

**ILLINOIS ENVIRONMENTAL PROTECTION AGENCY**

**BUREAU OF AIR**

**DIVISION of AIR POLLUTION CONTROL**

**PERMIT SECTION**

**PROJECT SUMMARY for the  
DRAFT CLEAN AIR ACT PERMIT PROGRAM (CAAPP) PERMIT**

The Premcor Refining Group, Inc. – Hartford Distribution Center  
201 East Hawthorne  
Hartford, Illinois 62048

Illinois EPA ID Number: 119050AAA

Application Number: 96030082

Application Type: Initial Permit

Start of Public Comment Period: May 27, 2004

Close of Public Comment Period: August 12, 2004

Permit Engineer/Technical Contact: Sunil Suthar, 217/782-2113

Community Relations/Comments Contact: Brad Frost, 217/782-7027

## I. INTRODUCTION

This source applied for a Clean Air Act Permit Program (CAAPP) operating permit for its existing operation on March 7, 1996. The CAAPP is the program established in Illinois for the operating permits for significant stationary sources required by the federal Clean Air Act, as amended in 1990. The conditions in this CAAPP permit are enforceable by both the Illinois Environmental Protection Agency (Illinois EPA) and the USEPA. The Premcor Refining Group, Inc. – Hartford Distribution Center is located at 201 East Hawthorne, Hartford, Illinois. The source is engaged in petroleum storage and distribution operations.

The facility was formerly Clark Refining and is now owned and operated by Premcor Refining Group. All refinery operations are shutdown. This facility consists only of storage and distribution operations.

## II. EMISSION UNITS

Significant emission units at this source are as follows:

| Emission Unit | Description  | Date Constructed/Modified  | Emission Control Equipment  |
|---------------|--|--|---|
| Unit 01       | Vapor Control System: Control Boreholes, Knock Out Drum, Vacuum Blowers (75 Hp/Electric)   | 1/92   | Thermal Treatment Unit (Enclosed Flare)                                       |
| Unit 02       | Marine Vessel Loading  | 1981 <sup>a</sup>  | Vapor Recovery Unit and Flare   |
| Unit 03       | External Floating Roof Tanks:<br><br>120-1<br>120-2<br>120-3<br>120-4<br>120-5<br>120-8<br>80-4<br>80-5<br>80-10<br>80-11<br>20-8<br>10-20<br>5-10   | <br><br>1947<br>1947<br>1953<br>1953<br>1953<br>1957<br>1945<br>1949<br>1953<br>1953<br>1960<br>1961<br>1954 | Floating Roof, Primary Seal and Rim-Mounted Secondary Seal, Submerged Loading |
| Unit 04       | Internal Floating Roof Tanks:<br><br>Group 1 Tanks <sup>b</sup> (Subject to 40 CFR 60, Subpart Kb):<br>20-3/840,000 Gal<br>10-10/420,000 Gal<br><br>Group 2 Tanks (Not Subject to NSPS):<br>10-5/420,000 Gal<br>10-7/420,000 Gal<br>T-3-1/126,000 Gal<br><br>Group 3 <sup>c</sup> (Subject to 40 CFR 60, Subpart K) Tank:<br>120-9/5,040,000 Gal | 1948/1990<br><br>1941/1994<br><br>1941<br>1941<br>1956<br><br>1975   | Internal Floating Roof, Submerged Loading                                     |

| Emission Unit | Description   | Date Constructed/Modified | Emission Control Equipment             |
|---------------|---|---------------------------|--|
| Unit 05       | Wastewater Treatment Plant: Entry Points, Two (2) Equalization Tanks, Diffused Air Flotation (DAF) Unit, Two (2) Aeration Basins, Two (2) Clarifiers, Anthracite/Sand Filter. | 1973/1994 <sup>d</sup>    | Anthracite/Sand Filters                |
| Unit 06       | Fugitive Emissions from Paved and Unpaved Roads   | ---                       | ---                                    |
| Unit 07       | Fugitive VOM Emissions from Valves, Flanges, Seals, and Miscellaneous Components  | Not Available             | Leak Detection and Repair Program      |
| Unit 08       | Gasoline Storage Tanks  | Pre-1990                  | None                                   |
| Unit 09       | Lube Cubes nineteen 500-gallon double walled containers   | June 6, 2005              | None                                   |
| Unit 10       | Storage and Barge Loading of Ethanol and Toluene  | 09/2004                   | river dock vapor transfer/flare system |
| Unit 11       | Soil Vapor Extraction System: Blowers, Ancillary Equipment  | 1/2006                    | Thermal Oxidizer                       |

