

ESDR-074-08
03-001-02-A

CERTIFIED MAIL – 7006 0810 0003 4487 4864

Mr. Barry Young
Bay Area Air Quality Management District
939 Ellis Street
San Francisco, CA 94109

Subject: Comments on Significant Revision to Major Facility Review Permit – Application #10994
ConocoPhillips San Francisco Refinery – Facility A0016

Mr. Young:

As part of the significant revision to the Title V Permit pursuant to Application #10994, a permit condition has been added which requires particulate matter (PM) source testing at the Sulfur Recovery Units (SRUs) to verify compliance with Regulation 6-310 and 6-311. The new permit condition, 19278 Part 5, will require the installation of a second testing port on each tail gas incinerator stack because each stack currently has only one test port. EPA Method 5 requires two ports for particulate analysis. ConocoPhillips requests that this condition be revised.

Attached is a copy of an e-mail sent to Brenda Cabral on November 8, 2007 detailing ConocoPhillips' rationale for not requiring PM source testing at the SRUs. Part of the basis for the analysis used to define ConocoPhillips' position was a conversation with Tim Underwood in the BAAQMD Source Testing Division. The conclusion of the e-mail is that Regulations 6-310 and 6-311 can not be violated without a visible plume being present and that the current visual observation required by Permit Condition 19278 Part 4 provides monitoring for Regulation 6-310 and 6-311.

ConocoPhillips proposes that a one time source test be conducted at each SRU to verify compliance with the limits in Regulations 6-310 and 6-311 using the single testing port currently available on each stack. If results of the testing are significantly less than the standard the proposed permit condition 19278 Part 5 would be removed. Compliance with Regulation 6-310 and 6-311 would then be demonstrated through the visual observations required by Condition 19278 Part 4.

Please contact Brent Eastep at (510) 245-4672 if you have questions or require further information.

Sincerely,

Philip C. Stern, Manager
Health, Safety and Environment

Enclosures

cc: Barry Young (via e-mail: BYoung@baaqmd.gov)
Brian Bateman (via e-mail: BBateman@baaqmd.gov)
Brenda Cabral (via e-mail: BCabral@baaqmd.gov)
Sanjeev Kamboj (via e-mail: SKamboj@baaqmd.gov)

Eastep, Brent P

From: Eastep, Brent P
Sent: Thursday, November 08, 2007 2:20 PM
To: 'Brenda Cabral'
Cc: Sanjeev Kamboj; 'Tim Underwood'; Stern, Philip; Ahlskog, Jennifer:
Subject: 63 UUU Application - SRU and Reg 6-301/311 Applicability

Attachments: U238 BAAQMD Misc 08_09_05.pdf; U234 BAAQMD Misc 08_26_05.pdf; U236 BAAQMD Misc 06_29_05.pdf; SRU PM Estimate.xls

Brenda -- After our conversation yesterday I spoke with Tim Underwood at the BAAQMD Source Testing Division. Tim stated that in his experience, the Reg 6-310 limit of 0.15 gr/dscf would roughly equate to a Ringlemann 1.0 visible plume. Based on this observation and the fact that there are not visible plumes observed at the SRUs pursuant to compliance with the visible monitoring provision in Condition 19278 Part 4 of the Title V Permit, we believe that compliance with Condition 19278 Part 4 demonstrates compliance with the Reg 6-310 0.15 gr/dscf limit.

Tim and I also talked through the following logic and calculations that show we would not violate the Reg 6-311 limit without producing a visible emission. A spreadsheet is attached with the calculations. BAAQMD source test summaries for the SRUs are also attached. Assuming that the SRUs had a visible plume at the maximum allowable limit of 0.15 gr/dscf, the PM emission rate in lb/hr can be calculated using data obtained from BAAQMD source testing. Using acid gas process rate information for each SRU, the Reg 6-311 PM emission limit can also be calculated. These calculations show that even assuming a visible plume with maximum allowable emissions, the calculated PM emissions are at or below the Reg 6-311 PM limits. For instance, U234 would have a 0.15 gr/dscf PM emission rate of 7.7 lb/hr and a Reg 6-311 PM limit of 10.5 lb/hr. Again, we believe that compliance with Condition 19278 Part 4 visible emission observation demonstrates compliance with the Reg 6-311 PM emission rate limit.

