OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION

MEMORANDUM **July 10, 2017**

TO: Phillip Fielder, P.E., Permits and Engineering Group Manager

THROUGH: Phil Martin, P.E., Engineering Manager, Existing Source Permits Section

THROUGH: Jian Yue, P.E., New Source Permits Section

FROM: Brandon Fanning, E.I., Engineering Section

SUBJECT: Evaluation of Permit Application No. **2016-1247-C (PSD)**
BPV Gathering and Marketing, LLC
BPV Gathering and Marketing Cushing Station
Facility ID No. 16815
Latitude: 35.91326°N, Longitude: 96.74409°W
Section 26, Township 17N, Range 5E
Cushing, Lincoln County, Oklahoma
Directions: From the intersection of Linwood Avenue and Highway 33 in Cushing, OK, go 5 miles south on Linwood Avenue. Turn right on E760 Road, drive 0.3 miles, and the facility will be on the north side of the road.

SECTION I. INTRODUCTION

BPV Gathering and Marketing, LLC (BPV) has submitted an application to construct a new bulk terminal located in Cushing, Oklahoma. The new facility is classified under NAICS Code 486110 – Pipeline Transportation of Crude Oil. The facility will consist of twenty-four (24) 250,000-bbl external floating roof (EFR) crude oil storage tanks. The proposed tanks will be subject to New Source Performance Standards 40 CFR Part 60 (NSPS), Subpart Kb.

The facility is a listed Prevention of Significant Deterioration (PSD) major source, a crude oil storage facility exceeding 300,000-barrel (bbl) storage capacity with current permitted emissions in excess of 100 TPY. Potential VOC emissions have been estimated at 217.24 TPY. Therefore, the application requires a full PSD review.

Potential emissions of any single Hazardous Air Pollutant (HAP) are less than 10 TPY, and potential emissions of total HAP are less than 25 TPY. Therefore, the facility will be considered a minor source of HAP emissions.

SECTION II. PROCESS DESCRIPTION

The new facility will be designed to receive crude oil via pipeline and store crude oil in tanks for later transportation via pipeline. There are no truck unloading facilities at this site.

SECTION III. EQUIPMENT

VOC emissions from the storage of crude oil prior to final transportation are controlled by external floating roof design and good operating procedures during startup, shutdown, and maintenance including tank filling, roof landings, and tank cleaning. Following is a full list of equipment at the BPV Cushing Station:

- Twenty-four (24) 250,000-barrel (bbl) EFR crude oil storage tanks
- One (1) emergency generator
- Associated piping components

Each storage tank is equipped with a welded pontoon-type deck external floating roof (EFR) with a mechanical shoe primary seal and a rim mounted secondary seal system to reduce evaporative losses of the stored liquid.

Table 1: Proposed NSPS Subpart Kb Tanks

EU ID#	Contents	Roof Type	Bottom Design	Capacity (bbl)	Diameter (ft)	Construction Date
T-1755	Crude Oil	EFR	Drain-Dry	250,000	196	TBD
T-1756	Crude Oil	EFR	Drain-Dry	250,000	196	TBD
T-1757	Crude Oil	EFR	Drain-Dry	250,000	196	TBD
T-1758	Crude Oil	EFR	Drain-Dry	250,000	196	TBD
T-1759	Crude Oil	EFR	Drain-Dry	250,000	196	TBD
T-1760	Crude Oil	EFR	Drain-Dry	250,000	196	TBD
T-1762	Crude Oil	EFR	Drain-Dry	250,000	196	TBD
T-1763	Crude Oil	EFR	Drain-Dry	250,000	196	TBD
T-1764	Crude Oil	EFR	Drain-Dry	250,000	196	TBD
T-1765	Crude Oil	EFR	Drain-Dry	250,000	196	TBD
T-1766	Crude Oil	EFR	Drain-Dry	250,000	196	TBD
T-1767	Crude Oil	EFR	Drain-Dry	250,000	196	TBD
T-1768	Crude Oil	EFR	Drain-Dry	250,000	196	TBD
T-1769	Crude Oil	EFR	Drain-Dry	250,000	196	TBD
T-1770	Crude Oil	EFR	Drain-Dry	250,000	196	TBD
T-1771	Crude Oil	EFR	Drain-Dry	250,000	196	TBD
T-1772	Crude Oil	EFR	Drain-Dry	250,000	196	TBD
T-1773	Crude Oil	EFR	Drain-Dry	250,000	196	TBD
T-1774	Crude Oil	EFR	Drain-Dry	250,000	196	TBD
T-1775	Crude Oil	EFR	Drain-Dry	250,000	196	TBD
T-1776	Crude Oil	EFR	Drain-Dry	250,000	196	TBD
T-1777	Crude Oil	EFR	Drain-Dry	250,000	196	TBD
T-1778	Crude Oil	EFR	Drain-Dry	250,000	196	TBD
T-1779	Crude Oil	EFR	Drain-Dry	250,000	196	TBD

