**DRAFT SYNTHETIC MINOR OPERATING PERMIT**
**ENGINEERING EVALUATION REPORT**
**Shell Chemical LP**
**Plant Number 12870, Application 28712**
**10 Mococo Road. Martinez, CA 94553**

## 1. BACKGROUND

Shell Chemical LP currently operates a catalyst manufacturing plant in Martinez, CA. The facility consists of two main batch processes: Ethylene Oxide (EO) Catalyst and RM-17. The EO Catalyst Process produces a silver-based catalyst that is used by industrial customers to convert hydrocarbons to ethylene oxide. A specially formulated impregnating solution is produced at the facility and adsorbed onto carrier pellets to make the EO Catalyst products. The RM-17 product is used by other Shell Chemical facilities in the process of manufacturing long chain alcohols. It is manufactured by reaction of a secondary phosphine raw material using toluene as a carrier with a heavy olefin in the presence of a liquid catalyst. A series of distillation steps removes the lighter boiling components including toluene.

The facility operates two trains, an "A-train" and a "B-train", within the EO Catalyst Process that are similarly set up and operated with identical chemistries. Catalyst is produced in batches and constrained by the cyclical batch timing and size of preparation vessels. Each train has a solution preparation vessel, catalyst impregnation vessel, catalyst dryer, conveyor, and packaging station.

Historically, A-train sources were older and had lower throughput capacities. In June 2015 the District issued an Authority to Construct under Application 26871 for new and replacement sources at the A-train to increase production capacity at that train. Under permit conditions in effect prior to the changes at A-train the Potential to Emit of CO emissions from two combustion sources, A-6012 and S-1399 (A-1399), was 77 tons per year. The A-train modifications permitted under Application 26871 added emissions from A-6026 which has a Potential to Emit of 26 tons CO per year, bringing the total combined Potential to Emit of CO emission for the facility to at least 103 tons per year.

Regulation 2-6-212.3 defines a Major Facility as a facility with permit conditions that limit emissions to a level that is greater than the Major Facility thresholds (100 tons per year of any regulated pollutant, 10 tons per year of any single Hazardous Air Pollutant (HAP), or 25 tons per year of a combination of HAPs). As such, once the A-train modifications are complete the facility is subject to a Major Facility Review Permit. However, per Regulation 2-6-230 a facility which, by imposition of enforceable permit conditions, has its potential to emit limited to below the threshold levels for a major is not required to apply for a Major Facility Review Permit under Regulation 2, Rule 6.

Shell Chemical is asserting that based on previous years usage data the actual CO emissions from the facility will remain well below 100 tons per year. Therefore, the facility is submitting this application for a Synthetic Minor Operating permit to impose enforceable permit conditions on several sources which will ensure that actual CO emissions from the facility will be less than 100 tons per year.

### *1.1. Process Description*

The facility consists of two main batch processes: Ethylene Oxide (EO) Catalyst and RM-17. The EO Catalyst Process produces a silver-based catalyst that is used by industrial customers to convert hydrocarbons to ethylene oxide. A specially formulated impregnating solution is produced at the facility and adsorbed onto carrier pellets to make the EO Catalyst products. The RM-17 product is used by other Shell Chemical facilities in the process of manufacturing long chain alcohols. It is manufactured by reaction of a secondary phosphine raw material using toluene as a carrier with a heavy olefin in the presence of a liquid catalyst. A series of distillation steps removes the lighter boiling components including toluene.

*EO Catalyst Operation Detail*

The facility operates two EO Catalyst manufacturing lines, A-train and B-train. The EO catalyst production lines run continuously, but involve a batch process at each vessel/process unit. The EO catalyst process also operates packaging equipment that is used to package final product into bulk bags, drums or tube packs.

1. Solution Preparation Vessel (S-6010): Silver slurry is formed by mixing deionized water, solid silver compounds, oxalic acid and ethylene diamine (EDA) in the vessel. Loading solid silver compounds and solid oxalic acid in to the vessel results in $PM_{10}$ emissions and loading EDA results in POC emissions due to vapor displacement. The chemical reactions are slightly exothermic and temperature is controlled via external jacket. The solution preparation vessel is vented to thermal oxidizers to control POC emissions during EDA addition. Additionally, during solids loading $PM_{10}$ emissions are routed to baghouses that are part of the solids offloading system. The duration of the batch process ranges from 900 to 3600 min/batch. The silver solution is held in intermediate solution holding vessels. These holding vessels maintain temperatures <105°F and do not result in emissions.
2. Catalyst Impregnation Vessels (S-6001 and S-6011): The carrier, solid aluminum oxide [$Al_20_3$] pellets, are loaded into the impregnation vessel through an automatic closed duct system. $PM_{10}$ emissions are generated during pellet loading and are routed to a baghouse. The vessel is closed after the pellets are loaded, and a vacuum is applied while silver slurry is added and adsorbed into the pellets in this closed system. Any EDA vapors are condensed out into the vacuum system. Hence, there are no POC emissions from the impregnation vessel.
3. Centrifuge and Catalyst Dryer: Following impregnation, the wet catalyst is dried by routing first through the centrifuge section of the dryer that partially dries the wet catalyst removing excess solution before entering the vibrating tray section of the dryer. In the vibrating tray section of the dryer, hot air from steam, electric, or natural gas heaters is used to completely dry the catalyst. Hot air from steam, electric, or natural gas heaters is blown into the catalyst dryer to completely dry the catalyst. $PM_{10}$ and POC (EDA vapors) emissions are generated during this step. The dryer is vented to a baghouse to control $PM_{10}$ emissions, followed by a thermal oxidizer to control POC emissions. At the A-train, NOx emissions from the thermal oxidizer are controlled with a selective catalytic reduction (SCR) unit.
4. Catalyst Conveyor System: This system consists of bucket elevators and conveyors to transfer dry catalyst from the dryer to packaging station. The conveyance process results in $PM_{10}$ emissions from material handling. $PM_{10}$ emissions and are controlled by a baghouse.

5. Packaging Station: The dry catalyst is loaded into drums or bulk bags. $PM_{10}$ emissions during the loading process are controlled by baghouse.
6. Catalyst blending and packaging facilities: EO catalyst is offloaded from bulk bags into a conveyor that discharges into a stationary blend hopper. The blend hopper is fed into a screen and then into bulk bagging station or drumming equipment. The blending and packaging process results in $PM_{10}$ emissions which are controlled by baghouse.
7. Small tube packaging facility: EO catalyst is offloaded from bulk bags into a conveyor that discharges into a surge hopper followed by a weigh hopper. The weighed catalyst is gravity fed into pre-formed small plastic bags and then conveyed through a bag sealer for sealing. The packaging process results in $PM_{10}$ emissions which are controlled by baghouse.