In addition, installing ports on the SRU stacks would involve putting holes through 3 inches of refractory for stacks that operate at exhaust temperatures of 1000 F (see source test results).

Please contact Tim Underwood regarding his understanding of the issues I have summarized here.

Please give me a call if you have any questions.

Thanks,

Brent P. Eastep
ConocoPhillips - San Francisco Refinery
Environmental Services Department
(510) 245-4672
(510) 245-4476 (fax)


J238 BAAQMD Misc 08_09_05.pdf ...


J234 BAAQMD Misc 08_26_05.pdf ...


J236 BAAQMD Misc 06_29_05.pdf ...


SRU PM Estimate.xls (23 KB)

Distribution:
Firm
Permit Services
Requester

BAY AREA AIR QUALITY MANAGEMENT DISTRICT

939 Ellis Street
San Francisco, California 94109
(415) 771-6000

SUMMARY OF SOURCE TEST RESULTS

Report No. 06036
Test Date: 08/09/05

Test Times:
Run A : 1138-1208 30 min
Run B : 1226-1256 30 min
Run C : 1311-1341 30 min

Source Information

Firm Name and Address:
ConocoPhillips – San Francisco Refinery
1380 San Pablo Avenue
Rodeo, CA 94572

Firm Representative and Title:
Jennifer Ahlskog
Environmental Services Department
Phone No. (510) 245-4429

Source: Sulfur Plant Unit #238 (S-1003) abated by Afterburner (A-3)

Permit Condition:
ID No.'s: 19278, 20620 & 20989

Plant No. A0016 Permit No. 11293
Operates 24 hrs/day & 365 days/year Continuous

BAAQMD Representatives

Source Test Team:
M. Hernandez
M. Wiley
L. Rath

Permit Services/Enforcement Division:
B. Cabral

Test Requested by:
B. Cabral, (Request)

Operating Parameters:
H_2S gas flow rate = 2,072 Million SCFD. NH_3 flow rate = 2,052 Million SCFD. Absorber total flow = 1,740 GPM of Stretford solution. Tail gas combustor (afterburner) doesn't have a dedicated fuel meter. The combustor is fired with refinery fuel gas.

Applicable Regulations: 2-1-307 | VN Recommended: NO

Source Test Results and Comments:

METHOD	PARAMETER	RUN A	RUN B	RUN C	AVERAGE	LIMIT
ST-17	Volume Flowrate, SDCFM	8,902	8,756	8,771	8,810	
	Stack Temperature, °F	1145	1165	1180	1163	
	Water Content, volume %	8.0	7.8	8.2	8.0	
ST-14	Oxygen, dry volume %	3.1	3.0	3.0	3.0	
ST-5	Carbon Dioxide, dry volume %	5.4	5.4	5.4	5.4	
	Carbon Monoxide, dry ppmv	802	680	462	648	
	Carbon Monoxide, lbs/hr	31.2	26.0	17.7	25.0	
	Total Organic Carbon (includes methane), ppmv as C_1	38	34	13	28	
	Total Organic Carbon, lbs/hr as Carbon	0.6	0.6	0.2	0.5	
ST-13A	Nitrogen Dioxides, dry ppmv	27	27	26	27	
	Nitrogen Dioxides, lbs/hr	1.7	1.7	1.6	1.7	
ST-19A	Sulfur Dioxide, dry ppmv	17	20	22	20	
	Sulfur Dioxide, Corrected to 0% O_2, ppmv	20	23	26	23	250
	Sulfur Dioxide, lbs/hr	1.5	1.7	2.0	1.7	
	Ammonia, ppmv	4.2	5.4	2.9	4.2	
	Ammonia, Correct to 15% O_2, ppmv	1.4	1.8	1.0	1.4	

