



PART 70

PERMIT TO OPERATE

Under the authority of RSMo 643 and the Federal Clean Air Act the applicant is authorized to operate the air contaminant source(s) described below, in accordance with the laws, rules, and conditions set forth here in.

Operating Permit Number: OP2010-066
Expiration Date: JUN 30 2015
Installation ID: 051-0042
Project Number: 2002-09-099

Installation Name and Address

ConocoPhillips Pipe Line Company-Jefferson City Terminal
2116 Idlewood Road
Jefferson City, MO 65110
Cole County

Parent Company's Name and Address

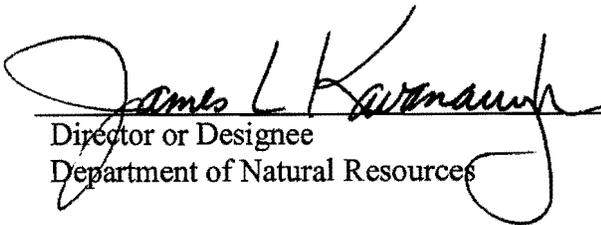
ConocoPhillips Pipe Line Company
600 North Dairy Ashford
Houston, TX 77079

Installation Description:

ConocoPhillips Pipeline Company - Jefferson City Terminal is a petroleum products and product additives distribution terminal in Jefferson City, Missouri. The main processes associated with this installation are the receipt and storage of propane, petroleum product, and product additives, and the distribution of propane and of petroleum products with or without product additives.

JUL - 1 2010

Effective Date



Director or Designee
Department of Natural Resources

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I. Installation Description and Equipment Listing

INSTALLATION DESCRIPTION

ConocoPhillips Pipeline Company - Jefferson City is a petroleum products and product additives distribution terminal in Jefferson City, MO. The main processes associated with this installation are the receipt, storage and distribution of propane, petroleum products and product additives. The terminal receives general (non-LPG) products such as gasoline and distillate fuel oil from a pipeline, stores the products in tanks, and uses a loading rack to load the products into tanker trucks for distribution to retail outlets such as gas stations. In addition, the terminal receives LPG (liquefied petroleum gas – propane or butane) from the pipeline, stores it in tanks, and uses a separate loading rack to load the LPG into tanker trucks for distribution. The facility has the ability to “re-originate” fuel, or send it from a tank back into the pipeline. Note: Different fuels are transported through pipelines in batches to the terminal. During the transportation of different products in the pipeline, the different products mix at the interface of the separate batches. This small volume of interface mixture is referred to as “transmix.” A tank may store either a specific fuel or transmix, but only stores one type of material at a time.

The gasoline and distillate fuel oil loading rack has a vapor processing system with a vapor combustion unit (VCU) to combust the vapors generated from the loading rack. The loading racks also have seven small tanks containing additives. These additives are blended with the petroleum product during the loading of a tank truck.

The facility collects spilled liquid in a rack sump at the loading rack. The rack sump has an oil/water separator. The oil from the separator is pumped into a transmix tank, and the water is pumped into a wastewater tank, from which it is taken offsite for disposal.

The facility has one 196 HP emergency diesel-fired pump and two 315 HP natural gas-fired pipeline pump engines.

The emissions of most concern are volatile organic compounds (VOC) and hazardous air pollutants (HAP). Smaller amounts of PM₁₀, SO_x, NO_x, and CO are also emitted. Some emissions come from the individual tanks, especially during roof landings. There are also emissions from the loading processes at the rack; from the VCU; from valves, seals, connectors, pump, etc.; and from miscellaneous smaller units such as the fire pump and pipeline pump engines.

Reported Air Pollutant Emissions, tons per year							
Year	Particulate Matter ≤ Ten Microns (PM-10)	Sulfur Oxides (SO _x)	Nitrogen Oxides (NO _x)	Volatile Organic Compounds (VOC)	Carbon Monoxide (CO)	Lead (Pb)	Hazardous Air Pollutants (HAPs)
2008	-	-	18.28	39.13	32.25	-	1.60
2007	-	-	19.37	79.98	34.12	-	1.60
2006	-	-	15.73	79.27	11.09	-	1.53
2005	-	-	13.17	80.59	24.38	-	1.45
2004	-	-	13.37	79.48	24.76	-	1.50
2003	-	-	43.43	83.04	75.18	-	1.53

EMISSION UNITS WITH LIMITATIONS

The following list provides a description of the equipment at this installation which emits air pollutants and which is identified as having unit-specific emission limitations.

<u>Emission Unit #</u>	<u>Description of Emission Unit</u>	<u>2004 EIQ EP #</u>
EU0010	Gasoline Tank 4005	EP-03/T-4005
EU0020	Gasoline Tank 4008	EP-04/T-4008
EU0030	Gasoline Tank 4009	EP-05/T-4009
EU0040	Gasoline Tank 4010	EP-06/T-4010
EU0050	Gasoline Tank 4202	EP-08/T-4202
EU0060	Gasoline Tank 4203	EP-09/T-4203
EU0065	Denatured Ethanol Tank 4007	n/a
EU0070	Diesel/Jet kerosene Tank 4101	EP-07/T-4101
EU0080	Phillips Additive Tank 1	T-APhil1
EU0090	Phillips Additive Tank 2	T-APhil2
EU0100	Phillips Additive Tank 3	T-APhil3
EU0110	Conoco Additive Tank	T-AConoco
EU0120	Shell Additive Tank	T-AShell
EU0130	Dye Additive Tank	T-ADye
EU0140	Methanol Additive Tank	T-AMeth
EU0150	Tank Roof Landings/Tank Cleanings	EP-30/TNKCLN
EU0160	Petroleum Liquid Loading Rack	EP-01/FLRACK
EU0170	Vapor Combustion Unit	EP-22/VCU
EU0180	Facility-Wide Fugitive VOC Emissions From Seals, Valves, etc	EP-21/FUG LIQ, FUG VAPOR
EU0190	Meter Proving Process	PROVE
EU0200	Oil/Water Separator	O/W SEP
EU0210	Sump Tank	T-Sump
EU0220	Wastewater Tanks	WW
EU0230	Diesel Fire Pump Engine	ENGINES
EU0240	Diesel Fire Pump Tank	T-Fire
EU0250	Pipeline Pump Engine #1 Blue	EP-14/#1 Blue
EU0260	Pipeline Pump Engine #2 Blue	EP-14/#2 Blue

EMISSION UNITS WITHOUT LIMITATIONS

The following list provides a description of the equipment which does not have unit specific limitations at the time of permit issuance.

<u>Description of Emission Source</u>	<u>2004 EIQ EP #</u>
Propane loading rack	EP-02
Venting propane for miscellaneous maintenance events	EP-29
Propane truck loading disconnect emissions	
Ten propane storage vessels (bullets)	
900-gallon stench storage vessel (mercaptan)	
Natural gas fired space heaters	
Portable maintenance flare	
Ethanol Unloading System	

DOCUMENTS INCORPORATED BY REFERENCE

These documents have been incorporated by reference into this permit.

- 1) Construction Permit 0695-025, issued May 30, 1995
- 2) Construction Permit 1196-009, issued November 5, 1996
- 3) Construction Permit 0197-015, issued November 19, 1996

II. Plant Wide Emission Limitations

The installation shall comply with each of the following emission limitations. Consult the appropriate sections in the Code of Federal Regulations (CFR) and Code of State Regulations (CSR) for the full text of the applicable requirements. All citations, unless otherwise noted, are to the regulations in effect as of the date that this permit is issued.

<p style="text-align: center;">PERMIT CONDITION PW001</p>
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<p style="text-align: center;">Voluntary Condition</p>
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Emission Limitations:

- 1) The permittee shall emit less than 10 tons of any individual hazardous air pollutant (HAP) from the entire installation in any consecutive 12-month period.
- 2) The permittee shall emit less than 25 tons of combined hazardous air pollutants (HAP) from the entire installation in any consecutive 12-month period.

Monitoring/Recordkeeping/Reporting:

When in compliance with all the emission unit-specific emission limitations in this permit, the permittee shall be assumed to be in compliance with this plant-wide emission limitation. No additional monitoring, recordkeeping, or reporting is required.

III. Emission Unit Specific Emission Limitations

The installation shall comply with each of the following emission limitations. Consult the appropriate sections in the Code of Federal Regulations (CFR) and Code of State Regulations (CSR) for the full text of the applicable requirements. All citations, unless otherwise noted, are to the regulations in effect as of the date that this permit is issued.

EU0010 THROUGH EU0065- GASOLINE TANKS					
	Description	Manufacturer	Install Year	Max Storage Capacity (gal)	2004 EIQ EP #
EU0010	Gasoline Tank 4005: external floating roof tank; pontoon roof; primary seal mechanical shoe; secondary seal rim-mounted	NA	1931	157,540	EP-03/T-4005
EU0020	Gasoline Tank 4008: external floating roof tank; pontoon roof; primary seal mechanical shoe; secondary seal rim-mounted	NA	1937	626,090	EP-04/T-4008
EU0030	Gasoline Tank 4009: external floating roof tank; pontoon roof; primary seal mechanical shoe; secondary seal rim-mounted	NA	1937	623,400	EP-05/T-4009
EU0040	Gasoline Tank 4010: external floating roof tank; pontoon roof; primary seal mechanical shoe; secondary seal rim-mounted	NA	1941	620,000	EP-06/T-4010
EU0050	Gasoline Tank 4202: external floating roof tank; pontoon roof; primary seal mechanical shoe; secondary seal rim-mounted	NA	1947	835,840	EP-08/T-4202
EU0060	Gasoline Tank 4203: external floating roof tank; pontoon roof; primary seal mechanical shoe; secondary seal rim-mounted	NA	1947	836,680	EP-09/T-4203
EU0065	Denatured Ethanol Storage Tank 4007; Fixed roof with internal floating roof; primary seal mechanical shoe no secondary seal	NA	2008	504,000	NA

PERMIT CONDITION (EU0010 through EU0065)-001
 Voluntary Condition

Emission Limitations:

- 1) The permittee shall store only gasoline, general petroleum products which have lower emissions of volatile organic compounds (VOC) and hazardous air pollutants (HAP) than gasoline, ethanol, and transmix which has lower emissions of VOC and HAP than gasoline in tanks 4005, 4008, 4009, 4010, 4202, 4203 and 4007 (EU0010 through EU0065).

- 2) The permittee shall limit the throughput for each of the six tanks 4005, 4008, 4009, 4010, 4202, 4203 and 4007 (EU0010 through EU0065) to 250,000,000 gallons per tank in any consecutive 12-month period. Tank throughput includes tank to tank transfers, re-origination to pipeline, and product distributed via loading rack.

Monitoring:

- 1) The permittee shall monitor that only gasoline, general petroleum products which have lower emissions of volatile organic compounds (VOC) and hazardous air pollutants (HAP) than gasoline, and transmix which has lower emissions of VOC and HAP than gasoline are stored in tanks 4005, 4008, 4009, 4010, 4202, 4203 and 4007 (EU0010 through EU0065).
- 2) Each month the permittee shall verify compliance with the consecutive 12-month throughput limitation on tanks 4005, 4008, 4009, 4010, 4202, 4203 and 4007 (EU0010 through EU0065).

Recordkeeping:

- 1) The permittee shall maintain records of the products stored in tanks 4005, 4008, 4009, 4010, 4202, 4203 and 4007 (EU0010 through EU0065). For any product other than gasoline, the permittee shall maintain documentation demonstrating that the product has a maximum true vapor pressure equal to or less than 76.6 kilopascals (11.1 pounds per square inch) at the temperature of storage. The permittee shall note the temperature of storage in this documentation.
- 2) The permittee shall maintain records of the monthly verifications of compliance with the consecutive 12-month throughput for tanks 4005, 4008, 4009, 4010, 4202, 4203 and 4007 (EU0010 through EU0065).
- 3) These records shall be kept for at least five (5) years. They shall be kept on-site for at least two (2) years. They may be kept in either hard-copy form or on computer media.
- 4) These records shall immediately be made available for inspection by Department of Natural Resources personnel upon their verbal request and presentation of identification.

Reporting:

The permittee shall report to the Air Pollution Control Program's Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than thirty (30) days after any deviation from or exceedance of this permit condition.

PERMIT CONDITION (EU0010 through EU0060)-002

10 CSR 10-6.075 Maximum Achievable Control Technology Regulations
40 CFR Part 63 Subpart A General Provisions and
40 CFR Part 63 Subpart BBBBBB

National Emission Standards for Hazardous Air Pollutants for Source Category: Gasoline Distribution
Bulk Terminals, Bulk Plants, and Pipeline Facilities

Note: At the time of issuance of this operating permit, amendments to 40 CFR Part 63 Subpart BBBBBB are pending. If/when the Subpart is amended the applicable permit conditions will default to the current promulgated rule language.

Emission/Operational Limitations:

For each external floating roof gasoline storage tank with a capacity greater than or equal to 75 cubic meters (19,813 gallons), the permittee shall comply with one of the three following options:

- 1) Reduce emissions of total organic HAP or TOC by 95 weight-percent with a closed vent system and control device as specified in §60.112b(a)(3); or

- 2) Equip each external floating roof gasoline storage tank according to the requirements in §60.112b(a)(2), except that the requirements of §60.112b(a)(2)(ii) shall only be requirement if such storage tanks does not currently meet the requirements of §60.112b(a)(2)(i); or
- 3) Equip each external floating roof gasoline storage tank according to the requirements in §63.1063(a)(1) and (b), and equip each external floating roof gasoline storage tank according to the requirements of §60.1063(a)(2) if such storage tank does not currently meet the requirements of §63.1063(a)(1).

Testing Requirements:

- 1) For gasoline storage tanks equipped with an external floating roof, the permittee must perform inspections of the floating roof system according to the requirements of §60.113b(b), if complying with option 2 under Emission/Operational Limitations of this permit condition, or according to the requirements of §63.1063(c)(2) if complying with option 3. [§63.11092(e)(2)]
- 2) If the gasoline storage tank is equipped with a closed vent system and control device, the permittee must conduct a performance test and determine a monitored operating parameter value in accordance with the requirements of §63.11092(a) through (d), except that the applicable level of control specified in paragraph (a)(2) shall be a 95-percent reduction in inlet total organic compounds (TOC) levels rather than 80 mg/l of gasoline loaded. [§63.11092(e)(3)]

Recordkeeping:

The permittee shall keep records as specified in §60.115b of this chapter if complying with option 1 or 2 under Emission/Operational Limitations of this permit condition, except records shall be kept for at least 5 years. If complying with the requirements of option 3 under Emission/Operational Limitations of this permit condition, the permittee shall keep records as specified in §63.1065. [§63.11094(a)]

Reporting:

- 1) If complying with option 1 or 2 under Emission/Operational Limitations of this permit condition, the permittee shall submit a semiannual compliance report containing the information specified in §60.115b(a), §60.115b(b), or §60.115b(c), depending upon the control equipment installed. If complying with the requirements of option 3 under Emission/Operational Limitations of this permit condition, the permittee shall submit a semiannual compliance report containing the information specified in §63.1066. [§63.11095(a)(1)]
- 2) The permittee shall submit a Notification of Compliance Status as specified in §63.9(h). The Notification of Compliance Status must specify which of the compliance options is to be used to comply with this subpart. [§63.11093(b)]
- 3) The permittee must submit additional notifications specified in §63.9, as applicable. [§63.11093(d)]

PERMIT CONDITION EU0065-001

10 CSR 10-6.070 New Source Performance Regulations

40 CFR Part 60 Subpart A General Provisions and Subpart Kb Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23,1984

Operational Specifications:

The permittee shall equip the storage vessel with a fixed roof in combination with an internal floating roof meeting the following specifications: [§60.112b(a)(1)]

- 1) The internal floating roof shall rest or float on the liquid surface (but not necessarily in complete contact with it) inside a storage vessel that has a fixed roof. The internal floating roof shall be floating on the liquid surface at all times, except during initial fill and during those intervals when the storage vessel is completely emptied or subsequently emptied and refilled. When the roof is resting on the leg supports, the process of filling, emptying, or refilling shall be continuous and shall be accomplished as rapidly as possible. [§60.112b(a)(1)(i)]
- 2) Each internal floating roof shall be equipped with one of the following closure devices between the wall of the storage vessel and the edge of the internal floating roof: [§60.112b(a)(1)(ii)]
 - a) A foam- or liquid-filled seal mounted in contact with the liquid (liquid-mounted seal). A liquid-mounted seal means a foam- or liquid-filled seal mounted in contact with the liquid between the wall of the storage vessel and the floating roof continuously around the circumference of the tank. [§60.112b(a)(1)(ii)(A)]
 - b) Two seals mounted one above the other so that each forms a continuous closure that completely covers the space between the wall of the storage vessel and the edge of the internal floating roof. The lower seal may be vapor-mounted, but both must be continuous. [§60.112b(a)(1)(ii)(B)]
 - c) A mechanical shoe seal. A mechanical shoe seal is a metal sheet held vertically against the wall of the storage vessel by springs or weighted levers and is connected by braces to the floating roof. A flexible coated fabric (envelope) spans the annular space between the metal sheet and the floating roof. [§60.112b(a)(1)(ii)(C)]
- 3) Each opening in a noncontact internal floating roof except for automatic bleeder vents (vacuum breaker vents) and the rim space vents is to provide a projection below the liquid surface. [§60.112b(a)(1)(iii)]
- 4) Each opening in the internal floating roof except for leg sleeves, automatic bleeder vents, rim space vents, column wells, ladder wells, sample wells, and stub drains is to be equipped with a cover or lid which is to be maintained in a closed position at all times (i.e., no visible gap) except when the device is in actual use. The cover or lid shall be equipped with a gasket. Covers on each access hatch and automatic gauge float well shall be bolted except when they are in use. [§60.112b(a)(1)(iv)]
- 5) Automatic bleeder vents shall be equipped with a gasket and are to be closed at all times when the roof is floating except when the roof is being floated off or is being landed on the roof leg supports. [§60.112b(a)(1)(v)]
- 6) Rim space vents shall be equipped with a gasket and are to be set to open only when the internal floating roof is not floating or at the manufacturer's recommended setting. [§60.112b(a)(1)(vi)]
- 7) Each penetration of the internal floating roof for the purpose of sampling shall be a sample well. The sample well shall have a slit fabric cover that covers at least 90 percent of the opening. [§60.112b(a)(1)(vii)]
- 8) Each penetration of the internal floating roof that allows for passage of a column supporting the fixed roof shall have a flexible fabric sleeve seal or a gasketed sliding cover. [§60.112b(a)(1)(viii)]
- 9) Each penetration of the internal floating roof that allows for passage of a ladder shall have a gasketed sliding cover. [§60.112b(a)(1)(ix)]

Monitoring:

After installing the control equipment required to meet §60.112b(a)(1) (permanently affixed roof and internal floating roof), the permittee shall: [§60.113b(a)]

- 1) Visually inspect the internal floating roof, the primary seal, and the secondary seal (if one is in service), prior to filling the storage vessel with VOL. If there are holes, tears, or other openings in the primary seal, the secondary seal, or the seal fabric or defects in the internal floating roof, or both, the owner or operator shall repair the items before filling the storage vessel. [§60.113b(a)(1)]

- 2) For Vessels equipped with a liquid-mounted or mechanical shoe primary seal, visually inspect the internal floating roof and the primary seal or the secondary seal (if one is in service) through manholes and roof hatches on the fixed roof at least once every 12 months after initial fill. If the internal floating roof is not resting on the surface of the VOL inside the storage vessel, or there is liquid accumulated on the roof, or the seal is detached, or there are holes or tears in the seal fabric, the owner or operator shall repair the items or empty and remove the storage vessel from service within 45 days. If a failure that is detected during inspections required in this paragraph cannot be repaired within 45 days and if the vessel cannot be emptied within 45 days, a 30-day extension may be requested from the Administrator in the inspection report required in §60.115b(a)(3). Such a request for an extension must document that alternate storage capacity is unavailable and specify a schedule of actions the Company will take that will assure that the control equipment will be repaired or the vessel will be emptied as soon as possible. [§60.113b(a)(2)]
- 3) For vessels equipped with a double-seal system as specified in §60.112b(a)(1)(ii)(B): [§60.113b(a)(3)]
 - a) Visually inspect the vessel as specified in §60.113b(a)(4) at least every 5 years; or [§60.113b(a)(3)(i)]
 - b) Visually inspect the vessel as specified in §60.113b(a)(2). [§60.113b(a)(3)(ii)]
- 4) Visually inspect the internal floating roof, the primary seal, the secondary seal (if one is in service), gaskets, slotted membranes and sleeve seals (if any) each time the storage vessel is emptied and degassed. If the internal floating roof has defects, the primary seal has holes, tears, or other openings in the seal or the seal fabric, or the secondary seal has holes, tears, or other openings in the seal or the seal fabric, or the gaskets no longer close off the liquid surfaces from the atmosphere, or the slotted membrane has more than 10 percent open area, the owner or operator shall repair the items as necessary so that none of the conditions specified in this paragraph exist before refilling the storage vessel with VOL. In no event shall inspections conducted in accordance with Subpart Kb occur at intervals greater than 10 years in the case of vessels conducting the annual visual inspection as specified in §60.113b(a)(2) and (a)(3)(ii) and at intervals no greater than 5 years in the case of vessels specified in §60.113b(a)(3)(i). [§60.113b(a)(4)]

Recordkeeping:

- 1) The permittee shall keep records and furnish reports as required by §60.115b and §60.116b. The permittee shall keep copies of all reports and records required for at least 5 years with the following exception: [§60.115b and §60.116b(a)]
 - a) The permittee shall keep readily accessible records showing the dimension of the storage vessel and an analysis showing the capacity of the storage vessel. These records shall be kept for the life of the source. [§60.116b(b)]
- 2) After installing control equipment in accordance with §60.112b(a)(1) (fixed roof and internal floating roof), the permittee shall meet the following recordkeeping requirements. [§60.115b(a)]
 - a) Keep a record of each inspection performed as required by §60.113b(a)(1), (a)(2), (a)(3), and (a)(4). Each record shall identify the storage vessel on which the inspection was performed and shall contain the date the vessel was inspected and the observed condition of each component of the control equipment (seals, internal floating roof, and fittings). [§60.115b(a)(2)]
- 3) The permittee shall maintain a record of the VOL stored, the period of storage, and the maximum true vapor pressure of that VOL during the respective storage period. [§60.116b(c)]
- 4) Available data on the storage temperature may be used to determine the maximum true vapor pressure as determined below. [§60.116b(e)]

- a) For vessels operated above or below ambient temperatures, the maximum true vapor pressure is calculated based upon the highest expected calendar-month average of the storage temperature. For vessels operated at ambient temperatures, the maximum true vapor pressure is calculated based upon the maximum local monthly average ambient temperature as reported by the National Weather Service. [§60.116b(e)(1)]
- b) For crude oil or refined petroleum products the vapor pressure may be obtained by the following: [§60.116b(e)(2)]
 - i) Available data on the Reid vapor pressure and the maximum expected storage temperature based on the highest expected calendar-month average temperature of the stored product may be used to determine the maximum true vapor pressure from nomographs contained in API Bulletin 2517 (incorporated by reference - see §60.17), unless the Administrator specifically requests that the liquid be sampled, the actual storage temperature determined, and the Reid vapor pressure determined from the sample(s). [§60.116b(e)(2)(i)]
 - ii) The true vapor pressure of each type of crude oil with a Reid vapor pressure less than 13.8 kPa or with physical properties that preclude determination by the recommended method is to be determined from available data and recorded if the estimated maximum true vapor pressure is greater than 3.5 kPa. [§60.116b(e)(2)(ii)]
- c) For other liquids, the vapor pressure: [§60.116b(e)(3)]
 - i) May be obtained from standard reference texts, or [§60.116b(e)(3)(i)]
 - ii) Determined by ASTM D2879–83, 96, or 97 (incorporated by reference—see §60.17); or [§60.116b(e)(3)(ii)]
 - iii) Measured by an appropriate method approved by the Administrator; or [§60.116b(e)(3)(iii)]
 - iv) Calculated by an appropriate method approved by the Administrator. [§60.116b(e)(3)(iv)]
- 5) The owner or operator of each vessel storing a waste mixture of indeterminate or variable composition shall be subject to the following requirements. [§60.116b(f)]
 - a) Prior to the initial filling of the vessel, the highest maximum true vapor pressure for the range of anticipated liquid compositions to be stored will be determined using the methods described in §60.116b(e). [§60.116b(f)(1)]
 - b) For vessels in which the vapor pressure of the anticipated liquid composition is above the cutoff for monitoring but below the cutoff for controls as defined in §60.112b(a), an initial physical test of the vapor pressure is required; and a physical test at least once every 6 months thereafter is required as determined by the following methods: [§60.116b(f)(2)]
 - i) ASTM D2879–83, 96, or 97 (incorporated by reference—see §60.17); or [§60.116b(f)(1)(i)]
 - ii) ASTM D323–82 or 94 (incorporated by reference—see §60.17); or [§60.116b(f)(1)(ii)]
 - iii) As measured by an appropriate method as approved by the Administrator. [§60.116b(f)(1)(iii)]

Reporting:

- 1) After installing control equipment in accordance with §60.112b(a)(1) (fixed roof and internal floating roof), the permittee shall meet the following reporting requirements. [§60.115b(a)]
 - a) Furnish the Administrator with a report that describes the control equipment and certifies that the control equipment meets the specifications of §60.112b(a)(1) and §60.113b(a)(1). This report shall be an attachment to the notification required by §60.7(a)(3). [§60.115b(a)(1)]
 - b) If any of the conditions described in §60.113b(a)(2) are detected during the annual visual inspection required by §60.113b(a)(2), a report shall be furnished to the Administrator within 30 days of the inspection. Each report shall identify the storage vessel, the nature of the defects, and

the date the storage vessel was emptied or the nature of and date the repair was made.

[\$60.115b(a)(3)]

- c) After each inspection required by §60.113b(a)(3) that finds holes or tears in the seal or seal fabric, or defects in the internal floating roof, or other control equipment defects listed in §60.113b(a)(3)(ii), a report shall be furnished to the Administrator within 30 days of the inspection. The report shall identify the storage vessel and the reason it did not meet the specifications of §61.112b(a)(1) or §60.113b(a)(3) and list each repair made. [\$60.115b(a)(4)]
- 2) Notify the Administrator in writing at least 30 days prior to the filling or refilling of each storage vessel for which an inspection is required by §60.113b(a)(1) and (a)(4) to afford the Administrator the opportunity to have an observer present. If the inspection required by §60.113b(a)(4) is not planned and the owner or operator could not have known about the inspection 30 days in advance or refilling the tank, the owner or operator shall notify the Administrator at least 7 days prior to the refilling of the storage vessel. Notification shall be made by telephone immediately followed by written documentation demonstrating why the inspection was unplanned. Alternatively, this notification including the written documentation may be made in writing and sent by express mail so that it is received by the Administrator at least 7 days prior to the refilling. [\$60.113b(a)(5)]

EU0070 – DIESEL/JET KEROSENE TANK

Emission Unit	Description	Manufacturer	Install Year	Max Storage Capacity (gal)	2004 EIQ EP #
EU0070	Diesel/Jet Kerosene Tank 4101: vertical fixed roof tank with cone roof	NA	1947	430,000	EP-07

PERMIT CONDITION EU0070-001

Voluntary Condition

Emission Limitations:

- 1) The permittee shall store only diesel, jet kerosene, general petroleum products which have lower emissions of volatile organic compounds (VOC) and hazardous air pollutants (HAP) than jet kerosene, and transmix which has lower emissions of VOC and HAP than jet kerosene in tank 4101 (EU0070).
- 2) The permittee shall limit the throughput for tank 4101 (EU0070) to 180,000,000 gallons in any consecutive 12-month period. Tank throughput includes tank to tank transfers, re-origination to pipeline, and product distributed via loading rack.

Monitoring:

- 1) The permittee shall monitor that only diesel, jet kerosene, general petroleum products which have lower emissions of volatile organic compounds (VOC) and hazardous air pollutants (HAP) than jet kerosene, and transmix which has lower emissions of VOC and HAP than jet kerosene are stored in tank 4101 (EU0070).
- 2) Each month the permittee shall verify compliance with the consecutive 12-month throughput limitation on tank 4101 (EU0070).

Recordkeeping:

- 1) The permittee shall maintain records of the products stored in tank 4101 (EU0070). For any product other than jet kerosene or diesel, the permittee shall maintain documentation demonstrating that the

product has a maximum true vapor pressure equal to or less than 3.5 kilopascals (0.51 pounds per square inch) at the temperature of storage. The permittee shall note the temperature of storage in this documentation.

- 2) The permittee shall maintain records of the monthly verifications of compliance with the consecutive 12-month throughput for in tank 4101 (EU0070).
- 3) These records shall be kept for at least five (5) years. They shall be kept on-site for at least two (2) years. They may be kept in either hard-copy form or on computer media.
- 4) These records shall immediately be made available for inspection by Department of Natural Resources personnel upon their verbal request and presentation of identification.

Reporting:

The permittee shall report to the Air Pollution Control Program’s Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than thirty (30) days after any deviation from or exceedance of this permit condition.

EU0080 THROUGH EU0140 – ADDITIVE TANKS					
Emission Unit	Description	Manufacturer	Install Year	Max Storage Capacity (gal)	2004 EIQ EP #
EU0080	Phillips Additive Tank 1: horizontal fixed roof tank	NA	1990	3,000	T-APhil1
EU0090	Phillips Additive Tank 2: horizontal fixed roof tank	NA	1995	3,000	T-APhil2
EU0100	Phillips Additive Tank 3: horizontal fixed roof tank	NA	NA	2,000	T-APhil3
EU0110	Conoco Additive Tank: horizontal fixed roof tank	NA	NA	2,000	T-AConoco
EU0120	Phillips Additive Tank: horizontal fixed roof tank	NA	2003	1,034	unknown
EU0130	Permanent Tote	NA	NA	350	unknown
EU0140	Two Methanol Additive Totes	NA	NA	350 each	unknown

<p>PERMIT CONDITION (EU0080 through EU0140)-001 Voluntary Condition</p>

Emission Limitation:

The permittee shall limit the throughput of petroleum additives for each of the additive tanks (EU0080 through EU0140) to 486,000 gallons in any consecutive 12-month period.

Monitoring/Recordkeeping/Reporting:

When in compliance with Permit Condition EU0160-002, the permittee will also be in compliance with this emission limitation. Attachment A contains calculations demonstrating compliance. The permittee shall keep this attachment with the permit. No additional monitoring, recordkeeping, or reporting is required.

<p>PERMIT CONDITION (EU0080 and EU0090)-002 10 CSR 10-6.060 Construction Permits Required Construction Permit 0695-025, Issued May 30, 1995</p>
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Reporting:

If in the opinion of the Director, a continuing situation of demonstrated nuisance odors exists for the neighbors of the facility, the Director may require ConocoPhillips Pipeline Company to submit a corrective action plan adequate to timely and significantly mitigate the odors. ConocoPhillips Pipeline Company shall implement any such plan immediately upon its approval by the Director. Failure to either submit or implement such a plan shall be a violation of the permit.

PERMIT CONDITION EU0120-002
 10 CSR 10-6.060 Construction Permits Required
 Construction Permit 0197-015, Issued November 19, 1996

Reporting:

If a continuing situation of demonstrated nuisance odors exists in violation of MISSOURI State Rule 10 CSR 10-3.090, *Restriction of Emission of Odors*, the Director may require ConocoPhillips Pipeline Company to submit a corrective action plan within ten (10) days adequate to timely and significantly mitigate the odors. ConocoPhillips Pipeline Company shall implement any such plan immediately upon its approval by the Director. Failure to either submit or implement such a plan shall be a violation of the permit.

EU0150 – TANK ROOF LANDINGS/TANK CLEANINGS			
Emission Unit	Description	Manufacturer/ Model #	2004 EIQ Reference #
EU0150	Tank Roof Landings/Tank Cleanings: tanks are emptied to the point that the floating roof is supported on the deck legs, tanks then may or may not be degassed, and then re-floated; emptying may be for tank cleaning, inspection, or seasonal RVP changes	NA	EP-30/ TNKCLN

PERMIT CONDITION EU0150-001
 Voluntary Condition

Emission Limitation:

The permittee shall not emit more than 36,000 pounds (18 tons) of volatile organic compounds (VOC) during tank roof landings and tank cleanings in any consecutive 12-month period.

Monitoring/Recordkeeping:

- 1) The permittee shall maintain a record for tanks 4005, 4008, 4009, 4010, 4202, and 4203 (EU0010 through EU0060) identifying the date when the floating roof was set on its legs, the date when the roof was re-floated and the date of degassing. The record shall also indicate whether this was a continuous operation.
- 2) If the total number of tank roof landings for these six tanks exceeds twelve (12) landings in any consecutive 12-month period and/or the total number of tank cleanings for these six tanks exceeds six (6) cleanings in any consecutive 12-month period, then the permittee shall use the spreadsheet shown in Attachment B, VOC Emissions Tracking Record for Tank Roof Landings and Tank Cleanings, or an equivalent form created by the permittee, to demonstrate that the facility is in compliance with this emission limitation for that 12-month period. If the total number of tank roof landings for these six tanks is less than twelve (12) landings in any consecutive 12-month period and

the total number of tank cleanings for these six tanks is less than six (6) cleanings in any consecutive 12-month period, the permittee shall be assumed to be in compliance with this permit condition, and is not required to demonstrate compliance with this permit condition using a spreadsheet such as the one in Attachment B for that 12-month period.

- 3) These records shall be kept for at least five (5) years. They shall be kept on-site for at least two (2) years. They may be kept in either hard-copy form or on computer media.
- 4) These records shall be made available for inspection by Department of Natural Resources personnel immediately upon their verbal request and presentation of identification.

Reporting:

The permittee shall report to the Air Pollution Control Program’s Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than thirty (30) days after any deviation from or exceedance of this permit condition.