TBD – To be determined.

Table 2: Emergency Generator Identification Data

Point	Make/Model	Manufacturer Rated HP	Serial #	Mfg. Date
ENG-1	TBD	400	TBD	TBD

TBD – To be determined.

SECTION IV. EMISSIONS

Emission units have been arranged into Emission Unit Groups (EUGs) as outlined as follows:

A. EUG 1: NSPS Subpart Kb Tanks

VOC emissions from the Kb tanks were estimated using EPA's TANK 4.0.9d program assuming the contents to be crude oil with a Reid Vapor Pressure (RVP) of 9 and the throughputs listed in the following table.

Table 3: Kb Tank Emissions (Normal Operations)

EU ID#	Throughput (bbl/yr)	Standing Losses (lb/yr)	Withdrawal Losses (lb/yr)	Total Emissions (TPY)
T-1755	54,450,000	5,401.98	11,159.80	8.28
T-1756	54,450,000	5,401.98	11,159.80	8.28
T-1757	54,450,000	5,401.98	11,159.80	8.28
T-1758	54,450,000	5,401.98	11,159.80	8.28
T-1759	54,450,000	5,401.98	11,159.80	8.28
T-1760	54,450,000	5,401.98	11,159.80	8.28
T-1762	54,450,000	5,401.98	11,159.80	8.28
T-1763	54,450,000	5,401.98	11,159.80	8.28
T-1764	54,450,000	5,401.98	11,159.80	8.28
T-1765	54,450,000	5,401.98	11,159.80	8.28
T-1766	54,450,000	5,401.98	11,159.80	8.28
T-1767	54,450,000	5,401.98	11,159.80	8.28
T-1768	54,450,000	5,401.98	11,159.80	8.28
T-1769	54,450,000	5,401.98	11,159.80	8.28
T-1770	54,450,000	5,401.98	11,159.80	8.28
T-1771	54,450,000	5,401.98	11,159.80	8.28
T-1772	54,450,000	5,401.98	11,159.80	8.28
T-1773	54,450,000	5,401.98	11,159.80	8.28
T-1774	54,450,000	5,401.98	11,159.80	8.28
T-1775	54,450,000	5,401.98	11,159.80	8.28
T-1776	54,450,000	5,401.98	11,159.80	8.28
T-1777	54,450,000	5,401.98	11,159.80	8.28
T-1778	54,450,000	5,401.98	11,159.80	8.28
T-1779	54,450,000	5,401.98	11,159.80	8.28
TOTAL		**129,647.52**	**267,835.20**	**198.74**

B. EUG 2: Roof Landings

The twenty-four (24) tanks are drain-dry floating roof tanks. During normal operation, a floating roof is in contact with the liquid inside the tank, reducing evaporative losses. However, when the tank is emptied to the point that the roof lands on its deck legs, a vapor space is created. After the roof is landed, evaporative losses occur during idle standing and subsequent filling.