- a Refurbished in 1981. A new platform was constructed, a new pipeline was installed to the river dock. The loading berth was reconditioned and all new piping and loading arms installed.
- b Subject to 40 CFR 60, Subpart Kb
- c Subject to 40 CFR 60, Subpart K
- d Installation of two (2) equalization tanks

### III. EMISSIONS

This source is required to have a CAAPP permit since it is a major source of emissions. For purposes of fees, the source is allowed the following emissions:

Permitted Emissions of Regulated Pollutants

| Pollutant                          | Tons/Year |
|------------------------------------|-----------|
| Volatile Organic Material (VOM)    | 230.30    |
| Sulfur Dioxide (SO <sub>2</sub> )  | 4.34      |
| Particulate Matter (PM)            | 12.08     |
| Nitrogen Oxides (NO <sub>x</sub> ) | 35.56     |
| HAP, not included in VOM or PM     | ----      |
| Total                              | 282.28    |

| Reported Annual Emissions |       |        |        |
|---------------------------|-------|--------|--------|
| Pollutant                 | 2005  | 2004   | 2003   |
| CO                        | 0.30  | 2.32   | 8.10   |
| NOx                       | 0.06  | 0.43   | 1.49   |
| PM                        | 0.24  | 1.95   | 2.01   |
| SO2                       | 0.31  | 2.51   | 2.45   |
| VOM                       | 75.11 | 100.11 | 114.19 |
| (top HAP)                 | 0.37  | 0.40   | 0.53   |

This permit is a combined Title I/CAAPP permit that contains terms and conditions which address the applicability, and compliance if determined applicable, of Title I of the Clean Air Act and regulations promulgated thereunder, including 40 CFR 52.21 - Federal Prevention of Significant Deterioration (PSD) and 35 IAC Part 203 - Major Stationary Sources Construction and Modification. Any such terms and conditions are identified within the permit by T1, T1R, or T1N.

| EXISTING PERMITS |   |
|------------------|---|
| 04070052         | STORAGE & LOADING<br>(Section 7.10.6)             |
| 05030053         | LUBE CUBES<br>(Section 7.9.6)                     |
| 05120034         | SOIL VAPOR EXTRACTION SYSTEM<br>(Section 7.11.6)  |
| 92050052         | HARTFORD VAPOR CONTROL<br>(Section 7.1.6 & 7.1.7) |

Any conditions established in a construction permit pursuant to Title I and not revised or deleted in this permit, remain in effect pursuant to Title I provisions until such time that the Illinois EPA revises or deletes them.

#### IV. APPLICABLE EMISSION STANDARDS

All emission sources in Illinois must comply with the Illinois Pollution Control Board's emission standards. The Board's emission standards represent the basic requirements for sources in Illinois. All emission sources in Illinois must comply with the federal New Source Performance Standards (NSPS). The Illinois EPA is administering NSPS in Illinois on behalf of the United States EPA under a delegation agreement. All emission sources in Illinois must comply with the federal National Emission Standards for Hazardous Air Pollutants (NESHAP). The Illinois EPA is administering NESHAP in Illinois on behalf of the United States EPA under a delegation agreement.

## V. PROPOSED CAAPP PERMIT

This CAAPP permit contains all conditions that apply to the source and a listing of the applicable state and federal air pollution control regulations that are the origin of authority for these conditions. The permit also contains emission limits and appropriate compliance procedures. The appropriate compliance procedures may include inspections, work practices, monitoring, record keeping, and reporting to show compliance with these requirements. The Permittee must carry out these procedures on an on-going basis.

### Non-Applicability Statements

As CAAPP permits are intended to list applicable regulatory requirements, it is inherent that they may also identify certain requirements that are not applicable. Non-applicability determinations or provisions are found in Conditions “7.x.5” of the permit. These conditions include both the relevant regulatory provision or finding and the underlying basis for the provision or finding. At one end of the spectrum, these conditions merely reflect applicable regulatory language and are included in the CAAPP permit for clarity, especially as CAAPP permits are prepared to be understandable by individuals who are unfamiliar with the details of air pollution control regulations. At the other end of the spectrum, these provisions entail the exercise of the Illinois EPA’s technical judgment and knowledge of the historical implementation of air pollution rules in Illinois.