EU0160 AND EU0170 – PETROLEUM LIQUID LOADING RACK AND VCU			
Emission Unit	Description	Manufacturer/ Model #	2004 EIQ Reference #
EU0160	Petroleum Liquid Loading Rack: gasoline/diesel/kerosene bottom loading rack; MHDR 120,000 gal/hr; installed 1940s; modified 1995	NA	EP-01
EU0170	Vapor Combustor Unit with 93.5 % VOC control efficiency; installed 1996	John Zink	EP-22/VCU

PERMIT CONDITION (EU0160 and EU0170)-001
 10 CSR 10-6.070 New Source Performance Regulations
 40 CFR Part 60, Subpart A General Provisions and
 40 CFR Part 60 Subpart XX Standards of Performance for Bulk Gasoline Terminals
 40 CFR Part 64 Compliance Assurance Monitoring

Emission Limitations:

- 1) The permittee shall comply with the requirements of this section. [§60.502]
 - a) Each affected facility shall be equipped with a vapor collection system designed to collect the total organic compounds vapors displaced from tank trucks during product loading. [§60.502(a)]
 - b) The emissions to the atmosphere from the vapor collection system due to the loading of liquid product into gasoline tank trucks are not to exceed 35 milligrams of total organic compounds per liter of gasoline loaded. [§60.502(b)]
 - c) Each vapor collection system shall be designed to prevent any total organic compounds vapors collected at one loading rack from passing to another loading rack. [§60.502(d)]
- 2) Loadings of liquid product into gasoline tank trucks shall be limited to vapor-tight gasoline tank trucks using the following procedures: [§60.502(e)]
 - a) The permittee shall obtain the vapor tightness documentation for each gasoline tank truck which is to be loaded at the affected facility. [§60.502(e)(1)]
 - b) The permittee shall require the tank identification number to be recorded as each gasoline tank truck is loaded at the affected facility. [§60.502(e)(2)]
 - c) The permittee shall cross-check each tank identification number with the file of tank vapor tightness documentation within 2 weeks after the corresponding tank is loaded, unless either of the following conditions is maintained: [§60.502(e)(3)(i)]

- i) If less than an average of one gasoline tank truck per month over the last 26 weeks is loaded without vapor tightness documentation then the documentation cross-check shall be performed each quarter; or [§60.502(e)(3)(i)(A)]
- ii) If less than an average of one gasoline tank truck per month over the last 52 weeks is loaded without vapor tightness documentation then the documentation cross-check shall be performed semiannually. [§60.502(e)(3)(i)(B)]
- iii) If either the quarterly or semiannual cross-check provided in paragraphs (2)(c)(i) and (ii) of this section reveals that these conditions were not maintained, the source must return to biweekly monitoring until such time as these conditions are again met. [§60.502(e)(3)(ii)]
- d) The permittee shall notify the owner or operator of each non-vapor-tight gasoline tank truck loaded at the affected facility within 1 week of the documentation cross-check provided in paragraph (2)(c) of this section. [§60.502(e)(4)]
- e) The permittee shall take steps assuring that the nonvapor-tight gasoline tank truck will not be reloaded at the affected facility until vapor tightness documentation for that tank is obtained. [§60.502(e)(5)]
- f) Alternate procedures to those described in paragraph (2) of this section for limiting gasoline tank truck loadings may be used upon application to, and approval by, the Administrator.
- 3) The permittee shall act to assure that loadings of gasoline tank trucks at the affected facility are made only into tanks equipped with vapor collection equipment that is compatible with the terminal's vapor collection system. [§60.502(f)]
- 4) The permittee shall act to assure that the terminal's and the tank truck's vapor collection systems are connected during each loading of a gasoline tank truck at the affected facility. Examples of actions to accomplish this include training drivers in the hookup procedures and posting visible reminder signs at the affected loading racks. [§60.502(g)]
- 5) The vapor collection and liquid loading equipment shall be designed and operated to prevent gauge pressure in the delivery tank from exceeding 4,500 pascals (450 mm of water) during product loading. This level is not to be exceeded when measured by the procedures specified in §60.503(d) as follows. [§60.502(h)]
 - a) A pressure measurement device (liquid manometer, magnehelic gauge, or equivalent instrument), capable of measuring up to 500 mm of water gauge pressure with ± 2.5 mm of water precision, shall be calibrated and installed on the terminal's vapor collection system at a pressure tap located as close as possible to the connection with the gasoline tank truck. [§60.503(d)(1)]
 - b) During the performance test, the pressure shall be recorded every 5 minutes while a gasoline truck is being loaded; the highest instantaneous pressure that occurs during each loading shall also be recorded. Every loading position must be tested at least once during the performance test. [§60.503(d)(2)]
- 6) No pressure-vacuum vent in the bulk gasoline terminal's vapor collection system shall begin to open at a system pressure less than 4,500 pascals (450 mm of water). [§60.502(i)]

Performance Testing:

- 1) In conducting the performance tests required in §60.8, the owner or operator shall use as reference methods and procedures the test methods in appendix A of this part or other methods and procedures as specified in this section, except as provided in §60.8(b). The three-run requirement of §60.8(f) does not apply to this subpart. [§60.503(a)]
- 2) Immediately before the performance test required to determine compliance with §60.502 (b), (c), and (h), the owner or operator shall use Method 21 to monitor for leakage of vapor all potential sources in the terminal's vapor collection system equipment while a gasoline tank truck is being loaded. The

owner or operator shall repair all leaks with readings of 10,000 ppm (as methane) or greater before conducting the performance test. [§60.503(b)]

3) The owner or operator shall determine compliance with the standards in §60.502 (b) and (c) as follows: [§60.503(c)(1) through (7)]

- a) The performance test shall be 6 hours long during which at least 300,000 liters of gasoline is loaded. If this is not possible, the test may be continued the same day until 300,000 liters of gasoline is loaded or the test may be resumed the next day with another complete 6-hour period. In the latter case, the 300,000-liter criterion need not be met. However, as much as possible, testing should be conducted during the 6-hour period in which the highest throughput normally occurs.
- b) If the vapor processing system is intermittent in operation, the performance test shall begin at a reference vapor holder level and shall end at the same reference point. The test shall include at least two startups and shutdowns of the vapor processor. If this does not occur under automatically controlled operations, the system shall be manually controlled.
- c) The emission rate (E) of total organic compounds shall be computed using the following equation:

$$E = K \sum_{i=1}^n (V_{esi} C_{ei}) / (L 10^6)$$

where:

E=emission rate of total organic compounds, mg/liter of gasoline loaded.

V_{esi}=volume of air-vapor mixture exhausted at each interval “i”, scm.

C_{ei}=concentration of total organic compounds at each interval “i”, ppm.

L=total volume of gasoline loaded, liters.

n=number of testing intervals.

i=emission testing interval of 5 minutes.

K=density of calibration gas, 1.83×10⁶ for propane and 2.41×10⁶ for butane, mg/scm.

- d) The performance test shall be conducted in intervals of 5 minutes. For each interval “i”, readings from each measurement shall be recorded, and the volume exhausted (V_{esi}) and the corresponding average total organic compounds concentration (C_{ei}) shall be determined. The sampling system response time shall be considered in determining the average total organic compounds concentration corresponding to the volume exhausted.
- e) The following methods shall be used to determine the volume (V_{esi}) air-vapor mixture exhausted at each interval:
 - i) Method 2B shall be used for combustion vapor processing systems.
 - ii) Method 2A shall be used for all other vapor processing systems.
 - iii) Method 25A or 25B shall be used for determining the total organic compounds concentration (C_{ei}) at each interval. The calibration gas shall be either propane or butane. The owner or operator may exclude the methane and ethane content in the exhaust vent by any method (e.g., Method 18) approved by the Administrator.

- f) To determine the volume (L) of gasoline dispensed during the performance test period at all loading racks whose vapor emissions are controlled by the processing system being tested, terminal records or readings from gasoline dispensing meters at each loading rack shall be used.
- 4) The owner or operator shall determine compliance with the standard in §60.502(h) as follows:
[§60.503(d)(1) through (2)]
 - a) A pressure measurement device (liquid manometer, magnehelic gauge, or equivalent instrument), capable of measuring up to 500 mm of water gauge pressure with ± 2.5 mm of water precision, shall be calibrated and installed on the terminal's vapor collection system at a pressure tap located as close as possible to the connection with the gasoline tank truck.
 - b) During the performance test, the pressure shall be recorded every 5 minutes while a gasoline truck is being loaded; the highest instantaneous pressure that occurs during each loading shall also be recorded. Every loading position must be tested at least once during the performance test.
- 5) The performance test requirements of paragraph (c) of this section do not apply to flares defined in §60.501 and meeting the requirements in §60.18(b) through (f). The owner or operator shall demonstrate that the flare and associated vapor collection system is in compliance with the requirements in §§60.18(b) through (f) and 60.503(a), (b), and (d). [§60.503(e)]
- 6) The owner or operator shall use alternative test methods and procedures in accordance with the alternative test method provisions in §60.8(b) for flares that do not meet the requirements in §60.18(b). [§60.503(f)]

Monitoring:

Note: Compliance Assurance Monitoring (CAM) applies to these units, so this permit condition incorporates parts of 40 CFR Part 64 and, through that, parts of 40 CFR Part 60. Where conflicts arise between these documents and 40 CFR Part 60, the approved conditions of the CAM plan and CAM test plan (included in this permit condition) govern. A copy of the CAM plan is included with this permit as Attachment D.

- 1) Monitoring Requirements for the loading rack and VCU:
 - a) The permittee shall take timely corrective action during periods of excursions where any of the indicators performance is out of the operational range. A corrective action includes an investigation of the reason for the excursion, evaluation of the problem that led to the excursion and necessary follow-up action to return the emission unit to within the indicator and operational range. An excursion is determined by the average discreet data point over a period of time. An excursion does not indicate a violation of an applicable requirement.
 - b) The monitoring requirements for this unit shall be as specified in Table 1: Conoco Phillips PipeLine Company – Jefferson City Products Terminal Vapor Combustion Unit (VCU) Controlling Emissions by Vapor Collection System on a Two-Bay Product Loading Rack – CAM Monitoring Approach.
 - c) An excursion and its associated averaging time for each emission unit shall be as specified in Table 1: Conoco Phillips PipeLine Company – Jefferson City Products Terminal Vapor Combustion Unit (VCU) Controlling Emissions by Vapor Collection System on a Two-Bay Product Loading Rack – CAM Monitoring Approach.
 - d) Conoco Phillips shall conduct monitoring continuously except for, as applicable, monitoring malfunctions, associated repairs, and required quality assurance or control activities, in accordance with §64.7(c). Although compliance with the emission limitation may be exempted in some circumstances during conditions such as startup, shutdown, and malfunction, Conoco Phillips is required to operate and maintain the source in accordance with good air pollution control practices for minimizing emissions during such periods. This requires Conoco Phillips to

minimize periods of startup, shutdown or malfunction, and take corrective action to restore normal operation and prevent recurrence of the problem that led to the excursion except where the excursion was related to an excused startup, shutdown, or malfunction.

- e) The permittee shall follow the following procedure in response to excursions or exceedances.
 - i) Upon detecting an excursion or exceedance, the permittee shall restore operation of the unit to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions. The response shall include minimizing the period of any startup, shutdown or malfunction and taking any necessary corrective actions to restore normal operation and prevent the likely recurrence of the cause of an excursion or exceedance (other than those caused by excused startup or shutdown conditions). Such actions may include initial inspection and evaluation, recording that operations returned to normal without operator action, or any necessary follow-up actions to return operation to within the indicator range, designated condition, or below the applicable emission limitation or standard, as applicable.
[§64.7(d)(1)]
 - ii) Determination of whether the permittee has used acceptable procedures in response to an excursion or exceedance will be based on information available, which may include but is not limited to, monitoring results, review of operation and maintenance procedures and records, and inspection of the control device, associated capture system, and the process.
[§64.7(d)(2)]

Table 1 ConocoPhillips Pipe Line Company – Jefferson City Products Terminal Vapor Combustion Unit (VCU) Controlling Emissions by Vapor Collection System on a Two-Bay Product Loading Rack						
Indicator	VCU Pilot Flame	Leak Detection and Repair (LDAR) of Vapor Collection System, Vapor Processing System, and Gasoline Loading Rack	Operation of Assist Air Blower	Operation of Vapor Line Valve	Tanker Truck Vapor Tightness	Comprehensive VCU Inspection
Measurement Approach	Fire Eye/Thermocouple Flame Sensor	Sight, sound, and smell leak inspections of liquid and vapor piping components associated with the loading rack.	VCU Programmable Logic Controller (PLC) system start-up check	Pressure Sensor/Transmitter	Tanker Truck Vapor Tightness Testing performed annually by tanker truck owner/operator.	Routine cleaning, adjustment, and repair of the VCU system in accordance with John Zink recommendations.

Indicator Range	Presence of a pilot flame.	No leaks in the Vapor Collection System, Vapor Processing System, and Gasoline Loading Rack.	Blower running.	Less than 17.5 inches of water column.	Tanker truck driver's presentation of valid tightness testing certification.	Inspections performed semiannually. A John Zink or other qualified technician must be present during at least one semiannual inspection per year for five consecutive years beginning in 2009.
Excursion	Loading in the absence of a pilot flame.	A leak in the Vapor Collection System, Vapor Processing System, and Gasoline Loading Rack.	Loading with the blower not running.	Loading when vapor lien pressure is equal to or greater than 17.5 inches of water column.	Loading without having a valid tightness testing certification o n file in TMS.	Failure to perform inspections in accordance with that specified in the indicator range.
	All excursions trigger an inspection, corrective action, and a reporting requirement.					
Quality Improvement Plan (QIP) Threshold	The Permittee shall submit a QIP to the MO Department of Natural Resources, Air Pollution Control Program, Compliance/Enforcement Section if any indicator experiences five (5) excursions, as defined herein, in a 6-month reporting period. The QIP shall be submitted along with the Semiannual Monitoring Report required in the Reporting section of this table below. Additionally, the Permittee shall conduct a full performance test by June 5, 2013, and every five (5) years thereafter for the life of the Part 70 permit, unless that permit has been legally modified, to demonstrate compliance with 40 CFR Part 60, Subpart XX, <i>Standards of Performance for Bulk Gasoline Terminals</i> .					

<p>Data Representativeness</p>	<p>The flame sensor is located within the VCU to view the pilot flame as designed by the manufacturer, John Zink.</p>	<p>The piping components at the loading rack, vapor collection system, and VCU must have integrity to prevent leaks.</p>	<p>The PLC on the VCU is hard programmed to validate the operation of the blower prior to authorizing loading.</p>	<p>Pressure is monitored within the vapor line. If pressure equals or exceeds 17.5 inches of water column, PLC shall initiate an automatic shutdown.</p>	<p>All tanker trucks loaded shall be properly tested in accordance with 40 CFR Part 60, Subpart XX.</p>	<p>Inspection and maintenance of the VCU system helps to ensure proper ongoing operation.</p>
<p>Verification of Operational Status</p>	<p>The pilot flame system, as well as the flame sensing system, will be inspected and maintained per manufacturer's recommendations.</p>	<p>Timely inspections.</p>	<p>The proper functioning of the blower will be determined during scheduled maintenance per manufacturer's recommendations.</p>	<p>Inspection of the vapor valve and controls in accordance with manufacturer's recommendations.</p>	<p>NA</p>	<p>NA</p>
<p>QA/QC Practices and Criteria</p>	<p>Semiannual inspection of VCU.</p>	<p>Monthly inspection of the vapor collection system. Any and all leaks shall be repaired within fifteen (15) days.</p>	<p>Semiannual inspection of VCU.</p>	<p>Semiannual inspection of VCU.</p>	<p>Each time driver requests loading, the validity of the testing certification is checked (i.e., is current certification on file in TMS?). If no longer valid, the truck will not be allowed to load.</p>	<p>NA</p>

Monitoring Frequency	Continuous while receiving loading request from loading rack Terminal Management System (TMS) computer.	Monthly.	Each time a request to load is received from the TMS computer.	Continuous while receiving loading request from loading rack TMS computer.	Annual retesting and submittal of valid test certifications.	Semiannually by Permittee's operations personnel. One semiannual inspection per year with a John Zink qualified technician present for five consecutive years beginning in 2009.
Data Collection Procedure	All excursions shall be logged by operations personnel.	Sight, sound and smell, and leaks, shall be logged by operations personnel.	Any faults/failures shall be logged by operations personnel.	All excursions shall be logged by operations personnel.	Loading Rack TMS computer system	Results of inspections and repairs shall be logged by operations personnel.
Averaging Period	None/NA	None/NA	None/NA	None/NA	None/NA	None/NA
Reporting	The Permittee shall submit monitoring reports in accordance with 40 CFR Part 64, § 64.9, especially noting the number, duration, and cause for any and all excursions, exceedances, and monitor downtime. The reports shall be submitted on a semiannual basis, along with or as a part of, the installation's Semiannual Monitoring Report submitted in accordance with 10 CSR 10-6.065, <i>Operating Permits</i> .					

Recordkeeping:

- 1) The tank truck vapor tightness documentation shall be kept on file at the terminal in a permanent form available for inspection. [§60.505(a)]
- 2) The documentation file for each gasoline tank truck shall be updated at least once per year to reflect current test results as determined by Method 27. This documentation shall include, as a minimum, the following information: [§60.505(b)]
 - a) Test title: Gasoline Delivery Tank Pressure Test—EPA Reference Method 27. [§60.505(b)(1)]
 - b) Tank owner and address. [§60.505(b)(2)]
 - c) Tank identification number. [§60.505(b)(3)]
 - d) Testing location. [§60.505(b)(4)]
 - e) Date of test. [§60.505(b)(5)]
 - f) Tester name and signature. [§60.505(b)(6)]
 - g) Witnessing inspector, if any: Name, signature, and affiliation. [§60.505(b)(7)]
 - h) Test results: Actual pressure change in 5 minutes, mm of water (average for 2 runs). [§60.505(b)(8)]
- 3) The permittee shall keep documentation of all notifications of each non-vapor-tight gasoline tank truck loaded at the affected facility for at least five (5) years. They shall be kept on-site for at least two (2) years. [§60.505(d)]
- 4) As an alternative to keeping records at the terminal of each gasoline cargo tank test result, the permittee may comply with the requirements below as listed below. [§60.505(e)]
 - a) An electronic copy of each record is instantly available at the terminal. [§60.505(e)(1)]
 - i) The copy of each record is an exact duplicate image of the original paper record with certifying signatures. [§60.505(e)(1)(i)]
 - ii) The permitting authority is notified in writing that each terminal using this alternative is in compliance. [§60.505(e)(1)(ii)]
 - b) For facilities that utilize a terminal automation system to prevent gasoline cargo tanks that do not have valid cargo tank vapor tightness documentation from loading (*e.g.*, via a card lock-out system), a copy of the documentation is made available (*e.g.*, via facsimile) for inspection by permitting authority representatives during the course of a site visit, or within a mutually agreeable time frame. [§60.505(e)(2)]
 - i) The copy of each record is an exact duplicate image of the original paper record with certifying signatures. [§60.505(e)(2)(i)]
 - ii) The permitting authority is notified in writing that each terminal using this alternative is in compliance. [§60.505(e)(2)(ii)]
- 5) Other recordkeeping requirements for this unit shall be as specified in Table 1: Conoco Phillips PipeLine – Jefferson City Products Terminal Vapor Combustion Unit (VCU) Controlling Emissions by Vapor Collection System on a Two-Bay Product Loading Rack – CAM Monitoring Approach.
- 6) The permittee shall keep records of all replacements or additions of components performed on an existing vapor processing system for at least five (5) years. [§60.505(e)(f)]
- 7) These records shall immediately be made available for inspection by Department of Natural Resources personnel upon their verbal request and presentation of identification.

Reporting:

- 1) The permittee shall report to the Air Pollution Control Program's Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than thirty (30) days after any deviation from or exceedance of this permit condition.
- 2) Other recordkeeping requirements for this unit shall be as specified in Table 1: Conoco Phillips PipeLine Company – Jefferson City Products Terminal Vapor Combustion Unit (VCU) Controlling Emissions by Vapor Collection System on a Two-Bay Product Loading Rack – CAM Monitoring Approach.

<p align="center">PERMIT CONDITION EU0160-002</p>
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<p align="center">Voluntary Condition</p>

Emission Limitations:

- 1) The permittee shall limit total throughput of gasoline, general petroleum products which have lower emissions of volatile organic compounds (VOC) and hazardous air pollutants (HAP) than gasoline, and transmix which has lower emissions of VOC and HAP than gasoline at this loading rack to 250,000,000 gallons in any consecutive 12-month period.
- 2) The permittee shall limit total throughput of diesel, jet kerosene, general petroleum products which have lower emissions of volatile organic compounds (VOC) and hazardous air pollutants (HAP) than jet kerosene, and transmix which has lower emissions of VOC and HAP than jet kerosene at this loading rack to 180,000,000 gallons in any consecutive 12-month period. This 180,000,000 gallons is in addition to, not part of, the 250,000,000 gallons listed above in item 1.

Monitoring:

The permittee shall monitor the kind and amount of each product passing through this loading rack each month.

Recordkeeping:

- 1) The permittee shall maintain records of the kind and amount of each product passing through this loading rack each month. The permittee shall maintain the rolling 12-month totals of these amounts.
- 2) These records shall be kept for at least five (5) years. They shall be kept on-site for at least two (2) years. They may be kept in either hard-copy form or on computer media.
- 3) These records shall immediately be made available for inspection by Department of Natural Resources personnel upon their verbal request and presentation of identification.

Reporting:

The permittee shall report to the Air Pollution Control Program's Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than thirty (30) days after any deviation from or exceedance of this permit condition.

PERMIT CONDITION 0160-003

10 CSR 10-6.075 Maximum Achievable Control Technology Regulations
40 CFR Part 63 Subpart A General Provisions and
40 CFR Part 63 Subpart BBBBBB

National Emission Standards for Hazardous Air Pollutants for Source Category: Gasoline Distribution
Bulk Terminals, Bulk Plants, and Pipeline Facilities

Note: At the time of issuance of this operating permit, amendments to 40 CFR Part 63 Subpart BBBBBB are pending. If/when the Subpart is amended the applicable permit conditions will default to the current promulgated rule language.

Emission / Operational Limitations:

The emission/operational limitations under 40 CFR Part 60 Subpart XX, Standards of Performance for Bulk Gasoline Terminals, are as stringent or more stringent than those of 40 CFR Part 63 Subpart BBBBBB, National Emission Standards for Hazardous Air Pollutants for Source Category: Gasoline Distribution Bulk Terminals, Bulk Plants, and Pipeline Facilities. Therefore, if the facility is in compliance with Permit Condition 0160-001, then it will be in compliance with the emission and operational limitations of this Subpart.

Monitoring:

- 1) The permittee shall develop and submit to the Administrator a monitoring and inspection plan that describes the approach for meeting the requirements in paragraphs (b)(1)(iii)(B)(2)(i) through (v) of §63.11092. [§63.11092(b)(1)(iii)(B)]
Note: A copy of the monitoring and inspection plan received by the Air Pollution Control Program on March 16, 2009, is included in this permit as Attachment E
- 2) The thermal oxidation system shall be equipped to automatically prevent gasoline loading operations from beginning at any time that the pilot flame is absent. [§63.11092(b)(1)(iii)(B)(2)(i)]
- 3) The owner or operator shall verify, during each day of operation of the loading rack, the proper operation of the assist-air blower, the vapor line valve, and the emergency shutdown system. Verification shall be through visual observation or through an automated alarm or shutdown system that monitors and records system operation. [§63.11092(b)(1)(iii)(B)(2)(ii)]
- 4) The owner or operator shall perform semi-annual preventative maintenance inspections of the thermal oxidation system according to the recommendations of the manufacturer of the system. [§63.11092(b)(1)(iii)(B)(2)(iii)]
- 5) The monitoring plan shall specify conditions that would be considered malfunctions of the thermal oxidation system during the inspections or automated monitoring, describe specific corrective actions that will be taken to correct any malfunction, and define what the owner or operator would consider to be a timely repair for each potential malfunction. [§63.11092(b)(1)(iii)(B)(2)(iv)]
- 6) The owner or operator shall document any system malfunction, as defined in the monitoring and inspection plan, and any activation of the automated alarm or shutdown system with a written entry into a log book or other permanent form of record. Such record shall also include a description of the corrective action taken and whether such corrective actions were taken in a timely manner, as well as an estimate of the amount of gasoline loaded during the period of the malfunction. [§63.11092(b)(1)(iii)(B)(2)(v)]

Performance Testing:

- 1) The permittee must conduct a performance test of the vapor processing and collection systems according to the test methods and procedures in §60.503 (40 CFR Part 60 Subpart XX), except a reading of 500 parts per million shall be used to determine the level of leaks to be repaired under §60.503(b). [§63.11092(a)(1)(i)]
Note: The test methods for §60.503 are detailed under Permit Condition EU0160-001.
- 2) The permittee may use alternative test methods and procedures in accordance with the alternative test method requirements in §63.7(f). [§63.11092(a)(1)(ii)]
- 3) If operating the gasoline loading rack in compliance with an enforceable State, local, or tribal rule or permit that requires your loading rack to meet an emission limit of 80 milligrams (mg), or less, per liter of gasoline loaded (mg/l), a statement by a responsible official of your facility certifying the compliance status of your loading rack in lieu of the test required under paragraph (a)(1) of this section may be submitted. [§63.11092(a)(2)]
- 4) If performance testing has been conducted on the vapor processing and collection systems within 5 years prior to January 10, 2008, and the test is for the affected facility and is representative of current or anticipated operating processes and conditions, then the results of such testing may be submitted in lieu of the required performance test, provided the testing was conducted using the test methods and procedures in §60.503. Should the Administrator deem the prior test data unacceptable, the facility is still required to meet the requirement to conduct an initial performance test within 180 days of the compliance date specified in §63.11083; thus, previous test reports should be submitted as soon as possible after January 10, 2008. [§63.11092(a)(3)]
- 5) The performance test requirements of §63.11092(a) do not apply to flares defined in §63.11100 and meeting the flare requirements in §63.11(b). The owner or operator shall demonstrate that the flare and associated vapor collection system is in compliance with the requirements in §63.11(b) and 40 CFR 60.503(a), (b), and (d). [§63.11092(a)(4)]

Recordkeeping:

- 1) The permittee shall keep records of the test results for each gasoline cargo tank loading at the facility as specified below: [§63.11094(b)(1) through (3)]
 - a) Annual certification testing performed under §63.11092(f)(1)
 - b) The documentation file shall be kept up-to-date for each gasoline cargo tank loading at the facility. The documentation for each test shall include, as a minimum, the following information:
 - i) Name of test: Annual Certification Test—Method 27 or Periodic Railcar Bubble Leak Test Procedure.
 - ii) Cargo tank owner's name and address.
 - iii) Cargo tank identification number.
 - iv) Test location and date.
 - v) Tester name and signature.
 - vi) Witnessing inspector, if any: Name, signature, and affiliation.
 - vii) Vapor tightness repair: Nature of repair work and when performed in relation to vapor tightness testing.
 - viii) Test results: Test pressure; pressure or vacuum change, mm of water; time period of test; number of leaks found with instrument; and leak definition.
 - c) If you are complying with the alternative requirements in §63.11088(b), you must keep records documenting that you have verified the vapor tightness testing according to the requirements of the Administrator.

- 2) As an alternative to keeping records at the terminal of each gasoline cargo tank test result, an owner or operator may comply with the requirements below: [§63.11094(c)(1)]
 - a) An electronic copy of each record is instantly available at the terminal;
 - b) The copy of each record is an exact duplicate image of the original paper record with certifying signatures; and
 - c) The Administrator is notified in writing that each terminal using this alternative is in compliance;OR
- 3) For facilities that use a terminal automation system to prevent gasoline cargo tanks that do not have valid cargo tank vapor tightness documentation from loading (e.g., via a card lock-out system), a copy of the documentation is made available (e.g., via facsimile) for inspection by the Administrator's delegated representatives during the course of a site visit, or within a mutually agreeable time frame. [§63.11094(b)(2)]
 - a) The copy of each record is an exact duplicate image of the original paper record with certifying signatures and
 - b) The Administrator is notified in writing that each terminal using this alternative is in compliance.
- 4) Each owner or operator of a bulk gasoline terminal subject to the provisions of this subpart shall: [§63.11094(f)(1) and (2)]
 - a) Keep an up-to-date, readily accessible record of the continuous monitoring data required under §63.11092(b) or §63.11092(e). This record shall indicate the time intervals during which loadings of gasoline cargo tanks have occurred or, alternatively, shall record the operating parameter data only during such loadings. The date and time of day shall also be indicated at reasonable intervals on this record
 - b) Record and report simultaneously with the Notification of Compliance Status required under §63.11093(b):
 - i) All data and calculations, engineering assessments, and manufacturer's recommendations used in determining the operating parameter value under §63.11092(b) or §63.11092(e); and
 - ii) The following information when using a flare under provisions of §63.11(b) to comply with §63.11087(a):
 1. Flare design (i.e., steam-assisted, air-assisted, or non-assisted); and
 2. All visible emissions (VE) readings, heat content determinations, flow rate measurements, and exit velocity determinations made during the compliance determination required under §63.11092(e)(3).
 - c) Keep an up-to-date, readily accessible copy of the monitoring and inspection plan required under §63.11092(b)(1)(i)(B)(2) or §63.11092(b)(1)(iii)(B)(2). [§63.11094(f)(3)]
 - d) Keep an up-to-date, readily accessible record of all system malfunctions, as specified in §63.11092(b)(1)(i)(B)(2)(v) or §63.11092(b)(1)(iii)(B)(2)(v). [§63.11094(f)(4)]
 - e) If an owner or operator requests approval to use a vapor processing system or monitor an operating parameter other than those specified in §63.11092(b), the owner or operator shall submit a description of planned reporting and recordkeeping procedures. [§63.11094(f)(5)]

Reporting:

- 1) The permittee shall include in a semiannual compliance report to the Administrator, each loading of a gasoline cargo tank for which vapor tightness documentation had not been previously obtained by the facility. [§63.11095(a)(2)]
- 2) The permittee shall submit an excess emissions report to the Administrator at the time the semiannual compliance report is submitted and shall include the following information: [§63.11095(b)(1) through (4)]

- a) Each instance of a non-vapor tight gasoline cargo tank loading at the facility in which the owner or operator failed to take steps to assure that such cargo tank would not be reloaded at the facility before vapor tightness documentation for that cargo tank was obtained.
- b) Each reloading of a non-vapor tight gasoline cargo tank loading at the facility before vapor tightness documentation for that cargo tank is obtained by the facility in accordance with §63.11094(b).
- c) Each exceedance or failure to maintain, as appropriate, the monitored operating parameter value determined under §63.11092(b). The report shall include the monitoring data for the days on which exceedances or failures to maintain have occurred, and a description and timing of the steps taken to repair or perform maintenance on the vapor collection and processing systems or the CMS.
- d) Each instance in which malfunctions discovered during the monitoring and inspections required under §63.11092(b)(1)(i)(B)(2) and (b)(1)(iii)(B)(2) were not resolved according to the necessary corrective actions described in the monitoring and inspection plan. The report shall include a description of the malfunction and the timing of the steps taken to correct the malfunction.

PERMIT CONDITION 0160-004
Settlement Agreement signed July 1, 2009

Operational Requirements:

- 1) Conoco Phillips shall maintain the VCU in compliance with the alternative monitoring requirements specified in 40 CFR 63, Subpart BBBB, National Emission Standards for Hazardous Air Pollutants for Source Category: Gasoline Distribution Bulk Terminals, Bulk Plants, and Pipeline Facilities, one year earlier (January 1, 2010) than the date of compliance specified in 40 CFR 63, Subpart BBBB (January 1, 2011). [Condition No. 3]
- 2) ConocoPhillips shall have Mr. John Zink, or another qualified technician present during one (1) of their semi-annual preventative maintenance periods each year, beginning in 2009, for five (5) consecutive years, to instruct ConocoPhillips' facility technicians on how to better inspect and adjust the VCU. Conoco Phillips shall notify the Department thirty (30) days subsequent to its completion. [Condition No. 4]
- 3) ConocoPhillips shall conduct a full performance test of the VCU and vapor collection system by June 5, 2013, and every five (5) years thereafter to demonstrate compliance with 40 CFR 60, Subpart XX. The test procedure must be approved by the Department at least thirty (30) days prior to initiation of the test. A final report must be submitted to the Department thirty (30) days subsequent to completion of the test. [Condition No. 5]
- 4) ConocoPhillips shall install secondary seals as required by 40 CFR 63, Subpart BBBB, for gasoline tanks T-4009 and T-4010 by January 1, 2010, as opposed to the completion date of January 10, 2018, as specified in 40 CFR 63, Subpart BBBB. [Condition No. 6]

NOTE: A copy of this settlement agreement is included in the permit as Attachment F.

Reporting:

The permittee shall report to the Air Pollution Control Program's Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than thirty (30) days after any deviation from or exceedance of this permit condition.

EU0180 – FACILITY-WIDE FUGITIVE VOC EMISSIONS FROM SEALS, VALVES, ETC			
Emission Unit	Description	Manufacturer	2004 EIQ EP #
EU0180	Facility-wide fugitive VOC emissions from seals, valves, connectors, flanges, pumps, etc.	NA	EP-21/FUG LIQ/ /FUG VAPOR

PERMIT CONDITION EU0180-001

10 CSR 10-6.070 New Source Performance Regulations
40 CFR Part 60, Subpart A General Provisions and
40 CFR Part 60 Subpart XX Standards of Performance for Bulk Gasoline Terminals

Emission Limitation:

Each calendar month, the vapor collection system, the vapor processing system, and each loading rack handling gasoline shall be inspected during the loading of gasoline tank trucks for total organic compounds liquid or vapor leaks. For purposes of this paragraph, detection methods incorporating sight, sound, or smell are acceptable. Each detection of a leak shall be recorded and the source of the leak repaired within 15 calendar days after it is detected. [§60.502(j)]

Recordkeeping

- 1) A record of each monthly leak inspection required above in Emission Limitation and as required by §60.502(j) shall be kept on file for at least five (5) years. They shall be kept on-site for at least two (2) years. Inspection records shall include, as a minimum, the following information: [§60.505(c)]
 - a) Date of inspection. [§60.505(c)(1)]
 - b) Findings (may indicate no leaks discovered; or location, nature, and severity of each leak). [§60.505(c)(2)]
 - c) Leak determination method. [§60.505(c)(3)]
 - d) Corrective action (date each leak repaired; reasons for any repair interval in excess of 15 days). [§60.505(c)(4)]
 - e) Inspector name and signature. [§60.505(c)(5)]
- 2) These records may be kept in either hard-copy form or on computer media.
- 3) These records shall immediately be made available for inspection by Department of Natural Resources' personnel upon their verbal request and presentation of identification.