VOC emissions from roof landings were calculated using AP-42 (11/06), Section 7.1 for drain-dry floating roof tanks. The facility estimates that there will be a total of 10 landing events per year facility-wide. Equation 2-10, roof landing emissions are the sum of standing idle losses during each roof landing episode and filling losses during each roof landing episode.

Standing idle losses for each roof landing event were calculated based on Equation 2-20, as follows:

$$L_C = 0.042 C_S W_l (Area)$$

Where:

L_C = clingage loss from the drain-dry tank, lb,
0.042 = conversion factor, gal/bbl,
C_S = clingage factor, 0.006 bbl/1,000 ft^2,
W_l = density of the liquid, 7.1 lb/gal, and
Area = area of the tank bottom, ft^2.

Filling losses were calculated for each roof landing event based on Equation 2-26, as follows:

$$L_{FL} = \left(\frac{PV_V}{RT}\right) M_V S$$

Where:

L_{FL} = filling loss during roof landing, lb,
P = true vapor pressure of the liquid within the tank, 6.25 psia,
V_V = volume of the vapor space, ft^3,
R = ideal gas constant, 10.731 psia-ft^3/(lb-mol-°R),
T = average temperature of the vapor and liquid below the floating roof, 521.6 °R,
M_v = stock vapor molecular weight, 57 lb/lb-mol,
S = filling saturation factor, dimension less (0.15 for a drain-dry tank).

The following table summarizes the estimated roof landing losses for each roof landing event and for a total of 10 landing events per year facility-wide.

Table 4: Roof Landings

Area (ft^2)	V_V (ft^3)	L_C (lb/event)	L_{FL} (lb/event)	Total (lb/event)	Events/Year	Total (TPY)
30,171.9	165,945.2	54.0	1,584.3	1,638.3	10	8.2

C. EUG 4: Fugitive Equipment Leaks

Fugitive VOC emissions from piping components were calculated using emission factors for light oil service at oil and gas production operations in EPA's "Protocol for Equipment Leak Emission Estimates" (EPA-453/R-95-017), Table 2-4, and an estimated number of components. The facility is taking a conservative estimate using factors for oil and gas production operations rather than using factors for a petroleum marketing terminal.

Table 5: Uncontrolled Fugitive Emissions

Component	Component Count	Emission Factor (lb/hr/comp)	Emissions	
			(lb/hr)	(TPY)
Pump Seals	16	2.86E-02	0.46	2.00
Valves	180	5.50E-03	0.99	4.34
Flanges	590	2.40E-04	0.14	0.62
Other	46	1.65E-02	0.76	3.32
Unloading Boxes	8	3.00E-04	<0.01	0.01
Total	**840**	**--**	**2.35**	**10.30**

D. EUG 5: Emergency Generator

Emissions from the one (1) EPA-certified diesel-fired emergency generator will be based on 500 hours of operation per year and the following emission factor.

Table 6: Emergency Engine Emission Factors

Point	NO_X (g/hp-hr)	CO (g/hp-hr)	VOC (g/hp-hr)	H_2CO (lb/MMBtu)	$PM_{2.5}$ (g/hp-hr)	SO_2 (lb/MMBtu)
ENG-1	2.0[(1)]	3.7[(1)]	0.02[(1)]	0.001[(2)]	0.10[(1)]	0.001[(3)]

(1) – Emission factors were based on manufacturer's data

(2) – AP-42, Table 3.3-2, 7-2000.

(3) – AP-42, Table 3.4-1, 7-2000.

E. Trivial Activities

There are no trivial activities listed in the application for this facility.

F. Facility-Wide Emissions

EUG	Description	VOC (TPY)	NOx (TPY)	CO (TPY)	Total HAP (TPY)
1	NSPS Subpart Kb Tanks	198.74	---	---	16.50
2	Fugitive Equipment Leaks	10.30	---	---	0.86
3	Tank Roof Landings	8.20	---	---	0.66
4	Emergency Generator	0.004	0.44	0.82	---
TOTAL		**217.24**	**0.44**	**0.82**	**18.01**

Hazardous Air Pollutants (HAPs) Emissions

The facility has emissions of hazardous air pollutants, the most significant being from the crude oil storage tanks. HAPs emissions from the tanks were calculated using the default speciation of crude oil (RVP 9) in TANKS 4.0.9d. A summary of the HAPs is shown in the following table.

