UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 6
1445 ROSS AVENUE, SUITE 1200
DALLAS TX 75202-2733

MAY 0 3 2016

Office of the Chief Clerk
MC 105
Texas Commission on
Environmental Quality
P.O. Box 13087
Austin, TX 78711-3087

RE: Shell Deer Park Oxygenated Solvents Production Unit and Petroleum Refining, Title V Permit Numbers O1668 and O1669

To whom it may concern:

We have reviewed the above-referenced draft permits for the Shell Chemical LP and Shell Oil Company title V permits. In response to the EPA Administrator's September 24, 2015 Order (Order) objecting to permits O1668 and O1669, the TCEQ proposed a timeline to revise and reopen the title V permits and Statements of Basis in responding to the EPA's objection. TCEQ reopened the title V permits and began public notice on April 3, 2016, with the EPA review period beginning on April 12, 2016.

EPA Region 6 has reviewed both draft permits and statements of basis. While our review was primarily focused on the resolution of objections raised in the EPA Administrator's Order, we also have highlighted some other issues noted during our review for TCEQ to consider for review and clarification in the permit or permit record. The draft permits were evaluated to ensure consistency with the Federal Clean Air Act requirements. Our comments on the draft permits are enclosed.

If you have additional questions, please call Aimee Wilson, Air Permits, at (214) 665-7596, or Rick Bartley, Air Programs Coordinator, Office of Regional Counsel, at (214) 665-8046.

Sincerely,

Jeff Robinson
Section Chief
Air Permits Section

Enclosure

Title V Permit O1668 Comments

1. Claim 2 of the EPA Administrator's Order requested that TCEQ include a list of emission units for which only general requirements are applicable, and if an emission unit is considered insignificant, it should be identified in the Statement of Basis. *See* Order at 15. Does TCEQ have a complete list of insignificant emission units it can provide in the Statement of Basis or in the permit record to fully address the Order?
2. Claim 3.B. of the Order directed TCEQ to identify the monitoring, recordkeeping, and reporting to be used to assure compliance with the PM10 emission limits for the pyrolysis furnaces. Requirements were to be added to the title V permit and to be documented on how they assure compliance with applicable requirements as required by 42 U.S.C. § 7661c(c) and 40 C.F.R. § 70.6(a)(3). The Statement of Basis on page 116 does include a monitoring rationale, but it does not contain sufficient information to show that TCEQ's use of CO monitoring accurately correlates as a surrogate. Has Shell performed testing to show how CO emissions correlate to PM emissions? In addition, no additional monitoring, recordkeeping, or reporting requirements have been added to the title V permit. *See* Order at 19.
3. Claim 3.C. of the Order directed TCEQ to include in the title V permit monitoring sufficient to ensure compliance with benzene and VOC emission limits for storage tanks and wastewater treatment plants. EPA noted that sufficient monitoring may already exist and that the TCEQ may need to clearly identify the monitoring and explain the rationale for the selected monitoring. *See* Order at 23 and 28. TCEQ added a section to the Stement of Basis entitled "Monitoring Sufficiency" and a subsection entitled "Monitoring Rationale for Storage Tanks and Wastewater Treatment Facilities." *See* Statement of Basis at 116-117. This section does provide generic requirements for monitoring, but does not provide direct linkages to specific conditions and/or methodologies on how benzene and VOC emissions will be monitored and determined. Appendix B of the title V permit includes a table for each major NSR permit that identifies the monitoring, recordkeeping, and reporting requirements in the underlying permit that are applicable to emission units subject to the title V permit. However, the tables found at Appendix B do not include all the information necessary to identify the compliance assurance monitoring for these title V applicable requirements. The special conditions referenced in the table do not always identify all monitoring conditions that apply to an emission unit. A quick look at the underlying permits does not show the level of detail for monitoring conditions for benzene and VOC as described in the Statement of Basis. Each tank that is covered by flexible permit 21262 has for "monitoring and testing requirements" special conditions 4 and 17. Special Condition 4 states, "These facilities shall comply with all applicable requirements of EPA regulations on NESHAPS in 40 CFR Part 63, Subpart A and : ..." then there is an A – F which lists Subparts under Part 63. TCEQ should specifically indicate the Special Condition and any sub-level special condition (i.e., Special Condition 4.B.) when possible. Another example is the recordkeeping special condition, at Special Condition 30, that covers the entire permit requiring the permit holder to keep records to demonstrate compliance with the hourly and annual emission limits. The NSR permits do

not contain information on exactly what parameters are to be monitored to calculate the benzene and VOC emissions. The TCEQ initial response letter from February 4, 2016 (which attached a December 21, 2015 letter) indicated that vapor pressure of the material stored, chemical composition, tank turnover rate, and other parameters would be monitored. The rationale for the wastewater facility provides some details. Is TCEQ relying on application representations for how data parameters will be collected and calculated in the models specified in the Statement of Basis (pages 116-117 in O1668 and page 131 in O1669) and do they correspond to permit conditions in the NSR permit?