*RM-17 Operation Detail*

The RM-17 process consists primarily of processes that are closed to the atmosphere and therefore do not contribute significantly to air emissions. This includes the reaction vessel, distillation and finishing steps. The majority of emissions are from fugitive components (valves, flanges, pumps, etc.) and from material handling (storage tanks and loading) operations.

1. Raw materials are brought to the site in trucks/rail cars and in steel drums. RC-78H is a phosphine raw material containing toluene that is brought in by rail car and transferred to storage vessels via loading rack S-1551. The POC emissions from this transfer activity are abated by waste gas flare S-1398 or thermal oxidizer S-1399 (A-1399). RC-020 is an olefinic raw material with brought in by rail car that is transferred to storage vessels via loading rack S-1550. Peroxide drums are delivered to the facility and stored until needed for direct addition to the reaction vessel. Vacuum oil is also delivered to the facility by truck or rail car. The vapor pressure of RC-020 and the vacuum oil is less than 1 mmHg.
2. The facility operates several storage vessels for the RM-17 process that that contain materials with vapor pressures above 0.5 psia and are vented to a waste gas flare, S-1398 or RM-17 thermal oxidizer, S-1399 (A-1399). Additionally, A- 1399 is controlled by a venturi scrubber, A-39, and mist eliminator, A-40. The tanks and vessels venting to this abatement system include: S-1337, S-1339, S- 1340, S-1341, S-1343, S-1400, S-1401, and S-1402. While S-1338 originally vented to this system, it will be converted to a liquid ammonia storage tank under the A-train permit and will be exempt once that project is complete. All other storage vessels and containers contain materials with a vapor pressure less than 0.5 psia and are therefore not vented to the abatement system.
3. The main RM-17 process is permitted as S-1357. The process includes transferring chemicals to a chemical reactor followed by separation in a distillation column within a closed system. Three streams result from this separation, two waste streams and one RM-17 product stream. The waste streams are transferred to various holding and storage vessels. The RM-17 stream is sent to a series of wipe film evaporators (WFE) for finishing. Standard operation of S-1357 is as a closed system with the only emissions expected to be from fugitive components.
4. The RM-17 final product is loaded into truck, shipping container, or rail cars for delivery to customers via loading rack S-1550. All other materials from the distillation and finishing steps are held in storage tanks prior to loading into tank trucks and shipped offsite. All tank truck loading is done with vapor balance back to the storage tanks. Recovered Chemical Lube Oil (RCLO)

from the finishing step is stored in S-1343, waste RM-17 liquid from the distillation and finishing steps is stored in S-1402; and distilled toluene is stored in S-1337 and/or S-1339.

5. The WFEs are cleaned five times per year by adding three 55-gallon drums of n-butyl alcohol (NBA) to vessel 484V which transfers it to clean the WFE. At the end of the cleaning process vessel the waste material is received by vessel 475 and sent to the permitted tank S-1402. While the introduction of NBA into vessel 484V is not performed in a closed environment, the emissions from the open transfer of less than 1,000 gallons of NBA, which has a vapor pressure of 6 mmHg, is considered to be negligible and not included in the calculations below.

## 2. POTENTIAL TO EMIT

Regulation 2-1-217 defines Potential to Emit as the maximum capacity of a source or facility to emit a pollutant based on its physical and operational design. Any physical or operational limitation on the capacity of the source or facility to emit a pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored, or processed, shall be treated as a part of its design only if the limitation, or the effect it would have on emissions, is enforceable by the District or EPA (or both).

### *2.1. Regulated Air Pollutants:*

The facility emits the following regulated air pollutants:

- precursor organic compounds (POC) – from combustion, storage tanks, EO catalyst process, and fugitives
- particulate matter ($PM_{10}$ and $PM_{2.5}$) – from combustion, EO catalyst process, and cooling towers
- nitrogen oxides (NOx) – from combustion
- sulfur dioxide ($SO_2$) – from combustion
- and carbon monoxide (CO) – from combustion

The potential to emit of each regulated air pollutant from the facility once the Train A project is completed are calculated in the following sections and summarized in the Table 1 below. Except for CO, all criteria pollutants are below the Major Facility emission thresholds identified in the Background section above.

**Table 1**
**Facility wide Potential To Emit for Regulated Air Pollutants**

| Emission Source Type | Emissions (tons/year) | | | | |
|---|---|---|---|---|---|
| | CO | NOx | PM | $SO_2$ | POC |
| Combustion | 110.68 | 33.45 | 1.634 | 0.130 | 1.838 |
| Tanks | | | | | 0.050 |
| EO Catalyst Process | | | | | 7.530 |
| EO Catalyst Packaging | | | 15.429 | | |
| RM-17 Bulk Transfer | | | | | 0.039 |
| Fugitive | | | | | 6.133 |
| Cooling Towers | | | 23.589 | | |
| Total | **110.68** | **33.45** | **40.661** | **0.13** | **15.591** |

### *2.1.1. Combustion Emissions*

Shell Chemical operates several combustion sources; a registered boiler, natural gas process heaters, thermal oxidizers and waste gas flares. One combustion source is controlled with Selective Catalytic Reduction (SCR) units to reduce NOx. The regulated air pollutants emitted from these sources include CO, NOx, PM, $SO_2$, and POC.

Emissions are calculated based on emission factors derived from source tests, vendor guarantees, standard natural gas combustion factors reported in US EPA AP 42, or specific permit conditions limiting the emissions. It is assumed that all combustion sources operate 24 hours/day, 365 days/year (8,760 hr/year). Combustion emissions are calculated and summarized below.