Reporting:

The permittee shall report to the Air Pollution Control Program's Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than thirty (30) days after any deviation from or exceedance of this permit condition.

PERMIT CONDITION 0180-002

10 CSR 10-6.075 Maximum Achievable Control Technology Regulations

40 CFR Part 63 Subpart A General Provisions and

40 CFR Part 63 Subpart BBBBBB

National Emission Standards for Hazardous Air Pollutants for Source Category: Gasoline Distribution
Bulk Terminals, Bulk Plants, and Pipeline Facilities

Emission Limitation:

- 1) Each owner or operator of a bulk gasoline terminal, bulk plant, pipeline breakout station, or pipeline pumping station subject to the provisions of this subpart shall perform a monthly leak inspection of all equipment in gasoline service, as defined in §63.11100. For this inspection, detection methods incorporating sight, sound, and smell are acceptable. [§63.11089(a)]
- 2) When a leak is detected an initial attempt at repair shall be made as soon as practicable, but no later than 5 calendar days after the leak is detected. Repair or replacement of leaking equipment shall be completed within 15 calendar days after detection of each leak. [§63.11089(c)]
- 3) Delay of repair of leaking equipment will be allowed if the repair is not feasible within 15 days. [§63.11089(c)]

Recordkeeping:

- 1) A log book shall be used and shall be signed by the owner or operator at the completion of each inspection. A section of the log book shall contain a list, summary description, or diagram(s) showing the location of all equipment in gasoline service at the facility. [§63.11089(b)]
- 2) Each detection of a liquid or vapor leak shall be recorded in the log book. [§63.11089(c)]
- 3) The permittee shall prepare and maintain a record describing the types, identification numbers, and locations of all equipment in gasoline service. For facilities electing to implement an instrument program under §63.11089, the record shall contain a full description of the program. [§63.11094(d)]
- 4) The permittee shall record in the log book for each leak that is detected the information specified below: [§63.11094(3)(1) through (7)]
 - a) The equipment type and identification number.
 - b) The nature of the leak (i.e., vapor or liquid) and the method of detection (i.e., sight, sound, or smell).
 - c) The date the leak was detected and the date of each attempt to repair the leak.
 - d) Repair methods applied in each attempt to repair the leak.
 - e) "Repair delayed" and the reason for the delay if the leak is not repaired within 15 calendar days after discovery of the leak.
 - f) The expected date of successful repair of the leak if the leak is not repaired within 15 days.
 - g) The date of successful repair of the leak.

Reporting:

- 1) If a repair is not made within 15 days following the detection of a leak, the owner or operator shall provide in the semiannual report, why the repair was not feasible and the date each repair was completed. [§63.11089(c)]
- 2) The permittee shall provide the number of equipment leaks not repaired within 15 days after detection in the semiannual compliance report to the Administrator. [§63.11095(a)(3)]
- 3) The permittee shall submit an excess emissions report to the Administrator at the time the semiannual compliance report is submitted which shall include for each occurrence of an equipment

leak for which no repair attempt was made within 5 days or for which repair was not completed within 15 days after detection: [§63.11095(b)(5)]

- a) The date on which the leak was detected;
 - b) The date of each attempt to repair the leak;
 - c) The reasons for the delay of repair; and
 - d) The date of successful repair.
- 4) The permittee shall submit a semiannual excess emissions report only for a 6-month period during which an excess emission event has occurred. If no excess emission events have occurred during the previous 6-month period, no report is required. [§63.11095(c)]

EU0190 – METER PROVING PROCESS			
Emission Unit	Description	Manufacturer	2004 EIQ EP #
EU0190	Meter Proving Process: calibration of meters to determine accuracy of measurements	NA	PROVE

PERMIT CONDITION EU0190-001
 Voluntary Condition

Emission Limitation:

The permittee shall not emit more than 4,000 pounds (2.0 tons) of volatile organic compounds (VOC) during the Meter Proving Process (EU0190) in any consecutive 12-month period.

Monitoring/Recordkeeping/Reporting:

No monitoring, recordkeeping, or reporting is required for this permit condition. Since this emission unit has a potential to emit 1.84 tons per year of VOC assuming 365 provings in any consecutive 12-month period, the permittee is assumed always to be in compliance.

EU0200 – OIL/WATER SEPARATOR			
Emission Unit	Description	Manufacturer	2004 EIQ EP #
EU0200	Oil/Water Separator: spilled liquid is collected in a rack sump equipped with an oil/water separator	NA	O/W SEP

PERMIT CONDITION EU0200-001
 Voluntary Condition

Emission Limitations:

The permittee shall emit less than 30,000 pounds (15.0 tons) of volatile organic compounds (VOC) from the Oil/Water Separator (EU0200) in any consecutive 12-month period.

Monitoring/Recordkeeping/Reporting:

No monitoring, recordkeeping, or reporting is required for this permit condition. Since this emission unit has a potential to emit 14.7 tons per year of VOC at the maximum hour loading rate in any consecutive 12-month period, the permittee is assumed always to be in compliance.

EU0210 – SUMP TANK					
Emission Unit	Description	Manufacturer	Install Year	Max Storage Capacity (gal)	2004 EIQ EP #
EU0210	Sump Tank: vertical fixed roof tank with dome roof to store oil from oil/water separator	NA	NA	1,094	T-Sump

PERMIT CONDITION EU0210-001
 Voluntary Condition

Emission Limitations:

The permittee shall limit the throughput of oil for the Sump Tank (EU0210) to 486,000 gallons in any consecutive 12-month period.

Monitoring/Recordkeeping/Reporting:

The HAP emissions from the 1,049-gallon sump tank are so low that any fluctuation would not be significant enough to affect the facility's plant wide emission limit of less than 10 tons of individual hazardous air pollutant (HAP) or 25 tons of combined HAP in any consecutive 12-months. No monitoring, recordkeeping, or reporting is required for this permit condition.

EU0220 – WASTEWATER TANKS			
Emission Unit	Description	Manufacturer	2004 EIQ EP #
EU0220	Two Wastewater Tanks: store wastewater from oil/water separator to be shipped offsite; installed 1940	NA	WW

PERMIT CONDITION EU0220-001
 Voluntary Condition

Emission Limitation:

The permittee shall emit less than 30,000 pounds (15.0 tons) of volatile organic compounds (VOC) from the Wastewater Tanks (EU0220) in any consecutive 12-month period.

Monitoring/Recordkeeping/Reporting:

No monitoring, recordkeeping, or reporting is required for this permit condition. Since this emission unit has a potential to emit 14.7 tons per year of VOC at the maximum hour loading rate in any consecutive 12-month period, the permittee is assumed always to be in compliance.

EU0230 AND EU0240 – DIESEL FIRE PUMP ENGINE AND DIESEL FIRE PUMP TANK			
Emission Unit	Description	Manufacturer/ Model #	2004 EIQ Reference #

EU0230	Diesel Fire Pump Engine: 196 HP diesel fire pump engine; used for emergencies; installed 1989	NA	ENGINES
EU0240	Diesel Fire Pump Tank: 260-gallon diesel horizontal fixed roof tank; installed 1989	NA	T-Fire
PERMIT CONDITION (EU0230 and EU0240)-001 10 CSR 10-6.060 Construction Permits Required Construction Permit 1196-009, Issued November 5, 1996			

Reporting:

If in the opinion of the Director, a continuing situation of demonstrated nuisance odors exists for the neighbors of the facility, the Director may require ConocoPhillips Company to submit a corrective action plan adequate to timely and significantly mitigate the odors. ConocoPhillips Company shall implement any such plan immediately upon its approval by the Director. Failure to either submit or implement such a plan shall be a violation of the permit.

PERMIT CONDITION EU0230-002 10 CSR 10-6.260 Restriction of Emissions of Sulfur Compounds
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Emission Limitations:

- 1) Emissions from any new source operation shall not contain more than five hundred parts per million by volume (500 ppmv) of sulfur dioxide.
- 2) Stack gasses shall not contain more than thirty-five milligrams (35 mg) per cubic meter of sulfuric acid or sulfur trioxide or any combination of those gases averaged on any consecutive three hour time period.
- 3) No person shall cause or permit the emission of sulfur compounds from any source which causes or contributes to concentrations exceeding those specified in 10 CSR 10-6.010 Ambient Air Quality Standards.

Pollutant	Concentration by Volume	Remarks
Sulfur Dioxide (SO ₂)	0.03 parts per million (ppm) (80 micrograms per cubic meter (µg/m ³))	Annual arithmetic mean
	0.14 ppm (365 µg/m ³)	24-hour average not to be exceeded more than once per year
	0.5 ppm (1300 µg/m ³)	3-hour average not to be exceeded more than once per year
Hydrogen Sulfide (H ₂ S)	0.05 ppm (70 µg/m ³)	½-hour average not to be exceeded over 2 times per year
	0.03 ppm (42 µg/m ³)	½-hour average not to be exceeded over 2 times in any 5 consecutive days
Sulfuric Acid (H ₂ SO ₄)	10 µg/m ³	24-hour average not to be exceeded more than once in any 90 consecutive days
	30 µg/m ³	1-hour average not to be exceeded more than once in any 2 consecutive days

Operational Limitation:

The Diesel Fire Pump Engine (EU0230) shall be limited to burning fuel oil with a sulfur content of 0.5 percent by weight or less.

Monitoring/Recordkeeping/Reporting:

The Diesel Fire Pump Engine (EU0230) will always be in compliance with this regulation. Calculations demonstrating compliance are in Attachment C. The permittee shall keep this attachment with this permit. No monitoring or reporting is required for this permit condition.

PERMIT CONDITION EU0240-002
 Voluntary Condition

Emission Limitation:

The permittee shall limit the throughput for the Diesel Fire Pump Tank (EU0240) to 2,500 gallons in any consecutive 12-month period.

Monitoring/Recordkeeping/Reporting:

The HAP emissions from the 260-gallon diesel fire pump tank are so low that any fluctuation would not be significant enough to affect the facility's plant wide emission limit of less than 10 tons of individual hazardous air pollutant (HAP) or 25 tons of combined HAP in any consecutive 12-months. No monitoring, recordkeeping, or reporting is required for this permit condition.

EU0250 AND EU0260 – TWO PIPELINE PUMP ENGINES			
Emission Unit	Description	Manufacturer/ Model #	2004 EIQ Reference #
EU0250	Pipeline Pump Engine #1 Blue: natural gas fired internal combustion engine; 315 HP; installed 1930	NA	#1 Blue
EU0260	Pipeline Pump Engine #2 Blue: natural gas fired internal combustion engine; 315 HP; installed 1930	NA	#2 Blue

PERMIT CONDITION (EU0250 and EU0260)-001
 10 CSR 10-6.260 Restriction of Emissions of Sulfur Compounds

Emission Limitations:

- 1) Emissions from any existing source operation shall not contain more than two thousand parts per million by volume (2000 ppmv) of sulfur dioxide.
- 2) Stack gasses shall not contain more than seventy milligrams (70 mg) per cubic meter of sulfuric acid or sulfur trioxide or any combination of those gases averaged on any consecutive three hour time period.
- 3) No person shall cause or permit the emission of sulfur compounds from any source which causes or contributes to concentrations exceeding those specified in 10 CSR 10-6.010 Ambient Air Quality Standards.

Pollutant	Concentration by Volume	Remarks
Sulfur Dioxide (SO ₂)	0.03 parts per million (ppm) (80 micrograms per cubic meter (µg/m ³))	Annual arithmetic mean

	0.14 ppm (365 $\mu\text{g}/\text{m}^3$)	24-hour average not to be exceeded more than once per year
	0.5 ppm (1300 $\mu\text{g}/\text{m}^3$)	3-hour average not to be exceeded more than once per year
Hydrogen Sulfide (H ₂ S)	0.05 ppm (70 $\mu\text{g}/\text{m}^3$)	½-hour average not to be exceeded over 2 times per year
	0.03 ppm (42 $\mu\text{g}/\text{m}^3$)	½-hour average not to be exceeded over 2 times in any 5 consecutive days
Sulfuric Acid (H ₂ SO ₄)	10 $\mu\text{g}/\text{m}^3$	24-hour average not to be exceeded more than once in any 90 consecutive days
	30 $\mu\text{g}/\text{m}^3$	1-hour average not to be exceeded more than once in any 2 consecutive days

Operational Limitation/Equipment Specifications:

The Pipeline Pump Engines (EU0250 and EU0260) shall be limited to burning pipeline grade natural gas.

Monitoring/Recordkeeping:

- 1) The permittee shall maintain documentation supporting that the fuel used in these emission units is pipeline grade natural gas.
- 2) The permittee shall maintain this documentation for the most recent five (5) years. It must be maintained on-site for two (2) years. It may be kept in either written or electronic form.
- 3) The permittee shall immediately make this documentation available for inspection to any Department of Natural Resources personnel upon request.

Reporting:

Reports of any deviations from monitoring, recordkeeping and reporting requirements of this permit condition shall be submitted annually, in the annual monitoring report and annual compliance certification, as required by Section V of this permit.

IV. Core Permit Requirements

The installation shall comply with each of the following requirements. Consult the appropriate sections in the Code of Federal Regulations (CFR) and Code of State Regulations (CSR) for the full text of the applicable requirements. All citations, unless otherwise noted, are to the regulations in effect as of the date that this permit is issued.

10 CSR 10-6.050 Start-up, Shutdown and Malfunction Conditions

- 1) In the event of a malfunction, which results in excess emissions that exceed one hour, the permittee shall submit to the Director within two business days, in writing, the following information:
 - a) Name and location of installation;
 - b) Name and telephone number of person responsible for the installation;
 - c) Name of the person who first discovered the malfunction and precise time and date that the malfunction was discovered.
 - d) Identity of the equipment causing the excess emissions;
 - e) Time and duration of the period of excess emissions;
 - f) Cause of the excess emissions;
 - g) Air pollutants involved;
 - h) Best estimate of the magnitude of the excess emissions expressed in the units of the applicable requirement and the operating data and calculations used in estimating the magnitude;
 - i) Measures taken to mitigate the extent and duration of the excess emissions; and
 - j) Measures taken to remedy the situation that caused the excess emissions and the measures taken or planned to prevent the recurrence of these situations.
- 2) The permittee shall submit the paragraph 1 information list to the Director in writing at least ten days prior to any maintenance, start-up or shutdown, which is expected to cause an excessive release of emissions that exceed one hour. If notice of the event cannot be given ten days prior to the planned occurrence, it shall be given as soon as practicable prior to the release. If an unplanned excess release of emissions exceeding one hour occurs during maintenance, start-up or shutdown, the Director shall be notified verbally as soon as practical during normal working hours and no later than the close of business of the following working day. A written notice shall follow within ten working days.
- 3) Upon receipt of a notice of excess emissions issued by an agency holding a certificate of authority under Section 643.140, RSMo, the permittee may provide information showing that the excess emissions were the consequence of a malfunction, start-up or shutdown. The information, at a minimum, should be the paragraph 1 list and shall be submitted not later than 15 days after receipt of the notice of excess emissions. Based upon information submitted by the permittee or any other pertinent information available, the Director or the commission shall make a determination whether the excess emissions constitute a malfunction, start-up or shutdown and whether the nature, extent and duration of the excess emissions warrant enforcement action under Section 643.080 or 643.151, RSMo.
- 4) Nothing in this rule shall be construed to limit the authority of the Director or commission to take appropriate action, under Sections 643.080, 643.090 and 643.151, RSMo to enforce the provisions of the Air Conservation Law and the corresponding rule.
- 5) Compliance with this rule does not automatically absolve the permittee of liability for the excess emissions reported.

10 CSR 10-6.060 Construction Permits Required

The permittee shall not commence construction, modification, or major modification of any installation subject to this rule, begin operation after that construction, modification, or major modification, or begin operation of any installation which has been shut down longer than five years without first obtaining a permit from the permitting authority.

10 CSR 10-6.065 Operating Permits

The permittee shall file a complete application for renewal of this operating permit at least six months before the date of permit expiration. In no event shall this time be greater than eighteen months. [10 CSR 10-6.065(6)(B)1.A(V)] The permittee shall retain the most current operating permit issued to this installation on-site. [10 CSR 10-6.065(6)(C)1.C(II)] The permittee shall immediately make such permit available to any Missouri Department of Natural Resources personnel upon request. [10 CSR 10-6.065(6)(C)3.B]

10 CSR 10-6.110 Submission of Emission Data, Emission Fees and Process Information

- 1) The permittee shall complete and submit an Emission Inventory Questionnaire (EIQ) in accordance with the requirements outlined in this rule.
- 2) The permittee shall pay an annual emission fee per ton of regulated air pollutant emitted according to the schedule in the rule. This fee is an emission fee assessed under authority of RSMo. 643.079 to satisfy the requirements of the Federal Clean Air Act, Title V.
- 3) The fees shall be payable to the Department of Natural Resources and shall be accompanied by the Emissions Inventory Questionnaire (EIQ) form or equivalent approved by the Director.

10 CSR 10-6.130 Controlling Emissions During Episodes of High Air Pollution Potential

This rule specifies the conditions that establish an air pollution alert (yellow/orange/red/purple), or emergency (maroon) and the associated procedures and emission reduction objectives for dealing with each. The permittee shall submit an appropriate emergency plan if required by the Director.

10 CSR 10-6.150 Circumvention

The permittee shall not cause or permit the installation or use of any device or any other means which, without resulting in reduction in the total amount of air contaminant emitted, conceals or dilutes an emission or air contaminant which violates a rule of the Missouri Air Conservation Commission.

10 CSR 10-6.170 Restriction of Particulate Matter to the Ambient Air Beyond the Premises of Origin

- 1) The permittee shall not cause or allow to occur any handling, transporting or storing of any material; construction, repair, cleaning or demolition of a building or its appurtenances; construction or use of a road, driveway or open area; or operation of a commercial or industrial installation without applying reasonable measures as may be required to prevent, or in a manner which allows or may allow, fugitive particulate matter emissions to go beyond the premises of origin in quantities that the particulate matter may be found on surfaces beyond the property line of origin. The nature or origin of the particulate matter shall be determined to a reasonable degree of certainty by a technique proven to be accurate and approved by the Director.
- 2) The permittee shall not cause nor allow to occur any fugitive particulate matter emissions to remain visible in the ambient air beyond the property line of origin.

- 3) Should it be determined that noncompliance has occurred, the Director may require reasonable control measures as may be necessary. These measures may include, but are not limited to, the following:
 - a) Revision of procedures involving construction, repair, cleaning and demolition of buildings and their appurtenances that produce particulate matter emissions;
 - b) Paving or frequent cleaning of roads, driveways and parking lots;
 - c) Application of dust-free surfaces;
 - d) Application of water; and
 - e) Planting and maintenance of vegetative ground cover.

10 CSR 10-6.180 Measurement of Emissions of Air Contaminants

- 1) The Director may require any person responsible for the source of emission of air contaminants to make or have made tests to determine the quantity or nature, or both, of emission of air contaminants from the source. The Director may specify testing methods to be used in accordance with good professional practice. The Director may observe the testing. All tests shall be performed by qualified personnel.
- 2) The Director may conduct tests of emissions of air contaminants from any source. Upon request of the Director, the person responsible for the source to be tested shall provide necessary ports in stacks or ducts and other safe and proper sampling and testing facilities, exclusive of instruments and sensing devices as may be necessary for proper determination of the emission of air contaminants.
- 3) The Director shall be given a copy of the test results in writing and signed by the person responsible for the tests.

10 CSR 10-3.030 Open Burning Restrictions

- 1) The permittee shall not conduct, cause, permit or allow a salvage operation, the disposal of trade wastes or burning of refuse by open burning.
- 2) Exception - Open burning of trade waste or vegetation may be permitted only when it can be shown that open burning is the only feasible method of disposal or an emergency exists which requires open burning.
- 3) Any person intending to engage in open burning shall file a request to do so with the Director. The request shall include the following:
 - a) The name, address and telephone number of the person submitting the application; The type of business or activity involved; A description of the proposed equipment and operating practices, the type, quantity and composition of trade wastes and expected composition and amount of air contaminants to be released to the atmosphere where known;
 - b) The schedule of burning operations;
 - c) The exact location where open burning will be used to dispose of the trade wastes;
 - d) Reasons why no method other than open burning is feasible; and
 - e) Evidence that the proposed open burning has been approved by the fire control authority which has jurisdiction.
- 4) Upon approval of the open burning permit application by the Director, the person may proceed with the operation under the terms of the open burning permit. Be aware that such approval shall not exempt ConocoPhillips Pipe Line Company - Jefferson City Terminal from the provisions of any other law, ordinance or regulation.
- 5) The permittee shall maintain files with letters from the Director approving the open burning operation and previous Department of Natural Resources' inspection reports.

10 CSR 10-3.090 Restriction of Emission of Odors

No person may cause, permit or allow the emission of odorous matter in concentrations and frequencies or for durations that odor can be perceived when one volume of odorous air is diluted with seven volumes of odor-free air for two separate trials not less than 15 minutes apart within the period of one hour. **This requirement is not federally enforceable.**

Title VI – 40 CFR Part 82 Protection of Stratospheric Ozone

- 1) The permittee shall comply with the standards for labeling of products using ozone-depleting substances pursuant to 40 CFR Part 82, Subpart E:
 - a) All containers in which a class I or class II substance is stored or transported, all products containing a class I substance, and all products directly manufactured with a class I substance must bear the required warning statement if it is being introduced into interstate commerce pursuant to §82.106.
 - b) The placement of the required warning statement must comply with the requirements pursuant to §82.108.
 - c) The form of the label bearing the required warning statement must comply with the requirements pursuant to §82.110.
 - d) No person may modify, remove, or interfere with the required warning statement except as described in §82.112.
- 2) The permittee shall comply with the standards for recycling and emissions reduction pursuant to 40 CFR Part 82, Subpart F, except as provided for motor vehicle air conditioners (MVACs) in Subpart B:
 - a) Persons opening appliances for maintenance, service, repair, or disposal must comply with the required practices pursuant to §82.156.
 - b) Equipment used during the maintenance, service, repair, or disposal of appliances must comply with the standards for recycling and recovery equipment pursuant to §82.158.
 - c) Persons performing maintenance, service, repair, or disposal of appliances must be certified by an approved technician certification program pursuant to §82.161.
 - d) Persons disposing of small appliances, MVACs, and MVAC-like appliances must comply with record keeping requirements pursuant to §82.166. ("MVAC-like" appliance as defined at §82.152).
 - e) Persons owning commercial or industrial process refrigeration equipment must comply with the leak repair requirements pursuant to §82.156.
 - f) Owners/operators of appliances normally containing 50 or more pounds of refrigerant must keep records of refrigerant purchased and added to such appliances pursuant to §82.166.
- 3) If the permittee manufactures, transforms, imports, or exports a class I or class II substance, the permittee is subject to all the requirements as specified in 40 CFR Part 82, Subpart A, Production and Consumption Controls.
- 4) If the permittee performs a service on motor (fleet) vehicles when this service involves ozone-depleting substance refrigerant (or regulated substitute substance) in the motor vehicle air conditioner (MVAC), the permittee is subject to all the applicable requirements as specified in 40 CFR Part 82, Subpart B, Servicing of Motor Vehicle Air conditioners. The term "motor vehicle" as used in Subpart B does not include a vehicle in which final assembly of the vehicle has not been completed. The term "MVAC" as used in Subpart B does not include the air-tight sealed refrigeration system used as refrigerated cargo, or system used on passenger buses using HCFC-22 refrigerant.

The permittee shall be allowed to switch from any ozone-depleting substance to any alternative that is listed in the Significant New Alternatives Program (SNAP) promulgated pursuant to 40 CFR Part 82, Subpart G, Significant New Alternatives Policy Program. *Federal Only - 40 CFR Part 82*

10 CSR 10-6.280 Compliance Monitoring Usage
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- 1) The permittee is not prohibited from using the following in addition to any specified compliance methods for the purpose of submission of compliance certificates:
 - a) Monitoring methods outlined in 40 CFR Part 64;
 - b) Monitoring method(s) approved for the permittee pursuant to 10 CSR 10-6.065, "Operating Permits", and incorporated into an operating permit; and
 - c) Any other monitoring methods approved by the Director.
- 2) Any credible evidence may be used for the purpose of establishing whether a permittee has violated or is in violation of any such plan or other applicable requirement. Information from the use of the following methods is presumptively credible evidence of whether a violation has occurred by a permittee:
 - a) Monitoring methods outlined in 40 CFR Part 64;
 - b) A monitoring method approved for the permittee pursuant to 10 CSR 10-6.065, "Operating Permits", and incorporated into an operating permit; and
 - c) Compliance test methods specified in the rule cited as the authority for the emission limitations.
- 3) The following testing, monitoring or information gathering methods are presumptively credible testing, monitoring, or information gathering methods:
 - a) Applicable monitoring or testing methods, cited in:
 - i) 10 CSR 10-6.030, "Sampling Methods for Air Pollution Sources";
 - ii) 10 CSR 10-6.040, "Reference Methods";
 - iii) 10 CSR 10-6.070, "New Source Performance Standards";
 - iv) 10 CSR 10-6.080, "Emission Standards for Hazardous Air Pollutants"; or
 - b) Other testing, monitoring, or information gathering methods, if approved by the Director, that produce information comparable to that produced by any method listed above.

V. General Permit Requirements

The installation shall comply with each of the following requirements. Consult the appropriate sections in the Code of Federal Regulations (CFR) and Code of State Regulations (CSR) for the full text of the applicable requirements. All citations, unless otherwise noted, are to the regulations in effect as of the date that this permit is issued,

10 CSR 10-6.065(6)(C)1.B Permit Duration

This permit is issued for a term of five years, commencing on the date of issuance. This permit will expire at the end of this period unless renewed.

10 CSR 10-6.065(6)(C)1.C General Record Keeping and Reporting Requirements

- 1) Record Keeping
 - a) All required monitoring data and support information shall be retained for a period of at least five years from the date of the monitoring sample, measurement, report or application.
 - b) Copies of all current operating and construction permits issued to this installation shall be kept on-site for as long as the permits are in effect. Copies of these permits shall be made immediately available to any Missouri Department of Natural Resources' personnel upon request.
- 2) Reporting
 - a) All reports shall be submitted to the Air Pollution Control Program's Enforcement Section, P. O. Box 176, Jefferson City, MO 65102.
 - b) The permittee shall submit a report of all required monitoring by:
 - i) October 1st for monitoring which covers the January through June time period, and
 - ii) April 1st for monitoring which covers the July through December time period.
 - iii) Exception. Monitoring requirements which require reporting more frequently than semi annually shall report no later than 30 days after the end of the calendar quarter in which the measurements were taken.
 - c) Each report shall identify any deviations from emission limitations, monitoring, record keeping, reporting, or any other requirements of the permit, this includes deviations or Part 64 exceedances.
 - d) Submit supplemental reports as required or as needed. Supplemental reports are required no later than ten days after any exceedance of any applicable rule, regulation or other restriction. All reports of deviations shall identify the cause or probable cause of the deviations and any corrective actions or preventative measures taken.
 - i) Notice of any deviation resulting from an emergency (or upset) condition as defined in paragraph (6)(C)7.A of 10 CSR 10-6.065 (Emergency Provisions) shall be submitted to the permitting authority either verbally or in writing within two working days after the date on which the emission limitation is exceeded due to the emergency, if the permittee wishes to assert an affirmative defense. The affirmative defense of emergency shall be demonstrated through properly signed, contemporaneous operating logs, or other relevant evidence that indicate an emergency occurred and the permittee can identify the cause(s) of the emergency. The permitted installation must show that it was operated properly at the time and that during the period of the emergency the permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards or requirements in the permit. The notice must contain a description of the emergency, the steps taken to mitigate emissions, and the corrective actions taken.

- ii) Any deviation that poses an imminent and substantial danger to public health, safety or the environment shall be reported as soon as practicable.
- iii) Any other deviations identified in the permit as requiring more frequent reporting than the permittee's semiannual report shall be reported on the schedule specified in this permit, and no later than ten days after any exceedance of any applicable rule, regulation, or other restriction.
- e) Every report submitted shall be certified by the responsible official, except that, if a report of a deviation must be submitted within ten days after the deviation, the report may be submitted without a certification if the report is resubmitted with an appropriate certification within ten days after that, together with any corrected or supplemental information required concerning the deviation.
- f) The permittee may request confidential treatment of information submitted in any report of deviation.

10 CSR 10-6.065(6)(C)1.D Risk Management Plan Under Section 112(r)

The permittee shall comply with the requirements of 40 CFR Part 68, Accidental Release Prevention Requirements. If the permittee has more than a threshold quantity of a regulated substance in process at a stationary source, as determined by 40 CFR Section 68.115, the permittee shall submit a Risk Management Plan in accordance with 40 CFR Part 68 no later than the latest of the following dates:

- 1) June 21, 1999;
- 2) Three years after the date on which a regulated substance is first listed under 40 CFR Section 68.130; or
- 3) The date on which a regulated substance is first present above a threshold quantity in a process.

10 CSR 10-6.065(6)(C)1.F Severability Clause

In the event of a successful challenge to any part of this permit, all uncontested permit conditions shall continue to be in force. All terms and conditions of this permit remain in effect pending any administrative or judicial challenge to any portion of the permit. If any provision of this permit is invalidated, the permittee shall comply with all other provisions of the permit.

10 CSR 10-6.065(6)(C)1.G General Requirements

- 1) The permittee must comply with all of the terms and conditions of this permit. Any noncompliance with a permit condition constitutes a violation and is grounds for enforcement action, permit termination, permit revocation and re-issuance, permit modification or denial of a permit renewal application.
- 2) The permittee may not use as a defense in an enforcement action that it would have been necessary for the permittee to halt or reduce the permitted activity in order to maintain compliance with the conditions of the permit
- 3) The permit may be modified, revoked, reopened, reissued or terminated for cause. Except as provided for minor permit modifications, the filing of an application or request for a permit modification, revocation and reissuance, or termination, or the filing of a notification of planned changes or anticipated noncompliance, does not stay any permit condition.
- 4) This permit does not convey any property rights of any sort, nor grant any exclusive privilege.
- 5) The permittee shall furnish to the Air Pollution Control Program, upon receipt of a written request and within a reasonable time, any information that the Air Pollution Control Program reasonably may require to determine whether cause exists for modifying, reopening, reissuing or revoking the permit or to determine compliance with the permit. Upon request, the permittee also shall furnish to

the Air Pollution Control Program copies of records required to be kept by the permittee. The permittee may make a claim of confidentiality for any information or records submitted pursuant to 10 CSR 10-6.065(6)(C)1.

10 CSR 10-6.065(6)(C)1.H Incentive Programs Not Requiring Permit Revisions

No permit revision will be required for any installation changes made under any approved economic incentive, marketable permit, emissions trading, or other similar programs or processes provided for in this permit.

10 CSR 10-6.065(5)(C)1.C Reasonably Anticipated Operating Scenarios

Calculations tying general product throughput limitations to emission limitations were done for a worst-case scenario by assuming that Tanks 4005, 4008, 4009, 4010, 4202, and 4203 (EU0010 through EU0060) stored gasoline and Tank 4101 (EU0070) stored jet kerosene. Furthermore, the calculations for each tank were done as if that one tank were handling the entire throughput of the kind of fuel it stored. (Tank 4005 emissions were calculated as if all the gasoline went through it and none went through Tank 4008. Then Tank 4008 emissions were calculated as if all the gasoline went through Tank 4008 and none went through Tank 4005. Emissions for each of the other tanks were calculated as if the entire throughput of gasoline went through that tank and none went through the other six tanks.) Doing the calculations this way makes the following operating scenarios allowable.

- 1) Operating scenarios which involve handling one or more general products with emissions less than or equal to those of gasoline and storing these general product(s) in Tank 4005 (EU0010), Tank 4008 (EU0020), Tank 4009 (EU0030), Tank 4010 (EU0040), Tank 4202 (EU0050), and/or Tank 4203 (EU0060) are allowable, providing that:
 - a) the facility is in compliance with all other permit conditions, and
 - b) the facility's total throughput of such other general product(s) and the gasoline, taken together, does not exceed the throughput limitation for gasoline specified in this permit.
- 2) There are no restrictions on how the total allowable throughput of gasoline and general products with lower emissions than gasoline is divided among Tank 4005 (EU0010), Tank 4008 (EU0020), Tank 4009 (EU0030), Tank 4010 (EU0040), Tank 4202 (EU0050), and/or Tank 4203 (EU0060).
- 3) Operating scenarios which involve handling one or more general products with emissions less than or equal to those of jet kerosene and storing these general product(s) in Tank 4101 (EU0070) are allowable, providing that:
 - a) the facility is in compliance with all other permit conditions, and
 - b) the facility's total throughput of such other general product(s) and the jet kerosene, taken together, does not exceed the throughput limitation for jet kerosene specified in this permit.

10 CSR 10-6.065(6)(C)3 Compliance Requirements

- 1) Any document (including reports) required to be submitted under this permit shall contain a certification signed by the responsible official.
- 2) Upon presentation of credentials and other documents as may be required by law, the permittee shall allow authorized officials of the Missouri Department of Natural Resources, or their authorized agents, to perform the following (subject to the installation's right to seek confidential treatment of information submitted to, or obtained by, the Air Pollution Control Program):
 - a) Enter upon the premises where a permitted installation is located or an emissions-related activity is conducted, or where records must be kept under the conditions of this permit;
 - b) Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;

- c) Inspect, at reasonable times and using reasonable safety practices, any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit; and
 - d) As authorized by the Missouri Air Conservation Law, Chapter 643, RSMo or the Act, sample or monitor, at reasonable times, substances or parameters for the purpose of assuring compliance with the terms of this permit, and all applicable requirements as outlined in this permit.
- 3) All progress reports required under an applicable schedule of compliance shall be submitted semiannually (or more frequently if specified in the applicable requirement). These progress reports shall contain the following:
- a) Dates for achieving the activities, milestones or compliance required in the schedule of compliance, and dates when these activities, milestones or compliance were achieved, and
 - b) An explanation of why any dates in the schedule of compliance were not or will not be met, and any preventative or corrective measures adopted.
- 4) The permittee shall submit an annual certification that it is in compliance with all of the federally enforceable terms and conditions contained in this permit, including emissions limitations, standards, or work practices. These certifications shall be submitted annually by April 1st, unless the applicable requirement specifies more frequent submission. These certifications shall be submitted to EPA Region VII, 901 North 5th Street, Kansas City, KS 66101, as well as the Air Pollution Control Program's Enforcement Section, P.O. Box 176, Jefferson City, MO 65102. All deviations and Part 64 exceedances and excursions must be included in the compliance certifications. The compliance certification shall include the following:
- a) The identification of each term or condition of the permit that is the basis of the certification;
 - b) The current compliance status, as shown by monitoring data and other information reasonably available to the installation;
 - c) Whether compliance was continuous or intermittent;
 - d) The method(s) used for determining the compliance status of the installation, both currently and over the reporting period; and
 - e) Such other facts as the Air Pollution Control Program will require in order to determine the compliance status of this installation.