4. Claim 6 of the Order directed TCEQ to explain the status of PBR authorization 106.478 under NSR Permit #3179. Specifically, EPA requests TCEQ clarify when the PBR would be incorporated into the NSR permit and why it had not been incorporated into the NSR permit at the last permit amendment or renewal. *See* Order at 36. Can TCEQ provide a response to address this objection or direct EPA to this information in the permit record for the reopened permit?

   In addition, TCEQ added a section to the Statement of Basis titled "Incorporation of PBRs in NSR Permits." This section provides some information on how and when Standard Permits (SPs) and PBRs are incorporated into NSR permits but does lead to some questions about incorporation of SPs and PBRs. First, the Statement of Basis states that "Standard Permits and PBRs that directly affect the emissions of permitted facilities must, at a minimum be consolidated by reference when the NSR permit is amended." Does "NSR permit" include minor and major NSR permits? Further, 30 TAC 116.116(d)(2) states, "All changes authorized under Chapter 106 of this title to a permitted facility shall be incorporated into that facility's[sic] permit when the permit is amended or renewed." The Statement of Basis did not include renewals in indicating when standard permits and PBRs are to be consolidated by reference. Please clarify if Standard Permits and PBRs that directly affect the emissions of permitted facilities must, at a minimum, be consolidated by reference when the NSR permit is amended *or at renewal*. Next, please explain how 30 TAC 116.116 ensures compliance with 30 TAC 106.4(a)(1) which states, "Total actual emissions authorized under permit by rule from the facility shall not exceed 250 tons per year (tpy) of carbon monoxide (CO) or nitrogen oxides (NOx); or 25 tpy of volatile organic compounds (VOC) or sulfur dioxide (SO_2) or inhalable particulate matter (PM); or 15 tpy of particulate matter with diameter of 10 microns or less (PM_{10}); or 10 tpy of particulate matter with diameters of 2.5 microns or less ($PM_{2.5}$); or 25 tpy of any other air contaminant except carbon dioxide, water, nitrogen, methane, ethane, hydrogen, and oxygen." How does 30 TAC 116.116 ensure that emissions from all SPs and PBRs at the facility have not exceeded the significant thresholds in 30 TAC 106.4(a)(1) and not triggered a PSD or NNSR review?

1. Claim 2 of the EPA Administrator's Order requested that TCEQ include a list of emission units for which only general requirements are applicable, and if an emission unit is considered insignificant, it should be identified in the Statement of Basis. *See* Order at 15. Does TCEQ have a complete list of insignificant emission units it can provide in the Statement of Basis or in the permit record to fully address the Order?
2. Claim 2 of the Order also requested that TCEQ identify which PBRs apply site-wide. Does the title V permit O1669 have any PBRs or Standard Exemptions that apply site-wide? *See* Order at 15.
3. Claim 2 also asked that TCEQ identify emission units subject to Standard Exemptions 106 and 118 or indicate if these were site-wide authorizations. These Standard Exemptions have been removed from the proposed draft permit without an explanation. Can TCEQ state for the record, that either the standard exemptions did not apply or the reason these Standard Exemption authorizations were removed from the title V permit? *See* Order at 14-15.
4. Claim 3.C. of the Order directed TCEQ to include, in the title V permit, monitoring sufficient to ensure compliance with benzene and VOC emission limits for storage tanks and wastewater treatment plants. EPA noted that sufficient monitoring may already exist and that the TCEQ may need to clearly identify the monitoring and explain the rationale for the selected monitoring. *See* Order at 25 and 28. TCEQ added a section to the Statement of Basis entitled "Monitoring Sufficiency" and a subsection entitled "Monitoring Rationale for Storage Tanks and Wastewater Treatment Facilities." *See* Statement of Basis at 131. This section does provide generic requirements for monitoring, but does not provide direct linkages to specific conditions and/or methodologies on how benzene and VOC emissions will be monitored and determined. Appendix B of the title V permit includes a table for each major NSR permit that identifies the monitoring, recordkeeping, and reporting requirements in the underlying permit that are applicable to emission units subject to the title V permit. However, the tables found at Appendix B do not include all the information necessary to identify the compliance assurance monitoring for these title V applicable requirements. The special conditions referenced in the table do not always identify all monitoring conditions that apply to an emission unit. A quick look at the underlying permits does not show the level of detail for monitoring conditions for benzene and VOC as described in the Statement of Basis. Each tank that is covered by flexible permit 21262 has for "monitoring and testing requirements" Special Conditions 4 and 17. Special Condition 4 states, "These facilities shall comply with all applicable requirements of EPA regulations on NESHAPS in 40 CFR Part 63, Subpart A and : ..." then there is an A – F which lists Subparts under Part 63. TCEQ should specifically indicate the Special Condition and any sub-level special condition (i.e., Special Condition 4.B.) when possible. Another example is the recordkeeping special condition, at Special Condition 30, that covers the entire permit requiring the permit holder to keep records to demonstrate compliance with the hourly and annual emission limits. The NSR permits do not contain information on exactly what parameters are to be monitored to calculate the benzene and VOC emissions. The TCEQ initial response letter from February 4, 2016

