



STATE OF DELAWARE
DEPARTMENT OF NATURAL RESOURCES
AND ENVIRONMENTAL CONTROL
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DOVER, DELAWARE 19901

Office of the
Secretary

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Secretary's Order No. 2008-A-0038

Re: Application of The Premcor Refining Group, Inc. for Air Pollution Control Permits to Construct and Operate Equipment Upgrades at the Delaware City Refinery Located at 4550 Wrangle Hill Road, Delaware City, New Castle County

Date of Issuance: **September 5, 2008**
Effective Date: **September 5, 2008**

Under the authority vested in the Secretary of the Department of Natural Resources and Environmental Control ("Department") by *29 Del. C. §§8001 et seq.*, *7 Del. C. Chapter 60*, the following findings, reasons and conclusions are entered as an Order of the Secretary.

This Order considers the air pollution control permit application of The Premcor Refining Group, Inc. ("Applicant"), which seeks to construct and operate equipment as part of the 'Upgrade and Optimization Project' ("Project") at the Delaware City Refinery ("Facility"). The proposed equipment would change the air emission of certain pollutants, with some increases and decreases. The proposed changes triggered the Department's review under Section 1125 of the Department's *Regulations Governing the Control of Air Pollution*, 7 DE Admin. Code §1125 ("DRGCAP") for increases in the sulfur dioxide ("SOx") emissions under the New Source Review procedures and requirements.

The Department's Senior Hearing Officer, Robert P. Haynes, presided over a public hearing and prepared a Hearing Officer's Report ("Report"), which is appended

hereto and incorporated herein. The Report recommends issuance of the draft permits, as revised by the recommendations from the Department's experts and after considering the public comments, which included comments supporting the permits. I find and conclude that the Department should approve the issuance of the permits, as recommended by the Report, which is hereby adopted to provide further reasons for this Order. This decision is based upon the Department's administrative record, including the public hearing record, and the technical expertise provided by the Department's personnel in the Division of Air and Waste Management ("DAWM"), Air Quality Management Section ("AQMS"), who reviewed the permit applications, prepared the draft permits and technical memorandum in support, and have provided the technical expertise and recommendations supporting this Order.

I find that these permits will allow the Facility to install important equipment to improve the Facility's operations, including re-starting a dormant propane operation. The upgrades will reduce the Facility's need to acquire certain intermediate feedstocks used in the refinery process, and improve the Facility's operating efficiency and flexibility in refining various types of crude oil supplies. The Project will not increase the Facility's total manufacturing capacity, which is limited by the Department's Coastal Zone Act permit, and adopted in other Department permits.

The Project will result in changes in the Facility's air emissions, but the changes are within the complex limits and formulas established by the federal laws and regulations that the Department administers in Delaware. The Facility also is subject to a court approved consent order, and the permits for the Project also will allow the Facility to comply with this settlement of the Department's past permit decisions. The public

comments did not raise any major issues, but the Applicant submitted comments that questioned several of the draft permit's conditions and terms. The Department's experts revised the draft permits to reflect some of the Applicant's comments, but did not agree to the major complaint. I agree that the Department should not adopt the Applicant's position on this one condition, which is consistent with the Department's Regulations and allows the Department to exercise effective regulation over the Facility if the Facility violates the permits authorized by this Order.

In sum, the proposed Project satisfies the strict environmental standards imposed by the Clean Air Act and Delaware's regulations for the proposed new equipment, which triggered the higher regulatory standards of new source reviews and prevention of significant deterioration. The Project passed these higher regulatory standards. Moreover, the Project will allow the Facility to operate more efficiently, which will benefit the Delaware economy and environment. This latest multi-million dollar investment is consistent with the Department's observation of improved operations under the Facility's latest corporate owner. Indeed, the current ownership received compliments from the public and workers at the Facility for improvements that have been implemented at the Facility, particularly changes to improve the environment through reduced air emissions. The Department's action to issue the permits will also allow the Department to include many permit conditions that will allow the Department to carefully monitor the operations in the future once the Project begins operating. Accordingly, I direct that the permit be issued to the Applicant, and enter the following findings and conclusions:

- 1.) The Department has jurisdiction under its statutory authority to issue the air pollution control permits in this proceeding;
- 2.) The Department provided adequate public notice of the proceeding and the public hearing in a manner required by the law and regulations;
- 3.) The Department held a public hearing in a manner required by the law and regulations;
- 4.) The Department considered all timely and relevant public comments in making its determination; and
- 5.) The Department has considered all the factors that the law and regulations require to be considered and that the air pollution control permits should be issued to the Applicant for the Facility based upon the draft permits, as revised to reflect the comments received, and subject to such reasonable conditions to protect the environment and public health consistent with the Department's statutory responsibilities.

s/John A. Hughes
John A. Hughes
Secretary

HEARING OFFICER'S REPORT

TO: The Honorable John A. Hughes
Secretary, Department of Natural Resources and Environmental Control

FROM: Robert P. Haynes, Esquire
Senior Hearing Officer, Office of the Secretary
Department of Natural Resources and Environmental Control

RE: Applications of Premcor Refining Group, Inc. for Air Pollution Control Permits to Construct and Operate Upgrades at the Delaware City Refinery

DATE: September 3, 2008

I. BACKGROUND AND PROCEDURAL HISTORY

This report considers the administrative record, including the public comments received in the public hearing record, and makes recommendations to the Secretary of the Department of Natural Resources and Environmental Control (“DNREC” or “Department”) on the November 30, 2007 air pollution control permit applications that Premcor Refining Group, Inc., (“Applicant”), a subsidiary of Valero Energy, Inc., submitted to the Department’s Division of Air and Waste Management (“DAWM”), Air Quality Management Section (“AQMS”). The Applicant seeks permission to construct equipment that would change air emissions from its petroleum refinery located at 4550 Wrangle Hill Road, Delaware City, New Castle County (“Facility”). The Department prepared draft permits¹ pursuant to *Delaware Regulations Governing the Control of Air Pollution* (“DRGCAP”).