NO COMMERCIAL USE OF THESE RESULTS IS AUTHORIZED

Air Quality Engineer	Date	Supervising Air Quality Engineer	Date	Approved by Air Quality Engineering Manager	Date
M. Hernandez	Sept/20/05	C. McClure	9/20/05	K. Kunaniec	9/22/05

Distribution:
✓Firm
Permit Services
Requester

BAY AREA AIR QUALITY MANAGEMENT DISTRICT

939 Ellis Street
San Francisco, California 94109
(415) 771-6000

SUMMARY OF SOURCE TEST RESULTS

Report No. 06038
Test Date:

Test Times:
Run A : 1109-1139 30 min
Run B : 1215-1245 30 min
Run C : 1310-1340 30 min

Source Information

Firm Name and Address:
ConocoPhillips – San Francisco Refinery
1380 San Pablo Avenue
Rodeo, CA 94572

Permit Condition:
ID No.'s: 20620 & 20989

Firm Representative and Title:
Jennifer Ahlskog
Environmental Services Department
Phone No. (510) 245-4429

Source: Sulfur Plant Unit #234 (S-1001) abated by Afterburner (A-1)

Plant No. A0016 Permit No. 11293
Operates 24 hrs/day & 365 days/year
Continuous

BAAQMD Representatives

Source Test Team:
M. Hernandez
M. Wiley
L. Rath

Permit Services/Enforcement Division:
B. Cabral

Test Requested by:
B. Cabral, (Request)

Operating Parameters:
H_2S gas flow rate = 1,455 Million SCFD. NH_3 flow rate = 1,292 Million SCFD. Absorber total flow = 1,875 GPM of Stretford solution. Tail gas combustor (afterburner) doesn't have a dedicated fuel meter. The combustor is fired with refinery fuel gas.

Applicable Regulations: 2-1-307 | VN Recommended: NO

Source Test Results and Comments:

METHOD	PARAMETER	RUN A	RUN B	RUN C	AVERAGE	LIMIT
ST-17	Volume Flowrate, SDCFM	5,950	6,304	5,770	6,008	
	Stack Temperature, °F	1008	1000	978	995	
	Water Content, volume %	6.1	6.3	6.4	6.2	
ST-14	Oxygen, dry volume %	7.4	7.3	7.3	7.3	
ST-5	Carbon Dioxide, dry volume %	3.7	3.7	3.8	3.7	
	Carbon Monoxide, dry ppmv	186	166	157	170	
	Carbon Monoxide, lbs/hr	4.8	4.6	4.0	4.5	
	Total Organic Carbon (includes methane), ppmv as C_1	77	61	53	64	
	Total Organic Carbon, lbs/hr as Carbon	0.9	0.7	0.6	0.7	
	Nitrogen Dioxides, dry ppmv	17	18	19	18	
	Nitrogen Dioxides, lbs/hr	0.7	0.8	0.8	0.8	
ST-19A	Sulfur Dioxide, dry ppmv	8	9	10	9	
	Sulfur Dioxide, Corrected to 0% O_2, ppmv	12	14	15	13	250
	Sulfur Dioxide, lbs/hr	0.5	0.6	0.6	0.5	
	Ammonia, ppmv	7.9	3.5	3.5	5.0	
	Ammonia, Correct to 15% O_2, ppmv	3.4	1.5	1.5	2.2	

Air Quality Engineer	Date	Supervising Air Quality Engineer	Date	Approved by Air Quality Engineering Manager	Date
M. Hernandez	Sept-20-05	C. McClure	9/20/05	K. Kunaniec	9/22/05

Distribution:	BAY AREA AIR QUALITY MANAGEMENT DISTRICT	Report No. 05231
~~Firm~~	939 Ellis Street	Test Date:
Permit Services	San Francisco, California 94109	Test Times:
Requester	(415) 771-6000	Run A : 1214-1404 110 min
	SUMMARY OF	Run B : 1536-1726 110 min
	SOURCE TEST RESULTS	Run C : 1810-1909 59 min

