# MEMORANDUM

**TO**: Paul Foster, P.E.

**FROM**: Ravi Rangan, P.E.

**SUBJECT**: Delaware City Refining Company
**Permit: AQM-003/00016 – Part 1 (Renewal 1)(Revision 5) Proposed**
**Permit: AQM-003/00016 – Part 2 (Revision 5) Proposed**
**Permit: AQM-003/00016 – Part 3 (Renewal 1)(Revision 5) Proposed**

**DATE**: March 21, 2011

**Background**:

Delaware City Refining Company owns and operates a petroleum refinery (NAICS 32411) located in Delaware City, Delaware. The refinery has the potential to emit greater than 25 tons per year $NO_x$ and VOCs, greater than 100 tons per year $SO_2$, greater than 100 tons per year CO, and greater than 25 tons per year hazardous air pollutants (HAPS) listed in Section 112(b) of the CAAA of 1990. Therefore, the refinery is subject to 7 **DE. Admin. Code 1130.**

**Application Information**:

Historically, this permit was structured in 3 parts because of the inherent complexity of this facility, the fact that the majority of process units are major sources in and of themselves, and finally because each part was developed independently. However, since all 3 parts have been issued and because all 3 parts have the same general requirements, it now makes sense to consolidate them into one permit having a common general section while maintaining the former partial structure for the unit specific emissions requirements. Accordingly, the attached proposed operating permit satisfying the requirements of 7 **DE Admin. Code 1130** covers all the emission units formerly identified in parts 1, 2 and 3 within the body of a single permit.

The DCR was owned by Star Enterprises at the time the title V application was submitted to the Department. On July 1, 1998, Shell Oil Products (Shell), Saudi Refining, Inc., and Texaco Inc. formed Motiva, combining the major elements of Shell's and Star's eastern and southern refining and marketing businesses. The ownership of Star Enterprise was transferred to Motiva L.L.C. on October 1998. In October 2001, Texaco Inc. divested itself of its share in the Company. Motiva sold the DCR to The Premcor Refining Group, Inc. on May 1, 2004. On September 1, 2005, Premcor, in turn, was acquired as a wholly owned subsidiary by The Valero Energy Corporation (Valero). The Delaware City Refining Company (DCRC) acquired the DCR from Valero on May 31, 2010. Prior to reaching agreement with DCRC for the sale of the refinery, Valero (the previous owner) initiated a temporary cessation of operations at the refinery and proceeded to de-inventory several of the process units pending implementation of a program to permanently cease operations. DCRC is currently undergoing maintenance in order to ensure the safe and environmentally protective re-start of refinery operations.

On May 31, 2010, the Delaware Department of Natural Resources and Environmental Control (DNREC) and DCRC entered into an agreement to address and clarify certain environmental regulatory considerations relevant to DCRC's acquisition and operation of the DCR.[1] Section I of this agreement provides for the establishment of a facility wide NOx emission limitation for all

[1] Agreement governing the Acquisition and Operation of Delaware City Refinery dated May 31, 2010 herein after referred to as the DCRC Agreement.

permitted sources at the DCR. In order to implement the facility wide NOx emission limitation for all permitted sources at the DCR ("the NOx cap"), DCRC was required to submit a permit application for a significant permit modification to its TV permit by August 15, 2010. DCRC's permit application dated August 15, 2010 was received by the Department on August 17, 2010 and considered to be timely. The application was signed by James Fedena, Sr. Vice President, HSE who is also the designated Responsible Official as defined in 7 **DE Admin. Code 1130**. The Department's Division of Air Quality (DAQ) completed its review of DCRC's application and developed a draft permit which was public noticed on Sunday, January 30, 2011 in the News Journal and the Delaware State News. The 30 day public review period ended on March 1, 2011. DAQ has received comments on the draft permit from DCRC. This memorandum addresses the comments received in Table 1 below.

**Recommendation**:

It is recommended that the following attached "Proposed" permits be reviewed and submitted by e-mail to the EPA Region III Office.

- **Permit: AQM-003/00016- Part 1(Renewal 1)(Revision 5) Proposed**
- **Permit: AQM-003/00016- Part 2 (Revision 5)**
- **Permit: AQM-003/00016- Part 3 (Renewal 1)(Revision 5) Proposed**

EPA has 45 days from submission to either approve or deny the "Proposed" permits.

| Part/s | Comment Reference | Comment Summary | Responses/Action By AQM |
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| All | NOx Cap Comments | As the Department is aware, DCRC's primary objective in submitting the application for modification of the Title V permit is to establish a facility-wide NOx emissions cap and plantwide applicability for nitrogen dioxide ("$NO_2$"). Consistent with federal regulatory standards governing PALs, and the Department's prior practice regarding facility-wide emission caps, DCRC has proposed to structure the permit to establish aggregate NOx emission limits for NOx and $NO_2$ for all sources at the Refinery emitting such pollutants and identified in the Title V permit. As discussed in the Agreement, the specific NOx emissions cap levels were identified to ensure that DCR would limit total emissions consistent with alternative, unit-specific standards identified for individual equipment at the Refinery, either through a state regulation or other provision/agreement governing NOx emission standards, while affording DCRC flexibility to secure such reductions throughout the refinery. In fact, consistent with the Agreement, in proposing the NOx emissions cap for the refinery, DCRC has identified a facility-wide cap that is materially less than the PAL baseline emission rate authorized under federal regulations. This differential is clearly reflected in the difference between the proposed NOx emissions cap and the proposed $NO_2$ PAL limit. In these ways, applicability of the facility-wide NOx emissions cap will afford substantial environmental benefits.<br><br>In order to secure these environmental benefits while maintaining the economic viability of the Refinery, DCRC requires maximum flexibility in securing the relevant emission reductions or otherwise limiting NOx emissions from various sources throughout the Refinery. Federal regulations recognize the need and opportunity for flexibility in creation of a PAL by specifically limiting the circumstances under which individual emission limitations for the relevant pollutant must be preserved in the permit in the face of a PAL. Similarly, the Agreement contemplates that individual NOx emission limitations would be maintained in the permit for specific units only under specific circumstances. Further, the Agreement affords the Department discretion as to whether to preserve individual emission limitations if existing regulatory requirements do not otherwise mandate the preservation of such limits. Given the mutual objectives of the parties in executing the Agreement and designing the facility-wide NOx emissions cap, DCRC requests that the Department exercise its discretion and not maintain individual NOx emission limitations except where otherwise required by law. | As a general comment, the Department concurs that DCRC's primary objective in submitting the application for modification of the Title V permit is to establish a plantwide applicability limit for NOx emissions (aka as the NOx PAL) from all NOx emission sources at the DCR facility. As described in DAQ's technical memorandum (Document # crr11005.doc) in support of the draft permit, DAQ found DCRC's proposed NOx PAL to be lower than the NOx emissions during the selected baseline period of March 2006 through February 2008. Furthermore, DAQ found the proposed baseline period to be acceptable because this period was representative of normal refinery operations. Therefore, being cognizant of DCRC's need for operational flexibility, DAQ found the proposed NOx PAL to be an acceptable alternative to the existing unit specific emissions limitations. However, DAQ finds it necessary to provide the following clarifications:<br><br>1. Compliance with the NOx PAL set out herein shall constitute compliance with Sections 2 and 3 of 7 **DE Admin. Code 1125,** with respect to NOx.<br><br>2. Compliance with the NOx PAL serves as an alternative compliance method to satisfy the unit specific emission standards prescribed in 7 **DE Admin. Code 1142**.<br><br>3. The NOx PAL shall include NOx |