**Table 2a**
**Detailed Combustion Calculations**

| Source | Description | Maximum Operating Rate | Pollutant | Emission Factor | Emission Factor Basis | Emissions (ton/yr) |
|---|---|---|---|---|---|---|
| S-1398 | Fare 17-F | 1.1 MMBtu/hr | CO | 0.31 lb/MMBtu | AP-42 Chapter 13.5 | 1.494 |
| | | | NOx | 0.068 lb/MMBtu | AP-42 Chapter 13.5 | 0.328 |
| | | 0.00106 MMscf/hr | PM | 7.6 lb/MMscf | AP-42 Chapter 1.4 | 0.035 |
| | | | SO2 | 0.6 lb/MMscf | AP-42 Chapter 1.4 | 0.003 |
| | | | POC | 0.14 lb/MMBtu | AP-42 Chapter 13.5 | 0.675 |
| S-1399 (A-1399) | Thermal Oxidizer 20-F | 12 MMBtu/hr | CO | 0.79 lb/MMBtu | Condition 19945 (350 ppm @ 15% 02) | 41.522 |
| | | | NOx | 0.18 lb/MMBtu | Condition 19945 (50 ppm @ 15% O2) | 9.461 |
| | | 0.01152 MMscf/hr | PM | 7.6 lb/MMscf | AP-42 Chapter 1.4 | 0.383 |
| | | | SO2 | 0.6 lb/MMscf | AP-42 Chapter 1.4 | 0.030 |
| | | | POC | 5.5 lb/MMscf | AP-42 Chapter 1.4 | 0.278 |
| Exempt Heater 22-F | B-Train Heater for Dryer | 3 MMBtu/hr | CO | 84 lb/MMscf | AP-42 Chapter 1.4 | 1.082 |
| | | | NOx | 50 lb/MMscf | AP-42 Chapter 1.4 | 0.644 |
| | | 0.00288 MMscf/hr | PM | 7.6 lb/MMscf | AP-42 Chapter 1.4 | 0.098 |
| | | | SO2 | 0.6 lb/MMscf | AP-42 Chapter 1.4 | 0.008 |
| | | | POC | 5.5 lb/MMscf | AP-42 Chapter 1.4 | 0.071 |
| A-6012 | B-Train Thermal Oxidizer | 10 MMBtu/hr | CO | 8 lb/hr | Condition 15316 | 35.040 |
| | | | NOx | 4.6 lb/hr | Condition 15316 | 20.148 |
| | | 0.00960 MMscf/hr | PM | 7.6 lb/MMscf | AP-42 Chapter 1.4 | 0.320 |
| | | | SO2 | 0.6 lb/MMscf | AP-42 Chapter 1.4 | 0.025 |
| | | | POC | 5.5 lb/MMscf | AP-42 Chapter 1.4 | 0.231 |
| A-6026 A-6029 | A-Train Thermal Oxidizer/ SCR | 15 MMBtu/hr | CO | 0.39 lb/MMBtu | Condition 26292 (175 ppm @ 15% O2)* | 25.623 |
| | | | NOx | 0.39 lb/hr | Condition 26292 (10 ppm @3% O2)** | 1.708 |
| | | 0.01440 MMscf/hr | PM | 7.6 lb/MMscf | AP-42 Chapter 1.4 | 0.479 |
| | | | SO2 | 0.6 lb/MMscf | AP-42 Chapter 1.4 | 0.038 |
| | | | POC | 5.5 lb/MMscf | AP-42 Chapter 1.4 | 0.347 |
| S-6025 | Registered Boiler | 3 MMBtu/hr | CO | 84 lb/MMscf | AP-42 Chapter 1.4 | 1.082 |
| | | | NOx | 50 lb/MMscf | AP-42 Chapter 1.4 | 0.644 |
| | | 0.00288 MMscf/hr | PM | 7.6 lb/MMscf | AP-42 Chapter 1.4 | 0.098 |
| | | | SO2 | 0.6 lb/MMscf | AP-42 Chapter 1.4 | 0.008 |
| | | | POC | 5.5 lb/MMscf | AP-42 Chapter 1.4 | 0.071 |
| S-6028 (exempt) | A-Train Heater | 6.5 MMBtu/hr | CO | 0.17 lb/MMBtu | Vendor Guarantee, Condition 26293 | 4.840 |
| | | | NOx | 0.018 lb/MMBtu | Vendor Guarantee permit 26871 | 0.512 |
| | | 0.0064 MMscf/hr | PM | 7.6 lb/MMscf | AP-42 Chapter 1.4 | 0.212 |
| | | | SO2 | 0.6 lb/MMscf | AP-42 Chapter 1.4 | 0.017 |
| | | | POC | 5.5 lb/MMscf | AP-42 Chapter 1.4 | 0.154 |

* from A-6026 TO

** from A-6029 SCR

**Table 2b**
**Summary of Combustion Emissions**

| Combustion Source | Emissions (tons/yr) | | | | |
|---|---|---|---|---|---|
| | CO | NOx | PM | SO2 | POC |
| S-1398 | 1.494 | 0.328 | 0.036 | 0.003 | 0.675 |
| S-1399 (A-1399) | 41.522 | 9.461 | 0.383 | 0.030 | 0.278 |
| Exempt Heater 22-F | 1.082 | 0.644 | 0.098 | 0.008 | 0.071 |
| A-6012 | 35.040 | 20.148 | 0.326 | 0.026 | 0.236 |
| A-6026 & A-6029 | 25.623 | 1.708 | 0.490 | 0.039 | 0.354 |
| S-6025 (registered) | 1.082 | 0.644 | 0.098 | 0.008 | 0.071 |
| S-6028 (exempt) | 4.840 | 0.512 | 0.212 | 0.017 | 0.154 |
| **Total** | **110.683** | **33.445** | **1.643** | **0.130** | **1.838** |

### *2.1.2. Tanks and Storage Vessels*

Tanks storing volatile organic materials with a vapor pressure greater than or equal to 0.5 psi are considered to emit more than a negligible amount of POC. Potential emissions from storage tanks handling such materials are calculated using the guidance and equations in *AP-42 Chapter 7 Liquid Storage Tanks*. While the tanks do not have individual throughput limits, Condition 19945 does impose the following limits on the overall operation:

450,000 gallons per year of RM-17 Finished Product

125,000 gallons per year of Toluene received in the raw material RC-78H

The throughput for each tank is based on the maximum throughput identified in Application 3814 which established the operational limits in Condition 19945. Emissions are summarized below.