Source Information		BAAQMD Representatives
Firm Name and Address: ConocoPhillips – San Francisco Refinery, 1380 San Pablo Avenue, Rodeo, CA 94572	Firm Representative and Title: Jennifer Ahlskog, Environmental Services Department; Phone No. (510) 245-4429	Source Test Team: M. Hernandez, M. Wiley, L. Rath
Permit Condition: ID No.'s: 19278, 20620 & 20989	Source: Sulfur Plant Unit #236 (S-1002) abated by Afterburner (A-2)	Permit Services/Enforcement Division: B. Cabral
	Plant No. A0016 Permit No. 11293	Test Requested by:
	Operates 24 hrs/day & 365 days/year Continuous	

Operating Parameters:
Total gas flow rate (H_2S & NH_3) = 2,238 Million SCFD. Absorber total flow = 1,712 GPM of Stretford solution. Tail gas combustor (afterburner) doesn't have a dedicated fuel meter. The combustor is fired with refinery fuel gas.

Applicable Regulations:	2-1-307	VN Recommended: NO

Source Test Results and Comments:

METHOD	PARAMETER	RUN A	RUN B	RUN C	AVERAGE	LIMIT
ST-17	Volume Flowrate, SDCFM	6,436	7,272	7,618	7,109	
	Stack Temperature, °F	1163	1180	1173	1172	
ST-23	Water Content, volume %	7.4	8.1	8.0	7.8	
ST-14	Oxygen, dry volume %	6.9	6.5	6.6	6.7	
ST-1B	Ammonia, ppmv	1.1	0.5	2.7	1.4	
	Ammonia, Correct to 15% O_2, ppmv	0.4	0.2	1.1	0.6	
ST-20	Sulfur Dioxide, ppmv	1.5	0.5	4.4	2.1	
	Sulfur Dioxide, Corrected to 0% O_2, ppmv	2.3	0.7	6.4	3.1	250
	Sulfur Dioxide, lb/hr	0.10	0.04	0.33	0.15	
	Total Acid, gr/SDCF	0.023	0.009	0.003	0.012	0.08

Note: * Oxygen concentration was obtained from facility CEM unit.

Air Quality Engineer	Date	Supervising Air Quality Engineer	Date	Approved by Air Quality Engineering Manager	Date
M. Hernandez	Aug-29-05	C. McClure	8/29/05	K. Kunaniec	8/31/05

Estimate of PM Emissions from ConocoPhillips SRUs,
Units 234, 236 and 238 (S-1001, S-1002, S-1003)

Assumptions

Ringlemann 1.0 assumed to be approximately 0.15 gr/dscf (6-310 limit)
(conversation with Tim Underwood, BAAQMD Source Testing, 11/7/07)

PM Concentration	0.15	gr/dscf
	2.14E-05	lb/dscf
Exhaust Flow	6,000	dcsfm, min. (U234)
	7,100	dcsfm, min. (U236)
	8,800	dscfm, max (U238)

These flows encompass the range of exhaust flow for the 3 SRUs based on BAAQMD source test results from June and August of 2005.

PM Emission Calculation

PM (lb/hr) = PM Conc.(lb/dscf) * Exhaust flow (dscfm) * 60 min./hr

PM Emission U234 =	**7.7**	**lb/hr**
PM Emission U236 =	**9.1**	**lb/hr**
PM Emission U238 =	**11.3**	**lb/hr**

Reg 6-311 Limit

Molar Volume	385	ft3/lb-mol
Process Weight Acid Gas Flows		
Acid Gas Flow U234	1.455	mmscfd, H2S
	1.292	mmscfd, NH3
	7,731	lb/hr
Acid Gas Flow, U236	1.186	mmscfd, H2S
	1.052	mmscfd, NH3
	6,300	lb/hr
Acid Gas Flow U238	2.072	mmscfd, H2S
	2.052	mmscfd, NH3
	11,400	lb/hr
6-311 Limit U234	**10.5**	**lb/hr**
6-311 Limit U236	**9.1**	**lb/hr**
6-311 Limit U238	**13.6**	**lb/hr**

(Note that the acid gas flows in the source test results were too large by a factor of 1,000)