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# Worksheet for Technical Review of Working Draft of Proposed Permit

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|---|---|---|---|---|---|
| **Company Name:** | **Westlake Petrochemicals, LLC** | **AI #:** | **6164** | **TEMPO Activity No:** | **PER20090006** |
| **Facility Name:** | **Ethylene Manufacturing Complex** | **Remarks Submitted by:** | **11/24/2009** | | |
| **Permit Writer:** | **David Burke** | **Permit Writer Email address:** | **David.burke@la.gov** | | |

## Instructions

**Permit Reference** – Indicate specific portion(s) of the permit to which the remark relates (i.e. "Specific Condition 120", or "Section II Air Permits Briefing Sheet", etc.).

**Remarks** – Explain the basis for each remark. Provide regulatory citations where possible. If the remark is made due to an error or omission in the permit application this must be noted and the revised information ***must be submitted.*** Revised information may be submitted separately from this worksheet. Please be aware that revised information must be submitted in writing and certified by the Responsible Official, and if necessary, by a Professional Engineer licensed in Louisiana. *Please Note:* New or additional equipment, processes or operating conditions not addressed in the original permit application will be addressed on a case-by-case basis. The Department reserves the right to address such changes in a separate permit action.

**DEQ Response** – ***DO NOT COMPLETE THIS SECTION.*** This section will be completed by Air Permits Division of DEQ, included in the proposed permit package and made available for public review during any required public comment period.

- Additional rows may be added as necessary.
- Completed Form shall be emailed to the Permit writer in MS Word compatible format within the deadline specified in the email notification.

| Permit Reference | Remarks | Air Permits Division Response (for official use only) |
|---|---|---|
| Air Permit Briefing Sheet – Page 2 | Add a "2" to the last full paragraph, to designate Petro 2. | Corrected. |
| Section X Table 1 – Page 9 | Add a "1" to the LAC Chapter 2111 regulatory applicability for FUG04 WPT12-96. | Corrected. |
| Section X Table 1 – Page 17 | Add a "2" to the 40CFR60 Subpart NNN regulatory applicability for EQT 39, 40, 41, and 42. | Corrected. |
| Section X Table 1 – Page 20 | Change the "11" to "1" for the 40CFR63 Subpart YY regulatory applicability for EQT 67. | Corrected. |
| Section XI Table 2 – Page 24 and 25 | EQT 39 should be identified as a Furnace, not a Flare. | Corrected. |
| Section XI Table 2 – Page 26 | EQT 45 should be identified as a Cooling Tower, not a Furnace. | Corrected. |

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| **Permit Writer:** | **David Burke** | **Permit Writer Email address:** | **David.burke@la.gov** | | |

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| Section XI Table 2 – Page 26 | EQT 18 – EQT 23 should include the Chapter 51 Exemption regarding virgin fossil fuels. | Corrected. |
| Section XI Table 2 – Page 30 | EQT 32 and EQT 33 are Frac Tanks, not Oily Sludge Tanks. | Corrected. |
| Section XI Table 2 – Page 30 | EQT 78 and EQT 79 are Oily Sludge Tanks. | Corrected. |
| Section XI Table 2 – Page 33 | EQT 92 is the IGF Effluent Tank | Corrected. |
| Section XI Table 2 – Page 33 and 34 | EQT 77 is the Process Equalization Tank | Corrected. Although on the Comments.pdf document the correction shows EQT73. TEMPO has EQT77, which will be the number used in the permit. |
| Section XI Table 2 – Page 34 | EQT 80 is the Oily Sludge Tank | Corrected. |
| Section XI Table 2 – Page 36 | EQT 70 and EQT 71 are CPI sludge Tanks.<br>EQT 72 is the Equalization Tank | Corrected. |
| Inventories Page 2 of 6 | EQT 62 Pyrolysis Gasoline Tank contents are Pyrolysis Gasoline, not PFO | Corrected. |
| Inventories Page 3 of 6 | Remove EQT 94, WPT 1-03 Liquid Hydrocarbon Tank, as it was never built. | Corrected. |
| Inventories Page 3 of 6 | Change EQT 25 Decoking Drum velocity to 75 ft/sec and 31,809 cfm. | Corrected. |
| Inventories Page 4 of 6 | Change EQT 75 Metering Skids Controlled by to the Co Products Flare 30-94 | Corrected. |
| Inventories Page 5 of 6 | Delete EQT 83 (OSBL Sump), EQT 84 (ISBL Sump), and EQT 94) Liquid Hydrocarbon Tank. The 2 sumps are not controlled by the Thermal Oxidizer and the Liquid Hydrocarbon Tank was never built. | Corrected. Deleted EQT94. Also deleted EQTs 83 & 84 re: e-mail from Jeff Walker 12/9/09. |