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| | | DCRC recognizes that existing federal standards require that DCR's Title V Permit must reflect individual NOx emission limitations to the extent specifically included in promulgated regulations that specify emission limitations applicable to individual emission sources, such as federal New Source Performance Standards or Maximum Achievable Control Technology Standards, notwithstanding creation of the NOx emissions cap. However, as demonstrated in the Application, very few NOx-related emission limitations currently included in the Title V permit are mandated by such applicable regulatory standards.<br><br>Relative to prior New Source Review ("NSR") permitting, the requirements to maintain specific NOx emission limitations under federal standards are quite limited. First, to the extent that a NOx emission limitation was accepted by a prior owner/operator of the Refinery in order to avoid applicability of NSR standards, federal regulations clearly state that such limitations need not be preserved in the permit after creation of a facility-wide limitation for such pollutant in accordance with PAL standards. Specifically, Section 51.165(f)(1)(iii)(C) of the federal NSR regulations provides that a facility subject to an PAL may relax enforceable emission limitations that the facility had accepted to avoid applicability of nonattainment-NSR requirements. 40 C.F.R. §51.165(f)(1)(iii)(C). (*See also* 40 C.F.R. §51.165(f)(1)(iv)).<br><br>DCRC recognizes that the Agreement nonetheless affords the Department discretion to preserve emission limitations that had been accepted by the Refinery to avoid NSR applicability. Once again, however, DCRC emphasizes that this provision of the Agreement merely affords the Department the discretion to maintain such emission limitation; the Agreement (nor, as discussed above, applicable regulations) does not require that the Department preserve such limitations in DCR's Title V Permit. Because of the parties' multiple objectives for establishing the NOx emission cap for the Refinery, DCRC respectfully requests that the Department exercise its discretion not to preserve such permit limits in this case.<br><br>Further, even to the extent that the Department determines to preserve NOx emission limitations previously accepted by an owner/operator of the Refinery to avoid NSR applicability, it is important to recognize that the annual mass emission limit rate is the only limitation relevant to NSR avoidance. Specifically, because NSR applicability results from a modification causing a | emissions from all NOx emission sources at the DCR facility inclusive of insignificant emissions units.<br><br>4. Regulation No. 1125 sets forth the requirements for preconstruction review with specific provisions to determine major source NSR and LAER applicability contained in Section 2 of this Regulation. According to Regulation No. 1125, Section 2, provisions apply to any proposed new major stationary source or any proposed major modification. Section 2.2.1 defines a major stationary source for the refinery as any stationary source with the potential to emit over 25 tons per year VOCs or NOx emissions. Regulation 1125 defines "stationary source" as any "building, structure, facility, or installation" and that phrase is defined under Section 1.9 as all the pollutant emitting activities associated with the industrial category of that source. In addition, Section 2.2.4 further defines "installation" to mean any individual process or equipment.<br><br>Based on these definitions, a project at this facility can trigger Section 2 requirements in one of three ways. First, since the refinery is already a major stationary source for VOCs and |

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| | | significant net emission increase, and such significant net emission increase levels are defined on a ton-per-year basis, emission limitations necessary to avoid NSR are necessarily prescribed on a tons-per-year basis. Therefore, to the extent that a prior permit action included a determination by the Refinery owner/operator to accept an NOx emission limitation to avoid NSR applicability, and to the further extent that such same permit action may have also included short-term NOx emission limitations, only the annual (tpy) NOx emission limitation should be regarded as relevant to NSR avoidance and therefore maintained (if at all) in the Title V permit.<br><br>Second, to the extent that the Department determines to include a NOx emission rate for a specific source in the Title V Permit because the Department identifies such limitation as resulting from the application of NSR to the prior construction or modification of such source, once again, any such limitation should be limited to the emission rate that corresponds to the NSR determination. In the case of NSR applicability for NOx emissions in the ozone nonattainment area, lowest achievable emission rate ("LAER") is defined and determined as an *emission rate* for the relevant source. In such NSR cases, a single short-term NOx emission limitation would correspond to the LAER determination. Any additional NOx emission limitations that may have been included in such prior permitting actions, including any other short term emission limitations and any annual or other long term emission limitations, necessarily do not correspond to LAER requirements. Even to the extent that an annual limitation was calculated as an extrapolation of the short-term LAER emission rate for the source, the extrapolated annual value nonetheless does not itself constitute a LAER value. Accordingly, to the extent that the Department determines to preserve within DCR's Title V permit, a NOx emission limitation for a specific source, on the basis that the Department determines that a specific NOx emission rate had previously been identified for such source as LAER, only the short-term LAER-specific emission limitation should be preserved in the final permit in the face of the NOx emissions cap.<br><br>In several instances, the Department explains, within its Review Memorandum accompanying the Draft Title V Permit, that the Department has proposed to maintain certain NOx emission limitations within the Title V Permit because the Department has determined that such limitations arose from a prior agreement between the Department and a former owner/operator of the Refinery, in most cases to resolve compliance claims raised by the | NOx, Section 2 could apply if the proposed modifications result in a significant net increase in emissions (more than 25 tpy of VOCs and NOx) on a plantwide basis. Second, the refinery can trigger LAER if any individual process, which by itself is major, is modified in a way that results in a significant net increase in emissions for that process. Lastly, LAER can be triggered if a major source is reconstructed or built new. DNREC has reviewed the proposed modifications to the refinery and determined that they will not cause a significant net increase in emissions on a plantwide basis. Since the proposed modifications will not result in a significant increase in plantwide emissions, LAER is not required for the entire facility. The level of PAL adopted in this permit is reflective of all the reductions relied upon in the SIP and is below the appropriate historic baseline. The permit retains all existing NSPS, BACT, LAER, and RACT limits and requirements. The plantwide permit does not exempt the source from any future applicable NSPS and MACT. By establishing a plantwide applicability limit for NOx, the Department is treating the entire refinery as a source and subjecting new installations |