#### Unit 01: Vapor Control System

None

#### Unit 02: River Dock (Marine Vessel Loading):

35 IAC 219.122, which requires a submerged loading pipe when loading a volatile organic liquid (VOL) with a vapor pressure greater than 2.5 psia, because the rule is only relevant to loading operations for railroad tank car, tank truck, trailer, or stationary tank; the affected marine vessel loading operation is only engaged in the loading of marine vessels.

35 Ill. Adm. Code 219.120, Control Requirements for Storage Containers of VOL per 35 Ill. Adm. Code 219.119, which states that limitations of 35 Ill. Adm. Code 219.120 do not apply to vessels permanently attached to trucks, railcars, barges, or ships [35 Ill. Adm. Code 219.119(d)].

40 CFR 60, Subpart XX, Standards of Performance for Bulk Gasoline Terminals, since the affected marine vessel loading does not deliver liquid product into gasoline tank trucks as required for applicability.

40 CFR 63, Subpart Y, National Emission Standards for Marine Tank Vessel Tank Loading Operations, since the facility has opted to accept a limit for total loading of high-vapor pressure materials to marine vessels to no greater than 9.5 million barrels per year; the rule requires 10 million barrels or 200 million barrels per year for applicability.

Unit 03: External Floating Roof Storage Tanks:

None

Unit 04: Internal Floating Roof Storage Tanks:

Groups 1 tanks and 120-9 tank are not subject to 35 IAC 219.123 when in VPL service because they are subject to a NSPS [35 IAC 219.123(a)(5)]. Though these tanks are subject to 35 IAC 219.121, compliance with Subpart Ka or Kb is deemed to be more stringent and will demonstrate compliance with 35 IAC 219.121

35 IAC 219.124 because the tanks are considered internal floating roof tanks.

40 CFR Part 64, Compliance Assurance Monitoring (CAM) for Major Stationary Sources, because the affected storage tanks uses a passive control measure, such as a seal, lid, or roof, that is not considered a control device because it acts to prevent the release of pollutants.

Unit 05: Wastewater Treatment System and Thermal Oxidizer:

The wastewater treatment system is not subject to the NSPS for VOC Emissions From Petroleum Refinery Wastewater Systems, 40 CFR 60 Subpart QQQ, because the affected wastewater treatment operations are not located at a petroleum refinery.

The wastewater treatment system is not subject to 35 IAC 219.443, Wastewater (Oil/Water) Separator, because the affected wastewater treatment operations are not located at a petroleum refinery.

The wastewater treatment system is not subject to 35 IAC 219 Subpart TT, Other Emission Units, because the affected wastewater treatment operations do not meet the applicability of 35 IAC 219.980(a). In particular, the affected wastewater treatment operations have maximum theoretical emissions of VOM that are less than 90.7 Mg (100 tons) per year.

The wastewater treatment system is not subject to 35 IAC 219.141(a), as applicability requires use any single or multiple compartment effluent water separator which receives effluent water containing 757 l/day (200 gal/day) or more of organic material from any equipment processing, refining, treating, storing or handling organic material; the affected wastewater treatment operations do not meet this threshold.

Unit 07: Fugitive VOM Emissions from Leaking River Dock Flare Components

Fugitive VOM Emissions from Leaking River Dock Flare Components are not subject to 40 CFR 60, Subpart KKK, Standards of Performance for Equipment Leaks of VOC From Onshore Natural Gas Processing Plants since the facility is actually classified as a Petroleum Bulk Storage and Loading facility.

Fugitive VOM Emissions from Leaking River Dock Flare Components are not subject to 40 CFR 60 Subpart LLL, Standards of Performance for Onshore Natural Gas Processing since the facility is classified as a Petroleum Bulk Storage and Loading facility.

Unit 08: Gasoline Storage Wells

The tank wells are not subject to the NSPS for volatile organic liquid storage vessels (including petroleum liquid storage vessels) for which construction, reconstruction, or modification commenced after July 23, 1984, 40 CFR 60 Subpart Kb, because the affected tank well was constructed prior to 1984.