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| Company Name: | Westlake Petrochemicals, LLC | AI #: | 6164 | TEMPO Activity No: | PER20090006 |
| Facility Name: | Ethylene Manufacturing Complex | Remarks Submitted by: | 11/24/2009 | | |
| Permit Writer: | David Burke | Permit Writer Email address: | David.burke@la.gov | | |

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| Inventories Page 5 of 6 | A more appropriate name for the Common Requirement Group CRG 005 would be Wastewater Treatment Components, as the list of EQTs included in CRG 005 includes more than just Oil Water Separators. | Corrected. |
| Inventories Page 6 of 6 | EQT 020 Furnace #3 should be a member of Group 005 | Corrected. |
| Inventories Page 6 of 6 | Common Requirement Group CRG 003 should include Lummus Furnace #1 WPT 1-96 (EQT 038) | Corrected. |
| Emission Rates for Criteria Pollutants Page 1 of 3 | EQT 031, EQT 032, EQT 033 are Tanks, which the application did not include maximum emission rates for VOC, but this Table includes maximum emission rates. | Corrected. |
| Emission Rates for Criteria Pollutants Page 1 of 3 | EQT 0035 Co Products Flare 30-94 emission rates were updated in the Addendum submitted in October. The emission rates represented are from the original application. | Corrected. |
| Emission Rates for Criteria Pollutants Page 1 of 3 | EQT 037 Thermal Oxidizer VOC emission rates were incorrect in the application. The calculations have been updated, and the results are attached. | Corrected. |
| Emission Rates for Criteria Pollutants Page 1 of 3 | EQT 049, EQT 050, EQT 055, EQT 062, and EQT 063 are Tanks, which the application did not include maximum emission rates for VOC, but this Table includes maximum emission rates. | Corrected. |
| Emission Rates for Criteria Pollutants Page 1 of 3 | EQT 052 VOC annual emission rate is incorrect. The correct emission rate is 0.04 tons/yr. | Corrected. |
| Emission Rates for TAP/HAP & Other Pollutants Page 1 of 12. | The CRG 004 Petro 2 Boilers should be deleted. It is repeated on page 11 of 12 as Group 04 Boilers. | Corrected. The requirements in CRG04 have been moved to GRP04. Emissions were kept as is in GRP04. CRG04 has been deleted. |

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| **Facility Name:** | **Ethylene Manufacturing Complex** | **Remarks Submitted by:** | **11/24/2009** | | |
| **Permit Writer:** | **David Burke** | **Permit Writer Email address:** | **David.burke@la.gov** | | |