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| | | Department. As the Department is aware, neither federal or state regulations, nor the Agreement, contemplate that provisions of any compliance agreement between a state agency and a regulated entity must be preserved upon issuance of a facility-wide emissions cap covering such source. Therefore, inclusion of any such emission limitation in the Title V permit would be inconsistent with governing federal and state requirements and the intentions of the parties in executing the Agreement, and would unnecessarily restrict the operational flexibility required by DCRC to achieve the required limitations on NOx emissions while maintaining the economic viability of the Refinery. Moreover, in reviewing the prior enforcement agreements referenced by the Department, it appears that the prior refinery owners/operators did not agree or otherwise admit that the underlying allegations raised by the Department corresponded to a violation of NSR requirements. Further, it does not appear that such agreements included any specific LAER determination in accordance with federal standards. Therefore, any NOx emission limitation reflected in any such agreement would not constitute an actual NSR determination, nor acceptance by the Refinery of an emission limitation to avoid NSR.<br><br>To the extent that the Department is otherwise concerned that removal of these emission limitations from the Title V permit would effectively eliminate the environmental benefits secured by the Department through a prior enforcement agreement, the basis for calculation of the NOx emissions cap in this case ensures preservation of the environmental benefits. Specifically, implementation of emission controls at the Refinery required by previous settlement agreements, consent agreements or consent decrees necessarily resulted in the reduction of NOx emission rates at the Refinery. In calculating the baseline NOx emissions rate for purposes of establishing the NOx emissions cap and PAL, the effects of the emission reductions resulting from these prior agreements are necessarily reflected in the reduced NOx emission rates experienced by the Refinery since implementation of these prior agreements. In other words, the prior facility-wide NOx emissions for the Refinery, upon which the NOx emissions cap and $NO_2$ PAL are based, are lower than they otherwise would have been because of implementation of the agreements previously executed by the Department and prior owners/operators of the Refinery. Because these prior reductions have reduced the baseline for the Refinery, the environmental benefits resulting | to minor new source review requirements only with respect to NOx emissions.<br><br>The provisions of Regulation 1125 (LAER/EOP and PSD) will not apply so long as the cap limits are not exceeded. Any proposed changes that would cause an exceedance of the emission cap will require a revision to the permit under Regulation 1125. Regulation 1102, and 1125 Section 4, Minor New Source Review, will continue to apply to emission units that are proposed modifications or to proposed new emission units to be constructed with potential to emit NOx.<br><br>5. With regard to DCRC's comment requesting the Department to exercise its discretion and not maintain individual NOx emission limitations except where otherwise required by law, DAQ has the following response:<br><br>i) DAQ had incorporated unit specific emission limits for various unit operations (including the crude unit heaters 21-H-701 & 21-H-2, FCU COB 22-H-3,FCCU COB 23-H-3, reformer heaters 25-H-401 and 25-H-402, Boilers 80-1, 80-2, 80-3 and 80-4, and CCUs I and II 84-1 and 84-2) in past |

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| | | from these prior settlement agreements/consent agreements are preserved through the NOx emissions cap. By eliminating the specific emission limitations or other standards, the Title V Permit merely achieves the second objective of the parties – affording DCRC operational flexibility to achieve the reduced NOx emission rates contemplated by the NOx emissions cap and $NO_2$ PAL.<br><br>Once again, it is critical that the dual objectives of the NOx facility-wide emissions cap be recognized in determining to include any source-specific NOx emission limitations for the Refinery. The aggregate, facility-wide NOx emissions cap can ensure that total NOx emissions from DCR are maintained at levels that achieve at least equivalent emission reduction as otherwise contemplated by outstanding regulatory or other applicable standards. However, fundamental to the objectives of the Agreement, DCRC can only secure such significant reductions and limit NOx emissions in accordance with the cap to the extent that the Refinery maintains maximum flexibility to achieve such reductions in an efficient and effective manner throughout the refinery. Each additional unit-specific standard directly interferes with this objective. Therefore, in accordance with federal and state regulatory standards, individual NOx emission limitations should be preserved in the Title V permit for the Refinery, following promulgation of the NOx emissions cap, only to the extent necessary to comply with federal or state standards or to satisfy critical Department objectives reflected in the Agreement.<br><br>DCRC proposed through the Application to modify the Title V permit by eliminating certain existing permit-based NOx emission limits and operational requirements at a number of individual emission units. DCRC prepared these proposals with the objective of ensuring consistency with federal rules concerning the types of emission limits and operational requirements that should be maintained in conjunction with application of a PAL. However, the Draft Title V Permit currently retains a number of these individual emission limits and operational requirements. In a number of instances, the Department's Review Memorandum states that removing certain NOx emission limitations or operational requirements from the Title V permit would contravene Paragraph 12 of the Agreement. However, as addressed below, for the majority of NOx emissions limits retained in the Draft Title V Permit (for which DCRC proposed removal from the permit), retention of the emission limits would not be consistent with the language or intent of the Agreement. | permitting actions . Such limits included short term rate based limits as well as long term mass emissions limits expressed as tons per rolling twelve months. DAQ concurs with DCRC that to the extent a NOx emission rate for a specific source in the Title V Permit was included because the Department identified such limitation as resulting from the application of NSR to the prior construction or modification of such source, such limitation should be retained in the TV permit. Consequently, DAQ is agreeable to removing the annual mass emission limitations and will retain the short term rate based limits in the TV permit.<br><br>ii) DCRC has also identified sources where DAQ had established short term rate based limits and long term mass emissions limits that were established in past permitting actions with the express purpose of avoiding triggering NSR and consequently the applicability of controls that would have been required had NSR not been avoided. DAQ concurs with DCRC |

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| | | In addition, as stated above, the provisions of Paragraph 12 of the Agreement are permissive and do not independently require the Department to preserve any NOx emission limitations if federal regulations do not otherwise require that such limits be included in DCR's Title V Permit. | that the annual mass emissions limit need not be preserved in the permit after creation of a NOx PAL. However, DAQ will retain the short term rate based limits. DAQ finds retention of the short term rate based limits to conform to good air pollution control practices because these units will be allowed to be run harder thereby affording the facility the operational flexibility it seeks without compromising environmental performance.<br>iii) In a similar vein, DCRC has identified limitations in the existing permit that stem from controls installed as part of past compliance agreements with former owners of the DCR. Again DAQ is agreeable to removal of the annual mass emissions limits but will retain the short term rate based limits.<br>6. As described above, because the NOx PAL serves the dual purpose of providing a vehicle for compliance with Sections 2 and 3 of 7 **DE Admin. Code 1125** and provides an alternative compliance mechanism for compliance with the unit specific emission standards in 7 **DE** |

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| | | | **Admin. Code 1142**, DAQ has added new provisions in the proposed permit addressing these issues. A new section ja provides the compliance requirements with the applicable requirements in 7 **DE Admin. Code** 1142. What is currently Section j in the draft permit will be renamed section jb and will prescribe the alternative compliance requirements in the form of the NOx PAL pursuant to the DCRC Agreement and a new Section jc will prescribe the applicable requirements to renew the NOx PAL.<br>7. DAQ's responses to DCRC's comments on the limits follow the same sequence and format as outlined in DCRC's letter dated 02.25.2011. |
| 2 | 1. Unit 21—Heater 21-H-701 | The current Title V permit includes NOx emission limits for this unit of 0.043 lb/mmBtu as a 3-hour rolling average, and 92.3 tons in any rolling twelve month period. DCRC proposed eliminating these emission limitations as unnecessary under federal PAL regulations. In response, the Department noted that the 0.043 lb/mmBtu emission limitation was based upon a non-attainment NSR permitting determination for 21-H-701, pursuant to which an NOx emissions limit of 0.043 lb/mmBtu was established as LAER for the source. The Department therefore proposed to retain within the Draft Title V Permit the NOx emission limit of 0.043 lb/mmBtu on the basis that this short-term emission limit reflects a LAER determination. DCRC does not oppose the Department's proposal to retain this emission limit in the Title V permit. However, rather than identify the short-term emission limit as 0.043 lb/mmBtu, consistent with the prior permitting determination, the Draft Title V Permit specifies the NOx emission limitation as 0.04 lb/mmBtu. While we recognize that rounding considerations would make these values almost | DAQ disagrees. While, the $NO_x$ limit of 0.043 lb/mmBtu was a limit that resulted from a past NSR determination in 1996 for 21-H-701, it was superseded as part of the Bin 1 project review where the 20 lb/hour combined limit for both 21-H-701 and 21-H-2 served as a surrogate for compliance with the old LAER limit for 21-H-701. Because 21-H-701 and 21-H-2 have a combined heat input of 750 mmBtu/hour, the 20 lb/hour combined mass emission limit is equivalent to 0.026 lb/mmBtu on an hourly average which is more stringent than the earlier LAER limit. Furthermore, the applicable limit of 20 lb/hour is |