The tank wells are not subject to the requirements of 35 IAC 219.123, petroleum liquid storage tanks, pursuant to 35 IAC 215.123(a)(2), which exempts storage tanks with a capacity less than 151.42 m<sup>3</sup>.

Unit 09: Lube Cubes

The Lube Cubes are not subject to 40 CFR Part 64, Compliance Assurance Monitoring (CAM) for Major Stationary Sources, because the affected Lube Cubes do not use an add-on control device to achieve compliance with an emission limitation or standard.

Unit 11: Soil Vapor Extraction System

This unit is not subject to the 40 CFR Part 63 Subpart GGGGG: National Emission Standards for Hazardous Air Pollutants: Site Remediation because the source is not a major source of HAP [40 CFR 63.7881(a)].

Non-applicability determinations also serve to shield a source from the requirement that is identified as being non-applicable, at least until the circumstances of the subject emission unit change. This is because a non-applicability determination provides the permit shield when the Illinois EPA, in acting on the application, has determined that other requirements specifically identified are not applicable to a source and this determination (or a concise summary thereof) is included in this permit, as provided by Section 39.5(7)(j) of the Environmental Protection Act. As USEPA is aware, the availability of permit shields in Illinois's CAAPP permits is explicitly provided for and required by Section 504(f)(2) of the Clean Air Act. The Illinois EPA is obligated to include provisions in a CAAPP permit that provide for permit shields when requested by an applicant. The non-applicability statements are also used as a mechanism for permit streamlining. Accordingly, the regulatory requirements for which the CAAPP permit is silent and the Illinois EPA has refrained from making non-applicability determinations are also important when considering this subject.

### Permit Streamlining Discussion

Ill Adm Code 219.121 requires that containers of VPL to ensure that the reservoir or other container is a pressure tank or the container has either a floating roof or a vapor recovery system with 85 % collection capability.

In comparison, 40 CFR 60, Subpart Ka and Kb requires that the reservoir or container have any of the following: an external floating roof (A fixed roof in combination with an internal floating roof/external floating roof for Kb), a fixed roof with an internal floating type cover equipped with a continuous closure device between the tank wall and the cover edge, A vapor recovery system which collects all VOC vapors and gases discharged from the storage vessel, and a vapor return or disposal system which is designed to process such VOC vapors and gases so as to reduce their emission to the atmosphere by at least 95 percent by weight. Note that the NSPS for tanks requires a 95 % reduction (by weight) of VOC in the atmosphere thru a vapor recovery system, while Ill. Adm Code 219.121 requires a 85 % collection capability only.

### Periodic Monitoring

The elements of periodic monitoring for specific emission units are summarized in the CAAPP permit itself, in Conditions 7.x.12. As a general matter, the permits include a set of work practice and inspection requirements, testing requirements, monitoring requirements, recordkeeping requirements, and reporting requirements for each significant emission unit to address compliance with the applicable requirements that control emissions from the unit. To the extent that such requirements were lacking from applicable regulations or were considered insufficient, new or additional requirements were imposed. The result is sets of pollutant-specific periodic monitoring provisions for the various categories of units that the Illinois EPA has determined are both necessary and reasonable to address compliance with the emission control requirements that apply to such units.

Generally speaking, the majority of the periodic monitoring for this facility is already developed through the various federal regulations that apply to the facility which encompasses predominantly recordkeeping and reporting. However, one area where periodic monitoring had to be put into place was for the River Dock VOM emissions.

Periodic monitoring is required for the Fugitive VOM Emissions from Leaking River Dock Flare Components. Fugitive VOM Emissions from Leaking River Dock Flare Components are subject to 35 IAC Section 219.446 which provides that the owner or operator of a petroleum refinery shall prepare a monitoring program plan per which contains, at a minimum:

- a. An identification of all refinery components and the period in which each will be monitored pursuant to Section 35 IAC 219.447 [35 IAC Section 219.446(a)];
- b. The format for the monitoring log required by 35 IAC Section 219.448 of this Part [35 IAC Section 219.446(b)];

- c. A description of the monitoring equipment to be used pursuant to 35 IAC Section 219.447 of this Part; and [35 IAC Section 219.446(c)]
- d. A description of the methods to be used to identify all pipeline valves, pressure relief valves in gaseous service and all leaking components such that they are obvious to both refinery personnel performing monitoring and Agency personnel performing inspections [35 IAC Section 219.446(d)].