(which attached a December 21, 2015 letter) indicated that vapor pressure of the material stored, chemical composition, tank turnover rate, and other parameters would be monitored. The rationale for the wastewater facility provides some details. Is TCEQ relying on application representations for how data parameters will be collected and calculated in the models specified in the Statement of Basis (pages 116-117 in O1668 and page 131 in O1669) and do they correspond to permit conditions in the NSR permit?

Other Issues for TCEQ to Consider:

1. The "New Source Review Authorization References" table in the Statement of Basis for permit O1668 (Page 113-115) and title V permit (Page 555-557) do not match. The table in the title V permit has an asterisk next to a few of the PBR authorizations and according to the *footnote – it indicates that these are Site-wide and to "see Statement of Basis – Special Terms and Conditions". Page 5 of the Statement of Basis contains the "Special Terms and Conditions" and states in part, "The TCEQ has designated certain applicable requirements as site-wide requirements. A site-wide requirement is a requirement that applies uniformly to all the units or activities at the site. Units with only site-wide requirements are addressed on Form OP-REQ1 and are not required to be listed separately on an OP-UA Form or Form OP-SUM". The PBRs that have been identified as "site-wide" are 106.261 Facilities (Emission Limitations), 106.263 Routine Maintenance, Startup and Shutdown of Facilities, and Temporary Maintenance Facilities, 106.264 Replacement of Facilities, and 106.355 Pipeline Metering, Purging, and Maintenance. It is unclear to EPA Region 6 how a PBR for replacement of facilities (106.264) could be a site-wide condition. This PBR would be used to authorize a like kind replacement of a specific piece of equipment, or group of emission units, but it definitely would not apply to the replacement of all emission units across an entire facility, especially one as large as Shell. In our search of the TCEQ remote document server found that PBR 106.264 was authorized four times. On December 28, 1999, TCEQ authorized PBR 106.264 to replace a pump system and install a spare pump (project no. 70357). Then on January 18, 2000, TCEQ approved the "Warren pump replacement project" which replaced 4 sulfuric acid pumps. May 4, 2000, TCEQ authorized PBR 106.264 for the replacement of grandfathered vessel T-362B with a new vessel T-362B-R1 (Project No. 72422). On September 9, 2002, TCEQ approved PBR 106.264 for replacing 15 existing analyzers (Project No. 91020 - this project shows void and appears to be incorporated by consolidation into permit 3179 – but this cannot be verified). It is unclear to EPA how PBR 106.264 can be identified as a site-wide applicable requirement since it was authorized for some very specific emission units. A search of the TCEQ "New Source Review Air Permits" website at http://www2.tceq.texas.gov/airperm/index.cfm?fuseaction=airpermits.start by inputting the Regulated Entity number for the Shell Refinery (RN100211879), selection "Pipeline Metering, Purging, and Maintenance" in the "Unit Rule" box, and selection "all" for status then hitting search returns "There are no projects for the criteria selected". We have not been able to find any information in the TCEQ Remote Document Server to indicate that Shell was ever given an authorization for this PBR, nor are we be able to