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| | | equivalent, we believe that the specific emission limitation included within the Title V permit should be consistent with the prior permitting determination, and therefore that the Draft Title V Permit should be revised to identify the short-term NOx emission limitation for Unit 21 as 0.043 lb/mmBtu.<br><br>The Department, however, has also proposed to include in the Draft Title V Permit a ton per year (for any rolling twelve month period) NOx emission limit for 21-H-701 of 60.9 tons per year. To the extent that a prior NSR permitting process established as LAER an emission rate that the Department would retain in the Title V permit notwithstanding the NOx cap, nothing in the federal Clean Air Act or applicable Delaware regulations provides that any corresponding long-term emission limit is required under NSR. Moreover, the long term emission limit for 21-H-701 is reflected in the baseline NOx emissions rate for the facility, which, as demonstrated in the Application, is substantially greater than the NOx Cap requested in the Application. For this reason, the long term NOx emission limit for this unit is otherwise reflected in the NOx Cap established by the Draft Title V Permit. By contrast, inclusion of this limit in DCR's Title V Permit would be inconsistent with the parties' dual objectives of ensuring limited aggregate NOx emissions from the refinery while affording DCRC operational flexibility to pursue such emission limits. For these reasons, the long term NOx emission limit of 60.9 tons per year for this unit should be deleted from the Title V permit. | measured at the outlet to the SCR which serves as a common control device to both 21-H-701 and 21-H-2. Since both heaters operate all the time with the exception of periods of unit start up or unit shut down, DAQ will retain the short term limit of 20 lb/hour combined from 21-H-701 and 21-H-2 in the proposed permit. |
| 2 | 2. Unit 22—Fluid Coking Unit | The Title V permit identifies several NOx emission limits for the Fluid Coking Unit ("FCU") Wet Gas Scrubber ("WGS"). These limits include a concentration-based NOx emission limit of 152 ppmvd at 0% $O_2$ on a 24-hour rolling average, a concentration-based limit of 207 lb/hr during planned startup and shutdown events, and a long term emission limit of 689.9 tons per year. DCRC proposed through the Application to eliminate these emission limits because they were not based upon federal or state regulatory requirements, but rather were reflective of the design for the technology covered by the relevant construction permit. The Department, however, retained these emission limits in the Draft Title V Permit, indicating that these limits are necessary because they were taken into account in conjunction with the Department's evaluation of a previously issued construction permit. Specifically, the Department states that it previously determined that the relevant construction project involving the FCU (known as the "Bin 1" project) did not trigger NSR requirements based in part by imposing these NOx emission limits on the FCU through the construction permit. | DAQ agrees with DCRC with respect to its comment regarding the annual NOx mass emission limit for the FCU. However, DAQ disagrees with DCRC regarding the short term limits. Firstly, DCRC's contention that the Refinery has not undertaken the actions authorized by this construction permit is plainly incorrect. While DAQ extended the construction permit for the FCU Bin 1 Project because some aspects of the project remained uncompleted, other more relevant aspects were completed, which would have impacted the FCU's PTE. One such aspect of the Bin 1 project was the FCU's hot coke slide valve (HCSV) which |

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| | | Even assuming that the NOx emission limits were relied upon for the Bin 1 project to avoid NSR requirements, the Bin 1 permit is a construction permit. In fact, the Refinery has not undertaken the actions authorized by this construction permit.[2] Because the activity authorized by the Bin 1 construction permit was not performed at the Refinery, no construction or modification has occurred that otherwise may have triggered NSR. Therefore, any emission limitations reflected in this construction permit cannot currently be necessary to avoid NSR applicability. For this reason, these NOx emission limitations should not be included within the Title V permit for the Refinery. | was increased in size and Premcor, the former owner, obtained DAQ's approval to install an external stop on the HCSV to limit the FCU's coke circulation rate and consequently, its coke burn rate as a precautionary measure to restrict FCU emissions to then permitted levels prior to the issuance of the Bin 1 permit. So, while some aspects of the construction authorized by the Bin 1 permit were not completed clearly other aspects which affected pollutant emissions were completed. Therefore, DAQ reaffirms its earlier comment that the limits on the FCU were incorporated with the express purpose of limiting the FCU's PTE and thereby avoid triggering NSR provisions.<br><br>Secondly, the short term concentration based limit of 152 ppm @ 0 % $O_2$ on a 24-hour rolling average basis was derived based on the proper operation of the SNCR control device in the FCU COB. It neither makes good engineering sense nor does it conform to good air pollution control practices to delete this limit. DCRC certainly has the option to run the FCU harder thereby realizing the operational flexibility it desires, but by retaining the short term concentration based limit in the permit the environmental performance of the SNCR will not be compromised. |
| 2 | 3. Unit 23—Fluid Catalytic Cracking Unit | The draft Title V permit includes for the Fluid Catalytic Cracking Unit ("FCCU") a short term NOx concentration-based limit of 118 ppmvd at 0% $O_2$ on a 7-day rolling average basis, a long term NOx concentration-based limit of 98 | DAQ agrees with DCRC with respect to its comment regarding the annual NOx mass emission limit for the FCCU. However, DAQ disagrees with DCRC regarding the short |

[2] In April 2010, the Department extended the term of the Bin 1 construction permit through September 7, 2011.

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| | | ppmvd at 0% $O_2$ on a 365-day rolling average basis, and a long term mass-based limit of 719.5 tons per year on a 365-day rolling average basis. None of these emission limits should remain in the Title V permit.<br><br>The short term concentration-based limit and the long term mass-based limit originated from a prior agreement between Premcor and the Department. More specifically, the Department had apparently alleged that a previous owner of DCR, Motiva Enterprises, LLC ("Motiva"), failed to obtain an NSR pre-construction permit before instituting certain actions at the FCCU, and that Premcor's continued operation of the FCCU in this manner constituted a violation of Delaware Air Quality Regulations 1102 and 1125. In resolution of these disputed claims, and expressly without admitting liability or accepting NSR applicability for the FCCU, Premcor agreed, among other things, to undertake actions that would achieve the 118 ppmvd concentration based limit and the 719.5 TPY mass based limit (the "NOx Agreement")<br><br>In its Review Memorandum, the Department states that these two NOx emission limits allowed Premcor to avoid NSR requirements, and as such should be retained in the Title V permit. As explained above, however, Premcor specifically stated that it did not admit that its actions constituted violations of any air quality regulations or that it agreed to such limits to avoid NSR applicability. The limits did not constitute NSR determinations nor were they accepted by the Refinery owner to avoid NSR. Therefore, neither federal or state regulations nor the Agreement supports the inclusion in the Title V permit of the individual short term concentration-based limit or the long term mass-based limit for the FCCU.<br><br>With respect to the long-term concentration based limit of 98 ppmvd on a 365-day rolling basis, the Department stated in the Review Memorandum that this limit must be included because Premcor identified this emission level in its October 30, 2006 submittal to the Department and US EPA, pursuant to a federal Consent Decree filed in Civil Action No. H-01-0978 (D. Tex) on June 17, 2004. As noted previously, however, there is no statutory or regulatory basis to restate and incorporate, and thereby enforce through the Title V permit, provisions of a Consent Decree. As such, there is no basis in this instance for the Department to transform Consent Decree conditions that will ultimately expire into permanent operating permit conditions. | term limits. Firstly, as explained in DAQ's memorandum supporting the draft permit, the alleged NSR violation resulted in the FCCU NOx Agreement (FNA) with the previous owner, Premcor, whereby reductions were to be realized in 2 distinct phases. In phase 1, reductions were obtained by installing low-NOx burners in the FCCU COB followed by optimizing combustion parameters. Phase 1 was completed in 2007 and the anticipated reductions were realized. The FNA also provided a mechanism for the DCR to obtain additional reductions as part of Phase 2 of the agreement. The construction of controls required by Phase 2 have been substantially completed, but DCRC has indicated construction has not been completed and that it will not operate these controls. DAQ recognizes and accepts DCRC's position with respect to the Phase 2 controls. However, it disagrees with DCRC's contention that the concentration based emission limits should not remain in the TV permit. There are 2 concentration based limits in the draft TV permit which are 118 ppmvd @ 0 % $O_2$ on a rolling 7-day average basis and 98 ppm @ 0 % $O_2$ on a rolling 365-day average basis. DAQ is willing to remove the annual concentration based limit because it was derived inclusive of periods when the FCCU was operating sporadically during 2007 and 2008. However, DAQ will retain the short term 118 ppmvd @ 0 % $O_2$ on a rolling 7-day average basis because it represents a limit derived from proper and optimized operation of the FCCU COB after |