Table 7: Storage Tanks HAPs

Pollutant	EUG
	1
n-hexane	7.95
Benzene	2.19
Toluene	3.18
Ethyl-benzene	0.79
Xylene	2.38
Total HAPs	**16.50**

G. Hydrogen Sulfide (H_2S) Emissions

The facility typically stores sweet crude, but may occasionally store crude that has the potential for emitting hydrogen sulfide (H_2S). The worst-case release of H_2S would be from emptying a storage tank. The potential VOC emissions are 6.18 lb/hr from a 7.6 hour emptying event. The potential H_2S emissions from a typical emptying event were calculated using a mass emission ratio based on the methodologies provided in "Using K factors to Estimate Quantities of Individual Vapor Species Emitted During the Storage and Transfer of Hydrocarbon Liquids" by Jeffery L. Meling, et al. and the information presented in the following table.

Table 8: Crude Oil Parameters

Parameter	Value
H_2S Concentration[1] (ppmw)	135
H_2S Molecular Weight (lb/lb-mol)	34.08
Vapor Molecular Weight (lb/lb-mol)	50.0
Liquid Molecular Weight (lb/lb-mol)	207.0
True Vapor Pressure (psia)	10
K Factor[2]	19

[1] – H_2S ppmw based on concentration typically found in crude oils with 5 wt% sulfur content.

[2] – K factor obtained from the nomograph for H_2S in crude oil and an ambient temperature of 60°F.

Emission estimates for H_2S are provided in the following table.

Table 9: H_2S Emissions

Emissions Source	VOC (lb/hr)	H_2S (ppmw)	H_2S (lb/hr)	H2S (g/s)
EFR Tank	6.18	15,610	0.09	0.012

AERMOD was used to calculate the ambient concentration of the H_2S to ensure the state limit of 0.2 ppm (280 μg/m3) was not exceeded during a 24-hour event. The modeling demonstrates that emissions of 0.012 g/s H_2S returned a 24-hr average concentration of 6.25 $\mu g/m^3$, which is less than the 24-hr average ambient standard of 280 $\mu g/m^3$.

SECTION V. INSIGNIFICANT ACTIVITIES

No insignificant activities were claimed as part of the application.

SECTION VI. PSD REVIEW

The project is subject to PSD review because it is a listed PSD-major source, a crude oil storage facility exceeding 300,000-barrel (bbl) storage capacity with current permitted emissions in excess of 100 TPY of VOC.

Table 10: PSD Applicability

Pollutant	Project Emissions (TPY)	PSD Levels (TPY)	Subject To PSD Review?
NO_X	0.44	100	No
CO	0.82	100	No
VOC	217.24	100	**Yes**
SO_2	<0.01	100	No
$PM_{10/2.5}$	0.02	100/100	No

The full PSD review consists of the following:

A. Determination of Best Available Control Technology (BACT);
B. Evaluation of existing air quality and determination of monitoring requirements;
C. Air Quality Impact Analysis
D. Evaluation of source-related impacts on growth, soils, vegetation, and visibility; and
E. Evaluation of Class I area impacts.

A. Best Available Control Technology (BACT)

Any major stationary source or major modification subject to PSD review must undergo an analysis to ensure the use of best available control technology (BACT). The requirement to conduct a BACT analysis is set forth in 40 CFR 52.21. BACT is defined in 40 CFR 52.21 as:

"…best available control technology means an emissions limitation (including a visible emission standard) based on the maximum degree of reduction for each pollutant subject to regulation under Act which would be emitted from any proposed major stationary source or major modification which the Administrator, on a case-by-case basis, taking into account energy, environmental, and economic impacts and other costs, determines is achievable for such source or modification through application of production processes or available methods, systems, and techniques, including fuel cleaning or treatment or innovative fuel combustion techniques for control of such pollutant…"

A BACT analysis is required for each new or physically modified emission unit for each pollutant that exceeds an applicable PSD significant emission rate (SER). Since the VOC emissions from the proposed project exceed the applicable PSD SER, a BACT analysis is required to assess the necessary levels of control for this pollutant.