The Applicant entitled its equipment changes as the “Upgrades and Optimization Project” (“Project”), which proposes the following: 1) restarting and upgrading dormant equipment to make refinery grade LPG prolylene; 2) installing a 500 gallon per minute sour water stripping system in order to supplement an existing system’s removal of hydrogen sulfide and ammonia gases from the desalter’s process water; 3) installing a dryer and splitter as an upgrade to the

¹ Draft permit APC-81/0828(Amendment 2)(PSD-NSR) is for the Facility’s Crude Unit and draft permit APC-81/0829 (Amendment 8) (PSD-NSR) is for the Fluid Coker Unit (“FCU”).

diglycolamine (“DGA”) system, which is used to filter solids, remove hydrocarbons and otherwise clean the refinery fuel gas that is burned in the two crude heaters; 4) adding to the FCU’s blower and oxygen system to increase the coke burn rate from 47,000 pounds an hour to 60,900 pounds an hour; and 5) installing a Selective Catalytic Reduction system (“SCR”) to reduce nitrogen oxide (“NOx”) emissions from the two crude unit heaters. The SCR portion of the Project already has been authorized by the Department’s permit issued May 14, 2008. This permit did not require the more extensive review triggered by the Project’s other changes.

The changes to the FCU unit are designed to optimize its operational performance to achieve its permitted capacity of 57,199 barrels per day and reduce the Facility’s purchase of intermediate feedstock for the Fluid Catalytic Cracking Unit. The changes will not increase the Facility’s maximum capacity as established in its permits.²

The air emission changes from its permit limits triggered the New Source Review (“NSR”) requirements under Regulation 1125 because of “significant” increases in Sulfur Dioxide (“SOx”) emissions. The NSR also may include the application of the standards for Prevention of Significant Deterioration (“PSD”) in air quality, as established in Subsection 3 of Regulation 1125. PSD required the Applicant and the Department to conduct air quality modeling, and the use of Best Available Control Technology (“BACT”) for its increased SOx emissions. The Department’s experts determined Applicant’s Project satisfied the National Ambient Air Quality Standards (“NAAQS”) for ozone and PM, particularly since the Facility is located in an ozone and PM non-attainment area, as determined by the United States Environmental Protection Agency (“EPA”). The Department’s experts also determined that the Applicant’s June 2006 installation of a Wet Gas Scrubber on the FCU at a cost of approximately \$200 million satisfied the BACT requirement for the Project under PSD NSR.

² The Department established capacity limits of 191,000 barrels per day (“bpd”) for the crude unit and 57,100 bpd for the FCU.

The proposed equipment changes at the FCU also would have caused Premcor to undergo NSR for NO_x and PSD for carbon monoxide (“CO”) because these emissions would increase above the existing permit limits by amounts that would have triggered these permit requirements. Consequently, Premcor elected, pursuant to subsection 1.8 of Regulation 1125, to limit its emissions of NO_x and CO in a federally enforceable permit in order that the application would not trigger the more stringent regulatory requirements of a NSR for NO_x or a PSD analysis for CO. For NO_x, Premcor agreed to restrict FCU emissions to 689.8 tons per year, as opposed to the 780 tons per year potential to emit calculated in the application. Premcor also agreed to restrict FCU CO emissions to 694.4 tons per year, as opposed to the 856.1 tons per year potential to emit calculated in the application. The Applicant’s election to reduce these pollutants’ permit limits is allowed by DRGCAP, which also allows the Department to impose the more stringent regulatory requirements of NSR for NO_x and PSD for CO for a violation of these pollutants’ limits, as established by Premcor’s election.

The Project also triggered an extensive analysis for PM because EPA has classified all of Delaware as within a PM_{2.5} non-attainment area. Based upon their analysis and review of recent emission changes at the Facility, the Department’s experts determined that the Project’s air quality impacts would reduce filterable PM_{2.5} by at least 1.1 tons per year from a representative baseline period. The Applicant also will offset the Project’s 225.9 TPY SO_x increase with a 5.65 TPY decrease in PM_{2.5} emissions, which is an acceptable offset under the EPA’s 40 to 1 offset ratio. This reduction was achieved when the Facility installed Wet Gas Scrubbers on the FCCU and the FCU.

The Department’s review is also subject to satisfying the standards imposed by the federal Clean Air Act and EPA regulations issued pursuant to the Clean Air Act. Together, the federal and state regulatory requirements are complex, and impose the requirement of conducting

extensive computer modeling of air quality and calculating the changes in air emissions that have occurred in recent years.