### Prompt Reporting

Prompt reporting of deviations is critical in order to have timely notice of deviations and the opportunity to respond, if necessary. The effectiveness of the permit depends upon, among other important elements, timely and accurate reporting. The Illinois EPA, USEPA and the public rely on timely and accurate reports submitted by the permittee to measure compliance and to direct investigation and follow-up activities. Prompt reporting is evidence of a permittee's good faith in disclosing deviations and describing the steps taken to return to compliance and prevent similar incidents.

Any occurrence that results in an excursion from any emission limitation, operating condition, or work practice standard as specified in this CAAPP permit is a deviation subject to prompt reporting. Additionally, any failure to comply with any permit term or condition is a deviation of that permit term or condition and must be reported to the Illinois EPA as a permit deviation. The deviation may or may not be a violation of an emission limitation or standard. A permit deviation can exist even though other indicators of compliance suggest that no emissions violation or exceedance has occurred. Reporting permit deviations does not necessarily result in enforcement action. The Illinois EPA has the discretion to take enforcement action for permit deviations that may or may not constitute an emission limitation or standard or the like, as necessary and appropriate.

Section 39.5(7)(f)(ii) of the Illinois Environmental Protection Act, which mirrors 40 CFR 70.6(a)(3)(iii)(B), requires prompt reporting of deviations from the permit requirements. The permitting authority (in this case, Illinois EPA) has the discretion to define "prompt" in relation to the degree and type of deviation likely to occur. Furthermore, Section 39.5(7)(f)(i) of the Illinois Environmental Protection Act, which mirrors 40 CFR 70.6(a)(3)(iii)(A) requires that monitoring reports must be submitted at least every 6 months. Therefore, USEPA generally considers anything less than 6 months to be "prompt" as long as the selected time frame is justified appropriately (60 Fed. Reg. 36083, 36086 (July 13, 1995)).

The USEPA has stated that, for purposes of administrative efficiency and clarity, it is acceptable to define prompt in each individual permit. *Id.* The Illinois EPA has elected to follow this approach and defines prompt reporting on a permit by permit basis. In instances where the underlying applicable requirement contains "prompt" reporting, this frequency or a shorter frequency of reporting is the required timeframe used in this permit. Where the underlying applicable requirement fails to explicitly set forth the timeframe for reporting deviations, the Illinois EPA has developed a structured manner to determine the reporting approach used in this permit.

The Illinois EPA generally uses a time frame of 30 days to define prompt reporting of most deviations. Also, for certain permit conditions in individual permits, the Illinois EPA may require an alternate timeframe that is less than 30 days if the permit requirement justifies a shorter reporting time period. Under certain circumstances, EPA may establish a deviation reporting period longer than 30 days, but, in no event exceeding 6 months. Where it has established a deviation reporting period other than 30 days in an individual permit (specifically Section 7.x.10), the Illinois EPA has explained the reason for the alternative timeframe. (See Attachment 2 of this Project Summary.)

The timing for certain deviation reporting may be different when a source or emission unit at a source warrants reporting to address operation, independent of the occurrence of any deviations. This is the case for a source that is required to perform continuous monitoring for the emission unit, for which quarterly or semi-annual “monitoring” reports are appropriate. Where appropriate, reporting of deviations has generally been combined in, or coordinated with these quarterly or semi-annual reports, so that the overall performance of the plant can be reviewed in a comprehensive fashion. This will allow a more effective and efficient review of the overall performance of the source by the Illinois EPA and other interested parties, as well as by the source itself.

At the same time, there are certain deviations for which quicker reporting is appropriate. These are deviations for which individual attention or concern may be warranted by the Illinois EPA, USEPA, and other interested parties. Under this scenario, emphasis has been placed primarily on deviations that could represent substantial violations of applicable emission standards or lapses in control measures at the source. For these purposes, depending on the deviation, immediate notification may be required and preceded by a follow-up report submitted within 15 days, during which time the source may further assess the deviation and prepare its detailed plan of corrective action.