**Table 3a**
**POC Emissions from Tanks**

| Source | Description | Maximum Annual Throughput (gal/yr) | Abated POC Emissions (tons/yr) |
|---|---|---|---|
| S-1337 | Tank 392-V Recycled Toluene Storage | 100,000 | 0.005 |
| S-1339 | Tank 438-V Recycled Toluene Storage | 100,000 | 0.005 |
| S-1340 | Tank 439-V RC-78H Storage (30% Toluene) | 250,000 | 0.010 |
| S-1343 | Tank 472-V Recovered Lube Oil Storage | 250,000 | 0.010 |
| S-1400 | Tank 480-V RC-78H Storage (30% Toluene) | 250,000 | 0.010 |
| S-1401 | Tank 481-V RC-78H Storage (30% Toluene) | 250,000 | 0.010 |
| S-1402 | Tank 482-V Waste Liquid Storage | 30,000 | 0.001 |
| | | | **0.050** |

Tanks storing materials that have a vapor pressure < 0.5 psi are not considered to emit a significant amount of POCs. The Martinez Catalyst Plant operates many storage tanks containing materials that will have negligible emissions because they store materials with a vapor pressure less than 0.5 psi. In addition, MCP operates several storage tanks and vessels that handle materials that do not contain any POC. Emission estimates are not calculated for these storage tanks and vessels due to the negligible POC emission rates. These storage tanks and vessels are listed in Table 5 below.

**Table 3b**
**Storage Tanks and Vessels with Negligible POC Emissions**

| BAAQMD Source Number | Status | MCP Description |
|---|---|---|
| S-1203 | Exempt | 198-T Fixed roof tank, SK gal, Aluminum, 7 ft diaml Ammonia Compound Solution |
| S-1204 | | 199-T Fixed roof tank, high throughput, 10K gal, 7 ft diam |
| S-1209 | Exempt | 227-T Fixed roof tank, 10 K gal, Aluminum, 10 ft diam RM-17 |
| S-1210 | | 228-T Fixed roof tank, 10 K gal, Aluminum, 10 ft diam crude RM-17 |
| S-1211 | | 229-T Fixed roof tank, 10 K gal, Aluminum, 10 ft diam crude RM-17 |
| S-1212 | | 230-T Fixed roof tank, 10 K gal, Aluminum, 10 ft diam |
| S-1213 | Exempt | 231-T Fixed roof tank, 7K gal, Aluminum, 10 ft diam |
| S-1214 | | 237-T Fixed roof tank, 10K gal, Aluminum, 10 ft diam, icos-l-ene |
| S-1215 | | 238-T Fixed roof tank, 10 K gal, Aluminum, 10 ft diam, icos-l-ene |
| S-1216 | Exempt | 239-T Fixed roof tank, 10 K gal, Aluminum, 10 ft diam icos-l-ene |
| S-1218 | | 241-T Fixed roof tank, 60K gal, Aluminum, 21 ft diam crude RM-17 |
| S-1219 | | 242-T Fixed roof tank, 9996 gal, Aluminum, 10 ft diam crude RM-17 |
| S-1220 | | 250-T Multi-liq Fixed roof tank, 10.SK gal, Aluminum, 10 ft diam |
| S-1221 | | 251-T Multi-liquid 10 K gal, 10 ft diam Fixed Roof Tank |
| S-1222 | Exempt | 252-T Multi-liquid Fixed roof tank, 10.5K gal, Aluminum, 10 ft diam |
| s-1223 | | 253-T Fixed roof tank, 10.SK gal, Aluminum, 10 ft diam., Chemical storage tank |
| S-1335 | | 390-V Vertical Vessel tank, 10 K gal, Sand, 10 ft diam EDA |
| S-1336 | | 391-V Vert. Vessel tank, 10 K gal, Sand, 10 ft diam EDA |
| S-1338 | Exempt | 393-V Vert. Vessel tank, 10 K gal, Sand, 11queous ammonia |
| S-1341 | Exempt | 440-V Vert. Vessel tank, 10 K gal, Aluminum, 10 ft diam |
| S-1369 | Exempt | 187-T MJSC-HDLG> Storage 10 K gal, 10 ft diam, DI Water |
| S-1376 | | 1240-T RM-17 Fixed roof tank, 100K gal, Aluminum, 27 ft diam |
| S-6007 | | 1417-T Multi-liquid Fixed Roof Tank |
| N/A | Exempt | 185-T Ammonia Compound Solution Fixed Roof Tank |
| N/A | Exempt | 195-T EO Effluent Fixed Roof Tank |
| N/A | Exempt | 200-T Di Water Fixed Roof Tank |
| N/A | Exempt | 314-T Sodium Sulfate Fixed Roof Tank |
| N/A | Exempt | 315-V Effluent Vessel |
| N/A | Exempt | 316-V Recycle Solution Storage Vessel |
| N/A | Exempt | 350-V Carrier Treatment Fixed Roof Tank |
| N/A | Exempt | 389-T TBT Fixed Roof Tank |
| N/A | Exempt | 395-V United Dirty Fighter Soap Fixed Roof Tank |
| N/A | Exempt | 475-V Mixed Use Processing Vessel (covered under S-1357) |
| N/A | Exempt | 485-V Lube Oil Fixed Roof Tank |
| N/A | Exempt | 1215-T EO Effluent Fixed Roof Tank |
| N/A | Exempt | 25116-T Lube Oil Fixed Roof Tank |
| N/A | Exempt | 518-V EO Catalyst Solution Holding Vessel |

| BAAQMD Source Number | Status | MCP Description |
|---|---|---|
| N/A | Exempt | 302-V EO Catalyst Solution Rundown Vessel |
| N/A | Exempt | V-20007 Liquid Dropout Pot |
| N/A | Exempt | V-25010 EO Catalyst Solution Holding Vessel |
| N/A | Exempt | 338-V EO Catalyst Solution Recycle Solution Storage Vessel |
| N/A | Exempt | 846-V EO Catalyst Solution Holding Vessel |
| N/A | Exempt | V-12068 light ends vessel RM-17 Storage Vessel |
| N/A | Exempt | V-12069 light ends vessel RM-17 Storage Vessel |
| N/A | Exempt | 484-V NBA Processing Tank (covered under S-1357) |
| N/A | Exempt | 490-V waste oil surge vessel |
| N/A | Exempt | Tk1270 Water Tank (RM17 Tempered Water System) |
| N/A | Exempt | 495-V recovered 78H Recycle Accumulator |
| N/A | Exempt | 351-V TBT Storage |
| N/A | Exempt | 318-V |
| N/A | Exempt | 329-V Flare Water Seal Vessel |
| N/A | Exempt | 494-V RM-17 Reactor Vessel |
| N/A | Exempt | 496-V Accumulator |
| N/A | Exempt | 305-V |
| N/A | Exempt | 500 |
| N/A | Exempt | 501 |
| N/A | Exempt | 502 |
| N/A | Exempt | 478-V |
| N/A | Exempt | 429-V |
| N/A | Exempt | 476 |
| N/A | Exempt | 24116-T Vacuum Pump Oil Tank |
| N/A | Exempt | 479-V Cooler Vessel |
| N/A | Exempt | 25170 Tempered Water Tank |
| N/A | Exempt | 905-V Condensate Receiver |
| N/A | Exempt | XT-1417 Out of Service Tank |
| N/A | Exempt | 536-V Vacuum KO Pot |
| N/A | Exempt | V-25015 Vacuum KO Pot |
| N/A | Exempt | V-12057 1st Stage Knock Out Vessel |
| N/A | Exempt | V-12058 2nd Stage Knock Out Vessel |
| N/A | Exempt | V-12059 3rd Stage Knock Out Vessel |
| N/A | Exempt | SP-25050 Hotwell Pots |
| N/A | Exempt | SP-25051 Hotwell Pots |