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| | | In addition, the relevant NOx emission value had not been transformed into a permit condition in the manner contemplated by the Consent Decree. Moreover, even to the extent that such emission limitation would otherwise have been incorporated into the Title V permit for the Refinery, issuance of the NOx emissions cap would allow for the deletion of the emission limitation from the permit. Specifically, the federal consent decree in no way limits the right of any permittee to request revision or elimination of a permit limit established under the Consent Decree, as long as such deletion or revision can be accomplished in accordance with federal regulatory standards, notably including NSR requirements. The fundamental premise of the NOx emissions cap (and $NO_2$ PAL) is that any modification to an existing source can be undertaken at DCR without triggering NSR applicability, as long as the aggregate NOx emissions from all sources at the facility remain below the applicable NOx emissions cap. The Application proposes that the Title V Permit be modified to require that total NOx emissions from all permitted NOx sources will remain within the levels prescribed by these caps. Therefore, even to the extent that implementation of the Consent Decree had previously resulted in establishing permit limits for the FCCU pursuant to the federal Consent Decree, such limits could now be removed from the permit; because of the application of the NOx emissions cap, such permit change would not implicate NSR, and would therefore be authorized under the federal rules.<br><br>Further, DCRC considered the long term emission concentration based limit for the FCCU in calculating and reporting in the Application the baseline NOx emission limitation for the Facility, which, as demonstrated in the Application, is greater than the NOx Cap requested in the Application. Therefore, the long term NOx emission limit of 98 ppmvd for this unit is fully reflected by the NOx Cap established by the draft Title V permit. For these reasons, the proposed retention of the limit is both unnecessary and inconsistent with the intent of the Agreement to replace individual NOx emission limits with a comprehensive NOx cap. | implementation of the Phase 1 controls required by the FNA. Retention of this limit is consistent with following good air pollution control practices. |
| 2 | 4. Unit 25—Heaters 25-H-401 and 25-H-402 | The current Title V permit includes a series of NOx emission limits for heater 25-H-401 and heater 25-H-402, including long term emission limits measured in tons per year on a 12-month rolling average basis, a short term NOx emission rate of 0.029 lb/mmBtu, and heat duty firing limits for each heater measured on a 24-hour block average. In its Review Memorandum, the | DAQ agrees with DCRC with respect to its comment regarding the annual NOx mass emission limit and with the heat input restrictions for the reformer. However, DAQ disagrees with DCRC regarding the short |

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| | | Department states that each of these NOx emission limits should remain in the Title V permit because a previous owner of DCR (Motiva) accepted a NOx emission limit so that the project associated with construction of these heaters would not trigger NSR requirements.<br><br>Based upon a review of the permit application documents for this project, it appears that these NOx emission limits were not necessary (nor proposed) to avoid NSR applicability. Rather, the NOx limits for these heaters were based on the potential to emit of the source, reflecting design information. (Motiva apparently provided this data to the Department in a letter dated October 21, 1998). Therefore, DCRC believes that the Title V permit should not include the referenced heat input limitations, or short term or long term NOx emission limitations, because they were not necessary to avoid NSR.<br><br>Further, even to the extent that a referenced emissions limitation for 25-H-401 and 25-H-402 was included in the relevant permit to avoid NSR applicability, there is no basis for inclusion in the Title V Permit of any other short term concentration based limits, heat duty limits and/or other similar operational restrictions. To the contrary, the analysis of NSR applicability is dependent upon mass based emissions on a 12-month rolling average basis. Accordingly, even if the annual mass limit had been included in the permit for these sources to avoid NSR applicability (which does not appear to be the case), the concentration-based limit and the heat duty firing restrictions for these units would not be necessary for NSR avoidance and would therefore not be appropriate for retention in the Title V permit.<br><br>Further, the long term emission limits for both 25-H-401 and 25-H-402 were reflected in the baseline NOx emissions rate for the facility, as reported in the Application. Therefore, these annual NOx emission rates are otherwise reflected in the NOx Cap established by the draft Title V permit.<br><br>Finally, DCRC has submitted past operating data to support a short term limit of 0.04 lb/mmBtu if the Department desires to have such limits in the permit. | term limits for the reformer for the same reasons as explained above for the FCU and FCCU. DAQ has also reviewed DCRC's past operating data of these heaters and concurs with the proposed short term limit of 0.04 lb/mmBtu. Therefore, DAQ has incorporated this short term NOx emission limit for both reformer heaters. |
| 3 | 5. Unit 80—Boiler 2 | The current Title V permit includes for Boiler 2 conditions that impose a concentration based NOx emission limit of 0.04 lb/mmBtu and a long term NOx emission limit of 125.4 tons per year, measured on a rolling 12-month basis. In its Review Memorandum, the Department states that these NOx | DAQ agrees with DCRC with respect to its comment regarding the annual NOx mass emission limit for Boiler 2. However, DAQ disagrees with DCRC regarding the short term limits for Boiler 2 for the same |