In determining the timeframe for prompt reporting, the Illinois EPA assesses a variety of criteria such as:

- historical ability to remain in continued compliance,
- level of public interest in a specific pollutant and/or source,
- seriousness of the deviation and potential to cause harm,
- importance of applicable requirement to achieving environmental goals,
- designation of the area (i.e., non-attainment or attainment),
- consistency among industry type and category,
- frequency of required continuous monitoring reports (i.e., quarterly),
- type of monitoring (inspection, emissions, operational, etc.), and
- air pollution control device type and operation

These prompt reporting decisions reflect the Illinois EPA’s consideration of the possible nature of deviations by different emission units and the responses that might be required or taken for those different types of deviations. As a consequence, the conditions for different emission units may identify types of deviations which include but are not

limited to: 1) Immediate (or very quick) notification; 2) Notification within 30 days as the standard; or 3) Notification with regular quarterly or semi-annual monitoring reports.

The Illinois EPA's decision to use the above stated prompt reporting approach for deviations as it pertains to establishing a shorter timeframe in certain circumstances reflects the criteria discussed as well as USEPA guidance on the topic.

- 40 CFR 71.6(a)(3)(iii)(B) specifies that certain potentially serious deviations must be reported within 24 or 48 hours, but provides for semi-annual reporting of other deviations. (Serious or severe consequences)
- FR Vol. 60, No. 134, July 13, 1995, pg. 36086 states that prompt should generally be defined as requiring reporting within two to ten days of the deviation, but longer time periods may be acceptable for a source with a low level of excess emissions. (intermediate consequences)
- Policy Statement typically referred to as the "Audit Policy" published by the USEPA defines prompt disclosure to be within 21 days of discovery. (Standard for most "pollutant limiting" related conditions)
- Responses to various States by USEPA regarding other States' definition of prompt.

As a result, the Illinois EPA's approach to prompt reporting for deviations as discussed herein is consistent with the requirements of 39.5(7)(f)(ii) of the Act as well as 40 CFR part 70 and the CAA. This reporting arrangement is designed so that the source will appropriately notify the Illinois EPA of those events that might warrant individual attention. The timing for these event-specific notifications is necessary and appropriate as it gives the source enough time to conduct a thorough investigation into the causes of an event, collecting any necessary data, and to develop preventative measures, to reduce the likelihood of similar events, all of which must be addressed in the notification for the deviation.

## VI. REQUEST FOR COMMENTS

After review of Premcor's application, the Illinois EPA made a preliminary determination that the application met the standards for issuance of a CAAPP permit. The Illinois EPA prepared a draft permit for public review. A comment period was opened on October 10, 2003 requesting public comments. During the public comment period a request for hearing was received.

Notification of the hearing and comment period appeared in the Alton Telegraph on May 27, 2004, June 3, 2004, and June 10, 2004. A hearing was held on July 13, 2004 at the Village of Hartford Recreational Building, 715 North Delmar in Hartford. The comment period closed on August 12, 2004.

## VII. RESPONSE TO COMMENTS

### General Oversight / Compliance

Once issued, the Title V permit will be the tool to determine compliance of the facility with environmental regulations. Enforcement comes through inspections of the facility and reporting requirements.

At the next scheduled inspection, the inspector will verify that the facility is in compliance with the CAAPP. Typically, scheduled inspections are performed by Agency field staff as part of a work plan and generally are not unannounced inspections. This is because the Illinois EPA may want to make sure that specific staff are present, that specific records are readily available and that specific processes will be on-line or running on that day. However, if the Illinois EPA receives a complaint or otherwise believes that the facility may be operating out of compliance, the resulting inspection typically will not be an announced inspection.

As discussed in Section V, reporting can be prompt or as part of scheduled reporting activities. The company is required to promptly report upset situations to IEPA which are then looked into by Illinois EPA compliance and inspection staff. Regular reports that are submitted by the company are also reviewed by IEPA compliance staff to make sure that the facility is not out of compliance.

The data that is reported is typically technical data, such as temperature of a boiler, fuel throughput, opacity data from a monitor, etc., which is easily verifiable. The Illinois EPA is able to more adequately assess the compliance status of the facility and gauge the accuracy through redundant reporting mechanisms built into the permit. The accuracy of the data is generally good, however, USEPA would be the agency to look to and see if a statistical analysis of the accuracy of reported data has been performed. The Illinois EPA has not seen any studies that indicate that self-reported data is routinely inaccurate. Self-reporting is the most efficient way to ensure compliance.