### *2.1.3. EO Catalyst Process*

There are $PM_{10}$ and POC emissions from the solution preparation, impregnation and drying steps of the EO Catalyst production process. The POC emissions estimates are based on detailed emission calculations conducted when the A-Train EO Catalyst process was permitted under Application 26871 in May 2016.

**Table 4**
**POC Emissions from EO Catalyst Process**

| Source | Description | Maximum Operating Rate | Emission Factor[1] | Abatement Efficiency (%)[3] | Emissions (ton/yr) |
|---|---|---|---|---|---|
| S-6010 | Solution Preparation A & B Train | 460,266 gal/year | 0.273 lb/1,000 gal | 95 | 0.003 |
| S-6001 | Catalyst Impregnation A Train | 304,696 gal/year[2] | 0.273 lb/1,000 gal | 0 | 0.042 |
| S-6011 | Catalyst Impregnation B Train | 155,570 gal/year | 0.273 lb/1,000 gal | 0 | 0.021 |
| S-6025 | Catalyst Dryer A Train | 12,960 tons/year | 32.84 lb/ton | 99 | 2.128 |
| S-6012 | Catalyst Dryer B Train | 6,500 tons/year | 32.84 lb/ton | 95 | 5.337 |
| | | | | | **7.530** |

[1] Emmission Factors are taken from BAAQMD Application 26871

[2] A-Train processes 66.2% of the solution from S-6010 per BAAQMD Application 26871

[3] Condition 15316, Part 5; Condition 26292, Part 10

### *2.1.4. EO Catalyst Packaging*

After the EO Catalyst leaves the dryers it is transported via conveyor systems S-6026 and S-6019 to packaging and blending operations at S-6018, S-6019, S-6020, S-6021, S-6022, S-6023, S-6024 and S-6027. Each of these sources is abated by a baghouse. Except for A-6027 and S-6028, $PM_{10}$ emissions are calculated using grain loading limits contained in operating conditions or vendor specifications (Table 5b). For A-6027 and S-6028 $PM_{10}$ emissions are calculated based on a mass emission limit contained in operating conditions (Table 5a).

**Table 5a**
**$PM_{10}$ Emissions from EO Catalyst Packaging**

| Source | Description | Abatement Device | Emission Limit | Emissions (ton/yr) | Emission Limit Basis |
|---|---|---|---|---|---|
| S-6010 | Solution Preparation A & B Train | A-6027 or A-6028 | 9 lb/day | 1.643 | Application #26871, Condition 26921, Part 6 |

**Table 5b**
**$PM_{10}$ Emissions from EO Catalyst Packaging**

| Source | Description | Abatement Device | Grain Loading Emission Factor (grains/dscf) | Flow Rate (dscfm) | Emissions (ton/yr) | Emission Factor Basis |
|---|---|---|---|---|---|---|
| S-6001, S-6011 | Catalyst Impregnation A and B Trains | A-616 | 0.035 | 6000 | 7.884 | Application #18250 |
| S-6025 | Catalyst Dryer A Train | A-6025 | 0.0017 | 8483 | 0.541 | Application #26871 |
| S-6012 | Catalyst Dryer B Train | A-615 | 0.006 | 5000 | 1.126 | Application #17809 |
| S-6013, S-6018, S-6026, S-6027 | Catalyst Packing Stations | A-602 | 0.007 | 2400 | 0.631 | Application #26871 |
| S-6019, S-6020, S-6021, S-6022, S-6023 | Catalyst Bagging and Drumming | A-6019 | 0.01 | 6000 | 2.253 | Application #24130, vendor spec |
| S-6024 | Catalyst Tube Packaging | S-6024 | 0.01 | 3600 | 1.352 | Application #26085; Condition 25801, Part 1 |
| | | | | **Total of Tables 7a and 7b** | **15.429** | |

### *2.1.5. RM-17 Bulk Transfer Operations*

For RM-17 production, MCP transfers raw material, waste material and finished product to and from the facility by rail car, trucks and drums. Loading Rack S-1550 is used to receive raw material, RC020, and load the finished product, RM-17, into trucks, shipping containers, or rail cars for delivery to customers. Vacuum oil is delivered to three tanks by tank trucks or rail cars. Finally, peroxide is delivered to the facility in drums and transferred from the drums directly to the reaction vessel at S-1357. The vapor pressure of each of these material is less than 0.5 psia; as such, POC emissions from these bulk transfer activities are negligible.

Loading rack S-1551 is used to receive raw material, RC-78H, which contains 30% toluene. The POC emissions estimate for S-1551 is calculated based on emission factors found in *AP-42 Chapter 5.2 Transportation and Marketing of Petroleum Liquids* table 5.2-5 for tank truck loading of naphtha using vapor balance. The POC emissions estimates for transferring the RCLO, waste RM-17 liquid, and distilled toluene from storage tanks to tank trucks for transport off-site are calculated based on emission factors found in *AP-42 Chapter 5.2 Transportation and Marketing of Petroleum Liquids* table 5.2-5 for tank truck loading of naphtha using vapor balance. In addition, the emissions estimates have been adjusted to account for the 95% abatement requirement in Parts 5 and 6 of Condition 19945. Emissions are summarized below:

**Table 6**
**POC Emissions from RM 17 Bulk Transfer Operations**

| Source | Description | Max Throughput (K gal/yr) | POC Emission Factor (lb/K gal) | Abatement Efficiency (% dest) | POC Emissions (ton/yr) |
|---|---|---|---|---|---|
| S-1550 | Bringing in RC-020 via loading rack | 500 | 0 | 0 | 0 |
| S-1550 | Sending out RM-17 via loading rack | 420 | 0 | 0 | 0 |
| N/A | Bringing in vacuum oil via tank truck or drums | 60 | 0 | 0 | 0 |
| N/A | Bringing in peroxide via drums | 5 | 0 | 0 | 0 |
| S-1551 | Bringing in RC-78H via loading rack | 250 | 2.5 | 95 | 0.016 |
| S-1337/-1339 | Transfer toluene from tank to tank truck | 100 | 2.5 | 95 | 0.006 |
| S-1402 | Transfer RM-17 Waste from tank to tank truck | 30 | 2.5 | 95 | 0.002 |
| S-1343 | Transfer RCLO from tank to tank truck | 250 | 2.5 | 95 | 0.016 |
| | | | | | **0.039** |

### *2.1.6. Fugitive*

MCP has provided a fugitive component count for the entire facility. The POC emissions estimate for fugitive components are calculated using the California Air Pollution Control Officer Association (CAPCOA) correlation equations with a screening values and delay of repair allowance per BAAQMD 8-18. Emission factors and emissions are summarized in the tables below:

**Table 7a**
**Fugitive Component POC Emission Rate**

| Component | Correlation Equation per Component (kg/hr) | Screening Value SV (ppm) | Emission Rate per Component (lb/hr) | Max Leak Rate for DOR (lb/day) | Allowable DOR % | DOR Emission Rate (lb/hr) | Emission Rate per Component (lb/hr) |
|---|---|---|---|---|---|---|---|
| Valves | $2.27E\text{-}06*(SV)^{0.747}$ | 100 | 1.56E-04 | 5 | 0.15% | 3.1250E-04 | **4.69E-04** |
| Pumps | $5.07E\text{-}05*(SV)^{0.622}$ | 500 | 5.34E-03 | 5 | 0.50% | 1.0417E-03 | **6.38E-03** |
| Pressure Relief Valve | $8.69E\text{-}06*(SV)^{0.642}$ | 500 | 1.04E-03 | 5 | 0.50% | 1.0417E-03 | **2.08E-03** |
| Connectors | $1.53E\text{-}06*(SV)^{0.736}$ | 100 | 1.00E-04 | 5 | 0.05% | 1.0417E-04 | **2.04E-04** |
| Drains | $8.69E\text{-}06*(SV)^{0.642}$ | 10000 | 7.09E-03 | - | - | - | **7.09E-03** |

**Table 7b**
**Fugitive Component POC Emission Calculation**

| Component | Emission Rate per Component (lb/hr) | Count | Emissions | | | |
|---|---|---|---|---|---|---|
| | | | Emissions (lbs/hr) | Emissions (lbs/day) | Emissions (lbs/yr) | Emissions (tons/yr) |
| Valves | 4.69E-04 | 1051 | 0.493 | 11.82 | 4,314 | 2.157 |
| Pumps | 6.38E-03 | 19 | 0.121 | 2.91 | 1,061 | 0.531 |
| Pressure Relief Valve | 2.08E-03 | 31 | 0.064 | 1.55 | 564 | 0.282 |
| Connectors | 2.04E-04 | 3329 | 0.680 | 16.31 | 5,955 | 2.977 |
| Drains | 7.09E-03 | 6 | 0.043 | 1.02 | 372 | 0.186 |
| **Totals** | | | **1.400** | **33.61** | **12,267** | **6.133** |

### *2.1.7. Cooling Towers*

MCP operates two cross flow induced draft cooling towers, S-1352 and 1355. A source test detected neither toluene nor benzene in either the cooling water supply or the cooling water return stream. POC emissions from these sources are negligible. There are particulate emissions resulting from the drift droplets leaving the tower that evaporate leaving behind fine particulate matter formed from the dissolved solids in the circulating water. Particulate emissions are calculated using emission factors in *AP-42 Chapter 13.4 Wet Cooling Towers.* Emission factors and particulate emissions are summarized below:

**Table 8**
**Cooling Tower $PM_{10}$ Emissions**

| | S-1352 | S-1355 | Total |
|---|---|---|---|
| Maximum throughput (gal/min) | 72,000 | 60,000 | |
| Drift Factor (lb/MMgal)[a] | 1,700 | 1,700 | |
| Total Disolved Solids (lb/$10^6$ lb $H_2O$)[b] | 24,000 | 24,000 | |
| **$PM_{10}$ (ton/yr)** | 12.87 | 10.72 | **23.59** |

[a]From AP-42 Table 13.4-1

[b]From AP-42 Table 13.4-2 Cross Flow

The cooling towers are currently listed as exempt sources. However, these sources were installed prior to the adoption of Regulation 2-1-319 which established backstop exceptions to permit exemptions contained in Sections 2-1-114 through 2-1-128. One of these exceptions, contained in Section 2-1-319.1, requires sources that emit more than 5 tons per year, after abatement, of any regulated air pollutant to secure a permit to operate per Regulation 2-1-302. As shown in the above emission calculation, $PM_{10}$ emissions from each cooling tower exceeds the 5 tons per year backstop threshold and should be permitted as stationary sources. The cooling towers will be permitted as loss of exemption sources under a separate application.

### *2.2. Hazardous Air Pollutants:*

Hazardous Air Pollutants (HAPs) are emitted from the combustion sources, and contained in the POC emissions from storage tanks, RM-17 bulk transfer operations, and fugitive components. Toluene is the only HAP contained in the POC emissions from these operations and it is conservatively assumed that 100% of the POC emissions are Toluene. There is ammonia emitted at a storage tank (A-1398) and the SCR (A-6029) and the BAAQMD considers ammonia a Toxic Air Contaminant for the purposes of complying with Regulation 2-5, New Source Review of Toxic Air Contaminants. However, ammonia is not identified as a HAP in the EPA Clean Air Act and therefore ammonia emissions will not be included in this PTE calculation.

The potential to emit of HAPs from the facility once the A-Train project is completed are calculated and explained in the following sections and summarized in the Table 9 below. HAP emissions are below the Major Facility emission thresholds of 10 tons per year of any single HAP and 25 tons per year of a combination of HAPs.