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| | | emission limits should remain because they were included in a 2001 settlement between Motiva and the Department that resolved an alleged NSR violation stemming from Motiva's continued operation of Boiler 2. The settlement agreement, however, does not include any agreement that these limits constitute NSR determinations, or were accepted to avoid NSR applicability; instead, the limits appear to reflect the resolution of a disputed claim between Motiva and the Department. Further, and as noted previously, there is no separate statutory or regulatory basis to restate and incorporate, and thereby enforce through the Title V permit, provisions of this (or any other) settlement agreement. As such, there is no basis in this instance for the Department to transform settlement conditions into permanent operating permit conditions, where NOx emissions from the source will now be governed by a comprehensive NOx emissions cap.<br><br>In addition, these long term emission limits for Boiler 2 are also reflected in the baseline NOx emission rate for the facility under the NOx Cap. | reasons as explained above for the FCU and FCCU. Additionally, DCRC's statement that there is no separate statutory or regulatory basis to restate and incorporate, and thereby enforce through the Title V permit, provisions of this (or any other) settlement agreement is baseless. In the case of Boiler 2, the settlement agreement provisions were expressly incorporated into a Reg 1102 construction permit and then into a Reg 1102 operation permit before subsequently being transferred into the facility's TV permit. This practice is entirely consistent with numerous similar permitting actions whose genesis lay in settlement agreements. If DAQ were to not transfer performance standards and other metrics that realize improvements because of settlement agreements, a facility could conceivably dismantle already installed controls once the agreement in question is terminated. |
| 3 | 6. Unit 84—Combined Cycle Units | The Draft Title V Permit includes a NOx emission limit for the combined cycle units ("CCUs") of 360 tons per year for each CCU, measured on a rolling 12-month basis. In its Review Memorandum, the Department states that this emission limit should be retained because the initial permitting of these units was subject to nonattainment NSR requirements, including the requirement to establish LAER for NOx emissions from these units. However, even to the extent that these units were subject to nonattainment NSR requirements, the LAER limitation would be reflected as an emission *rate*, solely on a short-term basis; nothing in the federal Clean Air Act or applicable Delaware regulations requires a corresponding long term emission limit. For these reasons, DCRC believes that the Department should not include in the Title V permit the NOx emission limit of 360 tons per year for each CCU. | DAQ concurs. |
| All | 7. NOx Cap Compliance Method | Consistent with the Application, the draft Title V permit specifies, for each emission unit subject to the NOx Cap, the method to demonstrate that unit's | DAQ disagrees with DCRC that the proposed language for the compliance |

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| | | compliance with the NOx Emissions Cap. DCRC proposed that these provisions would be set forth in the unit-specific sections of the Title V Permit, for each relevant unit. DCRC had also proposed that the section of the Title V Permit that generally establishes the refinery-wide NOx Cap should include only a general reference to the compliance methods available for all units, along with a cross reference to the compliance methods listed in the specific conditions applicable to each NOx-emitting source. However, in addition to the unit-specific provisions of the permit that specify source-specific compliance demonstration requirements, the Draft Title V Permit also includes within the "general" NOx emissions cap section, unit-specific compliance demonstration standards for each unit subject to the NOx Cap.<br><br>Inclusion of unit-specific compliance demonstration requirements in multiple places within the Title V Permit greatly increases the potential for confusing or inconsistent statements of applicable requirements, and at best is redundant and unnecessary to ensure that the specific standards are adequately reflected in the permit. Indeed, in reviewing the Draft Title V Permit, DCRC noted that there are certain inconsistencies and inaccuracies for specific sources in the statements of the compliance demonstration requirements for such sources within the general NOX cap section of the Draft Title V Permit as compared to the unit-specific sections of the draft permit.<br><br>DCRC believes that inclusion of the general compliance demonstration standards for the NOx cap in the general section of the permit provides guidelines to the Refinery and the Department in evaluating the framework for any proposed new or modified compliance demonstration methods for any existing, modified or new source at the refinery subject to the NOx emissions cap. Following the evaluation and determination of any such new or changed compliance demonstration method in accordance with these guidelines, a new or modified standard would then be incorporated into the unit-specific provisions of the permit.<br><br>To the extent that the Department is otherwise concerned that the general references to compliance demonstration alternatives within the "general" NOx emissions cap portion of the permit might otherwise suggest that the permittee may choose among these compliance demonstration methods for individual sources, DCRC believes that any such concern is fully addressed by the inclusion of specified requirements within the unit-specific requirements of | method in the NOx emission cap section has the risk of confusion and inconsistent interpretation. However, DAQ will add the clarification that notwithstanding any provision included within the general section of the permit, the permittee must satisfy the unit-specific standards otherwise specified in the Title V. |

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| | | the Title V Permit (as proposed by DCRC through the Application). If the Department believes that further clarity on this point is warranted, such clarify can be fully ensured by adding a statement within the general NOx emissions cap section of the permit that, notwithstanding any provision included within the general section of the permit, the permittee must satisfy the unit-specific standards otherwise specified in the Title V permit.<br><br>Accordingly, DCRC requests that the Department revise the Draft Title V Permit to ensure that the statements within the "general" NOx emissions cap section of the permit concerning compliance demonstration methods be presented in a general, framework context, rather than attempt to specify each unit-specific compliance demonstration requirement. The source-specific section of the Title V Permit would continue to detail source-specific compliance demonstration requirements. To the extent that the Department wishes to further clarify the general statements in the general NOx cap provisions by expressly stating that unit-specific compliance methods are separately addressed in the unit-specific sections of the permit, DCRC would not oppose that approach. Finally in this context, if the Department determines that these unit-specific compliance demonstration methods must be included in the "general" NOx emissions cap provisions of the Title V permit, then DCRC proposes that the unit-specific conditions be removed from the source-specific sections of the permit and retained only in the general NOx cap provisions, to avoid the great potential for inconsistencies or inaccuracies. DCRC continues to believe, as reflected in the Application, that unit-specific compliance demonstration methods are more effective and clear when presented in the unit-specific sections of the permit; however, inaccuracies and inconsistencies inherent in multiple statements of the same requirements at different sections of the permit provide a much greater risk of confusion and inconsistent interpretation. | |
| 1 | 8. NOx Cap Reporting Requirement | The Draft Title V Permit currently includes a reporting requirement that states that, on or before July 1, 2011, DCRC must submit to the Department a report of the annual NOx emissions for all NOx Cap Units for the 12-month period ending with May 31, 2011. Because the revised Title V permit will not be issued prior to April 2011, an annual reporting requirement would not be meaningful for any compliance period ending prior to May 2012, and therefore should not apply prior to July 2012. DCRC therefore requests that the Department revise the current references to 2011 within this condition to refer to 2012. In the alternative, DCRC requests the Department to clarify this | DAQ concurs. |

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| | | condition to reflect that DCRC must include in the July 2011 report only the NOx emissions from the NOx Cap Units for the period beginning on the date that the Department issues the Title V permit in final form (and thereby establishes the NOx Cap) through May 31, 2011. | |
| 1 | Renewal of NOx Cap and/or $NO_2$ PAL | 1. The Owner/Operator may request to renew the NOx Cap and/or $NO_2$ PAL by submitting a request for renewal at least 6 months prior to, but not earlier than 18 months from, the date of permit expiration. If the Owner/Operator submits a complete application to renew the NOx Cap and/or $NO_2$ PAL within this time period, then the NOx Cap and/or $NO_2$ PAL, as applicable, shall continue to be effective until the revised permit with the renewed NOx Cap and/or $NO_2$ PAL is issued.<br><br>2. In determining whether and how to adjust the NOx Cap and/or $NO_2$ PAL in the context of renewal, the Department shall consider the following options:<br><br>a. If the emissions level calculated in accordance with 40 CFR Section 51.165(f)(6) is equal to or greater than 80 percent of the NOx Cap and/or $NO_2$ PAL level, as applicable, the Department may renew the NOx Cap and/or $NO_2$ PAL at the same level without considering other factors; or<br><br>b. The Department may set the NOx Cap and/or $NO_2$ PAL, as applicable, at a level that it determines to be more representative of the source's baseline actual emissions, or that it determines to be appropriate considering air quality needs, | DAQ concurs that appropriate PAL renewal language has to be specified in the permit. However, DAQ disagrees with the proposed renewal language submitted by DCRC. Instead, DAQ has developed the following conditions as the mechanism to ensure there is a provision in the TV permit for the facility to renew the PAL provisions.<br>1. Compliance with the Sec. 2.3.2 of 7 **DE Admin Code 1142** and the NOx PAL set out herein shall constitute compliance with Sections 2 and 3 of 7 **DE Admin Code 1125** with respect to the pollutants NOx and NO2.<br>2. The Owner/Operator may request to continue the $NO_x$ PAL by submitting a request for renewal at least 6 months prior to, but not earlier than 18 months from, the date of permit expiration. If the Owner/Operator submits a complete application to renew the NOx PAL within this time period, then the NOx PAL, as applicable, shall continue to be effective until the revised permit with the renewed NOx PAL is issued.<br>3. If the potential to emit NOx of all stationary sources at the facility subject to the NOx PAL is less than the NOx PAL, the Department shall adjust the NOx |