CAAPP facilities, including Premcor, are required to submit an annual air emission report and provide a compliance certification with their CAAPP application stating that they are in compliance with all air applicable requirements. Premcor has provided certification that they are in compliance with the rules and regulations of Title V. Section 5.1.2 of this permit indicates that Premcor is not a major source of HAPs. Since there is no applicable rule it is not appropriate to place a limit on or list specific HAPs. In their annual emission report, due May 1 of each year, Premcor is required to list their HAP emissions. Annual compliance certifications are also required and due by May 1<sup>st</sup> of every year.

### Ambient Air Quality

The Clean Air Act of 1970 defined six *criteria pollutants* and established ambient concentration limits to protect public health. EPA periodically has revised the original concentration limits and methods of measurement, most recently in 1997.

Monitoring sites report data to EPA for these six criteria air pollutants:

- Carbon monoxide (CO)
- Nitrogen dioxide (NO<sub>2</sub>)
- Ozone (O<sub>3</sub>)
- Sulfur dioxide (SO<sub>2</sub>)
- Particulate matter (PM<sub>10</sub> and PM<sub>2.5</sub>)
- Lead (Pb)

(PM<sub>10</sub> and PM<sub>2.5</sub> are acronyms for particulate matter consisting of particles smaller than 10 and 2.5 micrometers, respectively.)

You might expect that EPA would track emissions of the same six criteria air pollutants. But ozone is not emitted directly; it forms by chemical reactions of organic compounds with nitrogen oxides in the air, mediated by sunlight. Lead is both a criteria air pollutant and a hazardous air pollutant, and EPA tracks emissions of lead only as a hazardous air pollutant. Ammonia reacts with nitric and sulfuric acids in the atmosphere to form fine particulate matter, so EPA tracks ammonia emissions.

Thus, EPA collects emissions data for three criteria air pollutants:

- Carbon monoxide (CO)
- Sulfur dioxide (SO<sub>2</sub>)
- Particulate matter (PM<sub>10</sub> and PM<sub>2.5</sub>)

and three precursors/promoters of criteria air pollutants:

- Volatile organic compounds (VOC)
- Nitrogen oxides (NO<sub>x</sub>)
- Ammonia (NH<sub>3</sub>)

There are currently three ozone monitors in the Madison Co./ St. Clair Co. area located in Alton, Maryville and East St. Louis.

The facility is allowed to emit 230.3 tons per year of VOC as stated in 5.5.1 of the permit. Correlating an actual VOC emission rate to a fence-line reading in parts per million would be very difficult if not impossible to do.

From a regulatory standpoint, monitoring of ambient concentrations of HAPs is not mandated by the Clean Air Act. Practically, it would be almost impossible to detect individual HAP, such as benzene, with ambient air monitoring around the facility. Gasoline is comprised of many different chemicals, with HAPs generally comprising only about 4 to 6 percent of total gasoline emissions and benzene is only a small fraction of that 4 to 6 percent HAP.

### Vapor Control System comments

A vapor control system is one that controls vapors from being emitted as a result of soil contamination. This operation captures and removes hydrocarbon vapors from the vadose zone (below ground surface). The vapor control system consists of control boreholes, a knock out drum, vacuum blowers (75 hp/electric), and an enclosed flare (thermal treatment unit). All vapors from the vapor control system are routed to and through the thermal treatment unit. Wastewater treatment and vapor control, in the context of bulk distribution, are usually separate entities.

The vapor control system described in Condition 7.1 is the same unit that was in existence before and was constructed in '92. This is the same unit with no modifications to date. There have been no modifications to the permit since the USEPA negotiated an agreement with the Hartford Working Group, which includes Premcor, about groundwater remediation.

The current vapor recovery system, consists of 12 underground vapor recovery wells that are connected to a thermal treatment unit at the Premcor refinery. Under the current administrative order on consent entered into between Premcor Refining Group, Equilon, LLC, d/b/a Shell Products USA, and Atlantic Richfield Oil Company, the AOC requires the oil companies to replace the 12 vapor recovery wells with new wells that have a greater zone of influence. They have proposed to expand the current thermal treatment unit and put another unit in. The only thing that has been done to the unit since 1992 is general maintenance, replacement of some flame arrestors which were clogged, which needed to be replaced, some upgrades of some software, the replacement of one well through a pilot study, (the well on Birch Street), and that was replaced with a new well.