10 CSR 10-6.065(6)(C)6 Permit Shield

- 1) Compliance with the conditions of this permit shall be deemed compliance with all applicable requirements as of the date that this permit is issued, provided that:
 - a) The application requirements are included and specifically identified in this permit, or
 - b) The permitting authority, in acting on the permit revision or permit application, determines in writing that other requirements, as specifically identified in the permit, are not applicable to the installation, and this permit expressly includes that determination or a concise summary of it.
- 2) Be aware that there are exceptions to this permit protection. The permit shield does not affect the following:
 - a) The provisions of Section 303 of the Act or Section 643.090, RSMo concerning emergency orders,
 - b) Liability for any violation of an applicable requirement which occurred prior to, or was existing at, the time of permit issuance,
 - c) The applicable requirements of the acid rain program,
 - d) The authority of the Environmental Protection Agency and the Air Pollution Control Program of the Missouri Department of Natural Resources to obtain information, or

- e) Any other permit or extra-permit provisions, terms or conditions expressly excluded from the permit shield provisions.

10 CSR 10-6.065(6)(C)7 Emergency Provisions

- 1) An emergency or upset as defined in 10 CSR 10-6.065(6)(C)7.A shall constitute an affirmative defense to an enforcement action brought for noncompliance with technology-based emissions limitations. To establish an emergency- or upset-based defense, the permittee must demonstrate, through properly signed, contemporaneous operating logs or other relevant evidence, the following:
 - a) That an emergency or upset occurred and that the permittee can identify the source of the emergency or upset,
 - b) That the installation was being operated properly,
 - c) That the permittee took all reasonable steps to minimize emissions that exceeded technology-based emissions limitations or requirements in this permit, and
 - d) That the permittee submitted notice of the emergency to the Air Pollution Control Program within two working days of the time when emission limitations were exceeded due to the emergency. This notice must contain a description of the emergency, any steps taken to mitigate emissions, and any corrective actions taken.
- 2) Be aware that an emergency or upset shall not include noncompliance caused by improperly designed equipment, lack of preventative maintenance, careless or improper operation, or operator error.

10 CSR 10-6.065(6)(C)8 Operational Flexibility

An installation that has been issued a Part 70 operating permit is not required to apply for or obtain a permit revision in order to make any of the changes to the permitted installation described below if the changes are not Title I modifications, the changes do not cause emissions to exceed emissions allowable under the permit, and the changes do not result in the emission of any air contaminant not previously emitted. The permittee shall notify the Air Pollution Control Program's Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, as well as EPA Region VII, 901 North 5th Street, Kansas City, KS 66101, at least seven days in advance of these changes, except as allowed for emergency or upset conditions. Emissions allowable under the permit means a federally enforceable permit term or condition determined at issuance to be required by an applicable requirement that establishes an emissions limit (including a work practice standard) or a federally enforceable emissions cap that the source has assumed to avoid an applicable requirement to which the source would otherwise be subject.

- 1) Section 502(b)(10) changes. Changes that, under Section 502(b)(10) of the Act, contravene an express permit term may be made without a permit revision, except for changes that would violate applicable requirements of the Act or contravene federally enforceable monitoring (including test methods), record keeping, reporting or compliance requirements of the permit.
 - a) Before making a change under this provision, The permittee shall provide advance written notice to the Air Pollution Control Program's Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, as well as EPA Region VII, 901 North 5th Street, Kansas City, KS 66101, describing the changes to be made, the date on which the change will occur, and any changes in emission and any permit terms and conditions that are affected. The permittee shall maintain a copy of the notice with the permit, and the Air Pollution Control Program shall place a copy with the permit in the public file. Written notice shall be provided to the EPA and the Air Pollution Control Program as above at least seven days before the change is to be made. If less than seven days

notice is provided because of a need to respond more quickly to these unanticipated conditions, the permittee shall provide notice to the EPA and the Air Pollution Control Program as soon as possible after learning of the need to make the change.

- b) The permit shield shall not apply to these changes.

10 CSR 10-6.065(6)(C)9 Off-Permit Changes

- 1) Except as noted below, the permittee may make any change in its permitted operations, activities or emissions that is not addressed in, constrained by or prohibited by this permit without obtaining a permit revision. Insignificant activities listed in the application, but not otherwise addressed in or prohibited by this permit, shall not be considered to be constrained by this permit for purposes of the off-permit provisions of this section. Off-permit changes shall be subject to the following requirements and restrictions:
 - a) The change must meet all applicable requirements of the Act and may not violate any existing permit term or condition; the permittee may not change a permitted installation without a permit revision if this change is subject to any requirements under Title IV of the Act or is a Title I modification;
 - b) The permittee must provide written notice of the change to the Air Pollution Control Program's Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, as well as EPA Region VII, 901 North 5th Street, Kansas City, KS 66101, no later than the next annual emissions report. This notice shall not be required for changes that are insignificant activities under 10 CSR 10-6.065(6)(B)3. This written notice shall describe each change, including the date, any change in emissions, pollutants emitted and any applicable requirement that would apply as a result of the change.
 - c) The permittee shall keep a record describing all changes made at the installation that result in emissions of a regulated air pollutant subject to an applicable requirement and the emissions resulting from these changes; and
 - d) The permit shield shall not apply to these changes.

10 CSR 10-6.020(2)(R)12 Responsible Official

The application utilized in the preparation of this permit was signed by W.D. Jones, Vice President, however the person responsible for this permit is Brian Coffman, President of ConocoPhillips Pipe Line Company, as stated in ConocoPhillips' letter dated September 1, 2009. If this person terminates employment, or is reassigned different duties such that a different person becomes the responsible person to represent and bind the installation in environmental permitting affairs, the owner or operator of this air contaminant source shall notify the Director of the Air Pollution Control Program of the change. Said notification shall be in writing and shall be submitted within 30 days of the change. The notification shall include the name and title of the new person assigned by the source owner or operator to represent and bind the installation in environmental permitting affairs. All representations, agreement to terms and conditions and covenants made by the former responsible person that were used in the establishment of limiting permit conditions on this permit will continue to be binding on the installation until such time that a revision to this permit is obtained that would change said representations, agreements and covenants.

10 CSR 10-6.065(6)(E)6 Reopening-Permit for Cause

This permit may be reopened for cause if:

- 1) The Missouri Department of Natural Resources (MDNR) receives notice from the Environmental Protection Agency (EPA) that a petition for disapproval of a permit pursuant to 40 CFR § 70.8(d) has been granted, provided that the reopening may be stayed pending judicial review of that determination,
- 2) The Missouri Department of Natural Resources or EPA determines that the permit contains a material mistake or that inaccurate statements were made which resulted in establishing the emissions limitation standards or other terms of the permit,
- 3) Additional applicable requirements under the Act become applicable to the installation; however, reopening on this ground is not required if—:
 - a) The permit has a remaining term of less than three years;
 - b) The effective date of the requirement is later than the date on which the permit is due to expire;or
 - c) The additional applicable requirements are implemented in a general permit that is applicable to the installation and the installation receives authorization for coverage under that general permit,
- 4) The installation is an affected source under the acid rain program and additional requirements (including excess emissions requirements), become applicable to that source, provided that, upon approval by EPA, excess emissions offset plans shall be deemed to be incorporated into the permit; or
- 5) The Missouri Department of Natural Resources or EPA determines that the permit must be reopened and revised to assure compliance with applicable requirements.

10 CSR 10-6.065(6)(E)1.C Statement of Basis

This permit is accompanied by a statement setting forth the legal and factual basis for the permit conditions (including references to applicable statutory or regulatory provisions). This Statement of Basis, while referenced by the permit, is not an actual part of the permit.

VI. Attachments

Attachments follow.

ATTACHMENT A
Calculation of Additive Throughput

Company Name: ConocoPhillips Company - Jefferson City
Facility Location: 2116 Idlewood Rd, Jefferson City, MO
Facility ID: 051-0042 Cole County

This spreadsheet is used to demonstrate that the additive tanks (EU0080 through EU0140) are in compliance with Permit Condition (EU0080 through EU0140)-001 as long as the permittee is in compliance with Permit Condition EU0160-002.

Since additives are injected at the loading rack when petroleum products are loaded into tank trucks, the additive throughput is dependent and proportional to the throughput of the petroleum products loaded. For a worst-case scenario, the maximum injection rate is 1.944 gallons of additive per thousand gallons of petroleum product.

Permit Condition EU0160-002 limits the throughput at the Petroleum Liquid Loading Rack (EU0160) to 250,000,000 gallons of gasoline and petroleum products which have lower emissions of VOC and HAP than gasoline in any consecutive 12-month period and to 180,000,000 gallons of jet kerosene and petroleum products which have lower emission of VOC and HAP than jet kerosene in any consecutive 12-month period. For a worst-case scenario, assume 1.944 gallons of additive per thousand gallons for gasoline throughput and a throughput of 250,000,000 gallons per year. Then the maximum throughput for each additive tank can be calculated as follows:

$$AdditiveThroughput = \frac{1.944 \text{ galAdditive}}{1000 \text{ galPetroleum Pr oduct}} \times \left(\frac{2.5 \times 10^6 \text{ 1000gal Petroleum Pr oduct}}{\text{yr}} \right) = \frac{486,000 \text{ galAdditive}}{\text{yr}}$$

Therefore, compliance with the throughput limitations for petroleum products at the racks will also result in compliance with the throughput limitations for additives, and no additional monitoring, recordkeeping, or reporting requirements are necessary for Permit Condition (EU0080 through EU0140)-001.

Furthermore, the emissions from any additive tanks associated with the Propane Loading Rack are so low that any fluctuation would not be significant enough to affect the facility's plant wide emission limit of less than 10 tons of individual or 25 tons of combined Hazardous Air Pollutants (HAP).

ATTACHMENT B (continued)

VOC Emissions Tracking Record for Tank Roof Landings/Tank Cleanings

Company Name: ConocoPhillips Company - Jefferson City

Page 3 of 3

Facility Location: 2116 Idlewood Rd, Jefferson City, MO

Columns 34 through 42

Facility ID: 051-0042

Cole County

34 (L _s)	35 (L _{ms})	36 (L _f)	37 (L _T)	38 (L _T)	39	40 (L _d)	41 (L _d)	42 (L _T)
Standing Idle Losses (n _d V _v W _v K _E K _{sb}) (lb)	Maximum Standing Idle Losses (5.9D ² h _{le} W _l) (lb)	Filling Losses (0.00014D ² h _v K _{sf} P _{M_v}) (lb)	Total Losses from landing (L _s + L _f) (lb)	Total Losses from landing (L _T /2000) (ton)	Was the tank cleaned when the roof was landed (Yes = 1, No = 0)	Losses from degassing (PM _v V _v /(RT _{is})) (lb)	Losses from degassing (ton)	Total Losses from landing, refilling, and degassing (ton)
229	37064	393	662	0.311	0	0	0	0.311
1147	37064	393	1539	0.770	1	1279.03	0.640	1.409

Total the final L_T (Col 42) from this record and add to the L_T from the previous 11 months to get the running 12-month total of VOC emissions.

A total VOC emission of less than 18 tons in any 12 consecutive months demonstrates compliance.

ATTACHMENT C
10 CSR 10-6.260 Compliance Worksheet

This attachment may be used to demonstrate that the Diesel Fire Pump Engine (EU0230) is always in compliance with 10 CSR 10-6.260, *Restriction of Emission of Sulfur Compounds*

Diesel Fire Pump Engine (EU0230)

This rule is applicable to the diesel fire pump engine and is included as permit condition for this unit. The unit is in compliance as summarized below:

General Equation:

$\text{ppmv SO}_2 = \text{SO}_2 \text{ Emission Factor (lb/MMBtu)} \div \text{F factor (wscf/MMBtu)} \div \text{Conversion Factor (lb/scf)} \times \text{Conversion Factor (ppmv/ppmw)}$

- 1) The SO₂ emission factor = 0.29 lb/MMBtu (U.S. EPA document AP-42 Table 3.3-1)
This emission factor assumes that all of the sulfur in the fuel is converted to SO₂ emissions.
- 2) The F factor is the ratio of gas volume of products of combustion to the heat content of the fuel. For fuel oil, the F factor is 10,320 wscf/MMBtu. (40 CFR Part 60 Appendix A, Method 19, Table 19-2).
- 3) Conversion factor for lb/scf to ppm is 1.660E-7 lb/scf per ppm (40 CFR Part 60 Appendix A, Method 19, Table 19-1).
- 4) Conversion factor for ppm weight to ppmv = 28.8/MW = 28.8/64 = 0.45 (U.S. EPA document AP-42 Appendix A)

$$\text{ppmv SO}_2 = \left(0.29 \text{ lb} / \text{MMBtu}\right) \left(\text{MMBtu} / 10,320 \text{ ft}^3\right) \left(\text{scf} / 1.667 \text{E}^{-7} \text{ lb}\right) \left(0.45 \text{ ppmv} / \text{ppmw}\right) = 76 \text{ ppmv} < 500 \text{ ppmv}$$

ATTACHMENT D
Compliance Assurance Monitoring (CAM) for
Gasoline Loading Rack and Vapor Combustion Unit

General Information

Facility: Jefferson City Products Terminal
Owner/Operator: ConocoPhillips Pipe Line Company
Address: 1503 Idlewood
Jefferson City, MO
Current Operating Permit: 051-0042-0001
Affected Units: Two Bay Product Loading Rack
Vapor Collection System
Vapor Combustion Unit (VCU) – Control Device

Applicable Regulations

Federal: 40 CFR 60, Subpart XX; 40 CFR 63, Subpart BBBBBB

Emission Limitations: 35 mg TOC/Liter of gasoline loaded (0.2921 lb/1000gal)
Operating Requirements: All transport trucks loading at the facility must supply annual certifications that the trailer has been successfully tested per the provision of 40 CFR 60.502.
Inspection Requirements: Monthly leak inspections (sight, sound, smell) of loading rack and control device during loading. All leaks must be repaired within 15 days.
Performance Testing: The control device must be performance tested, as required, per the provisions listed under 40 CFR 60.503.
System Monitoring: Pilot flame sensor on combustion device and a Monitoring and Inspection Plan as required by 40 CFR 63.11092(b)(iii)(B)(2).

State: Incorporated by reference – 40 CFR 60, Subpart XX

Settlement Agreement for NOV 508MTI

Facility to be in compliance with GD-GACT (40 CFR 63, Subpart BBBBBB) requirements on January 10, 2010 vs. January 10, 2011.

A John Zink or other qualified technician will be present during one of the semi-annual preventive maintenance periods each year beginning in 2009 and running thru 2014.

ConocoPhillips shall perform a full performance test on the VCU and vapor collection system no later than June 5, 2013 and then once every 5-years thereafter.

Performance Testing

A performance test of the VCU was conducted on June 05, 2008. This testing was performed in accordance with NSPS Subparts A and XX. The results of this testing indicated that the system was capable of meeting the 35 mg/L emissions limit. All test parameters met NSPS requirements.

The next performance test will take place on or before June 5, 2013.

Proposed Compliance Assurance Monitoring (CAM)

Please refer Tables 1, 2 and 3 for summaries of the monitoring procedures.

VCU – Monitoring (Pilot Flame): The VCU has an interlock system tied to the presence of a pilot flame that prevents the operation of the VCU and the loading of product at the rack, when no pilot flame is present.

Rationale: The monitoring for the presence of a pilot flame prior to and during loading has been the accepted practice for Flares and Vapor Combustion Units since the promulgation of NSPS Subpart XX and is specified as part of an EPA approved alternative monitoring plan within GD-GACT.

The pilot flame on the VCU at the CPPL Jefferson City Terminal is monitored using a Fire Eye system. If no pilot flame is detected during the startup sequence, the VCU control system does not allow the TMS rack system to initiate loading. If the pilot flame goes out for any reason during the loading process, the VCU control system immediately commands the TMS rack computer to stop loading.

Due to the design of the VCU, the presence of a pilot flame ensures that all gasoline loading vapors are combusted sufficiently to comply with the 35 mg/L limit.

All failures of the pilot flame to ignite prior to loading and any times when the pilot flame goes out during loading will be logged, investigated, repaired and tested prior to allowing loading to begin. The lack of a pilot flame is an excursion under this plan.

VCU – Monitoring (Assist Air Blower and Vapor Line Valve): Per the requirements of the Monitoring and Inspection Plan (MIP) under 40 CFR 63.11092(b)(iii)(B)(2)(ii), the following items will be checked daily.

Assist Air Blower: The operation of the blower is validated each time a request to load is issued to the PLC by the Terminal Management System (TMS). If the PLC detects that the blower is not running, the VCU will shut-down and the PLC removes the permissive to load from the TMS.

Vapor Line Valve: Proper operation of the vapor valve will be monitored using a pressure transmitter that will constantly measure the vapor line system pressure. If the system pressure reaches 17.5 inches of water column at any time, the PLC immediately shuts down the VCU and commands the rack to stop loading. The sensing of high pressure in the vapor line is indicative a problem with the vapor valve, or other blockage or restriction in the vapor processing system piping.

Loading Rack Product Loading and Vapor Collection System: Perform monthly inspections for liquid and vapor leaks using sight, sound, and smell methodologies. This incorporates all gasoline piping systems and the vapor collection system up to the combustion chamber on the VCU.

Rationale: This is the widely accepted process for leak detection and repair throughout the regulated community and is promulgated under NSPS Subpart XX and NESHAP Subparts R and BBBBBB.

The presence of a leak in either a liquid or vapor line will be logged and is to be repaired within 15-days of discovery. Failure to repair the leak with the 15-day period constitutes an excursion under this CAM plan and an excess emission under GD-GACT.

Transport Trucks: All transport trucks loading at the terminal must provide annual vapor tightness testing certifications. These certifications are entered into the facilities Terminal Management System (TMS) loading control system. Vend cards are issued for each approved transport truck tank car. If the certification on file is older than one-year, the TMS computer automatically locks out the specific transport until a new certification is provided.

Rationale: This is the industry standard practice to ensure that all transport truck tank cars are vapor tight. The methodologies are promulgated under NSPS Subpart XX and NESHAP Subparts R and BBBBBB.

All trucks requesting to load at the terminal must submit valid certifications of annual vapor tightness testing on the transport trailer to be loaded. Failure to provide a valid test certification or the expiration of a certification will prevent the trailer from being loaded until a valid certification is presented. An attempt to load a trailer without valid testing documentation would be an excursion under this plan.

VCU Routine Preventive Maintenance: Twice a year, the VCU will be shut-down and fully inspected for the following items and any repairs/recalibrations made. During at least one of these maintenance periods, a Technician from John Zink Company LLC will be present to assist in the inspection, check the control system and tune the unit, for a five-year period beginning in 2009.

Rationale: The performance of routine maintenance on the VCU system ensures that the unit is operating properly and any problems with the unit (physical and operational) are detected and repaired. Having a John Zink technician during an inspection will allow the control system to be checked and software updated regularly, as well as training the site operations personnel how to perform these detailed inspections and adjustments. The semi-annual preventive maintenance is a requirement of the alternate monitoring pathway under GD-GACT.

VCU Performance Tests: A full performance test of the VCU and vapor collection system will be conducted on or before June 5, 2013, and every five years thereafter, using a test procedure approved by the Department at least 30 days prior to initiation of the test. A final report will be submitted to the Department 30 days subsequent to completion of the test.

Rationale: Conducting a performance test of the VCU system demonstrates that the unit is operating properly and meets the required emission limits.

ATTACHMENT E
Alternative Monitoring Proposal



Kelly W. Hayes
Senior Engineer
P.O. Box 1267
Ponca City, OK 74602-1267
Phone: (580) 767-5041
Facsimile: (580) 767-3527

March 13, 2009

CERTIFIED MAIL, Return Receipt Requested

Mr. Bob Randolph
Air Pollution Control Program
Missouri Department of Natural Resources
1659 East Elm St.
Jefferson City, MO 65101

Submittal of VCU Monitoring and Inspection Plan

Jefferson City Products Terminal
Permit Number: 051-0042-0001
40 CFR 63, Subpart BBBB (GD - GACT)
ConocoPhillips Pipe Line Company

Dear Mr. Randolph:

ConocoPhillips Pipe Line Company (CPPL) owns and operates the Jefferson City Products Terminal, a bulk storage and product distribution terminal. The terminal is subject to the Gasoline Distribution GACT (40 CFR 63, Subpart BBBB) regulations.

CPPL has elected to comply with the alternate monitoring path under GD-GACT (§63.11092(b)(1)(iii)(B)). The enclosed Monitoring and Inspection Plan (MIP) required when following the alternative pathway is being submitted for your review and approval per §63.11092(b)(1)(iii)(B)(2).

If you have any questions about this plan or require any additional information, please call at (580) 767-5041.

Sincerely,

Kelly W. Hayes
Environmental Coordinator



**CONOCOPHILLIPS PIPE LINE COMPANY
JEFFERSON CITY PRODUCTS TERMINAL
GD-GACT – MONITORING AND INSPECTION PLAN**

This plan has been developed in accordance with 40 CFR Part 63 Subpart BBBBBB National Emission Standards for Hazardous Air Pollutants for source categories: Gasoline Distribution or GD-GACT. The plan describes malfunctions as well as the scheduled monitoring and inspections of the vapor collection system and thermal oxidation system (VCU) during normal operations at the Jefferson City Products Terminal. Each possible malfunction event includes a description of the type of equipment involved, the automatic measures taken and the corrective actions taken by facility personnel to correct the problem.

Control Device

Manufacturer: John Zink

Plan Updates

The plan should be reviewed periodically to ensure that the anticipated events and required actions meet the current operations at the facility. In the event that the response to a malfunction event did not follow the plan, or the event was not anticipated in the current plan, the MIP plan must be updated within 45 days of the event.

GD-GACT MONITORING OPTIONS FOR VCU's

The testing and monitoring section of GD-GACT (§63.11092(b)), requires that a continuous monitoring system be installed on the emission control device for the loading rack. There are two monitoring options for Vapor Combustion Units (VCU's) within this section.

The primary option requires the installation of a Continuous Parameter Monitoring System (CPMS) that will measure the combustion temperature within the VCU stack (§63.11092(b)(1)(iii)(A)).

The alternative option requires the operator to verify each day, the proper operation of pilot flame, assist-air blower and vapor-valve as well as performing semi-annual preventive maintenance inspections of the VCU (§63.11092(b)(1)(iii)(B)).

ConocoPhillips Pipe Line has selected the alternative monitoring path at this terminal. The following pages provide details on how the various parameters are monitored; preventive maintenance activities are conducted as well as the actions taken when malfunctions occur.

AUTOMATIC MONITORING OF VCU OPERATIONS

Pilot Flame: [63.11092(b)(1)(iii)(B)(1) and (B)(2)(i)]

The pilot flame is only lit when a request is sent to the VCU control system (PLC) from the loading rack control system (TMS). When a request is received, the PLC initiates a pre-programmed start-up sequence. This process includes the purging of the VCU burners and chamber with air from the blower system. Following the purge, the PLC commands the pilot flame to ignite. This typically occurs on the first attempt. The PLC is programmed to attempt to lite the pilot flame three times before the PLC automatically shuts down, sends a shut-down command to the TMS and an alarm is sounded. No loading at the rack can occur until operations personnel have investigated the alarm, determined the problem, corrected the issue, cleared the alarm and cleared the system to return to normal operation.

The PLC also monitors for a flame during the entire period that loading occurs at the rack. If for some reason there is no combustion or pilot flame (i.e., no flame present) once loading has begun, the PLC is programmed to shut-down the VCU and stop all loading at the rack. A shut-down alarm (pilot failure light on the unit panel) will be activated. This alarm would be addressed in the same manner as a failure to ignite.

Assist-Air Blower: [63.11092(b)(1)(iii)(B)(2)(ii)]

As with the pilot flame, the air-assist blower is active during preparation to load, during active loading, and after loading is completed. As part of the start-up sequence, the PLC will command the blower to turn on and purge the system. If the blower fails to start, the PLC will command an automatic shut-down of the VCU, send a shut-down command to the rack, and issue a shut-down alarm (air blower failure light on the unit panel). As with a failure to ignite the pilot flame, no loading can occur at the rack until the fault is determined, corrected, alarm re-set and system returned to operational status.

If the blower should fail during loading, the PLC will immediately shut-down the loading rack, VCU and sound an alarm. This alarm would be addressed by operations in the same manner as a failure during start-up.

Vapor Line Valve: [63.11092(b)(1)(iii)(B)(2)(ii)]

The vapor line valve is commanded to open and close based on the inlet stream pressure in the vapor line from the loading rack. Once the VCU has authorized loading to start at the rack, the vapor line pressure increases, when the pressure in the vapor line reaches 3-inches of water column, the valve is commanded to open. At the end of the loading cycle, the valve will remain open until the vapor line pressure falls below 0.5 inches of water column for 15 seconds. The pressure in the vapor line upstream of the vapor valve is monitored with a pressure transmitter. If for some reason the vapor valve does not open properly the pressure transmitter will sense the increase in line pressure and if the pressure reaches 17.5 inches of water column, the PLC will command the VCU and loading rack to shutdown. The PLC will not allow the VCU to operate or loading to occur until the fault is corrected.

Automatic Shutdown System: [63.11092(b)(1)(iii)(B)(2)(ii)]

Any time that no flame is observed, the air blower fails, or the vapor valve malfunctions, the PLC on the VCU will automatically issue a command to shut-down the VCU, remove the permissive to allow loading at the loading rack and indicate the failure on the unit control panel. If the PLC itself fails, the VCU will automatically shut down. The VCU operation is "fail-safe" for any malfunctions or failures on the VCU operating system.

If the terminal emergency shut down system is activated, the terminal system shuts down the loading rack and sends a command to the PLC to immediately initiate an automatic shutdown of the VCU.

EMI-ANNUAL INSPECTION/PREVENTIVE MAINTENANCE OF VCU SYSTEM

63.11092(b)(1)(iii)(B)(2)(iii)]

The entire VCU system will be thoroughly inspected according to manufacturer's recommendations at least twice a year.

During these inspections, all manufacturer recommended preventive maintenance and inspection activities will be performed. The following items are of particular importance to controlling emissions from the unit.

Piping systems:

- Evidence of leaks on all connects and valves.
- Confirm proper operation of vapor valve

Combustor Section:

- Inspect the burner tips for damage/deterioration
- Conduct differential pressure test on the burners to check for blockages
- Inspect the pilot flame assembly and ignition system
- Confirm pilot gas supply pressure and pilot ignition
- Confirm the proper operation of the air damper louvers
- Clean flame and/or detonation arrestors
- Confirm the proper operation of the assist air blower

PLC System:

- Verify that the PLC is functioning properly and all input/output signals are correct.
- Perform system tests as detailed in the manufacturer's operation manual for the Lamp test, Pilot Failure, Assist Air Blower, Vapor Valve (Automatic Block Valve), Pilot gas pressure (high/low).

Loading Rack Terminal Management System PLC Commanded Shut-Down:

- Verify that if/when the PLC commands a shut-down of the VCU and loading rack, that TMS terminates loading at the rack.

Terminal Emergency Shutdown System:

- Verify that if/when the terminals emergency shutdown system is activated the PLC receives the shutdown order and immediately commands the automatic shut-down of the VCU.

STARTUPS AND SHUTDOWNS DURING NORMAL OPERATIONS

[63.11092(b)(1)(iii)(B)(2)(iv)]

The following sections describe the startups and shutdowns that can occur at the Jefferson City Products Terminal and corrective actions taken to repair the fault.

Product Loading Rack VCU:

Frequency and Duration	Emissions From Event	Corrective Actions to be Taken
Pilot flame, air blower, and vapor valve are controlled by the PLC during normal operations. No conventional startups or shutdowns.	None	If any faults are detected during the startup of the VCU, the PLC is program to automatically shut-down the VCU and not allow loading to occur until all faults are repaired and this system is operating normally.

NOTE: Any failures that occur during automatic start-up or shut-down would be the same as those detailed under MALFUNCTIONS DURING NORMAL OPERATION.

ALFUNCTIONS DURING NORMAL OPERATION [63.11092(b)(1)(iii)(B)(2)(iv)]

The following section describes the VCU malfunctions that can occur at the Jefferson City Products Terminal and the corrective actions taken to repair the fault. Please contact the Environmental Coordinator about any malfunctions so that any potential emissions from the event can be determined and any reports submitted per GD-GACT requirements.

All actions must comply with all applicable CPPL safety policies and procedures, as well as manufacturer's recommendations and procedures.

Product Loading Rack VCU:

Malfunction Description	Automatic Response	Excess Emissions From Event	Corrective Actions to be Taken
Pilot Flame Failure	PLC shuts VCU down and issues shut down command to TMS.	No Excess Emissions	Diagnose and repair pilot flame system before allowing loading to occur.
Assist Air Blower Failure	PLC shuts VCU down and issues shut down command to TMS.	No Excess Emissions	Diagnose and repair assist air blower system before allowing loading to occur.
Vapor Valve Operation Failure	PLC shuts VCU down and issues shut down command to TMS.	No Excess Emissions	Diagnose and repair vapor valve system before allowing loading to occur.

Follow the manufactures procedures and any site specific processes in managing malfunctions at the VCU.

Record all malfunction events on the Truck Loading Rack VCU MIP Log Sheet and note on MIP Activity Log.

Timely Repair Estimates [63.11092(b)(1)(iii)(B)(2)(iv)]

Any malfunction occurring in the VCU System that directly affects the proper operation of the unit will be fully repaired prior to restarting the system and allowing loading to resume. The time to fix any given malfunction is dependent on the nature/cause of the failure, the equipment involved, and the availability of replacement parts.

Despite the variability of the total time of repair, the following actions will be taken in all instances: [Timelines from 63.11092(d)(4)]

Diagnosis: Following the safe shut-down of the unit and loading rack, the diagnosis of the failure will be initiated within 1-hr of the event.

Initial Attempt: Once the cause of the fault has been determined, an initial attempt at repair will be initiated within 24-hours of the event.

Complete Repair: Depending on the nature of the failure and timing on receipt of parts, all repairs should be complete within 15 calendar days of the event. Regardless of the time required to repair the VCU and/or Loading Rack, loading will not be allowed until the VCU/Rack are fully repaired and operating properly.

ATTACHMENT F
Settlement Agreement



RECEIVED

2009 AUG -4 AM 11:25

AIR POLLUTION
CONTROL PGM

ATTORNEY GENERAL OF MISSOURI

CHRIS KOSTER
ATTORNEY GENERAL

JEFFERSON CITY
65102

P.O. BOX 899
(573) 751-3321

July 31, 2009

Linda Ladrach
ConocoPhillips Pipe Line Company
P.O. Box 4783
Houston, TX 77210

RE: *Settlement Agreement*

Dear Ms. Ladrach:

Enclosed please find a copy of a fully-executed Settlement Agreement in this case for your files. Since this document has been fully executed, your civil penalty payment of \$20,000.00 will now be forwarded to the Cole County School Fund.

Thank you for your cooperation in this matter.

Sincerely yours,

CHRIS KOSTER
Attorney General

A handwritten signature in black ink, appearing to read "John K. McManus".

JOHN K. McMANUS
Chief Counsel
Phone: (573) 751-8370

JKM:ka
Enclosure

c: Steve Feeler, MDNR-APCP

SETTLEMENT AGREEMENT

This Settlement Agreement is made by and among the Missouri Attorney General's Office ("Attorney General"), the Missouri Department of Natural Resources ("the Department"), and ConocoPhillips Pipe Line Company ("ConocoPhillips"). This agreement is made on the date this document is executed by the Department.

WHEREAS, on June 28, 2007, the Department informed ConocoPhillips, located in Jefferson City, Cole County, Missouri, that they would be required to conduct emissions testing for 40 CFR Part 60, Subpart XX, Standards of Performance for Bulk Gasoline Terminals, as part of development of a Compliance Assurance Monitoring Plan for its Part 70 Operating Permit.

WHEREAS, a performance test was scheduled for November 1, 2007, that had to be rescheduled to December 5, 2007, because ConocoPhillips was experiencing operational problems. The December 5, 2007, test was also canceled because the Vapor Combustion Unit (VCU) was not operating properly.

WHEREAS, on March 26, 2008, ConocoPhillips completed its performance test and the test report was received by the Department on May 5, 2008. A review of the report showed that Total Organic Compound emissions from the unit were 68.7 mg/L as compared to the limit of 35 mg/L. The Department issued Notice of Violation ("NOV") No. 508MTI to ConocoPhillips on May 13, 2008, for failure to comply with 10 CSR 10-6.070, *New Source Performance Regulations*, that adopts by reference 40 CFR 60, Subpart XX, *Standards for Performance for Bulk Gasoline Terminals*.

WHEREAS, the Department, the Attorney General and ConocoPhillips desire to amicably resolve all disputes or claims which could be made against ConocoPhillips listed in NOV No. 508MTI for violations of the Missouri Air Conservation Law and regulations.

NOW, THEREFORE, in consideration of the mutual promises contained herein and other good and valuable consideration, the Department, the Attorney General, and ConocoPhillips agree as follows:

1. The provisions of this Agreement shall apply to and be binding upon the parties executing this Agreement, their agents, subsidiaries, affiliates, and lessees, including the officers, agents, servants, corporations and any persons acting under, through, or for the parties agreeing hereto.