AQMS sent the Applicant a deficiency letter on January 14, 2008 and upon receipt of additional information determined the application to be complete on February 11, 2008. The Department provided public notice of the application. AQMS prepared the draft permits for the remaining project for public comment on July 15, 2008 and the Department held a public hearing on August 18, 2008, which was continued on August 19, 2008 due to an administrative problem in there was no court reporter and the public in attendance objected to holding a hearing without one. Instead, the Department went forward with an informal workshop and made presentations and answered questions. The public hearing reconvened on August 19, 2008 with a court reporter. At the request of a member of the public, the public comment period for written comments was kept open until August 25, 2008. The Department received one addition public comment. At my request, AQMS prepared a technical response to the public comments, including from the Applicant, and a copy of the response is attached hereto and incorporated into this Report.

This Report considers the permit application, my research and review of relevant information in the Department's files and from information provided by the Department's experts, and the public comments in order to develop an administrative record for the Department's final decision by the Secretary of the Department.

II. SUMMARY OF THE PUBLIC HEARING RECORD

The public hearing record contains a seventy-six page verbatim transcript of the public hearing, which also includes the documents introduced in the record at the public hearing as exhibits. AQMS's representatives Ravi Rangan, P.E., Bruce Seltzer and Mohammed Majeed, Ph.D, P.E. provided the public hearing record with certain relevant documents that were

introduced as Department exhibits,³ including the Applicant's permit applications, the draft permits, the technical supporting memorandum, correspondence from the public, and the public notices. The Department's representatives also made a presentation, including on the extensive air modeling required for the PSD regulation. The Applicant made a presentation by Tom Godlewski, Applicant's Senior Environmental Engineer, and Andrew Woerner, Applicant's consultant from Environmental Resources Management, and Patrick Covert, Applicant's Health, Safety and Environmental Director.

The public comments were received from five members of the public, including two representatives of unions at the Facility who supported the Project and one worker who also supported the Project. The public comments that opposed the Project included comments on the frequency that the Facility operates under 'upset' conditions, which is when the Facility operates, but without complying with the limits in permits due to problems with the equipment. The comments questioned whether the Project should be approved when other portions of the Facility may need upgrades to reduce the frequency of upsets caused by equipment failures. Other public comments were on the air quality modeling and whether the Department has its own air monitoring station to supplement the air monitoring conducted by the Applicant. The Department's representatives answered this comment at the hearing by stating that the Department does own an air monitoring station near the Facility and that the air monitoring results are posted on the Department's web site.

³ The Department does not have an obligation to develop the public hearing record. Instead, the Department's public hearings provide an opportunity for the public to present comments to the Department before a final decision is made. The Department's AQMS prepared the draft permits for comment pursuant to the Department's procedures, but this tentative decision is subject to change after considering the public comments and AQMS recommends changes based upon comments received.

III. DISCUSSION AND REASONS

The Department reviews the pending permit application pursuant to its authority set forth in *7 Del C. Chapter 60 and Regulations Governing the Control of Air Pollution* (“Regulations”), *7 DE Admin. §§1100 et seq.*⁴ The public hearing raised only a few issues and the AQMS response document addresses in considerable detail the Premcor comments and written comments from John Nickle. Indeed, the Department’s experts accepted many of the changes in the proposed conditions that the Applicant proposed in its August 18, 2008 comments. I agree that these changes should be adopted and recommend that the final permits reflect the Premcor changes agreed upon by AQMS.

The remaining issues are proposed Condition 2.1.1 in the crude permit, which Premcor disputes AQMS’ interpretation of federal regulations at 40 CFR Part 63, Subpart CC. I find that AQMS’ reliance on the specific language in 40 CFR §63.180(d) is justified and appropriate. The federal regulations are clear on how equipment is to be classified as in Hazardous Air Pollutant (“HAP”) service, and the federal regulation provides a procedure for resolving disputes. I find that AQMS’ proposed condition properly determines whether equipment is to be considered in HAP service. I also note that it is Premcor’s burden to resolve any disagreement in the classification, which Premcor has not attempted in its application or in its comments. Thus, I recommend adoption of the AQMS proposed condition and rejection of Premcor’s suggested change.

The next area of disagreement was in the proposed Condition 2.1.21 of the FCU permit. AQMS agrees that the calculations should reflect moisture and excess air, but AQMS’ review of the revised calculations finds that the originally proposed limit should be retained. I agree with the AQMS’ expert assessment of the calculations and recommend no change from the draft permit.

⁴ The Regulations have not been totally codified in the Delaware Administrative Code.

The Premcor comment on proposed condition 2.1.2.2 to the FCU permit raises a challenge to the Department's regulation that basically allows the Department to require NSR under subsection 1.8 of Regulation 1125, which would apply the same NSR requirements for Premcor's failure to abide by a permit that was issued based upon not requiring Premcor to undertake the NSR requirements. Premcor essentially wants the ability to benefit now from not preparing a NSR permit application, but is unwilling to allow the Department to impose NSR requirements in the future if Premcor violates the permit.