The following methodology for performing a top-down BACT analysis has been developed from the US EPA's 1990 Draft New Source Review Workshop Manual - BACT Guidance. The analysis utilizes five key steps to identify the most suited BACT option for the project. The first step in this approach is to determine, for the emission unit in question, the most stringent control available for a similar or identical source or source category. If it is shown that this level of control is technically, environmentally, or economically infeasible for the unit in question, then the next most stringent level of control is determined and similarly evaluated. This process continues until the BACT level under consideration cannot be eliminated by any substantial or unique technical, environmental, or economic objections.

Step 1: Identify Available Control Technologies

Available control technologies are identified for each emission unit in question. The following methods are used to identify potential technologies: 1) researching the Reasonably Available Control Technology (RACT)/BACT/Lowest Achievable Emission Rate (LAER) Clearinghouse (RBLC) database, 2) surveying regulatory agencies, 3) drawing from previous engineering experience, 4) surveying air pollution control equipment vendors, and 5) surveying available literature.

Step 2: Eliminate Technically Infeasible Options

After the identification of control options, an analysis is conducted to eliminate technically infeasible options. A control option is eliminated from consideration if there are process-specific conditions that prohibit the implementation of the control technology or if the highest control efficiency of the option would result in an emission level that is higher than any applicable regulatory limits, such as an NSPS.

Step 3: Rank Remaining Control Options by Control Effectiveness

Once technically infeasible options are removed from consideration, the remaining options are ranked based on their control effectiveness. If there is only one remaining option, or all of the remaining technologies could achieve equivalent control efficiencies, ranking based on control efficiency is not required.

Step 4: Evaluate and Eliminate Control Technologies Based on Energy, Environmental, and Economic Impacts

Beginning with the most efficient control option in the ranking, detailed economic, energy, and environmental impact evaluations are performed. If a control option is determined to be economically feasible without adverse energy or environmental impacts, it is not necessary to evaluate the remaining options with lower control efficiencies.

The economic evaluation centers on the cost effectiveness of the control option. Costs of installing and operating control technologies are estimated following the methodologies outlined in the EPA's OAQPS Control Cost Manual (CCM) and other industry resources. Cost effectiveness is expressed as dollars per ton of pollutant controlled. Objective analyses of energy and environmental impacts associated with each option are also conducted. Both beneficial and adverse impacts are discussed and quantified.

Step 5: Select BACT and Document the Selection as BACT

In the final step, one pollutant specific control option is proposed as BACT for each emission unit under review based on evaluations from the previous step. The resulting BACT standard is an emission limit unless technological or economic limitations of the measurement methodology would make the imposition of an emissions standard infeasible, in which case a work practice standard can be imposed.

BACT Analysis for Storage Tanks

The storage tanks at the proposed BPV facility are subject to NSPS Subpart Kb standards. The proposed BACT is therefore required to be at least as stringent as, or more stringent than, the NSPS standards.

The following methodology for performing a top-down BACT analysis has been developed from the US EPA's 1990 Draft New Source Review Workshop Manual - BACT Guidance. The analysis utilizes five key steps to identify the most suited BACT option for the project.

Step 1. Identify Available Control Technologies

Identification of possible BACT options were derived from EPA and state BACT clearinghouses, recent permit decisions from similar projects, and recent industry developments or applications of BACT alternatives in similar operations. The following activities were identified as BACT options to control VOC emissions from crude oil storage tanks. The control options chosen for the BACT analysis includes the most stringent available control technology to reduce VOC emissions from storage tank operations.