2. ConocoPhillips, in compromise and satisfaction of the allegations or claims relating to the above-referenced claimed violations, agrees, without admitting liability or fault, to pay the sum of \$20,000.00 as a civil penalty and to conduct all other activities required by this settlement agreement. The parties hereto agree that a certified check in the amount of \$20,000.00 made payable to the "State of Missouri (Cole County School Fund)," shall be forwarded to JoAnn Horvath, Collections Specialist, P.O. Box 899, Jefferson City, MO 65102-0899 upon ConocoPhillip's execution of this Agreement.

3. ConocoPhillips shall maintain the VCU in compliance with the alternative monitoring requirements specified in 40 CFR 63, Subpart BBBBBB, *National Emission Standards for Hazardous Air Pollutants for Source Category: Gasoline Distribution Bulk Terminals, Bulk Plants, and Pipeline Facilities*, one year earlier (January 1, 2010) than the date of compliance specified in 40 CFR 63, Subpart BBBBBB (January 1, 2011).

4. ConocoPhillips shall have Mr. John Zink or another qualified technician present during one (1) of their semi-annual preventative maintenance periods each year, beginning in 2009, for five (5) consecutive years, to instruct ConocoPhillips' facility technicians on how to

better inspect and adjust the VCU. ConocoPhillips shall notify the Department thirty (30) days subsequent to its completion.

5. ConocoPhillips shall conduct a full performance test of the VCU and vapor collection system by June 5, 2013, and every five (5) years thereafter to demonstrate compliance with 40 CFR 60, Subpart XX. The test procedure must be approved by the Department at least thirty (30) days prior to initiation of the test. A final report must be submitted to the Department thirty (30) days subsequent to completion of the test.

6. ConocoPhillips shall install secondary seals as required by 40 CFR 63, Subpart BBBBBB, for gasoline tanks T-4009 and T-4010 by January 1, 2010, as opposed to the completion date of January 10, 2018, as specified in 40 CFR 63, Subpart BBBBBB.

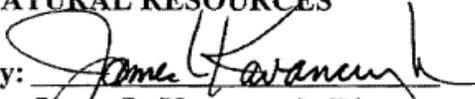
7. The Department and the Attorney General agree not to bring or cause to be brought any civil action against ConocoPhillips for penalties arising out of the above-referenced claimed violations of the Air Conservation Law and/or regulations referred to in NOV No. 508MTI in the event ConocoPhillips complies with the terms herein. In the event that ConocoPhillips fails to both fully and timely comply with the terms of this settlement agreement, ConocoPhillips is not released from the above-referenced claimed violations and the Department and the Attorney General may bring whatever action they deem appropriate to enforce the terms of this settlement agreement, to pursue the above-referenced claimed violations, or both.

8. ConocoPhillips agrees to comply with the Missouri Air Conservation Law and its implementing regulations for any and all future activity. Nothing herein shall be construed as forgiving future non-compliance with the Missouri Air Conservation Law and its implementing regulations.

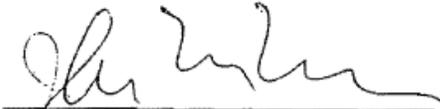
9. The terms stated herein constitute the entire and exclusive agreement of the parties hereto. There are no other obligations of the parties, be they express or implied, oral or written, except those which are expressly set out in this Settlement Agreement. The terms of this Settlement Agreement supersede all previous memoranda of understanding, notes, conversations, and agreements whether express or implied. This agreement may not be modified orally.

IN WITNESS WHEREOF, the parties hereto have executed this agreement as follows:

**MISSOURI DEPARTMENT OF
NATURAL RESOURCES**

By: 
James L. Kavanaugh, Director
Air Pollution Control Program
Date: 7-1-09

**CHRIS KOSTER
ATTORNEY GENERAL OF MISSOURI**

By: 
John K. McManus
Chief Counsel
Date: 6/25/09

**CONOCOPHILLIPS PIPE
LINE COMPANY**

By: 
Name: Miles B. Kajioaka
(Printed)
Title: Manager Terminals
Date: 6/15/09

STATEMENT OF BASIS

Permit Reference Documents

These documents were relied upon in the preparation of the operating permit. Because they are not incorporated by reference, they are not an official part of the operating permit.

- 1) Part 70 Operating Permit Renewal Application received September 16, 2002;
- 2) 2004 Emissions Inventory Questionnaire, online submittal received March 2, 2005;
- 3) U.S. EPA document AP-42, *Compilation of Air Pollutant Emission Factors*; Volume I, Stationary Point and Area Sources, Fifth Edition;
- 4) U.S. EPA software program TANKS 4.09D, released October 3, 2005;
- 5) U.S. EPA document *Gasoline Distribution Industry (Stage I) Background Information for Promulgated Standards Final EIS* (EPA-453/R-94-002b), Chapter 7.0 Cargo Tank Requirements, Section 7.1 Emission Factors;
- 6) U.S. EPA document “*New Equipment Leak Emission factors for Petroleum Refineries, Gasoline Marketing, and Oil & Gas Production Operations*”, February 1995;
- 7) Construction Permit 0695-025, issued May 30, 1995;
- 8) Construction Permit 1196-009, issued November 5, 1996;
- 9) Construction Permit 0197-015, issued November 19, 1996.

Historical Notes on Emission Units

- 1) Four (4) natural gas fired engines are listed in Operating Permit 051-0042-0001. The #1 Gold Engine was removed from service in August 1999, and the #2 Gold Engine was removed from service in June 2000. The two remaining natural gas fired engines (#1 Blue and #2 Blue) are included in this Operating Permit.
- 2) The 4000-gallon additive storage tank (EP-19) listed in Operating Permit 051-0042-0001 has been replaced with a 2000-gallon additive storage tank, Conoco Additive Tank, (EU0110).
- 3) The capacity of the Diesel Fire Pump Tank (EU0240) was listed as 2600 gallons in Operating Permit 051-0042-0001. The actual capacity is 260 gallons.
- 4) The air stripper (EP-26) listed in Operating Permit 051-0042-0001 has been removed from the installation.

Applicable Requirements Included in the Operating Permit but Not in the Application or Previous Operating Permits

In the operating permit application, the installation indicated they were not subject to the following regulation(s). However, in the review of the application, the agency has determined that the installation is subject to the following regulation(s) for the reasons stated.

- 1) 10 CSR 10-6.180, *Measurement of Emissions of Air Contaminants*, is included as a core permit requirement for all installations in Missouri.
- 2) 10 CSR 10-6.260, *Restriction of Emission of Sulfur Compounds* is applicable to the Diesel Fire Pump Engine (EU0230).
- 3) 10 CSR 10-6.280, *Compliance Monitoring Usage*, is included as a core permit requirement for all installations in Missouri.

Other Air Regulations Determined Not to Apply to the Operating Permit

The Air Pollution Control Program (APCP) has determined the following requirements to not be applicable to this installation at this time for the reasons stated.

10 CSR 10-6.100, *Alternate Emission Limits*, is not applicable because the installation is in an ozone attainment area.

Construction Permit Revisions

The following revisions were made to construction permits for this installation:

- 1) Construction Permit 0695-025 authorized the installation of two additive storage tanks each 3,000-gallons. 10 CSR 10-3.080, *Restriction of Emission of Visible Air Contaminants*, was listed as an applicable rule. However, this rule was rescinded and replaced by 10 CSR 10-6.220. However, because emissions from storage tanks are not visible, 10 CSR 10-6.220 is not applicable.
- 2) Construction Permit 1296-013 authorized the installation of a 4,000-gallon additive storage tank. This tank has been permanently removed from the facility and is not included in this operating permit.

NSPS Applicability

- 1) 40 CFR Part 60 Subpart K, *Standards of Performance For Storage Vessels For Petroleum Liquids For Which Construction, Reconstruction, or Modification Commenced After June 11, 1973, and Prior To May 19, 1978*, and 40 CFR Part 60 Subpart Ka, *Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After May 18, 1978, and Prior to July 23*, and are not applicable to the storage tanks at this facility because either the petroleum liquid storage tanks at this facility were constructed prior to June 11, 1973, or if the tanks were constructed after June 11, 1973, they have storage capacities of less than 10,567 gallons.
- 2) 40 CFR Part 60 Subpart Kb, *Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984* applies to Emission Unit EU0065 the Denatured Ethanol Storage Tank. This tank was installed in 2008 and stores up to 504,000 gallons of denatured ethanol. This tank is a fixed roof tank equipped with an internal floating roof.
- 3) 40 CFR Part 60, Subpart XX, *Standards of Performance for Bulk Gasoline Terminals*
 - a) This rule is applicable to the Petroleum Liquid Loading Rack and VCU (EU0160 and EU0170) and Facility-Wide Fugitive VOC Emissions from Seals, Valves, etc (EU0180).
 - b) This rule requires that the various records and notifications be kept for at least two (2) years. However, Part 70 operating permits regulations require records to be kept for a minimum of five (5) years.
 - c) This rule is not applicable to the Propane Loading Rack (EP-02) because the rack's construction was commenced before December 17, 1980.

None of the other New Source Performance Standards (NSPS) apply to this installation.

MACT Applicability

40 CFR Part 63 Subpart BBBBBB *National Emission Standards for Hazardous Air Pollutants for Source Category: Gasoline Distribution Bulk Terminals, Bulk Plants, and Pipeline Facilities*

This Subpart applies to this facility even though the permittee has accepted a voluntary emission limit to limit HAP emission below major levels. This facility is not however subject to Subpart R *National Emission Standards for Gasoline Distribution Facilities (Bulk Gasoline Terminals and Pipeline Breakout Stations)*. At the time this permit is being issued, amendments to this Subpart are pending (e.g., modifications in the requirements for emergency shutdown of a VCU). The applicable permit conditions will default to the current promulgated rule language.

NESHAP Applicability

10 CSR 10-6.080, *Emission Standards for Hazardous Air Pollutant*, 40 CFR Part 61 Subpart M, *National Emission Standard for Asbestos*, 10 CSR 10-6.250, *Asbestos Abatement Projects – Certification, Accreditation, and Business Exemption Requirements*, and Missouri Air Conservation Law, 643.225 through 643.250, *Asbestos Abatement*

In the permit application and according to Air Pollution Control Program records, there was no indication that any of these regulations apply to this installation. The installation is subject to these regulations if they undertake any projects that deal with or involve any asbestos containing materials. None of the installation's operating projects underway at the time of this review deal with or involve asbestos containing material. Therefore, the above regulations were not cited in the operating permit. If the installation should undertake any construction or demolition projects in the future that deal with or involve any asbestos containing materials, the installation must follow all of the applicable requirements of the above rules related to that specific project.

None of the other National Emission Standards for Hazardous Air Pollutants (NESHAP) apply to this installation.

CAM Applicability

40 CFR Part 64, *Compliance Assurance Monitoring (CAM)*

The CAM rule applies to each pollutant specific emission unit that:

- Is subject to an emission limitation or standard, and
- Uses a control device to achieve compliance, and
- Has pre-control emissions that exceed or are equivalent to the major source threshold.

Emission Units EU0160 and EU0170 Petroleum Liquid Loading Rack and VCU are subject to the emission limitations of 40 CFR Part 60 Subpart XX. Because the VCU is used to achieve compliance and the pre-control emissions exceed the major source threshold, these units are subject to CAM. The approved CAM conditions are included in Permit Condition (EU0160 & EU0170)-001. A copy of the submitted CAM plan is included with this permit as Attachment D.

Other Regulatory Determinations

The reason for classifying emission units as without limitations follows.

- 1) The air emissions from the propane loading rack (EP-02), venting propane for miscellaneous maintenance events (EP-29), propane truck loading disconnect, and the ten (10) propane storage vessels have insignificant HAP emissions. There are no limitations on their VOC emissions.
- 2) The air emissions from the 900-gallon stench storage vessel (mercaptan) have insignificant HAP emissions.

Calculations Related to Voluntary Conditions

ConocoPhillips Pipeline Company - Jefferson City volunteered to comply with Permit Condition PW001-less than 10.0 tons of any individual hazardous as pollutant (HAP) and less than 25.0 tons total all HAP combined for the entire installation in any consecutive 12-month period. This means that although the source is a major operation for purposes of Title V (Part 70) permitting, it is not a major source for purposes of New Source Review (NSR) or Maximum Achievable Control Technology (MACT) standards. The plant wide permit condition is based on compliance with all the emission unit specific emission limitations. Many of these unit specific emission limitations are stated in units other than tons per year. For example, they may be stated in gallons of throughput or number of tank roof landings. The following calculation, most of which are from the permit application, demonstrate that if all of these varied limitations are met, then Permit Condition PW001 will be met.

See “10 CSR 10-6.065(6)(C)1.I Reasonably Anticipated Operating Scenarios” in the General Permit Requirements section of the permit before proceeding.

Calculations of VOC emissions from tanks were done with TANKS 4.09D, software provide by the U.S. EPA.

Unless otherwise specified, equations and tables used in the calculations are from the U.S. EPA document AP-42, *Compilation of Air Pollutant Emission Factors*; Volume I, Stationary Point and Area Sources, Fifth Edition. Most equations and tables are from Chapter 7.1 Organic Liquid Storage Tanks. Unless otherwise specified, when a table number or an equation number is given, it is the number in this document.

The calculations are in the following order:

- Page SB-6 Regular Gasoline Speciation for Jefferson City - this data is used to split VOC emitted from gasoline handling and storage into HAP.
- Page SB-6 Distillate (Kerosene and Diesel) Speciation for Jefferson City - this data is used to split VOC emitted from kerosene handling and storage into HAP.
- Page SB-7 Annual VOC and Speciated HAP Emissions Summary - shows annual totals under the emission limitation of Permit Condition PW001.
- Page SB-11 Annual VOC Emissions from Gasoline Tank 4005 (EU0010)
- Page SB-16 Annual VOC Emissions from Gasoline Tank 4008 (EU0020)
- Page SB-21 Annual VOC Emissions from Gasoline Tank 4009 (EU0030)
- Page SB-26 Annual VOC Emissions from Gasoline Tank 4010 (EU0040)
- Page SB-31 Annual VOC Emissions from Gasoline Tank 4202 (EU0050)
- Page SB-36 Annual VOC Emissions from Gasoline Tank 4203 (EU0060)
- Page SB-41 Annual VOC Emissions from Diesel/Jet kerosene Tank 4101 (EU0070)
- Page SB-47 Annual VOC Emissions from Phillips Additive Tank 1 (EU0080)
- Page SB-53 Annual VOC Emissions from Phillips Additive Tank 2 (EU0090)
- Page SB-59 Annual VOC Emissions from Phillips Additive Tank 3 (EU0100)
- Page SB-65 Annual VOC Emissions from Conoco Additive Tank (EU0110)
- Page SB-71 Annual VOC Emissions from Shell Additive Tank (EU0120)
- Page SB-77 Annual VOC Emissions from Dye Additive Tank (EU0130)
- Page SB-83 Annual VOC Emissions from Methanol Additive Tank (EU0140)
- Page SB-89 Annual VOC Emissions from Tank Roof Landings/Tank Cleanings (EU0150)
- Page SB-92 Annual VOC Emissions from Petroleum Liquid Loading Rack (EU0160)

Page SB-93	Annual VOC Emissions from Vapor Combustion Unit (EU0170)
Page SB-94	Annual Facility-Wide Fugitive VOC Emissions from Seals, Valves, etc (EU0180)
Page SB-95	Annual VOC Emissions from Meter Proving Process (EU0190)
Page SB-96	Annual VOC Emissions from Oil/Water Separator (EU0200)
Page SB-97	Annual VOC Emissions from Sump Tank (EU0210)
Page SB-103	Annual VOC Emissions from Wastewater Tank (EU0220)
Page SB-104	Annual VOC Emissions from Diesel Fire Pump Engine (EU0230)
Page SB-105	Annual VOC Emissions from Diesel Fire Pump Tank (EU0240)
Page SB-111	Annual VOC and Speciated HAP Emissions from Pipeline Pump Engines (EU0250 and EU0260)

Regular Gasoline Speciation for Jefferson City

Compound	% Weight of Compound In Vapor	Source of Data
Benzene	0.5512	Data from 1995 Radian/API study
Toluene	0.6113	EPA 745-B00-002, Table 3-4 for Gasoline, various grades
Ethylbenzene	0.0436	EPA 745-B00-002, Table 3-4 for Gasoline, various grades
o-Xylene	0.0423	EPA 745-B00-002, Table 3-4 for Gasoline, various grades
m-Xylene	0.0540	EPA 745-B00-002, Table 3-4 for Gasoline, various grades
p-Xylene	0.0573	EPA 745-B00-002, Table 3-4 for Gasoline, various grades
Hexane	0.4966	EPA 745-B00-002, Table 3-4 for Gasoline, various grades
Isooctane	0.7302	Data from API study
Cumene	0.2448	Data from API study
Naphthalene	0.0003	EPA 745-B00-002, Table 3-4 for Gasoline, various grades
MTBE	0.4275	Maximum allowed under MO DNR regulations
TEL	1.66E-08	Data from EPA Guidance for Lead Compounds
Phenol	3.52E-05	EPA 745-B00-002, Table 3-4 for Gasoline, various grades

Distillate (Kerosene and Diesel) Speciation for Jefferson City

Compound	% Weight of Compound In Vapor	Source of Data
Benzene	0.6451	Data from EPA TRI Guidance Document
Toluene	5.8044	Data from EPA TRI Guidance Document
Ethylbenzene	1.8177	Data from EPA TRI Guidance Document
o-Xylene	0.9323	Data from EPA TRI Guidance Document
m-Xylene	1.1894	Data from EPA TRI Guidance Document
p-Xylene	1.2622	Data from EPA TRI Guidance Document
Hexane	26.1569	Assume Kerosene from 1995 Radian Study for API
Isooctane	1.4940	Data from API study
Cumene	0.7918	Data from API study
Naphthalene	0.2265	Data from API study
MTBE	0.0000	
TEL	5.55E-05	Data from EPA Guidance for Lead Compounds
Phenol	0.2592	Data from EPA TRI Guidance Document

Annual VOC and Speciated HAP Emissions Summary

Company Name: ConocoPhillips Company - Jefferson City
 Facility Location: 2116 Idlewood Rd, Jefferson City, MO
 Facility ID: 051-0042 Cole County

Page 1 of 4
 Columns 1 through 9

Col. 1	Col. 2	Col. 3	Col. 4	Col. 5	Col. 6	Col. 7	Col. 8	Col. 9
EU ID #	2004 EP #	VOC tpy	% Benzene	% Cumene	% Ethyl benzene	% Hexane	% Isooctane	% MTBE
EU0010	T-4005	16.90	0.5512	0.2448	0.0436	0.4966	0.7302	0.4275
EU0020	T-4008	21.61	0.5512	0.2448	0.0436	0.4966	0.7302	0.4275
EU0030	T-4009	12.51	0.5512	0.2448	0.0436	0.4966	0.7302	0.4275
EU0040	T-4010	21.61	0.5512	0.2448	0.0436	0.4966	0.7302	0.4275
EU0050	T-4202	12.68	0.5512	0.2448	0.0436	0.4966	0.7302	0.4275
EU0060	T-4203	12.68	0.5512	0.2448	0.0436	0.4966	0.7302	0.4275
EU0065	T-4007	0.18	0.5512	0.2448	0.0436	0.4966	0.7302	0.4275
EU0070	T-4101	0.51	0.6451	0.7918	1.8177	26.1570	1.4940	0
EU0080	T-APhil1	0.23	0.5512	0.2448	0.0436	0.4966	0.7302	0
EU0090	T-APhil2	0.24	0.5512	0.2448	0.0436	0.4966	0.7302	0
EU0100	T-APhil3	0.19	0.5512	0.2448	0.0436	0.4966	0.7302	0
EU0110	T-AConoco	0.19	0.5512	0.2448	0.0436	0.4966	0.7302	0
EU0120	T-Ashell	0.19	0.5512	0.2448	0.0436	0.4966	0.7302	0
EU0130	T-ADye	0.00						
EU0140	T-AMeth	0.06						
EU0150	TNKCLN	18	0.5512	0.2448	0.0436	0.4966	0.7302	0.4275
EU0160	FLRACK	9.66	0.5512	0.2448	0.0436	0.4966	0.7302	0.4275
EU0170	VCU	62.8	0.5512	0.2448	0.0436	0.4966	0.7302	0.4275
EU0180	FUG LIQ	0.84	1.8	0.85	1.605	1	4.719	0.4275
EU0180	FUG VAP	0.02	0.5512	0.2448	0.0436	0.4966	0.7302	0.4275
EU0190	PROVE	2	0.5512	0.2448	0.0436	0.4966	0.7302	0.4275
EU0200	O/W SEP	15	0.5512	0.2448	0.0436	0.4966	0.7302	0.4275
EU0210	T-Sump	0.34	0.5512	0.2448	0.0436	0.4966	0.7302	0.4275
EU0220	WW	15	0.5512	0.2448	0.0436	0.4966	0.7302	0.4275
EU0230	Engines	2.12	0.6451	0.7918	1.8177	26.1570	1.4940	0
EU0240	T-Fire	0.00	0.5512	0.2448	0.0436	0.4966	0.7302	0
EU0250	EP-14/ Engines	0.35						
EU0260	EP-14/ Engines	0.35						
Totals		226.08						

Annual VOC and Speciated HAP Emissions Summary (continued)

Company Name: ConocoPhillips Company - Jefferson City
 Facility Location: 2116 Idlewood Rd, Jefferson City, MO
 Facility ID: 051-0042 Cole County

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 Columns 18 through 25

EU ID #	Col. 18	Col. 19	Col. 20	Col. 21	Col. 22	Col. 23	Col. 24	Col. 25
	Benzene	Cumene	Ethyl benzene	Hexane	Isooctane	MTBE	Naphthalene	TEL
EU0010	0.0932	0.0414	0.0074	0.0839	0.1234	0.0722	0.0001	0.0000
EU0020	0.1191	0.0529	0.0094	0.1073	0.1578	0.0924	0.0001	0.0000
EU0030	0.0690	0.0306	0.0055	0.0621	0.0913	0.0535	0.0000	0.0000
EU0040	0.1191	0.0529	0.0094	0.1073	0.1578	0.0924	0.0001	0.0000
EU0050	0.0699	0.0310	0.0055	0.0630	0.0926	0.0542	0.0000	0.0000
EU0060	0.0699	0.0310	0.0055	0.0630	0.0926	0.0542	0.0000	0.0000
EU0065	0.0010	0.0004	0.0008	0.0009	0.0013	0.0008	0.000	0.000
EU0070	0.0033	0.0040	0.0093	0.1334	0.0076	0.0000	0.0012	0.0000
EU0080	0.0013	0.0006	0.0001	0.0011	0.0017	0.0000	0.0000	0.0000
EU0090	0.0013	0.0006	0.0001	0.0012	0.0018	0.0000	0.0000	0.0000
EU0100	0.0010	0.0005	0.0001	0.0009	0.0014	0.0000	0.0000	0.0000
EU0110	0.0010	0.0005	0.0001	0.0009	0.0014	0.0000	0.0000	0.0000
EU0120	0.0011	0.0005	0.0001	0.0010	0.0014	0.0000	0.0000	0.0000
EU0130	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
EU0140	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
EU0150	0.0992	0.0441	0.0078	0.0894	0.1314	0.0770	0.0001	0.0000
EU0160	0.0532	0.0236	0.0042	0.0480	0.0705	0.0413	0.0000	0.0000
EU0170	0.3462	0.1537	0.0274	0.3119	0.4586	0.2685	0.0002	0.0000
EU0180	0.0150	0.0071	0.0134	0.0084	0.0395	0.0036	0.0037	0.0007
EU0180	0.0001	0.0000	0.0000	0.0001	0.0001	0.0001	0.0000	0.0000
EU0190	0.0110	0.0049	0.0009	0.0099	0.0146	0.0086	0.0000	0.0200
EU0200	0.0827	0.0367	0.0065	0.0745	0.1095	0.0641	0.0000	0.0000
EU0210	0.0019	0.0008	0.0002	0.0017	0.0025	0.0015	0.0000	0.0000
EU0220	0.0827	0.0367	0.0065	0.0745	0.1095	0.0641	0.0000	0.0000
EU0230	0.0137	0.0168	0.0385	0.5545	0.0317	0.0000	0.0048	0.0000
EU0240	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
EU0250	0.0187		0.0003				0.0011	
EU0260	0.0187		0.0003				0.0011	
Totals	1.2932	0.5714	0.1593	1.7989	1.7000	1.1274	0.0126	0.0207

Sample Emission Calculation for EU0010 (T-4005)

Benzene Emissions (Col. 18) = VOC Emissions (Col. 3) x % Benzene by weight /100 (Col. 4)
 = 16.9 ton/yr VOC x 0.5512% benzene/100 = 0.932 ton/yr benzene

Annual VOC and Speciated HAP Emissions Summary (continued)

Company Name: ConocoPhillips Company - Jefferson City
 Facility Location: 2116 Idlewood Rd, Jefferson City, MO
 Facility ID: 051-0042 Cole County

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 Columns 26 through 32

EU ID #	Col. 26	Col. 27	Col. 28	Col. 29	Col. 30	Col. 31	Col. 32
	Toluene	% m-Xylene	o-Xylene	p-Xylene	Phenol	Methanol	HAP Totals
EU0010	0.1033	0.0091	0.0071	0.0097	0.0000	0.0000	0.5508
EU0020	0.1321	0.0117	0.0091	0.0124	0.0000	0.0000	0.7043
EU0030	0.0765	0.0068	0.0053	0.0072	0.0000	0.0000	0.4077
EU0040	0.1321	0.0117	0.0091	0.0124	0.0000	0.0000	0.7043
EU0050	0.0775	0.0068	0.0054	0.0073	0.0000	0.0000	0.4133
EU0060	0.0775	0.0068	0.0054	0.0073	0.0000	0.0000	0.4133
EU0065	0.0011	0.0001	0.0001	0.001	0.000	0.000	0.0059
EU0070	0.0296	0.0061	0.0048	0.0064	0.0013	0.0000	0.2070
EU0080	0.0014	0.0001	0.0001	0.0001	0.0000	0.0000	0.0065
EU0090	0.0015	0.0001	0.0001	0.0001	0.0000	0.0000	0.0068
EU0100	0.0011	0.0001	0.0001	0.0001	0.0000	0.0000	0.0053
EU0110	0.0011	0.0001	0.0001	0.0001	0.0000	0.0000	0.0053
EU0120	0.0012	0.0001	0.0001	0.0001	0.0000	0.0000	0.0054
EU0130	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
EU0140	0.0000	0.0000	0.0000	0.0000	0.0000	0.0614	0.0614
EU0150	0.1100	0.0097	0.0076	0.0103	0.0000	0.0000	0.5866
EU0160	0.0591	0.0052	0.0041	0.0055	0.0000	0.0000	0.3148
EU0170	0.3839	0.0339	0.0266	0.0360	0.0000	0.0000	2.0467
EU0180	0.0603	0.0200	0.0200	0.0200	0.0005	0.0000	0.2120
EU0180	0.0001	0.0000	0.0000	0.0000	0.0000	0.0000	0.0006
EU0190	0.0122	0.0011	0.0008	0.0011	0.0000	0.0000	0.0852
EU0200	0.0917	0.0081	0.0063	0.0086	0.0000	0.0000	0.4889
EU0210	0.0021	0.0002	0.0001	0.0002	0.0000	0.0000	0.0112
EU0220	0.0917	0.0081	0.0063	0.0086	0.0000	0.0000	0.4889
EU0230	0.1231	0.0252	0.0198	0.0268	0.0055	0.0000	0.8603
EU0240	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
EU0250	0.0066	0.0008	0.0008	0.0008		0.0362	0.0652
EU0260	0.0066	0.0008	0.0008	0.0008		0.0362	0.0652
Totals	1.5834	0.1727	0.1400	0.1828	0.0074	0.1338	8.723

Total Combined HAP Emissions = Total of Column 32 = 8.717 ton/yr < 25 ton/yr
 Highest Individual HAP Emission = Hexane (Column 21) = 1.798 ton/yr < 10 ton/yr
Installation is in compliance with Permit Condition PW001

Annual VOC Emissions from Gasoline Tank 4005 (EU0010)

The calculation for annual VOC emissions from Tank 4005 was done with the TANKS 4.09D software provided by the U.S. EPA. Since the software does not have the capability to transfer its output into Word documents, the output report was printed, scanned, and added to this document as scanned images. The following four pages are the TANKS 4.09D report for this tank.

TANKS 4.0.9d
Emissions Report - Detail Format
Tank Identification and Physical Characteristics

Identification
 User Identification: T-4005
 City: Jefferson City
 State: Missouri
 Company: ConocoPhillips - Jefferson City
 Type of Tank: External Floating Roof Tank
 Description: Gasoline RVP-13; OP 2002-09-099

Tank Dimensions
 Diameter (ft): 26.00
 Volume (gallons): 157,542.00
 Turnovers: 1,586.88

Paint Characteristics
 Internal Shell Condition: Light Rust
 Shell Color/Shade: White/White
 Shell Condition: Good

Roof Characteristics
 Type: Pontoon
 Fitting Category: Typical

Tank Construction and Rim-Seal System
 Construction: Welded
 Primary Seal: Mechanical Shoe
 Secondary Seal: None

Deck Fitting/Status	Quantity
Access Hatch (24-in. Diam.)/Bolted Cover, Gasketed	1
Automatic Gauge Float Well/Unbolted Cover, Ungasketed	1
Vacuum Breaker (10-in. Diam.)/Weighted Mech. Actuation, Gask.	1
Unslotted Guide-Pole Well/Ungasketed Sliding Cover	1
Gauge-Hatch/Sample Well (8-in. Diam.)/Weighted Mech. Actuation, Gask.	1
Roof Leg (3-in. Diameter)/Adjustable, Pontoon Area, Ungasketed	4
Roof Leg (3-in. Diameter)/Adjustable, Center Area, Ungasketed	2
Rim Vent (6-in. Diameter)/Weighted Mech. Actuation, Gask.	1

Meteorological Data used in Emissions Calculations: Columbia, Missouri (Avg Atmospheric Pressure = 14.3 psia)

TANKS 4.0.9d
Emissions Report - Detail Format
Detail Calculations (AP-42)

T-4005 - External Floating Roof Tank
Jefferson City, Missouri

Annual Emission Calculations

Rim Seal Losses (lb):	10,186.4384
Seal Factor A (lb-mole/ft-yr):	5.8000
Seal Factor B (lb-mole/ft-yr (mph) ²):	0.3000
Average Wind Speed (mph):	9.9083
Seal-related Wind Speed Exponent:	2.1000
Value of Vapor Pressure Function:	0.1475
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	6.4058
Tank Diameter (ft):	26.0000
Vapor Molecular Weight (lb/lb-mole):	62.0000
Product Factor:	1.0000
Withdrawal Losses (lb):	1,813.4615
Annual Net Throughput (gal/yr.):	250,000,000.0000
Shell Coeffice Factor (lb/1000 sqft):	0.0015
Average Organic Liquid Density (lb/gal):	9.6000
Tank Diameter (ft):	26.0000
Roof Filling Losses (lb):	21,807.8561
Value of Vapor Pressure Function:	0.1475
Vapor Molecular Weight (lb/lb-mole):	62.0000
Product Factor:	1.0000
Tot. Roof Filling Loss Fact (lb-mole/yr):	2,384.8331
Average Wind Speed (mph):	9.9083

Roof Filling/Status	Quantity	KFa (lb-mole/yr)	Roof Filling Loss Factors KFB (lb-mole/yr mph ²)	m	Losses (lb)
Access Hatch (24-in. Diam.)/Bolted Cover, Gasketed	1	1.60	0.00	0.00	14.6310
Automatic Gauge Float Well/Unbolted Cover, Ungasketed	1	14.00	5.40	1.10	543.6897
Vacuum Breaker (10-in. Diam.)/Weighted Mech. Actuation, Gask.	1	6.20	1.20	0.94	124.4546
Unstotted Guide-Pole Well/Ungasketed Sliding Cover	1	31.00	150.00	1.40	20,927.0244
Gauge-Hatch/Sample Well (8-in. Diam.)/Weighted Mech. Actuation, Gask.	1	0.47	0.02	0.97	5.4947
Roof Leg (3-in. Diameter)/Adjustable, Pontoon Area, Ungasketed	4	2.00	0.37	0.91	152.0076
Roof Leg (3-in. Diameter)/Adjustable, Center Area, Ungasketed	2	0.82	0.53	0.14	27.7098
Rim Vent (6-in. Diameter)/Weighted Mech. Actuation, Gask.	1	0.71	0.10	1.00	12.8349

TANKS 4.0.9d
Emissions Report - Detail Format
Liquid Contents of Storage Tank

T-4005 - External Floating Roof Tank
Jefferson City, Missouri

Mixture/Component	Month	Daily Liquid Surf. Temperature (deg F) Avg. Min. Max.	Liquid Bulk Temp (deg F) Avg. Min. Max.	Vapor Pressure (psia) Avg. Min. Max.	Vapor Mol. Weight	Liquid Mass Fract.	Vapor Mass Fract.	Mol. Weight	Basis for Vapor Pressure Calculations
Gasoline (RVP 13)	All	55.69 50.36 61.03	53.86	6.4058 N/A N/A	62.0000			92.00	Option 4: RVP=13, ASTM Slope=3

TANKS 4.0.9d
Emissions Report - Detail Format
Individual Tank Emission Totals

Emissions Report for: Annual

T-4005 - External Floating Roof Tank
Jefferson City, Missouri

Components	Losses(lbs)				Total Emissions
	Rim Seal Loss	Withdrawal Loss	Deck Fitting Loss	Deck Seam Loss	
Gasoline (RVP 13)	10,186.44	1,813.46	21,807.86	0.00	33,807.76

Annual VOC Emissions from Gasoline Tank 4008 (EU0020)

The calculation for annual VOC emissions from Tank 4008 was done with the TANKS 4.09D software provided by the US EPA. Since the software does not have the capability to transfer its output into Word documents, the output report was printed, scanned, and added to this document as scanned images. The following four pages are the TANKS 4.09D report for this tank.