First, the condition is based upon an existing Department's regulation, which was known to Premcor when it made its election to reduce its federal enforceable permit limit. Premcor should not be surprised by the permit condition. Second, the Department's regulation is reasonable in that the Department should be able to enforce its permits and deny a violator's benefit obtained by selecting an option to avoid NSR's requirements. The Department has the enforcement authority to revoke a permit, but this permit condition is less severe than revocation. Instead, this permit condition merely allows the Department the discretion in a possible future enforcement action to require NSR requirements even after construction has occurred. I find that there is a sound regulatory basis to condition a permit received after such an election, which condition will protect the environment and the public by placing the permit holder at risk for failing to comply with the terms of a permit obtained by avoiding the requirements of NSR. The Department must follow its regulations and Premcor has provided no good reason for the Department to entertain revising its regulation to accommodate Premcor's concern that it may have to comply with the NSR standards if it fails to abide by the terms of the permit. Thus, the proposed condition is consistent with the Department's regulations and is a reasonable method to ensure compliance and provides a valuable tool in any future enforcement action that the Department may decide to undertake.

The public comments from Mr. Nickle indicated a concern with the Facility's operations and the frequency of upset conditions when the Facility's emissions exceed the limits in a permit due to equipment malfunction, operator error or some other unforeseen reason. The fact is that problems will occur despite permits in place to safeguard the public and the environment. The only way to regulate conduct after a permit is issued is through effective enforcement action that sends an appropriate message to Premcor to improve its operations to avoid upset conditions as much as possible. The comments pointed out the problems with a boiler and questioned why this was not included in the upgrades. The Department should not engage in managing the Facility in deciding the specific investment in repairs and upgrades. Nevertheless, the Department is able to exert its regulatory influence to assess penalties and take other enforcement action as appropriate in order that problems get the attention they should and are not allowed to persist. The history of the Department's regulation of the Facility indicates that the Department has taken considerable enforcement actions to achieve results that have improved the environment and public health. Consequently, the Department will continue to rely on its enforcement authority and let the Applicant have the managerial discretion to identify the equipment that needs upgrading.

IV. RECOMMENDED FINDINGS AND CONCLUSIONS

Based on the record developed, I find and conclude that the record supports approval of the permit for the air pollution control equipment in the application. I recommend the Secretary adopt the following findings and conclusions:

1. The Department has jurisdiction under its statutory authority to make a determination in this proceeding;
2. The Department provided adequate public notice of the proceeding and the public hearing in a manner required by the law and regulations;

3. The Department held a public hearing in a manner required by the law and regulations;

4. The Department considered all timely and relevant public comments in making its determination;

5. The Department shall issue Applicant a permit, subject to reasonable conditions determined by DAWM and pursuant to the Regulations, to allow the construction and operation of the equipment; and

6. The Department shall provide notice of this action by mail or email on each person who requested to receive such notice, as shown on the public hearing sign in sheet or in written correspondence to the Department.

s/Robert P. Haynes
Robert P. Haynes, Esquire
Senior Hearing Officer

MEMORANDUM

TO: Robert Haynes

THROUGH: James D. Werner
Ali Mirzakhali, P.E.
Paul Foster, P.E.

FROM: Ravi Rangan, P.E.
Bruce Steltzer

SUBJECT: **Response Document Developed by the Air Quality Management (AQM) Section for the Public Hearing Held on August 19, 2008 for The Premcor Refining Group, Inc. Upgrade and Optimization Project (aka The Bin 1 Project)**

DATE: August 28, 2008

A public hearing was held on August 19th, 2008 to receive comment on The Premcor Refining Group Inc.'s (Premcor's) Upgrade and Optimization Project at the Delaware City Refinery.

Premcor submitted the Bin 1 Project application on November 30, 2007. AQM deemed the application as complete on February 11, 2008 and public noticed receipt of the application on February 17, 2008 thereby setting a target issuance date of November 11, 2008 for the draft PSD permits. While the Bin 1 project includes several components, one aspect of the crude unit optimization includes the installation of a Selective Catalytic Reduction (SCR) System for controlling nitrogen oxide (NO_x) emissions from two heaters of the crude unit. Permits for the 2 crude unit heaters were issued on May 14, 2007, because those permitting actions did not trigger additional review under the NSR program. AQM completed its technical and regulatory review of the remaining aspects of the upgrade and optimization project by July 15, 2008 and developed draft permits that were made available for public review. The purpose of the August 19, 2008 public hearing was to solicit comments from the applicant and members of the public. This memorandum provides AQM's responses to the written comments received from Premcor on August 18, 2008, its post hearing e-mail dated August 26, 2008 and Dr. John Nickle's comments dated August 25, 2008. Additionally, comments were made by several members of the public who attended the hearing. AQM has reviewed the hearing transcript and found no outstanding responses are required on its part.

Your patience in awaiting receipt of these responses is appreciated. I hope this information will assist you in reviewing the issues and making your recommendation to the Secretary.