**Table 9**
**Hazardous Air Pollutant PTE**

| Emission Source Type | HAPs Emitted | Emissions (lb/year) | | | | |
|---|---|---|---|---|---|---|
| | | Benzene | Formaldehyde | Hexane | Naphthalene | Toluene |
| Combustion | Yes | 0.86 | 30.66 | 735.84 | 0.25 | 1.39 |
| Tanks | Yes | | | | | 100.42 |
| EO Catalyst Process | No | | | | | |
| EO Catalyst Packaging | No | | | | | |
| RM-17 Bulk Transfer | Yes | | | | | 78.75 |
| Fugitive | Yes | | | | | 12,267 |
| Cooling Towers | No | | | | | |
| **Total** | | **0.86** | **30.66** | **735.84** | **0.25** | **12,448** |

#### *2.2.1. Combustion Emissions*

HAP emissions are calculated based on standard natural gas combustion factors reported in US EPA AP 42, or specific permit conditions limiting the emissions. It is assumed that all combustion sources operate 24 hours/day, 365 days/year (8,760 hr/year). Combustion emissions are calculated and summarized below.

**Table 10a**
**Combustion Fuel Usage**

| Combustion Source | Maximum Operating Rate (MMBtu/hr) | Annual Fuel Usage (MMBtu/yr) |
|---|---|---|
| S-1398 | 1.1 | 9,636 |
| S-1399 (A-1399) | 12 | 105,120 |
| Heater 22F | 3 | 26,280 |
| A-6012 | 10 | 87,600 |
| A-6026 | 15 | 131,400 |
| S-6028 | 6.5 | 56,940 |

**Table 10b**
**HAP Emissions from Combustion Sources**

| Toxic Air Contaminant | AP-42 Emission Factor (lb/MMcf) | Emission Factor (lb/MMBtu) | Source | | | | | | Total Emissions (lb/year) | Total Emissions (tpy) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | S-1398 | S-1399 (A-1399) | Heater 22F | A-6012 | A-6026 | S-6028 | | |
| Benzene | 2.1E-03 | 2.1E-06 | 1.98E-02 | 2.16E-01 | 5.41E-02 | 1.80E-01 | 2.71E-01 | 1.17E-01 | **0.86** | **0.000** |
| Dichlorobenzene | 1.2E-06 | 1.2E-09 | 1.13E-05 | 1.24E-04 | 3.09E-05 | 1.03E-04 | 1.55E-04 | 6.70E-05 | **0.00** | **0.000** |
| Formaldehyde | 7.5E-02 | 7.4E-05 | 7.09E-01 | 7.73E+00 | 1.93E+00 | 6.44E+00 | 9.66E+00 | 4.19E+00 | **30.66** | **0.015** |
| Hexane | 1.8E+00 | 1.8E-03 | 1.70E+01 | 1.86E+02 | 4.64E+01 | 1.55E+02 | 2.32E+02 | 1.00E+02 | **735.84** | **0.368** |
| Naphthalene | 6.1E-04 | 6.0E-07 | 5.76E-03 | 6.29E-02 | 1.57E-02 | 5.24E-02 | 7.86E-02 | 3.41E-02 | **0.25** | **0.000** |
| Toluene | 3.4E-03 | 3.3E-06 | 3.21E-02 | 3.50E-01 | 8.76E-02 | 2.92E-01 | 4.38E-01 | 1.90E-01 | **1.39** | **0.001** |
| Total PAHs* | 1.0E-03 | 1.0E-06 | 9.80E-03 | 1.07E-01 | 2.67E-02 | 8.91E-02 | 1.34E-01 | 5.79E-02 | **0.42** | **0.000** |

### *2.2.2. Tanks and Storage Vessels*

The tanks and storage vessels with POC emissions are part of the RM-17 process which uses toluene as the carrier for RC-78H and therefore total HAP emissions are equivalent to total POC emissions for tanks and storage vessels.

### *2.2.3. EO Catalyst Process*

The POC emissions from the EO Catalyst Process are EDA vapors evaporated from the process. EDA is not a HAP and therefore there are no HAP emissions from the EO Catalyst Process.

### *2.2.4. EO Catalyst Packaging*

The particulate emissions from the EO Catalyst Packaging are from handling aluminum oxide and silver. Neither material is a HAP and therefore there are no HAP emissions from the EO Catalyst Packaging operations.

### *2.2.5. RM-17 Bulk Transfer*

The only POC compound in the RM-17 Bulk Transfer operations is Toluene and total HAP emissions are equivalent to total POC emissions for RM-15 Bulk Transfer operations.

### *2.2.6. Fugitive Components*

While there are EDA emissions included in the total POC emissions from fugitive components, it is conservatively assumed that POC emissions from fugitive components is 100% toluene and therefore HAP emissions are equivalent to total POC emissions for fugitive components.

### *2.2.7. Cooling Towers*

There are no HAP emissions from the cooling towers.

## 3. STRATEGY TO LIMIT EMISSIONS

In order to be eligible for a synthetic minor permit, a site must either have a maximum potential to emit that is less than each Title V emission threshold (less than 95 tons per year of $NO_x$, CO, POC, $PM_{10}$, and $SO_2$, less than 9 tons per year of any single hazardous air pollutant (HAP), and less than 23 tons per year of all HAPs combined) or must accept conditions limiting the site to less than these emissions thresholds (Regulation 2-6-423). Shell Catalyst has proposed federally enforceable emissions limitations such that CO emissions will be less than 95 tons per year.

As shown in Section 2.1, the potential to emit for NOx, $PM_{10}$, $SO_2$ and POC are well below major source thresholds. For CO, the potential to emit of 110.683 tpy is above the threshold. Shell Chemical has proposed to modify permit conditions to limit CO emissions to less than 95 tons per year. All CO emissions are from combustion devices. Shell Chemical is proposing that the following CO emission rates be included as CO emission limits in permit conditions for two abatement devices. Source tests of these abatement devices show that emission rates are achievable.

**Table 11a**
**Proposed CO Emission Rate**

| Source | Source Tests | | | Proposed CO Emission Rate (lb/MMBtu) | CO Emission (TPY) |
|---|---|---|---|---|---|
| | Date | CO Emissions (lb/hr) | CO Emissions (lb/MMBtu) | | |
| S-1399 (A-1399) | 10/2/2013 | 0.181 | - | 0.5 | **26.28** |
| A-6012 | 9/17/2000 | 0.74 | 0.38 | 0.5 | **21.90** |

The CO potential to emit based on these limited emission rates will be 82.301 tons per year and meet the requirements in Regulation 2, Rule 6.