TANKS 4.0.9d
Emissions Report - Detail Format
Tank Identification and Physical Characteristics

Identification
 User Identification: T-4008
 City: Jefferson City
 State: Missouri
 Company: ConocoPhillips - Jefferson City
 Type of Tank: External Floating Roof Tank
 Description: Gasoline, RVP-13; OP 2002-09-099

Tank Dimensions
 Diameter (ft): 52.00
 Volume (gallons): 626,094.00
 Turnovers: 399.30

Paint Characteristics
 Internal Shell Condition: Light Rust
 Shell Color/Shade: White/White
 Shell Condition: Good

Roof Characteristics
 Type: Pontoon
 Fitting Category: Typical

Tank Construction and Rim-Seal System
 Construction: Welded
 Primary Seal: Mechanical Shoe
 Secondary Seal: None

Deck Fitting/Status	Quantity
Access Hatch (24-in. Diam.)/Bolted Cover, Gasketed	1
Automatic Gauge Float Well/Unbolted Cover, Ungasketed	1
Vacuum Breaker (10-in. Diam.)/Weighted Mech. Actuation, Gask.	1
Unslotted Guide-Pole Well/Ungasketed Sliding Cover	1
Gauge-Hatch/Sample Well (8-in. Diam.)/Weighted Mech. Actuation, Gask.	1
Roof Leg (3-in. Diameter)/Adjustable, Pontoon Area, Ungasketed	6
Roof Leg (3-in. Diameter)/Adjustable, Center Area, Ungasketed	6
Rim Vent (6-in. Diameter)/Weighted Mech. Actuation, Gask.	1

Meteorological Data used in Emissions Calculations: Columbia, Missouri (Avg Atmospheric Pressure = 14.3 psia)

TANKS 4.0.9d
Emissions Report - Detail Format
Liquid Contents of Storage Tank

T-4008 - External Floating Roof Tank
Jefferson City, Missouri

Mixture/Component	Month	Daily Liquid Surf. Temperature (deg F)			Liquid Bulk Temp (deg F)	Vapor Pressure (psia)		Vapor Mol. Weight	Liquid Mass Fract.	Vapor Mass Fract.	Mol. Weight	Basis for Vapor Pressure Calculations
		Avg.	Min.	Max.		Avg.	Min.					
Gasoline (RVP 13)	All	55.69	50.36	61.03	53.86	6.4058	N/A	62.0000			92.00	Option 4: RVP=13, ASTM Slope=3

TANKS 4.0.9d
Emissions Report - Detail Format
Detail Calculations (AP-42)

T-4008 - External Floating Roof Tank
Jefferson City, Missouri

Annual Emission Calculations

Rim Seal Losses (lb): 20,372.8768
 Seal Factor A (lb-mole/ft-yr): 5.8000
 Seal Factor B (lb-mole/ft-yr (mph^{1.75})): 0.3000
 Average Wind Speed (mph): 9.9083
 Seal-related Wind Speed Exponent: 2.1000
 Value of Vapor Pressure Function: 0.1475
 Vapor Pressure at Daily Average Liquid Surface Temperature (psia): 6.4058
 Tank Diameter (ft): 52.0000
 Vapor Molecular Weight (lb/lb-mole): 62.0000
 Product Factor: 1.0000

Withdrawal Losses (lb): 906.7308
 Annual Net Throughput (gal/yr): 250,000,000.0000
 Shell Clingage Factor (bbl/1000 sqft): 0.0015
 Average Organic Liquid Density (lb/gal): 5.6000
 Tank Diameter (ft): 52.0000

Roof Fitting Losses (lb): 21,938.2777
 Value of Vapor Pressure Function: 0.1475
 Vapor Molecular Weight (lb/lb-mole): 62.0000
 Product Factor: 1.0000
 Tot. Roof Fitting Loss Fact. (lb-mole/yr): 2,389,2046
 Average Wind Speed (mph): 9.9083

Total Losses (lb): 43,218.8853

Roof Fitting/Status	Quantity	KFa (lb-mole/yr)	Roof Fitting Loss Factors KFB (lb-mole/(yr mph ^{1.75} n))	m	Losses (lb)
Access Hatch (24-in. Diam.)/Bolted Cover, Gasketed	1	1.60	0.00	0.00	14.6310
Automatic Gauge Float Well/Unbolted Cover, Ungasketed	1	14.00	5.40	1.10	543.8997
Vacuum Breaker (10-in. Diam.)/Weighted Mech. Actuation, Gask.	1	6.20	1.20	0.94	124.4546
Unslotted Guide-Pole Well/Ungasketed Sliding Cover	1	31.00	150.00	1.40	20,927.0244
Gauge-Hatch/Sample Well (6-in. Diam.)/Weighted Mech. Actuation, Gask.	1	0.47	0.02	0.97	5.4947
Roof Leg (3-in. Diameter)/Adjustable, Portion Area, Ungasketed	6	2.00	0.37	0.91	228.0118
Roof Lug (3-in. Diameter)/Adjustable, Center Area, Ungasketed	6	0.62	0.53	0.14	83.1265
Rim Vent (6-in. Diameter)/Weighted Mech. Actuation, Gask.	1	0.71	0.10	1.00	12.8349

TANKS 4.0.9d
Emissions Report - Detail Format
Individual Tank Emission Totals

Emissions Report for: Annual

T-4008 - External Floating Roof Tank
Jefferson City, Missouri

Components	Losses(lbs)				Total Emissions
	Rim Seal Loss	Withdrawl Loss	Deck Fitting Loss	Deck Seam Loss	
Gasoline (RVP 13)	20,372.88	906.73	21,939.28	0.00	43,218.89

Annual VOC Emissions from Gasoline Tank 4009 (EU0030)

The calculation for annual VOC emissions from Tank 4009 was done with the TANKS 4.09D software provided by the US EPA. Since the software does not have the capability to transfer its output into Word documents, the output report was printed, scanned, and added to this document as scanned images. The following four pages are the TANKS 4.09D report for this tank.

TANKS 4.0.9d
Emissions Report - Detail Format
Tank Identification and Physical Characteristics

Identification
 User Identification: T-4009
 City: Jefferson City
 State: Missouri
 Company: ConocoPhillips - Jefferson City
 Type of Tank: External Floating Roof Tank
 Description: Gasoline, RVP-13; OP 2002-09-099

Tank Dimensions
 Diameter (ft): 52.00
 Volume (gallons): 623,406.00
 Turnovers: 401.02

Paint Characteristics
 Internal Shell Condition: Light Rust
 Shell Color/Shade: White/White
 Shell Condition: Good

Roof Characteristics
 Type: Pontoon
 Fitting Category: Typical

Tank Construction and Rim-Seal System
 Construction: Welded
 Primary Seal: Mechanical Shoe
 Secondary Seal: Rim-mounted

Deck Fitting/Status	Quantity
Access Hatch (24-in. Diam.)/Bolted Cover, Gasketed	1
Automatic Gauge Float Well/Unbolted Cover, Ungasketed	1
Vacuum Breaker (10-in. Diam.)/Weighted Mech. Actuation, Gask.	1
Unslotted Guide-Pole Well/Ungasketed Sliding Cover	1
Gauge-Hatch/Sample Well (8-in. Diam.)/Weighted Mech. Actuation, Gask.	1
Roof Leg (3-in. Diameter)/Adjustable, Pontoon Area, Ungasketed	6
Rim Vent (6-in. Diameter)/Weighted Mech. Actuation, Gask.	1

Meteorological Data used in Emissions Calculations: Columbia, Missouri (Avg Atmospheric Pressure = 14.3 psia)

TANKS 4.0.9d
Emissions Report - Detail Format
Liquid Contents of Storage Tank

T-4009 - External Floating Roof Tank
Jefferson City, Missouri

Mixture/Component	Daily Liquid Surf. Temperature (deg F)			Liquid Bulk Temp (deg F)	Vapor Pressure (psia)			Vapor Mol. Weight	Liquid Mass Fract.	Vapor Mass Fract.	Mol. Weight	Basis for Vapor Pressure Calculations
	Month	Avg.	Min.		Max.	Avg.	Min.					
Gasoline (RVP 13)	All	55.89	50.36	61.03	53.86	6.4058	N/A	N/A	62.0000	92.00	Option 4: RVP=13, ASTM Slope=3	

TANKS 4.0.9d
Emissions Report - Detail Format
Detail Calculations (AP-42)

T-4009 - External Floating Roof Tank
Jefferson City, Missouri

Annual Emission Calculations	
Rim Seal Losses (lb):	2,169,9040
Seal Factor A (lb-mole/ft-yr):	0.6000
Seal Factor B (lb-mole/ft-yr (mph) ^{1.75}):	0.4000
Average Wind Speed (mph):	9.9083
Seal-related Wind Speed Exponent:	1.0000
Value of Vapor Pressure Function:	0.1475
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	6.4058
Tank Diameter (ft):	52.0000
Vapor Molecular Weight (lb/lb-mole):	62.0000
Product Factor:	1.0000
Withdrawal Losses (lb):	906.7308
Annual Net Throughput (gal/yr.):	250,000,000.0000
Shell Clingage Factor (bbl/1000 sqft):	0.0015
Average Organic Liquid Density (lb/gal):	5.6000
Tank Diameter (ft):	52.0000
Roof Fitting Losses (lb):	21,939.2777
Value of Vapor Pressure Function:	0.1475
Vapor Molecular Weight (lb/lb-mole):	62.0000
Product Factor:	1.0000
Tot. Roof Fitting Loss Fact (lb-mole/yr):	2,398,2049
Average Wind Speed (mph):	9.9083
Total Losses (lb):	25,015.9124

Roof Fitting/Status	Quantity	KFa(lb-mole/yr)	Roof Fitting Loss Factors KFB(lb-mole/(yr mph ^{1.75} n))	m	Losses(lb)
Access Hatch (24-in. Diam.)/Bolted Cover, Gasketed	1	1.60	0.00	0.00	14.6310
Automatic Gauge Float Well(Unbolted Cover, Ungasketed	1	14.00	5.40	1.10	543.6997
Vacuum Breaker (10-in. Diam.)/Weighted Mech. Actuation, Gask.	1	6.20	1.20	0.94	124.4546
Unslotted Guide-Pole Well/Ungasketed Sliding Cover	1	31.00	150.00	1.40	20,927.0244
Gauge-Heich/Sample Well (8-in. Diam.)/Weighted Mech. Actuation, Gask.	1	0.47	0.02	0.97	5.4947
Roof Leg (3-in. Diameter)/Adjustable, Pontoon Area, Ungasketed	6	2.00	0.37	0.91	228.0118
Roof Leg (3-in. Diameter)/Adjustable, Center Area, Ungasketed	6	0.82	0.53	0.14	83.1265
Rim Vent (6-in. Diameter)/Weighted Mech. Actuation, Gask.	1	0.71	0.10	1.00	12.8349

TANKS 4.0.9d
Emissions Report - Detail Format
Individual Tank Emission Totals

Emissions Report for: Annual

T-4009 - External Floating Roof Tank
Jefferson City, Missouri

Components	Losses(lbs)				Total Emissions
	Rim Seal Loss	Withdrawl Loss	Deck Fitting Loss	Deck Seam Loss	
Gasoline (RVP 13)	2,169.90	906.73	21,939.28	0.00	25,015.91

Annual VOC Emissions from Gasoline Tank 4010 (EU0040)

The calculation for annual VOC emissions from Tank 4010 was done with the TANKS 4.09D software provided by the US EPA. Since the software does not have the capability to transfer its output into Word documents, the output report was printed, scanned, and added to this document as scanned images. The following four pages are the TANKS 4.09D report for this tank.

TANKS 4.0.9d
Emissions Report - Detail Format
Tank Identification and Physical Characteristics

Identification
 User Identification: T-4010
 City: Jefferson City
 State: Missouri
 Company: ConocoPhillips - Jefferson City
 Type of Tank: External Floating Roof Tank
 Description: Gasoline, RVP-13; OP 2002-09-099

Tank Dimensions
 Diameter (ft): 52.00
 Volume (gallons): 620,000.00
 Turnovers: 403.23

Paint Characteristics
 Internal Shell Condition: Light Rust
 Shell Color/Shade: White/White
 Shell Condition: Good

Roof Characteristics
 Type: Pontoon
 Fitting Category: Typical

Tank Construction and Rim-Seal System
 Construction: Welded
 Primary Seal: Mechanical Shoe
 Secondary Seal: None

Deck Fitting/Status	Quantity
Access Hatch (24-in. Diam.)/Bolted Cover, Gasketed	1
Automatic Gauge Float Well/Unbolted Cover, Ungasketed	1
Vacuum Breaker (10-in. Diam.)/Weighted Mech. Actuation, Gask.	1
Unslotted Guide-Pole Well/Ungasketed Sliding Cover	1
Gauge-Hatch/Sample Well (8-in. Diam.)/Weighted Mech. Actuation, Gask.	1
Roof Leg (3-in. Diameter)/Adjustable, Pontoon Area, Ungasketed	6
Roof Leg (3-in. Diameter)/Adjustable, Center Area, Ungasketed	6
Rim Vent (6-in. Diameter)/Weighted Mech. Actuation, Gask.	1

Meteorological Data used in Emissions Calculations: Columbia, Missouri (Avg Atmospheric Pressure = 14.3 psia)

TANKS 4.0.9d
Emissions Report - Detail Format
Liquid Contents of Storage Tank

T-4010 - External Floating Roof Tank
Jefferson City, Missouri

Mixture/Component	Month	Daily Liquid Surf. Temperature (deg F)			Liquid Bulk Temp (deg F)	Vapor Pressure (psia)			Vapor Mol. Weight	Liquid Mass Fract.	Vapor Mass Fract.	Mol. Weight	Basis for Vapor Pressure Calculations
		Avg.	Min.	Max.		Avg.	Min.	Max.					
Gasoline (RVP 13)	All	55.69	50.36	61.03	53.86	6.4058	N/A	N/A	62.0000		92.00	Option 4: RVP=13, ASTM Slope=3	

TANKS 4.0.9d
Emissions Report - Detail Format
Detail Calculations (AP-42)

T-4010 - External Floating Roof Tank
Jefferson City, Missouri

Annual Emission Calculations

Rim Seal Losses (lb):	20,372.8768
Seal Factor A (lb-mole/ft-yr):	5.6000
Seal Factor B (lb-mole/ft-yr (mph) ^{1.75}):	0.3000
Average Wind Speed (mph):	9.9083
Seal-related Wind Speed Exponent:	2.1000
Value of Vapor Pressure Function:	0.1475
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	8.4058
Tank Diameter (ft):	52.0000
Vapor Molecular Weight (lb/lb-mole):	62.0000
Product Factor:	1.0000
Withdrawal Losses (lb):	906.7308
Annual Net Throughput (gal/yr):	250,000,000.0000
Shell Clingage Factor (bbl/1000 sqft):	0.0015
Average Organic Liquid Density (lb/gal):	5.6000
Tank Diameter (ft):	52.0000
Roof Fitting Losses (lb):	21,939.2777
Value of Vapor Pressure Function:	0.1475
Vapor Molecular Weight (lb/lb-mole):	62.0000
Product Factor:	1.0000
Tot. Roof Fitting Loss Fact (lb-mole/yr):	2,399,204.9
Average Wind Speed (mph):	9.9083
Total Losses (lb):	43,216.8853

Roof Fitting/Status	Quantity	KFa (lb-mole/yr)	Roof Fitting Loss Factors KFb (lb-mole/yr mph ^{1.75})	m	Losses (lb)
Access Hatch (24-in. Diam.)/Bolted Cover, Gasketed	1	1.60	0.00	0.00	14.6310
Automatic Gauge Float Well/Unbolted Cover, Ungasketed	1	14.00	5.40	1.10	543.6997
Vacuum Breaker (10-in. Diam.)/Weighted Mech. Actuation, Gask.	1	6.20	1.20	0.94	124.4546
Unslotted Guide-Pole Well/Ungasketed Sliding Cover	1	31.00	150.00	1.40	20,927.0244
Gauge-Hatch/Sample Well (8-in. Diam.)/Weighted Mech. Actuation, Gask.	1	0.47	0.02	0.97	5.4947
Roof Leg (3-in. Diameter)/Adjustable, Pontoon Area, Ungasketed	6	2.00	0.37	0.91	228.0118
Roof Leg (3-in. Diameter)/Adjustable, Center Area, Ungasketed	6	0.82	0.53	0.14	83.1265
Rim Vent (6-in. Diameter)/Weighted Mech. Actuation, Gask.	1	0.71	0.10	1.00	12.8349

TANKS 4.0.9d
Emissions Report - Detail Format
Individual Tank Emission Totals

Emissions Report for: Annual

T-4010 - External Floating Roof Tank
Jefferson City, Missouri

Components	Losses(lbs)				Total Emissions
	Rim Seal Loss	Withdrawl Loss	Deck Fitting Loss	Deck Seam Loss	
Gasoline (RVP 13)	20,372.88	906.73	21,939.28	0.00	43,218.89

Annual VOC Emissions from Gasoline Tank 4202 (EU0050)

The calculation for annual VOC emissions from Tank 4202 was done with the TANKS 4.09D software provided by the U.S. EPA. Since the software does not have the capability to transfer its output into Word documents, the output report was printed, scanned, and added to this document as scanned images. The following four pages are the TANKS 4.09D report for this tank.

TANKS 4.0.9d
Emissions Report - Detail Format
Tank Identification and Physical Characteristics

Identification
 User Identification: T-4202
 City: Jefferson City
 State: Missouri
 Company: ConocoPhillips - Jefferson City
 Type of Tank: External Floating Roof Tank
 Description: Gasoline, RVP-13; OP 2002-09-099

Tank Dimensions
 Diameter (ft): 60.00
 Volume (gallons): 835,842.00
 Turnovers: 299.10

Paint Characteristics
 Internal Shell Condition: Light Rust
 Shell Color/Shade: White/White
 Shell Condition: Good

Roof Characteristics
 Type: Pontoon
 Fitting Category: Typical

Tank Construction and Rim-Seal System
 Construction: Welded
 Primary Seal: Mechanical Shoe
 Secondary Seal: Rim-mounted

Deck Fitting/Status	Quantity
Access Hatch (24-in. Diam.)/Bolted Cover, Gasketed	1
Automatic Gauge Float Well/Unbolted Cover, Ungasketed	1
Vacuum Breaker (10-in. Diam.)/Weighted Mech. Actuation, Gask.	1
Unslotted Guide-Pole Well/Ungasketed Sliding Cover	1
Gauge-Hatch/Sample Well (8-in. Diam.)/Weighted Mech. Actuation, Gask.	1
Roof Leg (3-in. Diameter)/Adjustable, Pontoon Area, Ungasketed	9
Roof Leg (3-in. Diameter)/Adjustable, Center Area, Ungasketed	7
Rim Vent (6-in. Diameter)/Weighted Mech. Actuation, Gask.	1

Meteorological Data used in Emissions Calculations: Columbia, Missouri (Avg Atmospheric Pressure = 14.3 psia)

TANKS 4.0.9d
Emissions Report - Detail Format
Liquid Contents of Storage Tank

T-4202 - External Floating Roof Tank
Jefferson City, Missouri

Mixture/Component	Month	Daily Liquid Surf. Temperature (deg F)			Liquid Bulk Temp (deg F)	Vapor Pressure (psia)			Vapor Mol. Weight	Liquid Mass Fract.	Vapor Mass Fract.	Mol. Weight	Basis for Vapor Pressure Calculations
		Avg.	Min.	Max.		Avg.	Min.	Max.					
Gasoline (RVP 13)	All	55.69	50.36	61.03	53.86	6.4058	N/A	N/A	82.0000			92.00	Option 4: RVP=13, ASTM Slope=3

TANKS 4.0.9d
Emissions Report - Detail Format
Detail Calculations (AP-42)

T-4202 - External Floating Roof Tank
Jefferson City, Missouri

Annual Emission Calculations		Quantity	KFa(lb-mole/yr)	Roof Fitting Loss Factors KFb(lb-mole/(yr mph ^{1.75} n))	m	Losses(lb)
Rim Seal Losses (lb):	2,503.7354					
Seal Factor A (lb-mole/ft-yr):	0.6000					
Seal Factor B (lb-mole/ft-yr (mph) ^{1.75}):	0.4000					
Average Wind Speed (mph):	9.9083					
Seal-related Wind Speed Exponent:	1.0000					
Value of Vapor Pressure Function:	0.1475					
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	6.4058					
Tank Diameter (ft):	60.0000					
Vapor Molecular Weight (lb/lb-mole):	62.0000					
Product Factor:	1.0000					
Withdrawal Losses (lb):	785.8333					
Annual Net Throughput (gal/yr):	250,000,000.0000					
Shell Clingage Factor (bb/1000 sqft):	0.0015					
Average Organic Liquid Density (lb/gal):	5.8000					
Tank Diameter (ft):	60.0000					
Roof Fitting Losses (lb):	22,067.1380					
Value of Vapor Pressure Function:	0.1475					
Vapor Molecular Weight (lb/lb-mole):	62.0000					
Product Factor:	1.0000					
Tot. Roof Fitting Loss Fact (lb-mole/yr):	2,413.1873					
Average Wind Speed (mph):	9.9083					
Total Losses (lb):	25,356.7067					
Roof Fitting/Status	Quantity	KFa(lb-mole/yr)	Roof Fitting Loss Factors KFb(lb-mole/(yr mph ^{1.75} n))	m	Losses(lb)	
Access Hatch (24-in. Diam. YBolted Cover, Gasketed	1	1.60	0.00	0.00	14.6310	
Automatic Gauge Float Well/Unbolted Cover, Ungasketed	1	14.00	5.40	1.10	543.6997	
Vacuum Breaker (10-in. Diam. YWeighted Mech. Actuation, Gask	1	6.20	1.20	0.94	124.4546	
Unslotted Guide-Pole Well/Ungasketed Sliding Cover	1	31.00	150.00	1.40	20,927.0244	
Gauge-Hatch/Sample Well (8-in. Diam. YWeighted Mech. Actuation, Gask	1	0.47	0.02	0.97	5.4947	
Roof Leg (3-in. Diameter)Adjustable, Pontoon Area, Ungasketed	9	2.00	0.37	0.91	342.0176	
Roof Leg (3-in. Diameter)Adjustable, Center Area, Ungasketed	7	0.82	0.53	0.14	96.9809	
Rim Vent (8-in. Diameter)Weighted Mech. Actuation, Gask	1	0.71	0.10	1.00	12.6349	

TANKS 4.0.9d
Emissions Report - Detail Format
Individual Tank Emission Totals

Emissions Report for: Annual

T-4202 - External Floating Roof Tank
Jefferson City, Missouri

Components	Losses (lbs)			Total Emissions
	Rim Seal Loss	Withdrawal Loss	Deck Fitting Loss	
Gasoline (RVP 13)	2,503.74	785.83	22,067.14	25,356.71
			Deck Seam Loss	0.00

Annual VOC Emissions from Gasoline Tank 4203 (EU0060)

The calculation for annual VOC emissions from Tank 4203 was done with the TANKS 4.09D software provided by the US EPA. Since the software does not have the capability to transfer its output into Word documents, the output report was printed, scanned, and added to this document as scanned images. The following four pages are the TANKS 4.09D report for this tank.

TANKS 4.0.9d
Emissions Report - Detail Format
Tank Identification and Physical Characteristics

Identification
 User Identification:
 City:
 State:
 Company:
 Type of Tank:
 Description:

T-4203
 Jefferson City
 Missouri
 ConocoPhillips - Jefferson City
 External Floating Roof Tank
 Gasoline, RVP-13; OP 2002-09-099

Tank Dimensions
 Diameter (ft):
 Volume (gallons):
 Turnovers:

60.00
 836,682.00
 298.80

Paint Characteristics
 Internal Shell Condition:
 Shell Color/Shade:
 Shell Condition

Light Rust
 White/White
 Good

Roof Characteristics
 Type:
 Fitting Category

Pontoon
 Typical

Tank Construction and Rim-Seal System
 Construction:
 Primary Seal:
 Secondary Seal

Welded
 Mechanical Shoe
 Rim-mounted

Deck Fitting/Status

Access Hatch (24-in. Diam.)/Bolted Cover, Gasketed
 Automatic Gauge Float Well/Unbolted Cover, Ungasketed
 Vacuum Breaker (10-in. Diam.)/Weighted Mech. Actuation, Gask.
 Unslotted Guide-Pole Well/Ungasketed Sliding Cover
 Gauge-Hatch/Sample Well (8-in. Diam.)/Weighted Mech. Actuation, Gask.
 Roof Leg (3-in. Diameter)/Adjustable, Pontoon Area, Ungasketed
 Roof Leg (3-in. Diameter)/Adjustable, Center Area, Ungasketed
 Rim Vent (6-in. Diameter)/Weighted Mech. Actuation, Gask.

Quantity

1
 1
 1
 1
 1
 9
 7
 1

Meteorological Data used in Emissions Calculations: Columbia, Missouri (Avg Atmospheric Pressure = 14.3 psia)

TANKS 4.0.9d
Emissions Report - Detail Format
Liquid Contents of Storage Tank

T-4203 - External Floating Roof Tank
Jefferson City, Missouri

Mixture/Component	Daily Liquid Surf. Temperature (deg F)			Liquid Bulk Temp (deg F)	Vapor Pressure (psia)			Vapor Mol. Weight	Liquid Mass Fract.	Vapor Mass Fract.	Mol. Weight	Basis for Vapor Pressure Calculations
	Month	Avg.	Min.		Max.	Avg.	Min.					
Gasoline (RVP 13)	All	55.69	50.36	61.03	53.86	6.4058	N/A	N/A	62.0000	92.00	Option 4: RVP=13, ASTM Slope=3	

TANKS 4.0.9d
Emissions Report - Detail Format
Detail Calculations (AP-42)

T-4203 - External Floating Roof Tank
Jefferson City, Missouri

Annual Emission Calculations

Rim Seal Losses (lb): 2,503.7354
 Seal Factor A (lb-mole/ft-yr): 0.6000
 Seal Factor B (lb-mole/ft-yr (mph)^{1/4}): 0.4000
 Average Wind Speed (mph): 9.9083
 Seal-related Wind Speed Exponent: 1.0000
 Value of Vapor Pressure Function: 0.1475
 Vapor Pressure at Daily Average Liquid Surface Temperature (psia): 6.4058
 Tank Diameter (ft): 60.0000
 Vapor Molecular Weight (lb/lb-mole): 62.0000
 Product Factor: 1.0000

Withdrawal Losses (lb): 785.8333
 Annual Net Throughput (gal/yr): 250,000,000.0000
 Shell Clingage Factor (bb/1000 sqft): 0.0015
 Average Organic Liquid Density (lb/gal): 5.6000
 Tank Diameter (ft): 60.0000

Roof Fitting Losses (lb): 22,067.1380
 Value of Vapor Pressure Function: 0.1475
 Vapor Molecular Weight (lb/lb-mole): 62.0000
 Product Factor: 1.0000
 Tot. Roof Fitting Loss Fact (lb-mole/yr): 2,413.1873
 Average Wind Speed (mph): 9.9083

Total Losses (lb): 25,356.7067

Roof Fitting/Status	Quantity	KFa(lb-mole/yr)	Roof Fitting Loss Factors KFB(lb-mole/yr mph ^{1/4} n)	m	Losses(lb)
Access Hatch (24-in. Diam.)Bolted Cover, Gasketed	1	1.60	0.00	0.00	14.8310
Automatic Gauge Float Well/Unbolted Cover, Ungasketed	1	14.00	5.40	1.10	543.6997
Vacuum Breaker (10-in. Diam.)Weighted Mech. Actuation, Gask	1	6.20	1.20	0.94	124.4546
Unbolted Guide-Pole Well/Ungasketed Sliding Cover	1	31.00	150.00	1.40	20,927.0244
Gauge-Hatch/Sample Well (8-in. Diam.)Weighted Mech. Actuation, Gask	1	0.47	0.02	0.97	5.4947
Roof Leg (3-in. Diameter)Adjustable, Pontoon Area, Ungasketed	9	2.00	0.37	0.91	342.0176
Roof Leg (3-in. Diameter)Adjustable, Center Area, Ungasketed	7	0.82	0.53	0.14	96.9609
Rim Vent (6-in. Diameter)Weighted Mech. Actuation, Gask	1	0.71	0.10	1.00	12.8349

TANKS 4.0.9d
Emissions Report - Detail Format
Individual Tank Emission Totals

Emissions Report for: Annual

T-4203 - External Floating Roof Tank
Jefferson City, Missouri

Components	Losses(lbs)				Total Emissions
	Rim Seal Loss	Withdrawal Loss	Deck Fitting Loss	Deck Seam Loss	
Gasoline (RVP 13)	2,503.74	785.83	22,067.14	0.00	25,356.71

Annual VOC Emissions from Gasoline Tank 4007 (EU0065)

The calculation for annual VOC emissions from Tank 4007 was done with the TANKS 4.09D software provided by the US EPA. Since the software does not have the capability to transfer its output into Word documents, the output report was printed, scanned, and added to this document as scanned images. The following four pages are the TANKS 4.09D report for this tank.

TANKS 4.0.9d
Emissions Report - Detail Format
Tank Identification and Physical Characteristics

Identification

User Identification: Ethanol Tank
 City: Jefferson City
 State: Missouri
 Company: ConocoPhillips
 Type of Tank: Internal Floating Roof Tank
 Description: Jefferson City Ethanol Tank

Tank Dimensions

Diameter (ft): 52.00
 Volume (gallons): 504,000.00
 Turnovers: 35.71
 Self Supp. Roof? (y/n): N
 No. of Columns: 1.00
 Eff. Col. Diam. (ft): 1.00

Paint Characteristics

Internal Shell Condition: Light Rust
 Shell Color/Shade: White/White
 Shell Condition: Good
 Roof Color/Shade: White/White
 Roof Condition: Good

Rim-Seal System

Primary Seal: Mechanical Shoe
 Secondary Seal: None

Deck Characteristics

Deck Fitting Category: Typical
 Deck Type: Welded

Deck Fitting/Status

Quantity

Access Hatch (24-in. Diam.)/Unbolted Cover, Ungasketed	1
Automatic Gauge Float Well/Unbolted Cover, Ungasketed	1
Column Well (24-in. Diam.)/Built-Up Col.-Sliding Cover, Ungask.	1
Ladder Well (36-in. Diam.)/Sliding Cover, Ungasketed	1
Roof Leg or Hanger Well/Adjustable	15
Sample Pipe or Well (24-in. Diam.)/Silt Fabric Seal 10% Open	1
Vacuum Breaker (10-in. Diam.)/Weighted Mech. Actuation, Gask.	1

Meteorological Data used in Emissions Calculations: St. Louis, Missouri (Avg Atmospheric Pressure = 14.46 psia)

TANKS 4.0.9d
Emissions Report - Detail Format
Liquid Contents of Storage Tank

Ethanol Tank - Internal Floating Roof Tank
Jefferson City, Missouri

Mixture/Component	Month	Daily Liquid Surf. Temperature (deg F)			Liquid Bulk Temp (deg F)	Vapor Pressure (psia)			Vapor Mol Weight	Liquid Mass Fract.	Vapor Mass Fract.	Mol Weight	Basis for Vapor Pressure Calculations
		Avg.	Min.	Max.		Avg.	Min.	Max.					
Denatured Ethanol	All	57.84	52.89	62.80	56.05	0.5747	N/A	N/A	46.0700			46.07	Option 1: VP50 = .41 VP60 = .62

TANKS 4.0.9d
Emissions Report - Detail Format
Detail Calculations (AP-42)

Ethanol Tank - Internal Floating Roof Tank
Jefferson City, Missouri

Annual Emission Calculations

Rim Seal Losses (lb):	140.8968
Seal Factor A (lb-mole/ft-yr):	5.8000
Seal Factor B (lb-mole/ft-yr (rph) ^{1/2}):	0.3000
Value of Vapor Pressure Function:	0.0101
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	0.5747
Tank Diameter (ft):	52.0000
Vapor Molecular Weight (lb/lb-mole):	46.0700
Product Factor:	1.0000
Withdrawal Losses (lb):	73.1961
Number of Columns:	1.0000
Effective Column Diameter (ft):	1.0000
Annual Net Throughput (gal/yr):	18,000,000.0000
Shell Clingage Factor (bbt/1000 sqft):	0.0015
Average Organic Liquid Density (lb/gal):	6.1800
Tank Diameter (ft):	52.0000
Deck Fitting Losses (lb):	144.6809
Value of Vapor Pressure Function:	0.0101
Vapor Molecular Weight (lb/lb-mole):	46.0700
Product Factor:	1.0000
Tot. Roof Fitting Loss Fact (lb-mole/yr):	308.7000
Deck Seam Losses (lb):	0.0000
Deck Seam Length (ft):	0.0000
Deck Seam Loss per Unit Length Factor (lb-mole/ft-yr):	0.0000
Deck Seam Length Factor (lb/ft):	0.0000
Tank Diameter (ft):	52.0000
Vapor Molecular Weight (lb/lb-mole):	46.0700
Product Factor:	1.0000
Total Losses (lb):	358.7718

Roof Fitting/Status	Quantity	KFa(lb-mole/yr)	Roof Fitting Loss Factors KFB(lb-mole/yr m ² /ft ² /m)	m	Losses(lb)
Access Hatch (24-in. Diam.)/Unbolted Cover, Ungasketed	1	36.00	5.90	1.20	16.8179
Automatic Gauge Float Well/Unbolted Cover, Ungasketed	1	14.00	5.40	1.10	9.5403
Column Well (24-in. Diam.)/Bull-Up Col-Sliding Cover, Ungask	1	47.00	0.00	0.00	21.9567
Ladder Well (36-in. Diam.)/Sliding Cover, Ungasketed	1	75.00	0.00	0.00	36.5045
Roof Log or Hanger Well/Adjustable	15	7.90	0.00	0.00	55.3590
Sample Pipe or Well (24-in. Diam.)/Silt Fabric Seal 10% Open	1	12.00	0.00	0.00	5.8060
Vacuum Breaker (10-in. Diam.)/Weighted Mech. Actuation, Gask	1	6.20	1.20	0.94	2.6564

TANKS 4.0.9d
Emissions Report - Detail Format
Individual Tank Emission Totals

Emissions Report for: Annual

Ethanol Tank - Internal Floating Roof Tank
Jefferson City, Missouri

Components	Losses(lbs)				Total Emissions
	Rim Seal Loss	Withdrawl Loss	Deck Fitting Loss	Deck Seam Loss	
Denatured Ethanol	140.90	73.19	144.68	0.00	358.77

Annual VOC Emissions from Diesel/Jet kerosene Tank 4101 (EU0070)

The calculation for annual VOC emissions from Tank 4101 was done with the TANKS 4.09D software provided by the US EPA. Since the software does not have the capability to transfer its output into Word documents, the output report was printed, scanned, and added to this document as scanned images. The following five pages are the TANKS 4.09D report for this tank.