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| | | advances in control technology, anticipated economic growth in the area, desire to reward or encourage the source's voluntary emissions reductions, or other factors as specifically identified by the Department.<br><br>3. Notwithstanding these provisions, if the potential to emit NOx or $NO_2$, as applicable, of all stationary sources at the facility subject to the NOx Cap and/or $NO_2$ PAL, as applicable, is less than the NOx Cap or $NO_2$ PAL, as applicable, the Department shall adjust the NOx Cap and/or $NO_2$ PAL, as applicable, to a level no greater than the potential to emit NOx or $NO_2$, as applicable, of these sources.<br><br>4. The Department shall not approve a renewed NOx Cap or $NO_2$ PAL level higher than the current NOx Cap or $NO_2$ PAL, as applicable, unless the Owner/Operator has complied with the provisions of 40 CFR Section 51.165 (f)(11).<br><br>5. If the compliance date for a State or Federal requirement that applies to NOx emissions from a stationary sources at the facility subject to the NOx Cap and/or $NO_2$ PAL, as applicable, occurs during the effective period of this permit, and if the Department has not already adjusted the NOx Cap and/or $NO_2$ PAL, as applicable, as necessary for such requirement, the NOx Cap and/or $NO_2$ PAL, as applicable, shall be adjusted at the time of permit renewal. | PAL, as applicable, to a level no greater than the potential to emit NOx of these sources.<br>4. The Department shall not approve a renewed NOx PAL level higher than the current NOx PAL, as applicable, unless the Owner/Operator has complied with the provisions of Regulation 1125.<br>5. If the compliance date for a State or Federal requirement that applies to NOx emissions from a stationary source at the facility subject to the NOx PAL occurs during the effective period of this permit, and if the Department has not already lowered the NOx PAL as necessary for such requirement, the NOx PAL shall be lowered at the time of permit renewal. |
| All | Condition 3(b)(2) | By including the words "at a minimum," Condition 3.b.2 fails to specifically and exhaustively delineate the recordkeeping requirement. Thus, Condition 3.b.2 fails to provide DCRC with specific guidance as to whether additional information must be kept, and if so, what type of information must be kept. | DAQ disagrees. This language was developed as part of the boiler plate language of the TV permit with input from various stake holders. Therefore, DAQ will |

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| | | Accordingly DCRC requests that the Department remove "at a minimum" from this condition. | not make this change. |
| 1 | Condition 3, Table 1 fc.ii | This section of the draft Title V permit covers tanks that employ external floating roofs with single and double seals. This specific condition lists tanks that are not subject to certain equipment standards because they employ an external floating roof with a single seal. Tank 205 employs a single seal, but is not included on this list. Therefore, DCRC requests this condition be modified to add Tank 205 to the list of tanks that are not subject to the referenced equipment standards because they employ an external floating roof with a single seal. | DAQ concurs. |
| 2 | Condition 3, Table 1 c.2.i.A | This condition for heater 21-H-2 lists the regulatory emission limit for particulate matter of 0.3 lb/mmBtu heat input, maximum 2-hour average. The particulate matter limit proposed by Condition 3, Table 1c.2.i.B, however, is more stringent. Accordingly, DCRC requests that condition c.2.i.A be removed in lieu of the condition proposed by DCRC. | DAQ concurs. However, because this emission limitation is an applicable requirement of 7 **DE Admin. Code** 1104, DAQ will reference this regulation. |
| 2 | Condition 3, Table 1 da.2b and e.2b | These conditions are each entitled "Compliance Assurance Monitoring Plan for Particulate Matter," and are applicable to the FCU and the FCCU, respectively. Under 40 C.F.R. Part 64, Premcor submitted a Compliance Assurance Monitoring ("CAM") plan for the FCU and FCCU as part of a previous permit application, and certain aspects of this CAM plan were to be incorporated into the Title V permit. Some of the aspects in the CAM plan are duplicative of the monitoring requirements that were included in previous versions of the Title V permit. The Draft Title V Permit maintains a separate section for particulate matter emissions governed by the CAM plans, but does not eliminate the corresponding standards previously included in the Title V permit. This results in duplicative emission limits for the same emission unit and separate, and potentially inconsistent, monitoring requirements for particulate matter emissions from these units. Federal Title V guidance authorizes (and endorses) streamlining of these duplicative monitoring requirement that are now governed by the incorporated CAM plan. Accordingly, DCRC requests that the Department streamline the CAM plan and the existing monitoring requirements into a single section of the Title V Permit. | DAQ disagrees. DCRC has not identified the duplicative requirements. DAQ surmises that DCRC may likely be referring to the requirements in the draft TV permit that pertain to Visible Emissions for the FCU and FCCU. The applicable requirements for visible emissions are not duplicative of the requirements for particulate emissions. Therefore, DAQ will not make this change. |

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| 2 | Condition 3, Table 1 n and Part 3, Condition 3, Table 1 c. | These sections of the Draft Title V Permit provide conditions governing operation of the North and South Flares and the Syngas Flare. These conditions provide specific authorization for DCRC to operate the flare under certain circumstances, but do not identify emission limits for a number of air pollutants during such operations. Although not specified in the current provisions of the Draft Title V Permit, we understand that the Department has taken the position that the emission of *any* air pollutant from the flare is not authorized under the Permit. In other words, the Department has apparently asserted that, while it has authorized DCRC to operate the flare under certain circumstances, it has not authorized DCRC to emit any air pollutants from the flare during such operations. As the Department is aware, emissions from the flares, as reflected in the Application, are inherent in their operation. DCRC requests that the Department revise these conditions to expressly authorize the emission of certain pollutants consistent with the use authorization granted by the Title V Permit. | DAQ disagrees and reaffirms its earlier comments on the draft TV permit. Delaware law at 7 Del. C. sec. 6003(b) requires a person to obtain a permit from DNREC before emitting an air pollutant. A facility is required to list the pollutants it intends to emit in its permit application form, so that DNREC may evaluate the impacts of any emissions on the environment. Generally, it is known which types and sources of pollution will be emitted from any emission point, and an applicant is required to seek a permit to emit those pollutants. The refinery blowdown system and flare are different from ordinary air pollution control equipment. The flare is intended to be used primarily as a control device to safely combust flammable gases and thus prevent overpressurization of upstream process units that handle and process combustible liquids and gases. Flares also serve as a pollution control devices, to the extent that when a malfunction occurs at the Refinery, hydrocarbons and other flammable gases are incinerated, in order to reduce the health and safety impacts from the flare. It is intended to be a control device of last resort, as it results in sudden emissions of what can be vast amounts of pollutants; however, it is a better alternative than simply venting those pollutants directly into the atmosphere. Thus, the flare burns the gasses and reduces the amounts and potential impacts of pollutants emitted, but nonetheless results in an unanticipatable amount of emissions of air pollution. Since it is likely impossible to know in advance |