verify that this PBR does indeed apply to all pipeline metering, purging, and maintenance activities across the entire refinery. In addition, a search of the TCEQ website shows multiple authorizations for PBR 106.263. Every documented authorization for this PBR shows that it was given to authorize some sort of activity associated with a tank (specific tank identifiers were provided). The title V permit does not show that all instances of PBR 106.263 are site-wide. The title V permit also shows one line entry for PBR 106.261 as a site-wide applicable requirement with the other 4 entries for PBR 106.261 not identified as site-wide. It would appear beneficial for transparency for TCEQ to identify in the Statement of Basis generally what PBRs authorizations are being considered as "site-wide" requirements. The title V permit also indicates that Standard Exemption 51 is also a site-wide applicable requirement. The title V permit also shows PBRs 106.475 Pressurized Tanks or Tanks Vented to a Firebox and 106.478 Storage Tank and Change of Service, and Standard Exemption 51 for liquid loading and unloading as site-wide applicability. These also appear to be given for specific units and would not be used for granting site-wide applicability, especially when the title V permit shows instances where these PBRs and Standard Exemptions were given for specific emission units.

2. In permit O1668, the New Source Review Authorization References table on pages 555-557 appears to have some errors. NSR Permits 56476 and 80525 do not appear to be associated with any emission unit on the New Source Review Authorization Reference by Emissions Unit table on pages 558-587. Standard Exemption 106 does not appear to be associated with any emission unit on the New Source Review Authorization Reference by Emissions Unit table on pages 558-587. Standard Exemption 118 with a date of 09/20/1993 does not appear to be associated with any emission unit on the New Source Review Authorization Reference by Emissions Unit table on pages 558-587. Please review and verify whether changes are necessary.
3. In permit O1668, the New Source Review Authorization References table on page 556 shows 2 entries for PBR 106.475 with one entry being shown to be a site-wide requirement and one not. There are no emission units that show PBR 106.475 to be an authorization in the New Source Review Authorization Reference by Emissions Unit table on pages 558-587. Please review and verify whether changes are necessary.
4. In permit O1668, the New Source Review Authorization Reference by Emissions Unit table on pages 558-587 does not have complete information listed for all PBR authorizations. The registration number is missing for Flare A1333 on page 558, Cooling Tower CWT1D on page 560, Storage Tank Diesel Tank on page 563, Storage Tanks D365 and D369 on page 561, Storage Tank D398 on page 562, Storage Tank Diesel Tank on page 563, Storage Tanks F336, F347, F349, and F353 on page 564, Storage Tank F356 and Process Vent FLACU on page 565, Storage Tank Gasoline Tank of page 568, Fugitives IRUFUG on page 570, Water Separator LO3CPI on page 571, OL3FUG on page 572, Fugitive Emissions OP2FUG and Flare Stack OP3GRFLA on page 573, Fugitives PAUFE on page 574, Storage Tank S332 on page 575, Loading Fugitives SITE3FE on page 576, Storage Tank T13145 on page 577, Storage Tanks T87001, T87004, and T87005 on page 578, Tanks TBD301, TBD910, TBD911, and TBD912 on page 579, Storage Tanks TOL3070 and TOL905 on page 580, and Storage Tank TOL912

on page 581. If these PBR references do not have a registration number due to them being an "unregistered" PBR authorization, we suggest including an asterisk or a footnote to indicate as such.

5. There is a typo in the NSR Authorizations table of the Statement of Basis for permit O1669 (page 130). The Statement of Basis lists PBR 106.487 – which is not an active PBR number. It appears the PBR reference should be 106.478. But it is unclear if there should be two separate authorizations for 106.478 since the title V permit only lists it once on the "New Source Review Authorization Reference" table on page 550. The Table that begins on page 551 is missing the title "New Source Review Authorization References by Emissions Unit". Looking at this table finds a few occurrences that reference the incorrect PBR 106.487. It can be found at page 552 for A333-FL Fugitive, and A333 Tank. The permit authorization number given (87183) when searched for in the Remote Document server, confirms that the PBR authorized is 106.478.
6. The New Source Review Authorization References table on page 550 of the title V permit (O1669) lists NSR permit 3214. This NSR permit is not listed anywhere else in the permit. It cannot be found to be associated with any emission unit in the title V permit O1669. Please review and verify whether changes are necessary.
7. The "New Source Review Authorization References by Emissions Unit" tables appear to lack registration information in both title V permits for some PBR authorizations. Are the PBRs without this information "unregistered" PBRs? If so, can a footnote be added to indicate this?
8. On page 565 of the title V permit O1669, Olefins Tail Gas Boiler HB00200 shows an NSR authorization number 120335. This NSR permit number is not shown on the New Source Review Authorization References table on page 550 of the title V permit.