TANKS 4.0.9d
Emissions Report - Detail Format
Tank Identification and Physical Characteristics

Identification
 User Identification: T-4101
 City: Jefferson City
 State: Missouri
 Company: ConocoPhillips - Jefferson City
 Type of Tank: Vertical Fixed Roof Tank
 Description: Jet Kerosene; OP 2002-09-099

Tank Dimensions
 Shell Height (ft): 47.00
 Diameter (ft): 41.00
 Liquid Height (ft) : 43.00
 Avg. Liquid Height (ft): 35.00
 Volume (gallons): 424,720.00
 Turnovers: 423.81
 Net Throughput(gal/yr): 180,000,000.00
 Is Tank Heated (y/n): N

Paint Characteristics
 Shell Color/Shade: White/White
 Shell Condition: Good
 Roof Color/Shade: White/White
 Roof Condition: Good

Roof Characteristics
 Type: Cone
 Height (ft) 3.41
 Slope (ft/ft) (Cone Roof) 0.17

Breather Vent Settings
 Vacuum Settings (psig): 0.00
 Pressure Settings (psig) 0.00

Meteorological Data used in Emissions Calculations: Columbia, Missouri (Avg Atmospheric Pressure = 14.3 psia)

TANKS 4.0.9d
Emissions Report - Detail Format
Liquid Contents of Storage Tank

T-4101 - Vertical Fixed Roof Tank
Jefferson City, Missouri

Mixture/Component	Month	Daily Liquid Surf. Temperature (deg F)			Liquid Bulk Temp (deg F)	Vapor Pressure (psia)		Vapor Mol. Weight	Liquid Mass Fract.	Vapor Mass Fract.	Mol. Weight	Basis for Vapor Pressure Calculations
		Avg.	Min.	Max.		Avg.	Min.					
Jet kerosene	All	55.69	50.36	61.03	53.86	0.0074	0.0061	0.0088	130.0000	162.00	Option 1: VP50 = .006 VP60 = .0085	

TANKS 4.0.9d
Emissions Report - Detail Format
Detail Calculations (AP-42)

T-4101 - Vertical Fixed Roof Tank
Jefferson City, Missouri

Annual Emission Calculations

Standing Losses (lb)	45.7212
Vapor Space Volume (cu ft)	17,343.7408
Vapor Density (lb/cu ft)	0.0002
Vapor Space Expansion Factor	0.0416
Vented Vapor Saturation Factor	0.9949
Tank Vapor Space Volume:	17,343.7408
Vapor Space Volume (cu ft)	41.0000
Tank Diameter (ft)	13.1367
Vapor Space Outage (ft)	47.0000
Tank Shell Height (ft)	35.0000
Average Liquid Height (ft)	1.1367
Roof Outage (ft)	
Roof Outage (Cone Roof)	1.1367
Roof Outage (ft)	3.4100
Roof Height (ft)	0.1700
Roof Slope (ft/ft)	20.5000
Shell Radius (ft)	
Vapor Density	0.0002
Vapor Density (lb/cu ft)	130.0000
Vapor Molecular Weight (lb/lb-mole)	
Vapor Pressure at Daily Average Liquid Surface Temperature (psia)	0.0074
Daily Avg. Liquid Surface Temp. (deg. R)	515.3616
Daily Average Ambient Temp. (deg. F)	53.8375
Ideal Gas Constant R (psia cuft / (lb-mol-deg R))	10.731
Liquid Bulk Temperature (deg. R)	513.5275
Tank Paint Solar Absorptance (Shell)	0.1700
Tank Paint Solar Absorptance (Roof)	0.1700
Daily Total Solar Insulation Factor (Btu/sqft day)	1,372.2456
Vapor Space Expansion Factor	0.0416
Vapor Space Expansion Factor	21.3459
Daily Vapor Temperature Range (deg. R)	0.0027
Daily Vapor Pressure Range (psia)	0.0000
Breather Vent Press. Setting Range(psia)	
Vapor Pressure at Daily Average Liquid Surface Temperature (psia)	0.0074
Vapor Pressure at Daily Minimum Liquid Surface Temperature (psia)	0.0061
Vapor Pressure at Daily Maximum Liquid Surface Temperature (psia)	0.0088
Daily Avg. Liquid Surface Temp. (deg R)	515.3616
Daily Min. Liquid Surface Temp. (deg R)	510.0252
Daily Max. Liquid Surface Temp. (deg R)	520.6981
Daily Ambient Temp. Range (deg. R)	20.5750
Vented Vapor Saturation Factor	0.9949
Vented Vapor Saturation Factor	0.0074
Vapor Pressure at Daily Average Liquid Surface Temperature (psia)	13.1367
Vapor Space Outage (ft)	

Working Losses (lb)	982.0166
Vapor Molecular Weight (lb/lb-mole)	130.0000
Vapor Pressure at Daily Average Liquid Surface Temperature (psia)	0.0074
Annual Net Throughput (gailyr.)	180,000,000.0000
Annual Turnovers	423.80686
Turnover Factor	0.2375
Maximum Liquid Volume (gal)	424,720.0000
Maximum Liquid Height (ft)	43.0000
Tank Diameter (ft)	41.0000
Working Loss Product Factor	1.0000
Total Losses (lb):	1,027.7378

TANKS 4.0.9d
Emissions Report - Detail Format
Individual Tank Emission Totals

Emissions Report for: Annual

T-4101 - Vertical Fixed Roof Tank
Jefferson City, Missouri

		Losses(lbs)		Total Emissions
Components	Working Loss	Breathing Loss		
Jet kerosene	982.02	45.72		1,027.74

Annual VOC Emissions from Phillips Additive Tank 1 (EU0080)

The calculation for annual VOC emissions from Phillips Additive Tank 1 was done with the TANKS 4.09D software provided by the US EPA. Since the software does not have the capability to transfer its output into Word documents, the output report was printed, scanned, and added to this document as scanned images. The following five pages are the TANKS 4.09D report for this tank.

TANKS 4.0.9d
Emissions Report - Detail Format
Tank Identification and Physical Characteristics

Identification
 User Identification: Phil Add 1
 City: Jefferson City
 State: Missouri
 Company: ConocoPhillips - Jefferson City
 Type of Tank: Horizontal Tank
 Description: Jet naphtha (JP-4); OP 2002-09-099

Tank Dimensions
 Shell Length (ft): 14.00
 Diameter (ft): 6.00
 Volume (gallons): 3,010.00
 Turnovers: 161.46
 Net Throughput(gal/yr): 486,000.00
 Is Tank Heated (y/n): N
 Is Tank Underground (y/n): N

Paint Characteristics
 Shell Color/Shade: White/White
 Shell Condition: Good

Breather Vent Settings
 Vacuum Settings (psig): -0.03
 Pressure Settings (psig): 0.03

Meteorological Data used in Emissions Calculations: Columbia, Missouri (Avg Atmospheric Pressure = 14.3 psia)

TANKS 4.0.9d
Emissions Report - Detail Format
Liquid Contents of Storage Tank

Phil Add 1 - Horizontal Tank
Jefferson City, Missouri

Mixture/Component	Daily Liquid Surf. Temperature (deg F)			Liquid Bulk Temp (deg F)	Vapor Pressure (psia)			Vapor Mol. Weight	Liquid Mass Fract.	Vapor Mass Fract.	Mol. Weight	Basis for Vapor Pressure Calculations
	Month	Avg.	Min.		Max.	Avg.	Min.					
Jet naphtha (JP-4)	All	55.69	50.36	61.03	53.86	1.1707	1.0107	1.3308	80.0000		120.00	Option 1: VP50 = 1 VP60 = 1.3

TANKS 4.0.9d
Emissions Report - Detail Format
Detail Calculations (AP-42)

Phil Add 1 - Horizontal Tank
Jefferson City, Missouri

Annual Emission Calculations

Standing Losses (lb):	80.4673
Vapor Space Volume (cu ft):	252.1278
Vapor Density (lb/cu ft):	0.0169
Vapor Space Expansion Factor:	0.0612
Vented Vapor Saturation Factor:	0.8431
Tank Vapor Space Volume:	252.1278
Vapor Space Volume (cu ft):	8.0000
Tank Diameter (ft):	10.3444
Effective Diameter (ft):	3.0000
Vapor Space Outage (ft):	14.0000
Tank Shell Length (ft):	
Vapor Density	0.0169
Vapor Molecular Weight (lb/lb-mole):	80.0000
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	1.1707
Daily Avg. Liquid Surface Temp. (deg. R):	515.3816
Daily Average Ambient Temp. (deg. F):	53.6375
Ideal Gas Constant R:	
(psia.cuft / (lb-mol.deg R)):	10.731
Liquid Bulk Temperature (deg. R):	513.5275
Tank Paint Solar Absorbance (Shell):	0.1700
Daily Total Solar Insulation Factor (Btu/sqft day):	1,372.2456
Vapor Space Expansion Factor	0.0612
Vapor Space Temperature Range (deg. R):	21.3459
Daily Vapor Pressure Range (psia):	0.3202
Breather Vent Press. Setting Range(psia):	0.0600
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	1.1707
Vapor Pressure at Daily Minimum Liquid Surface Temperature (psia):	1.0107
Vapor Pressure at Daily Maximum Liquid Surface Temperature (psia):	1.3308
Daily Avg. Liquid Surface Temp. (deg. R):	515.3816
Daily Min. Liquid Surface Temp. (deg. R):	510.0282
Daily Max. Liquid Surface Temp. (deg. R):	520.6951
Daily Ambient Temp. Range (deg. R):	20.5750
Vented Vapor Saturation Factor	0.8431
Vent Vapor Saturation Factor:	
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	1.1707
Vapor Space Outage (ft):	3.0000
Working Losses (lb):	381.9986
Vapor Molecular Weight (lb/lb-mole):	80.0000
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	1.1707
Annual Net Throughput (gal/yr.):	486,000.0000
Annual Turnovers:	161.4618

Turnover Factor:	0.3525
Tank Diameter (ft):	6.0000
Working Loss Product Factor:	1.0000
Total Losses (lb):	462.4659

TANKS 4.0.9d
Emissions Report - Detail Format
Individual Tank Emission Totals

Emissions Report for: Annual

Phil Add 1 - Horizontal Tank
Jefferson City, Missouri

Components	Losses(lbs)		Total Emissions
	Working Loss	Breathing Loss	
Jet naphtha (JP-4)	382.00	80.47	462.47

Annual VOC Emissions from Phillips Additive Tank 2 (EU0090)

The calculation for annual VOC emissions from Phillips Additive Tank 2 was done with the TANKS 4.09D software provided by the US EPA. Since the software does not have the capability to transfer its output into Word documents, the output report was printed, scanned, and added to this document as scanned images. The following five pages are the TANKS 4.09D report for this tank.

TANKS 4.0.9d
Emissions Report - Detail Format
Tank Identification and Physical Characteristics

Identification	
User Identification:	Phil Add 2
City:	Jefferson City
State:	Missouri
Company:	ConocoPhillips - Jefferson City
Type of Tank:	Horizontal Tank
Description:	Jet naphtha (JP-4); OP 2002-09-099
Tank Dimensions	
Shell Length (ft):	15.00
Diameter (ft):	6.00
Volume (gallons):	3,200.00
Turnovers:	151.88
Net Throughput(gal/yr):	486,000.00
Is Tank Heated (y/n):	N
Is Tank Underground (y/n):	N
Paint Characteristics	
Shell Color/Shade:	White/White
Shell Condition:	Good
Breather Vent Settings	
Vacuum Settings (psig):	-0.03
Pressure Settings (psig):	0.03

Meterological Data used in Emissions Calculations: Columbia, Missouri (Avg Atmospheric Pressure = 14.3 psia)

TANKS 4.0.9d
Emissions Report - Detail Format
Liquid Contents of Storage Tank

Phil Add 2 - Horizontal Tank
Jefferson City, Missouri

Mixture/Component	Month			Daily Liquid Surf. Temperature (deg F)			Liquid Bulk Temp (deg F)	Vapor Pressure (psia)			Vapor Mol. Weight	Liquid Mass Fract.	Vapor Mass Fract.	Mol. Weight	Basis for Vapor Pressure Calculations
	Avg.	Min.	Max.	Avg.	Min.	Max.		Avg.	Min.	Max.					
Jet naphtha (JP-4)	55.69	50.36	61.03	53.86	1.1707	1.0107	1.3308	80.0000	120.00	Option 1: VP50 = 1 VP60 = 1.3					

TANKS 4.0.9d
Emissions Report - Detail Format
Detail Calculations (AP-42)

Phil Add 2 - Horizontal Tank
Jefferson City, Missouri

Annual Emission Calculations

Standing Losses (lb):	86,2150
Vapor Space Volume (cu ft):	270,1369
Vapor Density (lb/cu ft):	0.0169
Vapor Space Expansion Factor:	0.0612
Vented Vapor Saturation Factor:	0.8431
Tank Vapor Space Volume:	270,1369
Vapor Space Volume (cu ft):	6,0000
Tank Diameter (ft):	10,7075
Effective Diameter (ft):	3,0000
Vapor Space Outage (ft):	15,0000
Vapor Density	0,0169
Vapor Density (lb/cu ft):	80,0000
Vapor Molecular Weight (lb/lb-mole):	1,1707
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	515,3616
Daily Avg. Liquid Surface Temp. (deg. R):	53,8375
Daily Average Ambient Temp. (deg. F):	10,731
Ideal Gas Constant R (psia.cuft / (lb-mol-deg R)):	513,5275
Liquid Bulk Temperature (deg. R):	0,1700
Tank Paint Solar Absorbance (Shell):	1,372,2456
Daily Total Solar Insulation Factor (Btu/sqft day):	0,0612
Vapor Space Expansion Factor:	21,3459
Vapor Space Expansion Factor:	0,3202
Daily Vapor Temperature Range (deg. R):	0,0600
Daily Vapor Pressure Range (psia):	1,1707
Breather Vent Press. Setting Range(psia):	1,0107
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	1,3308
Vapor Pressure at Daily Minimum Liquid Surface Temperature (psia):	515,3616
Vapor Pressure at Daily Maximum Liquid Surface Temperature (psia):	510,0252
Daily Avg. Liquid Surface Temp. (deg R):	520,6961
Daily Min. Liquid Surface Temp. (deg R):	20,5750
Daily Max. Liquid Surface Temp. (deg R):	0,8431
Daily Ambient Temp. Range (deg. R):	1,1707
Vented Vapor Saturation Factor	3,0000
Vented Vapor Saturation Factor:	384,7096
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	80,0000
Vapor Space Outage (ft):	1,1707
Working Losses (lb):	486,000,0000
Vapor Molecular Weight (lb/lb-mole):	151,8750
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	
Annual Net Throughput (gal/yr.):	
Annual Turnovers:	

0.3642
6.0000
1.0000

480.9246

Turnover Factor:
Tank Diameter (ft):
Working Loss Product Factor:

Total Losses (lb):

TANKS 4.0.9d
Emissions Report - Detail Format
Individual Tank Emission Totals

Emissions Report for: Annual

Phil Add 2 - Horizontal Tank
Jefferson City, Missouri

Components	Losses(lbs)		Total Emissions
	Working Loss	Breathing Loss	
Jet naphtha (JP-4)	394.71	86.22	480.92

Annual VOC Emissions from Phillips Additive Tank 3 (EU0100)

The calculation for annual VOC emissions from Phillips Additive Tank 3 was done with the TANKS 4.09D software provided by the US EPA. Since the software does not have the capability to transfer its output into Word documents, the output report was printed, scanned, and added to this document as scanned images. The following five pages are the TANKS 4.09D report for this tank.

TANKS 4.0.9d
Emissions Report - Summary Format
Tank Identification and Physical Characteristics

Identification

User Identification: Phil Add 3
City: Jefferson City
State: Missouri
Company: ConocoPhillips - Jefferson City
Type of Tank: Horizontal Tank
Description: Jet naphtha (JP-4); OP 2002-09-099

Tank Dimensions

Shell Length (ft): 12.00
Diameter (ft): 5.50
Volume (gallons): 2,025.00
Turnovers: 240.00
Net Throughput(gal/yr): 486,000.00
Is Tank Heated (y/n): N
Is Tank Underground (y/n): N

Paint Characteristics

Shell Color/Shade: White/White
Shell Condition: Good

Breather Vent Settings

Vacuum Settings (psig): -0.03
Pressure Settings (psig): 0.03

Meteorological Data used in Emissions Calculations: Columbia, Missouri (Avg Atmospheric Pressure = 14.3 psia)

TANKS 4.0.9d
Emissions Report - Detail Format
Liquid Contents of Storage Tank

Phil Add 3 - Horizontal Tank
Jefferson City, Missouri

Mixture/Component	Daily Liquid Surf. Temperature (deg F)			Liquid Bulk Temp (deg F)	Vapor Pressure (psia)			Vapor Mol. Weight	Liquid Mass Fract.	Vapor Mass Fract.	Mol. Weight	Basis for Vapor Pressure Calculations
	Month	Avg.	Min.		Max.	Avg.	Min.					
Jet naphtha (JP-4)	All	55.69	50.36	61.03	53.66	1.1707	1.0107	1.3308	80.0000		120.00	Option 1: VP50 = 1 VP60 = 1.3

TANKS 4.0.9d
Emissions Report - Detail Format
Detail Calculations (AP-42)

Phil Add 3 - Horizontal Tank
Jefferson City, Missouri

Annual Emission Calculations	
Standing Losses (lb):	58.7236
Vapor Space Volume (cu ft):	181.5921
Vapor Density (lb/cu ft):	0.0169
Vapor Space Expansion Factor:	0.0612
Vented Vapor Saturation Factor:	0.8542
Tank Vapor Space Volume:	181.5921
Vapor Space Volume (cu ft):	5.5000
Tank Diameter (ft):	9.1693
Effective Diameter (ft):	2.7500
Vapor Space Outage (ft):	12.0000
Tank Shell Length (ft):	
Vapor Density	0.0169
Vapor Molecular Weight (lb/lb-mole):	80.0000
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	1.1707
Daily Avg. Liquid Surface Temp. (deg. R):	515.3616
Daily Average Ambient Temp. (deg. F):	53.8375
Ideal Gas Constant R (psia cuft / (lb-mol-deg R)):	10.731
Liquid Bulk Temperature (deg. R):	513.5275
Tank Paint Solar Absorptance (Shell):	0.1700
Daily Total Solar Insulation Factor (Btu/sqft day):	1,372.2456
Vapor Space Expansion Factor	0.0612
Vapor Space Expansion Factor:	21.3459
Daily Vapor Temperature Range (deg. R):	0.3202
Daily Vapor Pressure Range (psia):	0.0600
Breather Vent Press. Sealing Range(psia):	1.1707
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	1.0107
Vapor Pressure at Daily Minimum Liquid Surface Temperature (psia):	1.3308
Vapor Pressure at Daily Maximum Liquid Surface Temperature (psia):	515.3616
Daily Avg. Liquid Surface Temp. (deg R):	510.0252
Daily Min. Liquid Surface Temp. (deg R):	520.6981
Daily Max. Liquid Surface Temp. (deg R):	20.5750
Daily Ambient Temp. Range (deg. R):	
Vented Vapor Saturation Factor	0.8542
Vented Vapor Saturation Factor:	1.1707
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	2.7500
Vapor Space Outage (ft):	
Working Losses (lb):	316.1022
Vapor Molecular Weight (lb/lb-mole):	80.0000
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	1.1707
Annual Net Throughput (gal/yr.):	486,000.0000
Annual Turnovers:	240.0000

0.2917
5.5000
1.0000

374.8258

Turnover Factor:
Tank Diameter (ft):
Working Loss Product Factor:

Total Losses (lb):

TANKS 4.0.9d
Emissions Report - Detail Format
Individual Tank Emission Totals

Emissions Report for: Annual

Phil Add 3 - Horizontal Tank
Jefferson City, Missouri

Components	Losses(lbs)		Total Emissions
	Working Loss	Breathing Loss	
Jet naphtha (JP-4)	316.10	58.72	374.83

Annual VOC Emissions from Conoco Additive Tank (EU0110)

The calculation for annual VOC emissions from Conoco Additive Tank was done with the TANKS 4.09D software provided by the US EPA. Since the software does not have the capability to transfer its output into Word documents, the output report was printed, scanned, and added to this document as scanned images. The following five pages are the TANKS 4.09D report for this tank.

TANKS 4.0.9d
Emissions Report - Detail Format
Tank Identification and Physical Characteristics

Identification

User Identification:
City: Jefferson City
State: Missouri
Company: ConocoPhillips - Jefferson City
Type of Tank: Horizontal Tank
Description: Jet naphtha (JP-4); OP 2002-09-099

Conoco Additive Tank

Jefferson City

Missouri

ConocoPhillips - Jefferson City

Horizontal Tank

Jet naphtha (JP-4); OP 2002-09-099

Tank Dimensions

Shell Length (ft): 12.00
Diameter (ft): 5.50
Volume (gallons): 2,025.00
Turnovers: 240.00
Net Throughput(gall/yr): 486,000.00
Is Tank Heated (y/n): N
Is Tank Underground (y/n): N

Paint Characteristics

Shell Color/Shade: White/White
Shell Condition: Good

Breather Vent Settings

Vacuum Settings (psig): -0.03
Pressure Settings (psig): 0.03

Meteorological Data used in Emissions Calculations: Columbia, Missouri (Avg Atmospheric Pressure = 14.3 psia)

TANKS 4.0.9d
Emissions Report - Detail Format
Liquid Contents of Storage Tank

Conoco Additive Tank - Horizontal Tank
Jefferson City, Missouri

Mixture/Component	Daily Liquid Surf. Temperature (deg F)			Liquid Bulk Temp (deg F)	Vapor Pressure (psia)			Vapor Mol. Weight	Liquid Mass Fract.	Vapor Mass Fract.	Mol. Weight	Basis for Vapor Pressure Calculations
	Month	Avg.	Min.		Max.	Avg.	Min.					
Jet naphtha (JP-4)	All	55.69	50.38	61.03	53.86	1.1707	1.0107	1.3308	80.0000	120.00	Option 1: VP50 = 1 VP60 = 1.3	

TANKS 4.0.9d
Emissions Report - Detail Format
Detail Calculations (AP-42)

Conoco Additive Tank - Horizontal Tank
Jefferson City, Missouri

Annual Emission Calculations	
Standing Losses (lb):	58.7236
Vapor Space Volume (cu ft):	181.5821
Vapor Density (lb/cu ft):	0.0169
Vapor Space Expansion Factor:	0.0612
Vented Vapor Saturation Factor:	0.8542
Tank Vapor Space Volume:	181.5821
Vapor Space Volume (cu ft):	5.6000
Tank Diameter (ft):	9.1693
Effective Diameter (ft):	2.7500
Vapor Space Outage (ft):	12.0000
Tank Shell Length (ft):	
Vapor Density	0.0169
Vapor Molecular Weight (lb/lb-mole):	80.0000
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	1.1707
Daily Avg. Liquid Surface Temp. (deg. R):	515.3616
Daily Average Ambient Temp. (deg. F):	53.8375
Ideal Gas Constant R (psia cuft / (lb-mol-deg R)):	10.731
Liquid Bulk Temperature (deg. R):	513.5275
Tank Paint Solar Absorptance (Shell):	0.1700
Daily Total Solar Insulation Factor (Btu/sqft day):	1,372.2456
Vapor Space Expansion Factor	0.0612
Daily Vapor Temperature Range (deg. R):	21.3459
Daily Vapor Pressure Range (psia):	0.3202
Breather Vent Press. Setting Range (psia):	0.0600
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	1.1707
Vapor Pressure at Daily Minimum Liquid Surface Temperature (psia):	1.0107
Vapor Pressure at Daily Maximum Liquid Surface Temperature (psia):	1.3308
Daily Avg. Liquid Surface Temp (deg R):	515.3616
Daily Min. Liquid Surface Temp. (deg R):	510.0252
Daily Max. Liquid Surface Temp. (deg R):	520.6981
Daily Ambient Temp. Range (deg. R):	20.5750
Vented Vapor Saturation Factor	0.8542
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	1.1707
Vapor Space Outage (ft):	2.7500
Working Losses (lb):	316.1022
Vapor Molecular Weight (lb/lb-mole):	80.0000
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	1.1707
Annual Net Throughput (gallyr.):	486,000.0000
Annual Turnovers:	240.0000

0.2917
5.5000
1.0000

374.8258

Turnover Factor:
Tank Diameter (ft):
Working Loss Product Factor:

Total Losses (lb):

TANKS 4.0.9d
Emissions Report - Detail Format
Individual Tank Emission Totals

Emissions Report for: Annual

Conoco Additive Tank - Horizontal Tank
Jefferson City, Missouri

Components	Losses(lbs)		Total Emissions
	Working Loss	Breathing Loss	
Jet naphtha (JP-4)	316.10	58.72	374.83

Annual VOC Emissions from Shell Additive Tank (EU0120)

The calculation for annual VOC emissions from Shell Additive Tank was done with the TANKS 4.09D software provided by the US EPA. Since the software does not have the capability to transfer its output into Word documents, the output report was printed, scanned, and added to this document as scanned images. The following five pages are the TANKS 4.09D report for this tank.

TANKS 4.0.9d
Emissions Report - Detail Format
Tank Identification and Physical Characteristics

Identification
 User Identification: Shell Add Tank
 City: Jefferson City
 State: Missouri
 Company: ConocoPhillips - Jefferson City
 Type of Tank: Horizontal Tank
 Description: Jet naphtha (JP-4); OP 2002-09-099

Tank Dimensions
 Shell Length (ft): 12.00
 Diameter (ft): 6.00
 Volume (gallons): 2,000.00
 Turnovers: 243.00
 Net Throughput(gal/yr): 486,000.00
 Is Tank Heated (y/n): N
 Is Tank Underground (y/n): N

Paint Characteristics
 Shell Color/Shade: White/White
 Shell Condition: Good

Breather Vent Settings
 Vacuum Settings (psig): -0.03
 Pressure Settings (psig): 0.03

Meteorological Data used in Emissions Calculations: Columbia, Missouri (Avg Atmospheric Pressure = 14.3 psia)

TANKS 4.0.9d
Emissions Report - Detail Format
Liquid Contents of Storage Tank

Shell Add Tank - Horizontal Tank
Jefferson City, Missouri

Mixture/Component	Month	Daily Liquid Surf. Temperature (deg F)			Liquid Bulk Temp (deg F)	Vapor Pressure (psia)			Vapor Mol. Weight	Liquid Mass Fract.	Vapor Mass Fract.	Mol. Weight	Basis for Vapor Pressure Calculations
		Avg.	Min.	Max.		Avg.	Min.	Max.					
Jet naphtha (JP-4)	All	55.69	50.36	81.03	53.86	1.1707	1.0107	1.3308	80.0000			120.00	Option 1: VP50 = 1 VP60 = 1.3

TANKS 4.0.9d
Emissions Report - Detail Format
Detail Calculations (AP-42)

Shell Add Tank - Horizontal Tank
Jefferson City, Missouri

Annual Emission Calculations

Standing Losses (lb): 68.9720
 Vapor Space Volume (cu ft): 216.1096
 Vapor Density (lb/cu ft): 0.0169
 Vapor Space Expansion Factor: 0.0612
 Vented Vapor Saturation Factor: 0.8431

Tank Vapor Space Volume:
 Vapor Space Volume (cu ft): 216.1096
 Tank Diameter (ft): 6.0000
 Effective Diameter (ft): 9.5770
 Vapor Space Outage (ft): 3.0000
 Tank Shell Length (ft): 12.0000

Vapor Density
 Vapor Density (lb/cu ft): 0.0169
 Vapor Molecular Weight (lb/lb-mole): 80.0000
 Vapor Pressure at Daily Average Liquid Surface Temperature (psia): 1.1707
 Daily Avg. Liquid Surface Temp. (deg. R): 515.3616
 Daily Average Ambient Temp. (deg. F): 53.8375
 Ideal Gas Constant R (psia cu/ft / (lb-mol-deg R)): 10.731
 Liquid Bulk Temperature (deg. R): 513.5275
 Tank Paint Solar Absorbance (Shell): 0.1700
 Daily Total Solar Insolation Factor (BTU/sqft day): 1,372.2456

Vapor Space Expansion Factor
 Vapor Space Expansion Factor: 0.0612
 Daily Vapor Temperature Range (deg. R): 21,3459
 Daily Vapor Pressure Range (psia): 0.3202
 Breather Vent Press. Setting Range(psia): 0.0600
 Vapor Pressure at Daily Average Liquid Surface Temperature (psia): 1.1707
 Vapor Pressure at Daily Minimum Liquid Surface Temperature (psia): 1.0107
 Surface Temperature (psia): 1.3308
 Daily Avg. Liquid Surface Temp. (deg R): 515.3616
 Daily Min. Liquid Surface Temp. (deg R): 510.0252
 Daily Max. Liquid Surface Temp. (deg R): 520.6961
 Daily Ambient Temp. Range (deg. R): 20.5750

Vented Vapor Saturation Factor
 Vented Vapor Saturation Factor: 0.8431
 Vapor Pressure at Daily Average Liquid Surface Temperature (psia): 1.1707
 Vapor Space Outage (ft): 3.0000

Working Losses (lb): 314.4297
 Vapor Molecular Weight (lb/lb-mole): 80.0000
 Vapor Pressure at Daily Average Liquid Surface Temperature (psia): 1.1707
 Annual Net Throughput (gal/yr.): 486,000.0000
 Annual Turnovers: 243.0000

0.2901
6.0000
1.0000
383.4017

Turnover Factor:
Tank Diameter (ft):
Working Loss Product Factor:
Total Losses (lb):

TANKS 4.0.9d
Emissions Report - Detail Format
Individual Tank Emission Totals

Emissions Report for: Annual

Shell Add Tank - Horizontal Tank
Jefferson City, Missouri

Components	Losses (lbs)		Total Emissions
	Working Loss	Breathing Loss	
Jet naphtha (JP-4)	314.43	68.97	383.40

Annual VOC Emissions from Dye Additive Tank (EU0130)

The calculation for annual VOC emissions from Dye Additive Tank was done with the TANKS 4.09D software provided by the US EPA. Since the software does not have the capability to transfer its output into Word documents, the output report was printed, scanned, and added to this document as scanned images. The following five pages are the TANKS 4.09D report for this tank.

TANKS 4.0.9d
Emissions Report - Detail Format
Tank Identification and Physical Characteristics

Identification	
User Identification:	Dye Additive Tank
City:	Jefferson City
State:	Missouri
Company:	ConocoPhillips - Jefferson City
Type of Tank:	Horizontal Tank
Description:	Distillate Oil No. 2; OP 2002-09-099
Tank Dimensions	
Shell Length (ft):	11.00
Diameter (ft):	4.00
Volume (gallons):	1,034.00
Turnovers:	470.02
Net Throughput(gal/yr):	486,000.00
Is Tank Heated (y/n):	N
Is Tank Underground (y/n):	N
Paint Characteristics	
Shell Color/Shade:	White/White
Shell Condition:	Good
Breather Vent Settings	
Vacuum Settings (psig):	-0.03
Pressure Settings (psig):	0.03

Meteorological Data used in Emissions Calculations: Columbia, Missouri (Avg Atmospheric Pressure = 14.3 psia)

TANKS 4.0.9d
Emissions Report - Detail Format
Liquid Contents of Storage Tank

Dye Additive Tank - Horizontal Tank
Jefferson City, Missouri

Mixture/Component	Daily Liquid Surf. Temperature (deg F)			Liquid Bulk Temp (deg F)	Vapor Pressure (psia)			Vapor Mol. Weight	Liquid Mass Fract.	Vapor Mass Fract.	Mol. Weight	Basis for Vapor Pressure Calculations
	Month	Avg.	Min.		Max.	Avg.	Min.					
Distillate fuel oil no. 2	All	55.89	50.36	61.03	53.86	0.0056	0.0046	0.0068	130.0000	188.00	Option 1: VP50 = .0045 VP60 = .0065	

TANKS 4.0.9d
Emissions Report - Detail Format
Detail Calculations (AP-42)

Dye Additive Tank - Horizontal Tank
Jefferson City, Missouri

Annual Emission Calculations

Standing Losses (lb):	0.1591
Vapor Space Volume (cu ft):	88.0446
Vapor Density (lb/cu ft):	0.0001
Vapor Space Expansion Factor:	0.0374
Vented Vapor Saturation Factor:	0.9994
Tank Vapor Space Volume:	88.0446
Vapor Space Volume (cu ft):	4.0000
Tank Diameter (ft):	7.4867
Effective Diameter (ft):	2.0000
Vapor Space Outage (ft):	11.0000
Tank Shell Length (ft):	
Vapor Density	0.0001
Vapor Density (lb/cu ft):	130.0000
Vapor Molecular Weight (lb/lb-mole):	
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	0.0056
Daily Avg. Liquid Surface Temp. (deg. R):	515.3616
Daily Average Ambient Temp. (deg. F):	53.8375
Ideal Gas Constant R (psia.cuft / (lb-mol-deg R)):	10.731
Liquid Bulk Temperature (deg. R):	513.5275
Tank Paint Solar Absorbance (Shell):	0.1700
Daily Total Solar Insulation Factor (Btu/sqft day):	1,372.2456
Vapor Space Expansion Factor	0.0374
Vapor Space Expansion Factor:	21.3459
Daily Vapor Temperature Range (deg. R):	0.0022
Daily Vapor Pressure Range (psia):	0.0600
Breather Vent Press. Setting Range(psia):	
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	0.0056
Vapor Pressure at Daily Minimum Liquid Surface Temperature (psia):	0.0046
Vapor Pressure at Daily Maximum Liquid Surface Temperature (psia):	0.0068
Daily Avg. Liquid Surface Temp. (deg R):	515.3616
Daily Min. Liquid Surface Temp. (deg R):	510.0252
Daily Max. Liquid Surface Temp. (deg R):	520.6981
Daily Ambient Temp. Range (deg. R):	20.5750
Vented Vapor Saturation Factor	0.9994
Vented Vapor Saturation Factor:	
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	0.0056
Vapor Space Outage (ft):	2.0000
Working Losses (lb):	1.9550
Vapor Molecular Weight (lb/lb-mole):	130.0000
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	0.0056
Annual Net Throughput (gal/yr.):	486,000.0000
Annual Turnovers:	470.0183

0.2305
4.0000
1.0000

2.1141

Turnover Factor:
Tank Diameter (ft):
Working Loss Product Factor:

Total Losses (lb):

TANKS 4.0.9d
Emissions Report - Detail Format
Individual Tank Emission Totals

Emissions Report for: Annual
Dye Additive Tank - Horizontal Tank
Jefferson City, Missouri

Components	Losses(lbs)		Total Emissions
	Working Loss	Breathing Loss	
Distillate fuel oil no. 2	1.95	0.16	2.11

Annual VOC Emissions from Methanol Additive Tank (EU0140)

The calculation for annual VOC emissions from Methanol Additive Tank was done with the TANKS 4.09D software provided by the US EPA. Since the software does not have the capability to transfer its output into Word documents, the output report was printed, scanned, and added to this document as scanned images. The following five pages are the TANKS 4.09D report for this tank.