**Table 11b**
**Synthetic Minor CO Potential to Emit**

| Source | CO Emission (TPY) |
|---|---|
| S-1398 | 1.494 |
| S-1399 (A-1399) | 26.280 |
| Exempt Heater 22-F | 1.082 |
| A-6012 | 21.900 |
| A-6026 & A-6029 | 25.623 |
| S-6025 (registered) | 1.082 |
| S-6028 (exempt) | 4.840 |
| **Total** | **82.301** |

## 4. SYNTHETIC MINOR PERMIT CONDITIONS

The following synthetic minor condition and modifications to conditions 19945 and 15316 will ensure that emissions at Shell Chemical remain below the major source thresholds.

New Synthetic Minor Condition # 26751

Shell Chemical
10 Mococo Road
Martinez, CA 94535
Plant 12870

Shell Chemical, Plant 12870, is operating under a synthetic minor operating permit. This permit covers all sources at the facility, including exempt sources. The following conditions establish the federally enforceable permit terms that ensure the facility is classified as a Synthetic Minor Facility under BAAQMD Regulation 2, Rule 6 – Major Facility Review and ensure it is not subject to the permitting requirements of Title V of the Federal Clean Air Act as amended in 1990 and 40 CFR Part 70. Any revision to a condition establishing this facility's status as a Synthetic Minor Facility or any new permit term that would limit emissions of a new or modified source for the purposes of maintaining the facility as a synthetic minor must follow the requirements of Regulation 2, Rule 6, Section 423. The basis for the synthetic minor conditions is an emission limit for regulated air pollutants of 95 tons per year, an emission limit for a single HAP (hazardous air pollutant) of 9 tons per year, and an emission limit for a combination of HAPs of 23 tons per year.

1. The owner /operator shall in no event emit from this site exceeding any of the emission limits listed below, totaled over any consecutive twelve-month period.

   NOx .....95 tons/year
   CO .....95 tons/year
   POC .....95 tons/year
   $PM_{10}$ .....95 tons/year
   $S0_2$ .....95 tons/year
   Any Single HAP ..... 9 tons/year
   Combination of HAPs ...23 tons/year

(basis: Regulation 2-6-423.2)

2. The owner/operator shall demonstrate compliance with the emission limit for CO as outlined below:

The owner /operator shall use hours of operation or fuel firing rate and emission factors listed below for each source or the emission factors from the most current source test reports to calculate CO emissions.

S-1398: .....0.31 lb/MMBtu
S-1399 (A-1399): .....0.5 lb/MMBtu
A-6012:.....0.5 lb/MMBtu
A-6026:.....0.39 lb/MMBtu
Registered Boiler.....0.082 lb/MMBtu
S-6028 (exempt):.....0.17 lb/MMBtu
Heater 22-F (exempt):....0.082 lb/MMBtu

Emissions of CO from each source shall be calculated and recorded on a monthly basis. Annual emissions shall be summarized on a rolling 12-month basis. *All* records required by the Synthetic Minor Operation Permit shall be kept on site and be available for inspection by BAAQMD personnel for at least 5 years from the date that a record was made.
(basis: Regulation 2-6-423.2).

3. The owner/operator shall develop and maintain monitoring tables to clearly demonstrate compliance with the CO Synthetic Minor Operating Permit limits on a rolling 12-month basis beginning with the first calendar month after the issuance of the Synthetic Minor Operating Permit. All monitoring tables shall be updated as applicable when equipment is added to or removed from the facility. A copy of the monitoring tables and CO emission calculation report demonstrating compliance with the CO Synthetic Minor Operation Permit Limits shall be submitted to the District's Compliance & Enforcement Division on an annual basis to coincide with the annual update request.
(basis: Regulation 2-6-423.2).

4. The requirement for temperature and fuel meters for Sources S-1398, S-1399 (A-1399), A-6012, A-6026, S-6028 and for source testing for CO in Condition 19945, Part 7a and Condition 15316, Part 15 are part of this synthetic minor condition.
(basis Regulation 2-6-503).

The following changes will be made to Condition #15315 for A-6012:

10. The owner/operator shall ~~not emit from~~ operate A- 6012 within the following emission limits (except during periods of breakdown relief or variance granted by the District):~~exceeding~~
a) 4.6 pounds of NOx per hour ~~or~~
b) ~~8.0~~ 5 pounds of CO per hour ~~(except during periods of breakdown relief or variance granted by the District).~~
The NOx emission limit may be adjusted administratively based on source test data demonstrating to the satisfaction of the APCO that the NOx contribution from the vent gas would make the NOx limit technically unfeasible.
(Basis: RACT)

15. The owner /operator shall perform a source test on A-6012 to determine compliance with emission limits listed in part 10 not later than 60 days after A-train startup and at least once every 36 consecutive months thereafter. The owner/operator shall obtain approval for all source test

procedures from the District's Source Test Section prior to conducting any tests. The owner/operator shall comply with all applicable testing requirements 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.

The following changes will be made to Condition #19945 for S-1399 (A-1399):

7. Except during periods of breakdown relief or variance relief granted by the District, the owner/operator shall operate S-1399 (A-1399), RM-17 Thermal Oxidizer, such that the POC destruction efficiency is at least 95% by weight. (Basis: cumulative increase)

    a. The owner/operator shall perform a source test on S-1399 (A-1399) to determine compliance with POC ~~verifying its required~~ abatement efficiency and emission limits listed in Part 13 at least once every 36 consecutive months.

13. The owner/operator shall operate S-1399 (A-1399) such that NOx ~~and CO~~ emissions do not exceed 50 ~~and 350~~ ppmvd @ 15% oxygen, and CO emissions do not exeed 0.5 lb/MMBtu except during periods of breakdown relief or variance relief granted by the District. (Basis: RACT)

## 5. PUBLIC COMMENT

In accordance with Regulation 2-6-423.3 and 2-6-423.4, the District's preliminary decision to issue a Synthetic Minor Operating Permit to Shell Chemical, Plant #12870 is subject to a 30-day public comment period and a 30-day EPA review period.

## 6. RECCOMENDATION

Because Shell Chemical is voluntarily accepting practically enforceable permit conditions that will limit the potential to emit for CO to no more than 95 tons per year the facility will meet the requirements of Regulation 2-6-423.2. Therefore, the District is proposing to issue a Synthetic Minor Operating Permit to Shell Chemical, Plant #12870. At the conclusion of the aforementioned comment period, the District will consider all comments received and make a final decision on issuing a Synthetic Minor Permit to Shell Chemical.

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Anne C. Werth, Date
Senior Air Quality Engineer