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|---|---|---|
| Emission Rates for TAP/HAP & Other Pollutants Page 6 of 12. | EQT 037 Thermal Oxidizer emission rates were incorrect in the application. The calculations have been updated, and the results are attached. | Corrected. |
| Emission Rates for TAP/HAP & Other Pollutants Page 8 of 12. | EQT 043 WPT6-96 < 0.05 should be 0.05<br>EQT 043 WPT6-96 0.002 should be < 0.01<br>EQT 044 WPT7-96 < 0.03 should be 0.3 | Corrected EQT43. Changed EQT44 Benzene to 0.03. The application shows 0.03 and not 0.3. |
| Emission Rates for TAP/HAP & Other Pollutants Page 9 of 12. | EQT 051 is a Tank, which the application did not include maximum emission rates for VOC, but this Table includes maximum emission rates. | Corrected. |
| Emission Rates for TAP/HAP & Other Pollutants Page 9 of 12. | EQT 052 benzene annual emission rate is incorrect. The correct emission rate is 0.04 tons/yr. | Corrected. |
| Emission Rates for TAP/HAP & Other Pollutants Page 10 of 12. | EQT 062 and EQT063 are Tanks, which the application did not include maximum emission rates for VOC, but this Table includes maximum emission rates. | Corrected. |
| Emission Rates for TAP/HAP & Other Pollutants Page 10 of 12. | EQT 064 naphthalene maximum emission rate is incorrect. The correct emission rate is 0.32 lb/hr. | Corrected. |
| Specific Requirements EQT 032 | Oil Sludge should be Oily Sludge | Corrected. |
| Specific Requirements #53 | 40CFR63.1103 reference should be Table 7 g for waste operations. | Corrected. |

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| Facility Name: | Ethylene Manufacturing Complex | Remarks Submitted by: | 11/24/2009 | | |
| Permit Writer: | David Burke | Permit Writer Email address: | David.burke@la.gov | | |

| Permit Reference | Remarks | Air Permits Division Response (for official use only) |
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| Specific Requirements #55, 56, 57, and 58. | These Specific Requirements reference the use of carbon canisters, but these Frac Tanks are not require to and do not utilize carbon canisters. | Corrected. Carbon canisters were never used on this tank re: e-mail from Jeff Walker 12/9/09. |
| Specific Requirements #62 | 40CFR63.1103 reference should be Table 7 e for transfer racks, not 7 d for process vents and not 7 h for heat exchangers. | Corrected. |
| Specific Requirements #72 | The citation listed should be 61.349, not 61.342 | Corrected. |
| Specific Requirements #72 | Please add the phrase "except while the back up Carbon Adsorption System is in service". | Corrected. |
| Specific Requirements ETQ 0037 | Please add a Specific Requirement to acknowledge the use of Carbon Adsorption Systems as a back up control device, and the basis for the emissions calculations. "The use of the back up Carbon Adsorption System is authorized for up to 240 hours per year". | Added a specific requirement referencing LAC 33:III.501.C.6, "The Carbon Adsorption System (carbon canister) may be used in lieu of the Thermal Oxidizer by no more than 240 hours per year." |
| Specific Requirements ETQ 0038; # 78, 79, 80, and 81. | Please delete this EQT from the Specific Requirements, and delete these Specific Requirements. This EQT should be included in the CRG 003 Group, and not duplicate these requirements under one of the group of Furnaces. | Corrected. |
| Specific Requirements #90 and 92. | 40CFR63.1103 reference should be Table 7 g for waste operations, not 7 d for process vents and not 7 h for heat exchangers. | Corrected. Now says Table 7(e) for a flare. |
| Specific Requirements #98 and 99. | These Specific Requirements should be deleted, as the use of carbon canisters is not required by these regulations. | Corrected. |
| Specific Requirements #101 and 106. | Please delete the phrase "and vented to carbon canisters". While the vent is routed to an activated carbon adsorption system, that is not required by the reference regulations. | Corrected. |
| Specific Requirements #109 | 40CFR63.1103 reference should be Table 7 g for waste operations, not 7 b for storage tanks. | Corrected. |