Memorandum

**Response Document Developed by the Air Quality Management (AQM) Section
for the Public Hearing Held on August 19, 2008 for The Premcor Refining Group, Inc.
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Comment No.	Comment Source	Description of Comment	AQM Response
1	Premcor	Condition 1 of the draft Permit: <u>APC-81/0828-C(A2)(PSD-NSR)</u> should have stated that construction on the project must begin within 18 months and complete within a reasonable time frame instead of the approval expiring within 18 months from the date of permit issuance.	<p>In accordance with Section 3.15.2 of Regulation 1125, approval to construct a project which triggers PSD review shall become invalid if construction is not commenced within 18 months after receipt of approval. AQM will modify Condition 1 to read as follows:</p> <p><i>Approval to construct shall become invalid if construction is not commenced within 18 months after receipt of such approval, if construction is discontinued for a period of 18 months or more, or if construction is not completed within a reasonable time.</i></p>
2	Premcor	Condition 2.1.1 of the draft Permit: <u>APC-81/0828-C(A2)(PSD-NSR)</u> erroneously identifies 40 CFR Part 63 Subpart CC as applicable to all new components in light liquid and gaseous service. These Part 63 requirements are only applicable to components with a concentration of Hazardous Air Pollutant (HAP) greater than 5% by weight. In light of this, Premcor proposed the following language to replace the proposed language of 2.1.1: <i>2.1.1 The leak detection and repair requirements to control fugitive VOC emissions from the FCU shall be in accordance the requirements in 40 CFR 60, Subpart GGG/VV for VOC components in light liquid and gaseous service and in accordance with 40 CFR 63, Subpart CC for VOC components in light liquid and gaseous service with Hazardous</i>	<p>AQM disagrees. In accordance with the requirements in 40 CFR 63.640 (p), <i>After the compliance dates specified in paragraph (h) of this section equipment leaks that are also subject to the provisions of 40 CFR parts 60 and 61 are required to comply only with the provisions specified in this subpart.</i> AQM is cognizant of the fact that the applicability of 40 CFR Part 63, Subpart CC is contingent upon the equipment being in HAP Service. A piece of equipment is considered to be in HAP service if <i>that a piece of equipment either contains or contacts a fluid (liquid or gas) that is at least 5 percent by weight of total organic HAP's as determined according to the provisions of §63.180(d) of subpart H of this part and table 1 of this subpart.</i> The provisions of §63.180(d) of subpart H also specify how to determine that a piece of equipment is not in organic HAP service. The methodology to determine whether a piece of equipment is in HAP service is found in 40 CFR 63.180 (d). In accordance with paragraph d(1) of this section,</p>

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		<p><i>Air Pollutant (HAP) concentrations greater than 5% by weight.</i></p>	<p><i>Each piece of equipment within a process unit that can reasonably be expected to contain equipment in organic HAP service is presumed to be in organic HAP service unless an owner or operator demonstrates that the piece of equipment is not in organic HAP service. For a piece of equipment to be considered not in organic HAP service, it must be determined that the percent organic HAP content can be reasonably expected not to exceed 5 percent by weight on an annual average basis. For purposes of determining the percent organic HAP content of the process fluid that is contained in or contacts equipment, Method 18 of 40 CFR part 60, appendix A shall be used. Furthermore, paragraph d(2)(i) of this section provides that An owner or operator may use good engineering judgment rather than the procedures in paragraph (d)(1) of this section to determine that the percent organic HAP content does not exceed 5 percent by weight. When an owner or operator and the Administrator do not agree on whether a piece of equipment is not in organic HAP service, however, the procedures in paragraph (d)(1) of this section shall be used to resolve the disagreement.</i></p> <p>Premcor has not made such a determination in either its application or in its contention contained in the response document. Therefore, AQM will not change this condition.</p>
3.	Premcor	<p>The language in Condition 6.1 of the draft Permit: <u>APC-81/0828-C(A2)(PSD-NSR)</u> type is inconsistent with the agreed upon language used in recently issued permits, such as the PCUP permits and the TV permit. Premcor proposes that Condition 6.1 in the permit be replaced with:</p>	<p>AQM concurs.</p>

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		<p><i>6.1 Emissions in excess of any permit condition or emissions which create a condition of air pollution shall be reported to the Department immediately upon discovery and after activating the appropriate site emergency plan, in the following manner:</i></p> <p><i>6.1.1 By calling the Department's Environmental Emergency Notification and Complaint number (800) 662-8802, if the emission poses an imminent and substantial danger to public health, safety or the environment.</i></p> <p><i>Other emissions in excess of any permit condition or emissions which create a condition of air pollution may be called to the Environmental Emergency Notification and Complaint number (800) 662-8802 or faxed to (302) 739-2466. The ability to fax in notifications may be revoked upon written notice to the Company by the Department at its sole discretion</i></p>	
4.	Premcor	The language in Condition 6.3 of the draft Permit: <u>APC-81/0828-C(A2)(PSD-NSR)</u> type is inconsistent with the agreed upon language used in recently issued permits, such as the PCUP permits and the TV permit and should be made consistent.	AQM concurs.

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5.	Premcor	Condition 1 of the draft Permit: <u>APC-81/0829-C(A8)(PSD-NSR)</u> should have stated that construction on the project must begin within 18 months and complete within a reasonable time frame instead of the approval expiring within 18 months from the date of permit issuance.	See AQM's response to Comment No 1 above.
6	Premcor	Condition 2.1.1.1 of the draft Permit: <u>APC-81/0829-C(A8)(PSD-NSR)</u> changes the pollutant label from "VOC" to "Hydrocarbon" from previous revisions of the permit. Premcor also commented that the 0.14 lb/mmDSCF limit was based on backing out the methane concentration determined from a RM 18 stack test from the total organic or "hydrocarbon" compounds measured by USEPA Method 25A procedures. Therefore, Premcor contends that the change DNREC proposes from "VOC Emissions" to "Hydrocarbon Emissions" is inappropriate.	AQM concurs and will change the label to "non-methane hydrocarbons".
7.	Premcor	See Comment on Condition 2.1.1. 2 and a typographic error.	See AQM's response to Comment No. 2. AQM will correct the typographic error.
8.	Premcor	The 365 day rolling average NO _x concentration limit of 90 ppmvd @ 0 % O ₂ in Condition 2.1.2.1 of the draft Permit: <u>APC-81/0829-C(A8)(PSD-NSR)</u> has not been corrected for moisture or excess air. When corrected for moisture and excess air this value translates to 128 ppmvd @ 0 % O ₂ . Premcor also commented that it has completed an analysis required by the existing permit on approximately 6 months of 12-month rolling NO _x concentration (on	AQM revisited the calculations performed in its technical analysis and verified that the prescribed concentration based limit of 90 ppm was not corrected for moisture or excess air. When these corrections are made, the concentration based limit becomes 132 ppmvd @ 0 % O ₂ and not 128 ppmvd @ 0 % O ₂ as suggested by Premcor. However, this issue is rendered moot because AQM also reviewed the analysis required by the existing permit which has been completed by Premcor, and finds acceptable the limit of 118 ppmvd @ 0 % O ₂ on a 365-