TANKS 4.0.9d
Emissions Report - Detail Format
Tank Identification and Physical Characteristics

Identification
 User Identification:
 City:
 State:
 Company:
 Type of Tank:
 Description:

Methanol Tank
 Jefferson City
 Missouri
 ConocoPhillips - Jefferson City
 Horizontal Tank
 Methanol, OP 2002-09-099

Tank Dimensions

Shell Length (ft): 12.00
 Diameter (ft): 4.00
 Volume (gallons): 1,020.00
 Turnovers: 476.47
 Net Throughput(gal/yr): 486,000.00
 Is Tank Heated (y/n): N
 Is Tank Underground (y/n): N

Paint Characteristics

Shell Color/Shade: White/White
 Shell Condition: Good

Breather Vent Settings

Vacuum Settings (psig): -0.03
 Pressure Settings (psig): 0.03

Meteorological Data used in Emissions Calculations: Columbia, Missouri (Avg Atmospheric Pressure = 14.3 psia)

TANKS 4.0.9d
Emissions Report - Detail Format
Liquid Contents of Storage Tank

Methanol Tank - Horizontal Tank
Jefferson City, Missouri

Mixture/Component	Month	Daily Liquid Surf. Temperature (deg F)	Daily Liquid Temp (deg F)	Liquid Bulk Temp (deg F)	Avg.	Min.	Max.	Vapor Pressure (psia)	Vapor Pressure (psia)	Vapor Mol. Weight	Liquid Mass Fract.	Vapor Mass Fract.	Mol. Weight	Basis for Vapor Pressure Calculations
Methyl alcohol	All	55.69	50.36	61.03	53.86	1.2574	1.0571	1.4895	32.0400	32.04	Option 2: A=7.897, B=1474.08, C=229.13			
Tank Vapor Space Volume: Vapor Space Volume (cu ft): 96.0487 Tank Diameter (ft): 4.0000 Effective Diameter (ft): 7.8196 Vapor Space Outage (ft): 2.0000 Tank Shell Length (ft): 12.0000														
Vapor Density (lb/cu ft): 0.0073 Vapor Molecular Weight (lb/lb-mole): 32.0400 Vapor Pressure at Daily Average Liquid Surface Temperature (psia): 1.2574 Daily Avg. Liquid Surface Temp. (deg. R): 515.3616 Daily Average Ambient Temp. (deg. F): 53.8375 Ideal Gas Constant R (psia cuft / (lb-mol-deg R)): 10.731 Liquid Bulk Temperature (deg. R): 513.5275 Tank Paint Solar Absorptance (Shell): 0.1700 Daily Total Solar Insulation Factor (Btu/sqft day): 1,372.2456														
Vapor Space Expansion Factor: 0.0700 Vapor Space Expansion Factor: Daily Vapor Temperature Range (deg. R): 21.3459 Daily Vapor Pressure Range (psia): 0.4324 Breather Vent Press. Setting Range(psia): 0.0600 Vapor Pressure at Daily Average Liquid Surface Temperature (psia): 1.2574 Vapor Pressure at Daily Minimum Liquid Surface Temperature (psia): 1.0571 Vapor Pressure at Daily Maximum Liquid Surface Temperature (psia): 1.4895 Daily Avg. Liquid Surface Temp. (deg R): 515.3616 Daily Min. Liquid Surface Temp. (deg R): 510.0252 Daily Max. Liquid Surface Temp. (deg R): 520.6981 Daily Ambient Temp. Range (deg. R): 20.5750														
Vented Vapor Saturation Factor: 0.8624 Vented Vapor Saturation Factor: Vapor Pressure at Daily Average Liquid Surface Temperature (psia): 1.2574 Vapor Space Outage (ft): 2.0000														
Working Losses (lb): 107.0519 Vapor Molecular Weight (lb/lb-mole): 32.0400 Vapor Pressure at Daily Average Liquid Surface Temperature (psia): 1.2574 Annual Net Throughput (gallyr.): 486,000.0000 Annual Turnovers: 476.4706														

Turnover Factor:	0.2296
Tank Diameter (ft):	4.0000
Working Loss Product Factor:	1.0000
Total Losses (lb):	122.8212

TANKS 4.0.9d
Emissions Report - Detail Format
Individual Tank Emission Totals

Emissions Report for: Annual

Methanol Tank - Horizontal Tank
Jefferson City, Missouri

		Losses (lbs)		Total Emissions
Components	Working Loss	Breathing Loss		
Methyl alcohol	107.05	15.77		122.82

Annual VOC Emissions from Tank Roof Landings/Tank Cleanings (EU0150)

Company Name: ConocoPhillips Company - Jefferson City
 Facility Location: 2116 Idlewood Rd, Jefferson City, MO
 Facility ID: 051-0042 Cole County

Page 1 of 3
 Columns 1 through 18

1	2 (N)	3	4	5 (D)	6 (n _d)	7 (s)	8 (h _d)	9 (h _i)
Tank ID	# of Roof Landings During Month	Date (month)	Product	Diameter (ft)	Idle time Default = 1 (days)	Bottom Slope Default = 0.25 (in/ft)	Height of Roof Deck Default = 4 (ft)	Height of Stock Liquid Default = 0 for empty (ft)
Landings								
T-4203	12	July	Gasoline	60	1	0.25	4	0
Cleanings								
T-4203	6	July	Gasoline	60	5	0.25	4	0

Notes:

1. Assumed 12 RVP change per year in one of the largest tank (T-4203), during the warmest month (July)
2. Assumed 6 tank cleaning per year in one of the largest tank (T-4203), during the warmest month (July)
3. Assumed idle time for tank cleanings is 5 days
4. Climate data for month of July (i.e. temperature and insulation data) from U.S. EPA program TANKS 4.09D
5. Atmospheric pressure for Columbia MO (14.297 psia) from U.S. EPA program TANKS 4.09D

10 (h _s)	11 (h _{lc})	12 (h _v)	13 (V _l)	14 (V _t)	15 (V _v)	16 (a)	17 (T _{ax})	18 (T _{an})
Average Depth of Sludge Default = 0.5 (in)	Effective Stock Liquid Height (h _s /12) (ft)	Height of Vapor Space ((h _d + (sD)/72) h _{lc}) (ft)	Volume of Stock Liquid (Pi(D ² /4)(h _{lc})) (ft ³)	Total Volume below the floating roof deck, (Pi(D ² /4)(h _d + (sD)/72)) (ft ³)	Volume of Vapor Space (V _t -V _l) (ft ³)	Solar Absorbance	Daily Maximum Ambient Temp (F)	Daily Minimum Ambient Temp (F)
Landings								
0.5	0.042	4.17	117.81	11898.78	11780.97	0.17	88.6	66.2
Cleanings								
0.5	0.042	4.17	117.81	11898.78	11780.97	0.17	88.6	66.2

Annual Fugitive VOC Emissions from Tank Roof Landings/Tank Cleanings (continued)

Company Name: ConocoPhillips Company - Jefferson City
 Facility Location: 2116 Idlewood Rd, Jefferson City, MO
 Facility ID: 051-0042 Cole County

Page 2 of 3
 Columns 19 through 33

19 (I)	20 (T _a)	21 (ΔT _d)	22 (T _{ls})	22 (ΔT _v)	23 (RVP)	24 (S _d)	25 (A)
Daily Total Solar Insulation (Btu/ft ² day)	Average Ambient Temp (R)	Daily Temp Difference (R/day)	Stock Liquid Surface Temp (T _a + (0.56(6a-1)+ 0.0079aI)) (R)	Vapor Space Temp Range (0.72ΔT _a + 0.028aI) (R/day)	RVP # Stock Reid Vapor Pressure (15, 13, 9 or 0.022)	Stock ASTM distillation slope (3, 3, 3, 2, rest)	=15.64-1.854S _d ^{0.5} - (0.8742-0.3280S _d ^{0.5}) ln(RVP)
Landings							
2101.6	537.4	22.4	540.2	26.1	13	3	11.6
Cleanings							
2101.6	537.4	22.4	540.2	26.1	13	3	11.6

26 (B)	27 (P)	28 (M _v)	29 (W _v)	30 (W _l)	31 (K _E)	32 (K _{sb})	33 (K _{sf})
= 8742-1042S _d ^{0.5} - (1049-179.4S _d ^{0.5}) ln(RVP)	Stock True Vapor Pressure (e ^x where x = A-(B/T _{ls}) (psia)	Stock Vapor Molecular Weight (lb/lb-mole)	Density of Condensed Vapor Stock (M _v P/RT _{ls}) (lb/ft ³)	Stock Liquid Density (lb/ft ³)	Vapor Space Expansion Factor (T _v /T _{ls} (1+(0.5 BP/T _{ls} (P _a -P)))	Standing Idle Saturation Factor (1/(1+0.053) (Ph _v))	Refilling Saturation Factor Default = 0.3
Landings							
5043.58	10.05	62	0.107	41.88	0.583	0.311	0.3
Cleanings							
5043.58	10.05	62	0.107	41.88	0.583	0.311	0.3

Annual Fugitive VOC Emissions from Tank Roof Landings/Tank Cleanings (continued)

Company Name: ConocoPhillips Company - Jefferson City

Page 3 of 3

Facility Location: 2116 Idlewood Rd, Jefferson City, MO

Columns 34 through 42

Facility ID: 051-0042

Cole County

34 (L _s)	35 (L _{ms})	36 (L _f)	37 (L _t)	38 (L _{t annual})	39	40 (L _d)	41(L _{d annual})	42 (L _T)
Standing Idle Losses (n _d V _v W _v K _E K _{sb}) (lb/event)	Maximum Standing Idle Losses (5.9D ² h _{ie} W _l) (lb/event)	Filling Losses (0.00014D ² h _v K _{sf} P M _v) (lb/event)	Total Losses (L _s + L _f) (lb/event)	Total Losses from landing per year ((L _t)(N)/2000) (ton/yr)	Was the tank cleaned when the roof was landed (Yes = 1, No = 0)	Losses from degassing (PM _v V _v /RT _{ls}) (lb)	Total Losses from degassing per year ((L _d)(N)/2000) (ton/yr)	Total Losses from landing, and degassing (L _t + L _d) (ton/yr)
Landings								
229	37064	393	622	3.73	0	0	0	3.73
Cleanings								
1147	37064	393	1539	4.62	1	1279.03	3.837	8.45
Totals								12.18

A total of 18 tons of VOC per year, instead of 12.18, is used in the Annual VOC and Speciated HAP Emissions Summary. This allows for changes in business practices or if occasionally, an additional operational need arises to land floating roofs.

Annual VOC Emissions from Petroleum Liquid Loading Rack (EU0160)

The equations below are from Chapter 5.2 Transportation and Marketing of Petroleum Liquids in the United States Environmental Protection Agency document *Compilation of Air Pollutant Emission Factors: AP-42, Fifth Edition, Volume I, Stationary Point and Area Sources*.

$$L_L = 12.46 \frac{SPM}{T}$$

Where:

- L_L = loading loss in pounds per 1000 gallons (lb/10³ gal) of liquid loaded
- S = a saturation factor, assumed 1.0 for submerged loading, vapor balance service (U.S. EPA document AP-42, Table 5.2-1)
- P = true vapor pressure of liquid loaded in pounds per square inch absolute (psia) (U.S. EPA program TANKS 4.09D)
- M = molecular weight of vapors in pounds per pound-mole (lb/lb-mole) (U.S. EPA program TANKS 4.09D), and
- T = temperature of bulk liquid loaded in °R (°F + 460)

Product	P (psia)	M (lb/lb-mole)	T °R	L _L (lb/10 ³ gal)
Gasoline (RVP 13)	6.41	62	514	9.64
Jet Kerosene	0.0074	130	514	0.02

$$E = L_L Q$$

Where:

- E = total vapor generated, in pounds (lb),
- L_L = loading loss in pounds per 1000 gallons (lb/10³ gal) of liquid loaded, and
- Q = total amount of liquid loaded, in thousands of gallons (10³ gal)

Product	L _L (lb/10 ³ gal)	Q (10 ³ gal)	E (lb/yr)	E (tpy)
Gasoline (RVP 13)	9.64	250,000	2,409,145	1204.57
Jet Kerosene	0.02	180,000	4,199	2.10

$$L_F = E EF$$

Where:

- L_F = fugitive losses from loading rack,
- E = total vapor generated, and
- EF = emission factor, 0.8% estimated in Section 7.1 Emission Factors of Chapter 7.0 Cargo Tank Requirements of U.S. EPA document *Gasoline Distribution Industry (Stage I) Background Information for Promulgated Standards* (EPA-453/R-94-002b)

Product	E (tpy)	EF	L _F (tpy)
Gasoline (RVP 13)	1204.57	0.008	9.64
Jet Kerosene	2.10	0.008	0.02
Total			9.66

Annual VOC Emissions from Vapor Combustion Unit (EU0170)

As a worst-case scenario, assume that the maximum allowable emission of 35 milligrams of total organic compounds (volatile organic compounds or VOC) per liter of gasoline loaded at the facility are all from this flare and count the entire throughput of gasoline and jet kerosene.

Total throughput = 250,000,000 gal/yr gasoline and 180,000,000 gal/yr jet kerosene
= 430,000,000 gal/yr

Allowable Emissions = 35 mg/liter

Annual VOC = Q EF

= (430,000,000 gal/yr) x (35 mg/l) x (lb/0.4536 kg) x (kg/10⁶ mg) x (3.7854 l/gal) x (ton/2000 lb)

= 62.80 tpy

Annual Facility-Wide Fugitive VOC Emissions from Seals, Valves, etc (EU0180)

Emission Type	Component ¹			Fluid Type ²	Emission Factor ³	Control Eff. (%)	Hrs in Service	VOC (lb/hr)	VOC (tpy)
	Type	Service	#						
Liquid	Pump Seal	Light Liquid	14	Gasoline	0.00117	0	8760	0.016	0.072
Liquid	Pump Seal	Heavy Liquid	4	Gasoline	0.00117	0	8760	0.005	0.020
Liquid	Valve	Light Liquid	646	Gasoline	0.000095	0	8760	0.061	0.268
Liquid	Valve	Heavy Liquid	119	Gasoline	0.000095	0	8760	0.011	0.049
Liquid	Connector	Light Liquid	2582	Gasoline	0.000017	0	8760	0.044	0.195
Liquid	Connector	Heavy Liquid	437	Gasoline	0.000017	0	8760	0.008	0.033
Liquid	Open-ended Line	Light Liquid	150	Gasoline	0.000287	0	8760	0.043	0.189
Liquid	Other	Light Liquid	8	Gasoline	0.000287	0	8760	0.002	0.010
Liquid	Relief Valve	Liquid	0	Gasoline	0.000287	0	8760	0.000	0.000
Subtotal for Liquid Service								0.191	0.836
Vapor	Valve	Vapor	19	Gasoline	0.000029	0	8760	0.001	0.002
Vapor	Connector	Vapor	38	Gasoline	0.00009	0	8760	0.003	0.015
Subtotal for Vapor Service								0.004	0.017

Notes:

1. Conservative fugitive HAP emission estimates calculated assuming gasoline is fluid in service for all components.
2. Emission Factors used were obtained from the U.S. EPA document *New Equipment Leak Emission factors for Petroleum Refineries, Gasoline Marketing, and Oil & Gas Production Operations*, February 1995.
3. Heavy liquid pump seal, valve and connector emission factors were assumed to be equivalent to light liquid emission factors. This conservative assumption is consistent with recently released guidance information from the Texas New Source Review Program.

Annual VOC Emissions from Meter Proving Process (EU0190)

The permittee estimated 48 meter provings per year in the permit application. As a worst case scenario, assume that 365 meter provings are done in a year. (In order to perform meter provings the loading bay which contains the meters, has to be shut down to truck loadings. This would not be done more than once a day.) Also, for the worst case scenario, assume that the product is gasoline (RVP-13).

The following spreadsheet was used to calculate emissions from meter provings.

Max Hourly Temp T _F (°F)	Max Hourly Temp ¹ T _R (°R)	Product	Pressure P (psia)	Vapor Molecular Weight M _V (lb/lb-mole)	Vapor Concentration ² C (lb/ft ³)	Meter Prover Volume V _G (gal)	Meter Prover Volume V _F (ft ³)	Max VOC Emissions ³ E (lb)	Annual Number of Provings N	Annual VOC Emissions ⁴ (lb)	Annual VOC Emissions (tpy)
100	560	Gasoline RVP 13	9.75	62	0.1006	750	100	10.08	365	3680.85	1.84

Notes:

- Max Hourly Temperature (T_R) = T_F + 460°
 Where:
 T_F = maximum hourly temperature in °F from facility experience
 T_R = maximum hourly temperature in °R
- Vapor Concentration (C) = (P M_V) / (R T_R)
 Where:
 C = vapor concentration (lb/ft³)
 M_V = vapor molecular weight in lb/lb-mole
 P = product partial pressure in psia, from U.S. EPA document AP-42, Figure 7.1-14a
 R = Universal Gas Constant (10.732 psi ft³/lb mole °R)
- Maximum VOC Emissions (E) = C x V_F
 Where:
 E = maximum emission of volatile organic compounds (VOC) in lb
 V_G = meter prover volume (gal) from facility
 V_F = meter prover volume (ft³)
- Annual VOC Emissions = E x N
 Where:
 N = annual number of provings

A total of 2 tons of VOC per year is used in the Annual VOC and Speciated HAP Emissions Summary.

Annual VOC Emissions from Oil/Water Separator (EU0200)

The maximum design flow rate for the Oil-Water Separator is 16.8 (1000 gal/hr) or 147,168 (1000 gal/yr).

$$E = Q \text{ EF}$$

Where:

E = VOC emissions rate (lb/hr)

Q = maximum oil-water separator loading rate = 147,168 (1000 gal/yr)

EF = Oil-water separator emission factor (lb total VOC/1000 gal wastewater); assumed to be 0.2 lb/1000 gal from U.S. EPA document AP-42, Table 9.1-2

$$E = 147,168 \text{ (1000 gal/yr)} \times 0.2 \text{ lb/1000 gal} \times 1 \text{ ton/2000 lbs} = 14.7 \text{ tpy}$$

A total of 15 tons of VOC per year is used in the Annual VOC and Speciated HAP Emissions Summary.

Annual VOC Emissions from Sump Tank (EU0210)

The calculation for annual VOC emission from Sump Tank was done with the TANKS 4.09D software provided by the US EPA. Since the software does not have the capability to transfer its output into Word documents, the output report was printed, scanned, and added to this document as scanned images. The following five pages are the TANKS 4.09D report for this tank.

TANKS 4.0.9d
Emissions Report - Detail Format
Tank Identification and Physical Characteristics

Identification

User Identification: Sump Tank
 City: Jefferson City
 State: Missouri
 Company: ConocoPhillips - Jefferson City
 Type of Tank: Vertical Fixed Roof Tank
 Description: Gasoline (RVP 6); OP 2002-09-099

Tank Dimensions

Shell Height (ft): 9.00
 Diameter (ft): 6.00
 Liquid Height (ft) : 9.00
 Avg. Liquid Height (ft): 5.00
 Volume (gallons): 1,903.57
 Turnovers: 255.31
 Net Throughput(gal/yr): 486,000.00
 Is Tank Heated (y/n): N

Paint Characteristics

Shell Color/Shade: White/White
 Shell Condition: Good
 Roof Color/Shade: White/White
 Roof Condition: Good

Roof Characteristics

Type: Dome
 Height (ft) 0.50
 Radius (ft) (Dome Roof) 6.00

Breather Vent Settings

Vacuum Settings (psig): -0.03
 Pressure Settings (psig) 0.03

Meteorological Data used in Emissions Calculations: Columbia, Missouri (Avg Atmospheric Pressure = 14.3 psia)

TANKS 4.0.9d
Emissions Report - Detail Format
Liquid Contents of Storage Tank

Sump Tank - Vertical Fixed Roof Tank
Jefferson City, Missouri

Mixture/Component	Month	Daily Liquid Surf Temperature (deg F)			Liquid Bulk Temp (deg F)	Vapor Pressure (psia)			Vapor Mol. Weight	Liquid Mass Fract.	Vapor Mass Fract.	Mol. Weight	Basis for Vapor Pressure Calculations
		Avg	Min	Max		Avg	Min	Max					
Gasoline (RVP 6)	All	55.69	50.36	61.03	53.86	2.6811	2.3923	2.9978	68.0000			92.00	Option 4: RVP=6, ASTM Slope=3

TANKS 4.0.9d
Emissions Report - Detail Format
Detail Calculations (AP-42)

Sump Tank - Vertical Fixed Roof Tank
Jefferson City, Missouri

Annual Emission Calculations	
Standing Losses (lb):	80.8779
Vapor Space Volume (cu ft):	120.2314
Vapor Density (lb/cu ft):	0.0335
Vapor Space Expansion Factor:	0.0884
Vented Vapor Saturation Factor:	0.6233
Tank Vapor Space Volume	
Vapor Space Volume (cu ft):	120.2314
Tank Diameter (ft):	6.0000
Vapor Space Height (ft):	4.2523
Tank Shell Height (ft):	6.0000
Average Liquid Height (ft):	5.6600
Roof Outage (ft):	0.2523
Roof Outage (Dome Roof)	
Roof Outage (ft):	0.2523
Dome Radius (ft):	6.0000
Shell Radius (ft):	3.0000
Vapor Density	
Vapor Density (lb/cu ft):	0.0335
Vapor Molecular Weight (lb/lb-mole):	69.0000
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	2.6811
Daily Avg. Liquid Surface Temp. (deg. R):	515.3616
Daily Average Ambient Temp. (deg. F):	53.8375
Ideal Gas Constant R (psia cuft / (lb-mol-deg R)):	10.731
Liquid Bulk Temperature (deg. R):	513.5275
Tank Paint Solar Absorptance (Shell):	0.1700
Daily Total Solar Insulation Factor (blusqft day):	0.1700
Vapor Space Expansion Factor:	1.372 2466
Vapor Space Expansion Factor	
Vapor Space Expansion Factor:	0.0884
Daily Vapor Temperature Range (deg. R):	21.3459
Daily Vapor Pressure Range (psia):	0.6055
Breather Vent Press. Swelling Ratio (psia):	0.0600
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	2.6811
Vapor Pressure at Daily Minimum Liquid Surface Temperature (psia):	2.3923
Vapor Pressure at Daily Maximum Liquid Surface Temperature (psia):	2.9978
Daily Avg. Liquid Surface Temp. (deg R):	515.3616
Daily Min. Liquid Surface Temp. (deg R):	510.0252
Daily Max. Liquid Surface Temp. (deg R):	520.6981
Daily Ambient Temp. Range (deg. R):	20.5750
Vented Vapor Saturation Factor	
Vented Vapor Saturation Factor:	0.6233
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	2.6811
Vapor Space Outage (ft):	4.2523

Working Losses (lb):	608.3251
Vapor Molecular Weight (lb/lb-mole):	69.0000
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	2.6811
Annual Net Throughput (gall/yr.):	486,000.0000
Annual Turnovers:	285.3102
Turnover Factor:	0.2842
Maximum Liquid Volume (gal):	1,903.5667
Maximum Liquid Height (ft):	9.0000
Tank Diameter (ft):	6.0000
Working Loss Product Factor:	1.0000
Total Losses (lb):	689.2030

TANKS 4.0.9d
Emissions Report - Detail Format
Individual Tank Emission Totals

Emissions Report for: Annual

Sump Tank - Vertical Fixed Roof Tank
Jefferson City, Missouri

Components	Losses(lbs)		Total Emissions
	Working Loss	Breathing Loss	
Gasoline (RVP 6)	608.33	80.88	689.20

Annual VOC Emissions from Wastewater Tank (EU0220)

The Wastewater Tank emissions were calculated assuming that the tank can be modeled as an oil-water separator. The maximum design loading rate for the wastewater tank is 16.8 (1000 gal/hr) or 147,168 (1000 gal/yr).

$$E = Q EF$$

Where:

E = VOC emissions rate (lb/hr)

Q = maximum wastewater tank loading rate = 147,168 (1000 gal/yr)

EF = Oil-water separator emission factor (lb total VOC/1000 gal wastewater); assumed to be 0.2 lb/1000 gal from U.S. EPA document AP-42, Table 9.1-2

$$E = 147,168 (1000 \text{ gal/yr}) \times 0.2 \text{ lb/1000 gal} \times 1 \text{ ton/2000 lbs} = 14.7 \text{ tpy}$$

A total of 15 tons of VOC per year is used in the Annual VOC and Speciated HAP Emissions Summary

Annual VOC Emissions from Diesel Fire Pump Engine (EU0230)

The VOC emission from the Diesel Fire Pump Engine (EU0230) was determined based on 8,760 hours usage per year. In actuality, the fire pump engine is only run occasionally and for brief periods of time. The annual usage reported in the 2004 EIQ was just 16 hours. Therefore, the VOC emissions calculated below are overestimations.

$$E = \text{MHDR} \cdot \text{EF}$$

Where:

$$\text{MHDR} = 196 \text{ HP}$$

$$\begin{aligned} \text{EF} &= \text{VOC emission factor for diesel industrial engines from U.S. EPA document AP-42 Table 3.3-1} \\ &= 0.00247 \text{ lb/hp-hr} \end{aligned}$$

$$E = 196 \text{ hp-hr} \times 0.00247 \text{ lb/hp-hr} \times 8760 \text{ days/yr} \times 1 \text{ ton}/2000 \text{ lb} = 2.12 \text{ ton/yr}$$

Annual VOC Emissions from Diesel Fire Pump Tank (EU0240)

The calculation for annual VOC emissions from the Diesel Fire Pump Tank (EU0240) was done with the TANKS 4.09D software provided by the US EPA. Since the software does not have the capability to transfer its output into Word documents, the output report was printed, scanned, and added to this document as scanned images. The following five pages are the TANKS 4.09D report for this tank.

TANKS 4.0.9d
Emissions Report - Detail Format
Tank Identification and Physical Characteristics

Identification
User Identification: Fire Pump
City: Jefferson City
State: Missouri
Company: ConocoPhillips - Jefferson City
Type of Tank: Horizontal Tank
Description: Distillate Fuel Oil No. 2; OP 2002-09-099

Tank Dimensions
Shell Length (ft): 12.00
Diameter (ft): 6.00
Volume (gallons): 260.00
Turnovers: 9.62
Net Throughput(gal/yr): 2,500.00
Is Tank Heated (y/n): N
Is Tank Underground (y/n): N

Paint Characteristics
Shell Color/Shade: White/White
Shell Condition: Good

Breather Vent Settings
Vacuum Settings (psig): -0.03
Pressure Settings (psig): 0.03

Meteorological Data used in Emissions Calculations: Columbia, Missouri (Avg Atmospheric Pressure = 14.3 psia)

TANKS 4.0.9d
Emissions Report - Detail Format
Liquid Contents of Storage Tank

Fire Pump - Horizontal Tank
Jefferson City, Missouri

Mixture/Component	Month	Daily Liquid Surf. Temperature (deg F)			Liquid Bulk Temp (deg F)	Vapor Pressure (psia)			Vapor Mol. Weight	Liquid Mass Fract.	Vapor Mass Fract.	Mol. Weight	Basis for Vapor Pressure Calculations
		Avg.	Min.	Max.		Avg.	Min.	Max.					
Distillate fuel oil no. 2	All	55.69	50.36	61.03	53.86	0.0056	0.0046	0.0068	130.0000			188.00	Option 1: VP50 = .0045 VP80 = .0065

TANKS 4.0.9d
Emissions Report - Detail Format
Detail Calculations (AP-42)

Fire Pump - Horizontal Tank
Jefferson City, Missouri

Annual Emission Calculations	
Standing Losses (lb):	0.3904
Vapor Space Volume (cu ft):	216.1086
Vapor Density (lb/cu ft):	0.0001
Vapor Space Expansion Factor:	0.0374
Vented Vapor Saturation Factor:	0.9991
Tank Vapor Space Volume:	216.1086
Vapor Space Volume (cu ft):	6.0000
Tank Diameter (ft):	9.5770
Effective Diameter (ft):	3.0000
Vapor Space Outage (ft):	12.0000
Tank Shell Length (ft):	
Vapor Density	0.0001
Vapor Molecular Weight (lb/lb-mole):	130.0000
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	0.0056
Daily Avg. Liquid Surface Temp. (deg. R):	515.3616
Daily Average Ambient Temp. (deg. F):	53.8375
Ideal Gas Constant R (psia cuft / (lb-mol-deg R)):	10.731
Liquid Bulk Temperature (deg. R):	513.5275
Tank Paint Solar Absorptance (Shell):	0.1700
Daily Total Solar Insulation Factor (Blu/sqft day):	1,372.2456
Vapor Space Expansion Factor	0.0374
Daily Vapor Temperature Range (deg. R):	21.3459
Daily Vapor Pressure Range (psia):	0.0022
Breather Vent Press. Setting Range(psia):	0.0600
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	0.0056
Vapor Pressure at Daily Minimum Liquid Surface Temperature (psia):	0.0046
Vapor Pressure at Daily Maximum Liquid Surface Temperature (psia):	0.0068
Daily Avg. Liquid Surface Temp. (deg R):	515.3616
Daily Min. Liquid Surface Temp. (deg R):	510.0252
Daily Max. Liquid Surface Temp. (deg R):	520.6981
Daily Ambient Temp. Range (deg. R):	20.5750
Vented Vapor Saturation Factor	0.9991
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	0.0056
Vapor Space Outage (ft):	3.0000
Working Losses (lb):	0.0436
Vapor Molecular Weight (lb/lb-mole):	130.0000
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	0.0056
Annual Net Throughput (gallyr):	2,500.0000
Annual Turnovers:	9.6154

1.0000
6.0000
1.0000

0.4340

Turnover Factor:
Tank Diameter (ft):
Working Loss Product Factor:

Total Losses (lb):

TANKS 4.0.9d
Emissions Report - Detail Format
Individual Tank Emission Totals

Emissions Report for: Annual

Fire Pump - Horizontal Tank
Jefferson City, Missouri

Components	Losses(lbs)		Total Emissions
	Working Loss	Breathing Loss	
Distillate fuel oil no. 2	0.04	0.39	0.43

Annual VOC and Speciated HAP Emissions from Pipeline Pump Engines (EU0250 & EU0260)

The VOC and HAP emissions from the two natural gas pipeline pump engines were determined based on 8,760 hours of usage per year. The annual usage reported in the 2004 EIQ was 2007 hours for the first engine and 1581 hours for the second engine. Therefore, the VOC and HAP emissions calculated below are overestimations.

$$E = \text{MHDR} \times \text{Emission Factor} \times 8760 \text{ hour/yr} \times 1 \text{ ton}/2000 \text{ lbs}$$

Where:

$$\text{MHDR} = 315 \text{ HP}$$

Emission Factor = VOC and HAP emission factors from U.S. EPA document AP-42, Table 3.2-3

Pollutant	MHDR (hp)	Emission Factor (lb/MMBtu)	Emission Factor ¹ (lb/hp-hr)	Emission Rate per engine (lb/hr)	Emission Rate per engine (ton/yr)
VOC	315	0.0296	2.54E-04	7.99E-02	3.50E-01
HAP Constituents					
Benzene	315	1.58E-03	1.35429E-05	4.27E-03	1.87E-02
Ethylbenzene	315	2.48E-05	2.12571E-07	6.70E-05	2.93E-04
Methanol	315	3.06E-03	2.62286E-05	8.26E-03	3.62E-02
Naphthalene	315	9.71E-05	8.32286E-07	2.62E-04	1.15E-03
Toluene	315	5.58E-04	4.78286E-06	1.51E-03	6.60E-03
Xylene	315	1.95E-04	1.67143E-06	5.27E-04	2.31E-03

Notes:

1. Conversion from lb/MMBtu to lb/hp-hr = lb/MMbtu x 2.7 MMBtu/hr x 1/operating hp

Other Regulations Not Cited in the Operating Permit or the Above Statement of Basis

Any regulation which is not specifically listed in either the Operating Permit or in the above Statement of Basis does not appear, based on this review, to be an applicable requirement for this installation for one or more of the following reasons:

1. The specific pollutant regulated by that rule is not emitted by the installation;
2. The installation is not in the source category regulated by that rule;
3. The installation is not in the county or specific area that is regulated under the authority of that rule;
4. The installation does not contain the type of emission unit which is regulated by that rule;
5. The rule is only for administrative purposes.

Should a later determination conclude that the installation is subject to one or more of the regulations cited in this Statement of Basis or other regulations which were not cited, the installation shall determine and demonstrate, to the Air Pollution Control Program's satisfaction, the installation's compliance with that regulation(s). If the installation is not in compliance with a regulation which was not previously cited, the installation shall submit to the Air Pollution Control Program a schedule for achieving compliance for that regulation(s).

Prepared by:

Jill Wade, P.E.
Environmental Engineer