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| | | | what systems at the refinery will malfunction, and for what duration of time, then it is likely not possible to quantify in advance what types and quantities will be emitted from the flare. In order to avoid violating 7 Del. C. Sec. 6003 (b), emissions control devices, require permits 1) for their installation and operation and 2) for pollutants to be emitted. Nonetheless, since the refinery did not specify what pollutants would be emitted from the flare (because it likely could not accurately do so, it neither requested nor acquired a permit to emit any particular pollutants, and thus, the permit it acquired was only for the installation and ability to operate it. The permit does not specify that any amount or quantity of air pollution may be emitted from it. Thus, the permit to install and operate the flare does not give what would be an unquantifiable permission to emit any quantity and duration of pollution, as the refinery asks DNREC to interpret the permit. Because DNREC was cognizant of the necessity for the refinery to have a properly operating safety blowdown system and flare to safely combust and dispose of flammable hydrocarbon and other gases that could potentially be released during refinery operations, DNREC issued a permit to install and operate the flare system to allow it to safely dispose of gases that are vented to it. However, DNREC was not provided with sufficient information and was not asked to permit any quantity of specific emissions. Consequently, any and all emissions from the flare are emissions of unpermitted quantities of air pollution. In |

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| | | | fact, 7 del. Admin. Code 1102, prevents DNREC from issuing a permit that could allow the emissions of sufficient quantities of pollution to "bust the SIP." Thus, DNREC could not lawfully permit the flare in the manner that the Refinery requests. The Refinery requests its permit to be interpreted as blanket permission to send whatever gases it wants to the flare, any time it wants to vent them, without there being any violation of the statute that requires the impacts of emissions to be considered before a permit can be issued. Should the refinery be maintained and operated in a manner that equipment does not malfunction, then no pollutants would be emitted from the flare, and no violation would occur for emitting pollution. Should the refinery's equipment malfunction and the flare need to be used, then DNREC assesses a penalty based on the amount and type of pollution emitted from the flare. The lack of permitted emissions is incentive for the refinery to undertake effective maintenance and operational safeguards so that it does not release unpermitted emissions caused by its equipment malfunctions and incentive for the Refinery not to incinerate anything it does not have to incinerate. Should the permit be interpreted differently, all impetus for the Refinery to use the emissions control device in the manner it is intended (which is to be a last resort method of incinerating gases to reduce the amount of pollution emitted) would be negated and the permit could potentially violate 7 **DE Admin. Code 1102**. |

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| All | Visible emission conditions | A number of emission units specifically list the same general visible emission standard identified in Regulation 1114, but include different language for purposes of the monitoring and testing requirements necessary to demonstrate compliance with that general visible emission standard. To avoid confusion for operators and inspectors, as well as inconsistency across units, it would be preferable for these units to cross-reference a single facility-wide visible emissions standard and monitoring/testing requirement, in accordance with the single regulatory standard. | DAQ disagrees. DCRC has not identified the different language for purpose of monitoring and testing. DAQ will consider making these changes as and when DCRC identifies such differences. |
| All | H2S Monitoring in Refinery Fuel Gas | A number of emission units specifically list the same general requirement to monitor H2S in refinery fuel gas, but there are inconsistencies with respect to how that monitoring is to be conducted. In fact, the H2S content of the refinery fuel gas is monitored at one location (the Gas Plant, Unit 24) for the entire refinery. To avoid confusion for operators and inconsistency across units, and to recognize the operational reality concerning the monitoring of H2S content in refinery fuel gas, it would be preferable for these permit conditions to cross-reference a single H2S monitoring requirement for all relevant emission units. | DAQ disagrees. DCRC has not identified the different language for purpose of monitoring and testing. DAQ will consider making these changes as and when DCRC identifies such differences. |
| | 7 | In certain instances, the Department's Review Memorandum indicates that the Department agreed to incorporate changes to the existing Title V Permit proposed by DCRC through the Application, but those changes were not reflected in the version of the Draft Title V Permit reviewed by DCRC. Those instances are listed below:<br>• Part 1, Condition 3, Table 1 ba.1.ii.B and vi.D. These conditions require DCRC to complete a stack test of Unit 32-H-101 before operating the control devices in a "pre-mixed" mode, and for DCRC to submit the results of that stack test to the Department. As the Department is aware, such stack testing had previously been conducted, and the results reported to the Department. For this reason, on pages 48-49 of the Review Memorandum the Department indicates that it concurs with removing the | DAQ concurs and will make these corrections with the exception of the change sought for Part 1, Condition 3, Table 1 fa.1.v. and vi. because DCRC has not identified the specific recordkeeping requirements at issue. |

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| | | condition; however, the condition remains in the Draft Title V Permit.<br><br>• Part 1, Condition 3, Table 1 fa.1.ii.E: This condition requires any storage vessel that has been out of service continuously since before August 18, 1998 to satisfy the standards in 40 C.F.R. Part 63, Subpart CC before being returned to hazardous air pollutant service. As previously discussed between the Department and DCRC, in the event that DCRC would pursue a change in service that would result in the applicability of Subpart CC, the proposed change in service would otherwise trigger permitting requirements that would allow for the proper consideration of these federal regulatory standards. Therefore, on page 49 of the Review Memorandum, the Department indicates that it concurs with removing the condition, but the condition remains in the Draft Title V Permit.<br><br>• Part 1, Condition 3, Table 1 fa.1.v. and vi. This section of the Draft Title V Permit identifies conditions applicable to tanks subject to 40 C.F.R. Part 60, Subpart Kb ("Kb Tanks") and 40 C.F.R. Part 63, Subpart CC. On page 49 of the Review Memorandum, the Department indicates that it concurs with removing the condition; however, the condition remains in the Draft Title V Permit.<br><br>• Part 2, Condition 3, Table 1 c.5.i.A: This condition of the Draft Title V Permit establishes the CO emission limit for heater 21-H-701. On page 55 of the Review Memorandum, the Department concurs that the condition should reflect the CO emission rate identified in the most recent operating permit for 21-H-701, issued by the Department in February 2009 (0.03 lb/mmBtu). However, the CO emission limit for the source currently reflected in the Draft Title V Permit remains 0.035 lb/mmBtu. | |

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| | | • Part 3, Condition 3, Table 1 a.7.iii: This condition establishes the compliance method for the VOC emission standards for the package boilers. On page 58 of the Review Memorandum, the Department agreed that, consistent with the operating permit for the package boilers issued in May 2009, compliance with the VOC emission standards would be demonstrated if only natural gas is fired in the boilers, or by calculating emissions using annual stack test-based emission factors obtained while firing refinery fuel gas and recorded refinery fuel gas rates for the boilers. The Draft Title V Permit, however, includes only the stack test-based compliance option.<br><br>• Part 3, Condition 3, Table 1 d: This condition includes conditions applicable to the CCUs. On page 59 of the Review Memorandum, the Department agreed to incorporate the applicable requirements from the operating permit for the CCUs issued by the Department in July 2009. The Draft Title V Permit, however, includes references to low sulfur diesel fuel ("LSDF"), as opposed to the ultra-low sulfur diesel ("ULSD") fuel that is referenced in the July 2009 operating permit. | |

**Recommendations**:

No comments have been received from either EPA or the public. It is recommended the attached proposed Title V operating Permit be issued pursuant to Section 7 of 7 **DE Admin. Code 1130**.

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