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		a dry basis, corrected to 0% oxygen) data spanning from approximately November 2007 to May 2008 and proposed a limit of 118 ppmvd @ 0 % O ₂ on a 365-day rolling average basis based on this analysis.	day rolling average basis.
9.	Premcor	<p>Premcor does not believe Condition 2.1.2.2 of the draft Permit: <u>APC-81/0829-C(A8)(PSD-NSR)</u> is necessary for inclusion in the permit. As discussed further below, Premcor believes that any violation of the annual mass emission limitation is subject to review for enforcement action, the resolution of which would be determined based on the conditions leading to the violation of the limit.</p> <p>Further, the first sentence of draft Condition 2.1.2.2 does not fully reflect the NSR analysis completed in the application and reflected in the permit values. As allowed under R1125, Section 1.8, Premcor did propose an annual mass emission limit of 689.8 TPY for NO_x in the permit application. However, this limit was applied in conjunction with the application of available emission netting credits to prevent triggering the nonattainment new source review requirements of R1125, Section 2.</p> <p>The second sentence of draft Condition 2.1.2.2 states: “<i>the nonattainment new source review requirements of the Clean Air Act and the provisions of Regulation 1125, Section 1.8 shall apply to violations of the annual mass emission limitation in Condition 2.1.2.1.</i>”</p>	<p>Condition 2.1.2.2 was included in the permit because the company sought relief from triggering NA-NSR for NO_x emissions increases from the FCU. Premcor’s application indicates the FCU’s NO_x PTE will increase to 780 TPY after implementation of the upgrade and optimization project. This increase in emissions (i.e. 105.5 TPY over the baseline emissions of 674.5 TPY) would have triggered review under NA-.NSR. To gain relief from the applicability of NA-NSR, Premcor applied for a federally enforceable limit of 689.8 TPY. Engineering judgment suggests that in order to comply with such an enforceable limitation, certain parameters would have to be controlled that would in effect restrict the capacity of the source to emit NO_x. For example, compliance in this case could be achieved by controlling the FCU’s throughput or restricting its coke burn rate to some predetermined level. Section 1.8 of Regulation 1125 states: <i>Any stationary source that implements, for the purpose of gaining relief from Regulation 1125, Section 3, by any physical or operational limitation on the capacity of the source to emit a pollutant, including (but not limited to) 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 part of its design and the limitation or the effect it would have on emissions is enforceable, notwithstanding any emission limit specified elsewhere in the State of Delaware</i></p>

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	<p>R1125, Section 1.8 states: <i>“If a source petitions the Department for relief from any resulting limitation... the source is subject to review under Regulation 1125, Sections 2 and 3 as though construction has not yet commenced on the source or modification.”</i> R1125, Section 1.8 requires a review of Section 2 and 3 (NSR) applicability, but does not presume an outcome of the review. Premcor agrees that Section 1.8 is appropriate for foreseeable scenarios where the annual emission limit may be at risk of being exceeded. Further, Premcor believes that the conditions of R1125, Section 1.8 are sufficiently covered in the draft permit through condition 1.10 and that it is not necessary to restate in Condition 2.1.2.2.</p> <p>If the annual mass emission limit is exceeded due to an unforeseeable scenario, Premcor expects that a review for enforcement action would be initiated, the resolution of which would be determined based on the conditions leading to the violation of the permit condition. Premcor believes that it would be appropriate to resolve the application of any nonattainment new source review requirements in the context of the enforcement solution.</p> <p>The third sentence of Condition 2.1.2.2 in the draft permit references the application of the 51.6 TPY of NO_x emissions credits from the July 6, 2006 Agreement (Agreement) between DNREC and Premcor. However, the reference in the draft permit incorrectly refers to the credits as offsets.</p>	<p><i>Regulations Governing the Control of Air Pollution. If a source petitions the Department for relief from any resulting limitation described above, the source is subject to review under Regulation 1125, Sections 2 and 3 as though construction had not yet commenced on the source or modification.</i></p> <p>In accordance with Section 1.8 of Regulation 1125, “any physical or operational limitation on the capacity of the source to emit a pollutant, including (but not limited to) 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 part of its design and the limitation or the effect it would have on emissions is enforceable.” During its technical review of the application, AQM asked Premcor to explain what exactly it would do to the process so that it would operate in compliance with the proposed limitation. Premcor responded that compliance would be verified by a CEMS. While AQM accepts the fact that a CEMS would be suitable to monitor compliance, it does not by itself restrict the capacity of the source to emit a pollutant, which also should be made enforceable. Because AQM cannot issue a permit absent such a limitation, AQM’s only resort was to condition the permit in this manner. AQM concurs with Premcor that Condition 1.10 restates the requirements of Condition 2.1.2.2 and therefore will delete Condition 1.10.</p> <p>AQM also agrees with Premcor with respect to the third sentence in Condition 2.1.2.2 and will replace “offsets” with “netting credits”.</p>
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		<p>The Agreement specifically allows retention of some of the emissions reductions required under the Agreement for use in either netting or offsetting. Premcor has utilized these credits as part of the <i>netting</i> process for the UOP. Further, it is Premcor's intention to utilize the remaining credits for netting of future projects as well, and therefore, Premcor has updated the netting table of refinery projects to reflect the full amount of credits allowed under the Agreement (250 TPY NO_x). If the third sentence of Condition 2.1.2.2 is retained in the final permit, the word "offsets" should be replaced with "netting credits" for clarity.</p>	
10.	Premcor	<p>In Conditions 2.1.3.4 and 5.6.4, the Department has proposed to establish a PM_{2.5} limitation of 11.25% of filterable PM₁₀, compliance to which is to be demonstrated by "testing in accordance with a protocol approved by the Department."</p> <p>In response to a series of discussions with the Department on PM_{2.5} issues, Premcor submitted via email (from Thomas S. Godlewski, Jr., Premcor to Ravi Rangan, DNREC) evaluations of PM_{2.5} reductions which were achieved due to the installation of the wet gas scrubbers at the FCU and FCCU units at the refinery. As you know, no testing data exists to precisely quantify these emissions. At present, the EPA has not published any approved test methods for PM_{2.5}. Furthermore, due to the high moisture present in both of the wet gas scrubber stacks, no test method is known which</p>	See AQM's response to Comment No. 23.