### Wastewater Treatment comments

The only wastewater going to the wastewater treatment plant is storm water rainwater run-off from the refinery operation units of Conoco and the old Premcor Refinery. The water flows into two equalization tanks and then goes to the DAF unit, all of which is primary separation. From the primary separation, wastewater goes to the secondary wastewater treatment plant, which is aeration units and clarifiers. The wastewater then gets put in a pipe and goes out to the river. The primary separation is an oil/water separator. The first part of the wastewater treatment plant are two equalization tanks and a solid air flotation unit, which is the oil/water separation. Once separated that oil goes back into the refinery. Premcor has an NPDES permit for that treatment plant.

### Storage Tanks comments

During the permit review, the application that was submitted by Premcor was compared to older permits to determine what permits were in existence and the characteristics of the tanks. Installation of a floating and secondary seals reduce emissions and are considered installation of pollution control equipment. By definition, a modification is an increase in emissions, so it does not become a modified tank subject to NSPS when you add an internal floating roof or secondary seals. However, floating roofs and secondary seals are

what is required by NSPS, so by installing a floating roof and secondary seals, the tank is complying with the NSPS.

In the application, Premcor indicated which tanks were in use and those were the tanks included in the Title V permit. Any tanks in use must be included in the permit. In some instances, construction permits are obtained for equipment which is going to be constructed/used, but then is never brought into operation; in these cases, the facilities usually indicate, through correspondence, that the equipment is not in use/phased out or removed and does not need to be included in their permit. The company would need to obtain a construction permit from the Illinois EPA to put any units back into service.

The materials allowed to be stored are based on their properties. The material must meet the requirements of Section 7.3. The CAAPP permit requires Premcor to keep a record of what's in each tank, how much, and what type of properties of each. Throughput is required to be recorded, as is the inspection of seals and their conditions.

Containment systems are present to prevent land or water contamination and a containment system would be a requirement of Land regulations not air regulations. The air permit contains requirements that the tanks have controls such as floating roofs to contain air emissions. Tanks in the St. Louis non-attainment area, including the ones at this facility, must have secondary seals and floating roofs if they are to store high vapor pressure materials. Traditional containment systems for loss to the land or water is generally not addressed by air. Every tank would typically be required to have what they call a berm. In other words, a wall of dirt that goes all the way around the tank or tanks, and that's required to be large enough to contain the whole volume of material in the tank if it ruptured plus another 10%. We don't have any RCRA or NPDES requirements in Title V permits.

During the application review, the Illinois EPA relies on the company to accurately describe the equipment located at the facility. At the next scheduled inspection after permit issuance, the inspector will verify that the facility is in compliance with the permit, including whether it has unpermitted units. At that point the CAAPP permit is a legally actionable document and if the Illinois EPA finds that there are units at the site not covered by the CAAPP permit the Illinois EPA may take enforcement action against the company. The company stated at the hearing that the American Petroleum Institute writes standards for tank inspections. The API standard for tank inspection requirements is API 653. Under most circumstances, the company is required to inspect each tank every ten years, including a complete internal inspection of the entire tank and a test to determine thickness of the tank walls. Based on the inspection the tank may be returned to service for another ten years, or it may need repairs before being returned to service. The company stated at the hearing that they use an ultrasonic thickness gauge to measure the thickness of the steel during the inspection. The company stated at the hearing that tank inspections are staggered so that an API 653 inspection is done for a few tanks every year. For more information on tank inspections the company should be contacted as the Illinois EPA does not require and has no oversight over these types of inspections. Tank

inspections are not a requirement of Illinois EPA or USEPA so any tank inspection reports would not be submitted to either agency. The facility would keep them on record.

Monitoring comments

The facility previously had a leak detection and repair program in place. This program was actually taken from the existing state permit. Language in Title V permit states that underlying documentation is publicly enforceable, such as monitoring programs. The permit is a document that lays out the regulations that apply to a source. It is renewed every five years. It is not a document that is designed to show current compliance, that is what reports required by the permit are for. Any of these documents may be obtained through FOIA. The monitoring program has to meet certain requirements that are stipulated in Section 7.2.7. as well as the requirements stipulated by IAC rules.