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| Specific Requirements #111 and 113. | 40CFR63.1103 reference should also include Table 7 g for waste operations, but 7 h for heat exchangers. | Corrected. |
| Specific Requirements EQT 062; #121, 122, 123, 124, 125, and 126 | The Tank WPT 3-04 Pyrolysis Gasoline Tank has an internal floating roof (IFR) that is the air pollution control system utilized to meet the regulatory requirements (not the carbon canisters as indicated in the draft permit). | Corrected. IFR is a double-sealed roof re: e-mail from Jeff Walker 12/9/09. |
| Specific Requirements #133 | 40CFR63.1103 reference should be Table 7 g for waste operations, not 7 d for process vents. | Corrected. |
| Specific Requirements #137 | 40CFR63.1103 reference should be Table 7 g for waste operations, not 7 b for storage tanks. | Corrected. |
| Specific Requirements #147 and 151 | 40CFR63.1103 reference should be Table 7 g for waste operations, not 7 a for storage tanks. | Corrected. |
| Specific Requirements #158 | Please delete this Specific Requirement. The MACT rule does not require controls for Py Oil Loading. | Corrected. |
| Specific Requirements EQT083; #160 | Please delete this Specific Requirement. The vent from the sump is not routed to the Thermal Oxidizer. | Corrected. OSBL was deleted re: e-mail from Jeff Walker 12/9/09. |
| Specific Requirements EQT084; #161 | Please delete this Specific Requirement. The vent from the sump is not routed to the Thermal Oxidizer. | Corrected. ISBL was deleted re: e-mail from Jeff Walker 12/9/09. |
| Specific Requirements #165, 169, and 173 | Please delete the reference to Table 7 c (storage tanks). The correct reference should be the Table 7 g (waste operations). | Corrected. |
| Specific Requirements EQT 093; #179, 180, 181, 182, 183, and 184. | The Tanks WPT 31-96 Pyrolysis Gasoline Tank is routed to the Ground Flare (EQT 053), which is the air pollution control system utilized to meet the regulatory requirements (not the Internal Floating Roof) as indicated in the draft permit). | Corrected. All IFR requirements were removed. |

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| Specific Requirements EQT 094; # 185 – 202 | These specific requirements can be deleted. The EQT 94 Liquid Hydrocarbon Tank was never built. | Corrected. |
| Specific Requirements EQT 095; # 203 | "Ground Flare" should be "Co Products Flare". | Corrected. |
| Specific Requirements EQT 095; # 203 | 40CFR63.1103 reference should be Table 7 e for transfer racks, not 7 c for storage tanks and not 7 g for waste operations. | Corrected. |
| Specific Requirements EQT 095; # 211 | "Ground Flare" should be "Co Products Flare". | Corrected. |
| Specific Requirements EQT 0103; #218, 219, 220, 221, 222, 223, and 224. | Propylene Loading is not subject to the control requirements of LAC 2107, due to throughput limits. | Corrected. Throughput is less than 20,000 gal/day (20 railcar/month, 21,000 gal/railcar) re: e-mail Jeff Walker 12/9/09. |
| Specific Requirements FUG 003 and FUG 004. | Please add a Specific Requirement to clarify the scope of the monitoring required in our Consolidated Fugitive Emissions Program. In accordance with the V3 Permit, our original Source Notice Agreement, and our September 9, 2005 Letter:<br><br>Monitoring of flanges and other connectors shall be limited to those components in organic hazardous air pollutant (OHAP) service as this term is defined in 40 CFR 63.1020. | Corrected. |
| Specific Requirements CRG 003 | Please add EQT 038 to this CRG, to eliminate the one furnace listed separately from this CRG. | Corrected. |

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| Specific Requirements CRG 004 Petro 2 Boilers #244 – 263 | Please delete these Specific Requirements. The changes authorized by the V4 Permit were never completed on the boilers, so the scrubber was not installed, and they are not capable of burning liquid fuel. | Corrected. |
| Specific Requirements CRG 005 | Please re-name this CRG Wastewater Treatment Units – Petro 1. This list of EQTs includes more than slop oil tanks, as the name indicates. | Corrected. |
| Specific Requirements #269 | 40CFR63.1103 reference should be Table 7 g for waste operations, not 7 a for storage tanks. | Corrected. |
| Specific Requirements CRG 006 | Please add EQT 90, 91, and 92. Rename CRG Wastewater Treatment Units – Petro 2. | Added EQT90 and EQT91 and renamed the CRG. Could not move EQT92 as there are different requirements than EQT88-EQT91. |
| Specific Requirements #303 | Please delete this Specific Requirement. Developing the Standard Operating Procedures (SOP) is not required for sources subject to Part 63 MACT Standards. | Corrected. |



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