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	<p>can quantify these emissions.</p> <p>The estimates given, as stated in the emails, were intended to estimate the magnitude of PM_{2.5} reductions achieved via the installation of the wet gas scrubbers at the FCU and FCCU units. The figures presented were based on a very limited amount of data available relative to the PM_{2.5} fractions of the particulate loading to the <i>inlet</i> of the wet gas scrubbers and cannot reliably be utilized to establish permit limits on the <i>outlet</i> of the control devices. The purpose of these submittals was to show that in the worst of cases (i.e., with the most conservative of estimates of the control devices preferentially removing larger particles over small ones), emission reductions would be still be more than enough to provide offsets as required by the new PM_{2.5} nonattainment rules for the UOP. The potential to emit PM_{2.5} cannot be properly established until test data is obtained via an EPA approved test method.</p> <p>Additionally, Premcor is not aware of any methodology that will allow for the determination of particle size in a wet gas scrubber stack. As such, it is unclear how we will be able to comply with Condition 5.6.4 absent any known test method. As explained above, Premcor performed a conservative qualitative evaluation for regulatory evaluation purposes. The evaluation was not performed for the purpose of establishing permit</p>	
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		limits.	
11.	Premcor	See Comment on Condition 2.1.2.2	See AQM's response to Comment No. 9
12.	Premcor	Proposed adding to the end of the requirement in Condition 2.1.5.3 the phrase " <i>as measured on a one minute average basis</i> " to be consistent with the recently issued Title V operating permit for the unit (AQM-003/00016 – Part 2, Condition 3, Table 1(da)(5)(ii)(B))	AQM concurs.
13.	Premcor	Typographic errors in numbering Conditions 2.1.9 and 2.10	AQM will make the necessary corrections.
14.	Premcor	Conditions 2.1.10, 4.1 and 5.8 impose new emissions limitations and monitoring/testing requirements for Reduced Sulfur Compounds (RSC). RSCs are classified as a hazardous air pollutant (HAP) and governed by the MACT standards of 40 CFR 63. Because the MACT provisions are applicable and the proposed concentration limits correspond to a fraction of a ppmv, Premcor has proposed that rather than state emission limitations for RSC, it is more appropriate to state the MACT I requirements Section 3, Operational Limitations of the permit.	AQM concurs and will incorporate the MACT 1 requirements in Condition 3.9 of the proposed permit.
15.	Premcor	This condition erroneously refers to Condition 6.2. The correct reference should be Condition 5.2.	AQM concurs.
16.	Premcor	This condition erroneously retains a reference to "after initial startup of the WGS". Premcor proposes this reference to be changed to " <i>after construction authorized by this permit is</i>	AQM concurs.

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		<i>completed</i> ".	
17.	Premcor	<p>Condition 5.5 specifies the QA/QC procedures for the NO_x CEMS as those contained in 40 CFR 75. Part 75 applicability to the FCU COB is contingent upon the FCU COB's inclusion in the NO_x Budget Program. The NO_x Budget Program was to terminate at the end of 2008 to be replaced by the EPA's proposed Clean Air Interstate Rule (CAIR). The status of CAIR is now uncertain due to the DC Circuit Court's overturning of CAIR.</p> <p>As a result of the uncertainty of the future appropriate standard for the NO_x CEMS at the FCU, Premcor proposes adding the following addition to Condition 5.5:</p> <p><i>The QA/QC procedures for the NO_x CEMS shall be established in accordance with the procedures in Appendix B of 40 CFR Part 75 to meet the requirements of the NO_x Budget Trading Program contained in DNREC Regulation 39 (Nitrogen Oxides Trading Program). If at a future date the FCU COB is no longer an affected source under DNREC Regulation 39, the appropriate procedures governing the QA/QC of the CEMS shall be those set forth in Appendix F of 40 CFR 60.</i></p>	AQM concurs.
18.	Premcor	Condition 5.6 requires performance testing for PM to be conducted on an annual basis. Premcor understands that the PM pollution control device	AQM concurs.

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		(the Belco prescrubber) is still a relatively new operation and there is at present limited performance testing data available to ascertain the performance on a long term. Premcor would request that a clause be added to this condition allowing Premcor to petition the Department for less frequent testing if future data shows that testing on an annual basis to be unwarranted.	
19.	Premcor	Condition 6.1.11 incorrectly references Condition 3.2. The correct reference is Condition 3.5.	AQM concurs.
20.	Premcor	See comments on Condition 6.1 of the Crude Unit	AQM concurs.
21.	Premcor	This condition incorrectly references Condition 6.1 (twice). The correct reference is Condition 7.1.	AQM concurs.
22.	Premcor	This condition incorrectly references Condition 3.1.1. The correct reference is Condition 3.1.	AQM concurs.
23.	Premcor	In its post hearing e-mail correspondence dated August 26, 2008, Premcor proposed to conclude that all PM ₁₀ for the project is PM _{2.5} .	AQM finds this proposal to be acceptable. AQM has verified the PCUP baseline PM ₁₀ emissions to be 972.9 TPY. Since the PCUP permit limit was set at 203 TPY, there was a net reduction of 769 TPY. Engineering analysis of stack test results has shown 49 % of total PM to be PM _{2.5} . This would mean 476.7 TPY of FCCU PM emissions is PM _{2.5} and the remaining 495.9 TPY is non PM _{2.5} . Wet gas scrubber efficiency of particles greater than 2.5 microns is virtually 100 %. Therefore, it is reasonable to conclude that 273 TPY reductions of filterable PM _{2.5} resulted from the PCUP. When 218.7 TPY reductions of condensable PM (all of which is considered to be PM _{2.5}) is factored in, the total reductions becomes 491.5 TPY which is greater than the project related

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			increases of 28.3 TPY PM ₁₀ /PM _{2.5} as shown in Table 4-9 of the application.
24.	Dr. Nickle	The refinery continues to violate Delaware's environmental laws, most recently with flaring incidents, and, even the evening of the hearing, releases of unscrubbed and harmful flue gases from the FCCU, resulting in enormous quantities of sulfur dioxide being released into the air.	AQM does not find the ongoing incident involving the carbon monoxide boiler of the FCCU to have any bearing on this PSD permitting exercise. However, it will investigate the incident in accordance with its standard enforcement practices.
25.	Dr. Nickle	DNREC's modeling of sulfur dioxide levels was based on the emissions from the refinery units operating in compliance with their permits. There was no modeling for a "worst case" where one or more of the wet gas scrubbers is not removing sulfur dioxide. As such the public has no assurance that the refinery will not exceed the SIL, especially for the 24-hour period, where they are already very close to the SIL, according to the model.	AQM modeled the emissions increases associated with the Bin 1 project with 2 objectives. The first objective was to ensure the anticipated emissions increases would not result in a violation of the NAAQS (Table 22 of AQM's Technical Memorandum). Secondly, in accordance with the PSD program, the incremental increase in ambient air concentrations of the pollutant subject to PSD review must be below significant impact levels (Table 17 of AQM's Technical Memorandum). If the incremental increase in the ambient air concentration is below the SIL, then no further modeling is required. On the other hand, if the incremental increase in ambient air concentrations exceeds the SIL a full impact analysis is required. In this case, AQM is satisfied there will be no violations of the NAAQS or increase above the SILs as a result of the proposed SO ₂ emissions increase. With regard to Dr. Nickle's concern over a "worst case" scenario where one or both scrubbers are not removing sulfur dioxide, AQM notes that its existing permits have been developed to specifically address this issue by requiring Premcor to implement turndown measures to counter such an eventuality. NAAQS exceedances that occur, despite incorporating the turn down,

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			will be subject to enforcement action.
26.	Dr. Nickle	It is imprudent for the State of Delaware to grant additional permits to this refinery, who has demonstrated their inability to comply with the law by properly maintaining and operating their existing equipment. It should be a matter of principle not to reward poor performance.	AQM notes and appreciates Dr. Nickle's concern regarding any facility's demonstrated track record with respect to compliance with regulatory requirements. In the case of this project, AQM notes that it will not only result in enhanced flexibility of operations and efficiency improvements, but it also includes pollution control elements that will help the refinery with its compliance efforts. Given the fact that any modification, including those with environmentally beneficial consequences, requires permits, adherence to Dr. Nickle's suggestion would appear to be counter-productive.
27.	Dr. Nickle	The State should insist that the refinery operate in compliance with the laws for a period of one year before any new permits are considered.	See AQM's response to Comment 26 above.
28.	Dr. Nickle	Since the input at the public hearing was based on draft permits, if DNREC wishes to make any of these changes to the draft permit, then another public hearing must be held to seek comment on the revised permit.	As with AQM's response to Comments 26 and 27, AQM is reluctant to recommend another round of solicitation of comments.

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Bruce A. Steltzer