Five different control options have been selected for BACT top-down analysis for control of emissions from landing losses, and from breathing and working losses (i.e., "normal" operations) and are summarized in the following table:

Table 11: Summary of BACT Options

Option Description	Control Landing Loss Emissions	Control Working and Breathing Loss Emissions
1. Mobile Degassing and Vapor Collection	Yes	No
2. Over Top Fixed Vapor Collection System (EFR)	Yes	No
3. IFR with Vapor Combustion	Yes	Yes
4. IFR without Vapor Combustion	No	Yes
5. Domed External Floating Roof Design	No	Yes

BACT Options for Breathing and Working Losses

The tanks at this facility are to be constructed with external floating roofs. These roofs are designed to rest on the liquid petroleum product inside each tank and rise and fall with the level of the liquid product inside each tank to minimize volatile emissions. During the course of operations, each EFR tank will continue to have breathing and working losses related to passive venting of volatile emissions from the tank. The BACT options identified as most applicable for these losses include:

IFR With Vapor Combustion Unit – This option would involve installing an Internal Floating Roof (IFR) supported by columns that penetrate through the floating roof inside each tank. The fixed coned roof design acts to block the wind flow across the top of each tank and be part of a system to collect emissions coming out the top of the floating roof of each tank. A dedicated vapor collection system would be installed to route emissions from each tank to a vapor combustor. This BACT option can be effective in controlling emissions from working and breathing losses as well as from roof landing events.

IFR Only Design – This option involves installing a fixed coned roof as in the previous option except without installation of a vapor combustor and associated collection piping. The fixed roof add-on would create an internal floating tank and the primary function of the fixed external roof in this alternative would be to block the wind and decrease working and breathing emissions from each tank.

Domed External Floating Roof – This option involves constructing a self-supporting geodesic dome over the external floating roof on each tank at the terminal. Similar to the internal floating roof design, geodesic domes are utilized to minimize the wind over the top of the external floating roof. The domed tanks are generally vented with circulation vents at the top of each roof. Emissions from each domed EFR tank would not be piped to a control device. Since the geodesic domes would be self-supporting, the installation of column supports penetrating through the floating roof would not be necessary and gaps in the floating roof would be minimized. This design is still referred to as an external floating roof because it utilizes the

existing heavier-duty, double-sealed fully intact EFR, though for emission estimation purposes it is treated as an IFR with no support columns.

BACT Options for Landing Loss Emissions

Tanks at the facility are to be constructed with external floating roofs. These roofs are designed to rest on the liquid petroleum product inside each tank and rise and fall with the level of the material in the tanks to minimize volatile emissions. As the floating roof lands on its legs and no longer rests on the surface of the liquid, volatile vapors are created and emissions may be vented from the tanks during these roof landing events.

Cone Roof Add-on with Vapor combustor – This option is the same BACT option as discussed for breathing and working losses. A fixed vapor collection and control system can be used for tank operations continuously such as during standing, filling, emptying, and during floating roof landing events.

Mobile Degassing Units – Mobile degassing units are an alternative to running a fixed line to each and every tank to collect emissions as the tank lands. The units are portable and can be moved from tank to tank, and would only be used during landing events. As the tanks lands, the vapors generated underneath the floating roof would be evacuated out of the vapor space in the tank and collected by mobile degassing units. The degassing units are usually attached to a hatch or other opening and pull vapors out during the course of the landing event. Generally, minimal modifications are required to be made to the tank to operate mobile degassing units. The gases collected by the units can be treated by carbon adsorber or mobile vapor combustors, depending on the type of unit that is chosen. The operation and implementation of this option is contracted out to a vendor who specializes in renting and\providing crews for these units.

Over Top Fixed Vapor Collection and Control System –This option involves installing a fixed (or permanent) vapor collection line going over the top of the side wall of each EFR tank at the terminal. The line would go through the existing external floating roof to collect emissions from the vapor space formed underneath the floating roof as it lands. The use of this option would only be good during landing events when a vapor space is created during landing events. During other times, the tank would be filled with liquid and the line would be submerged underneath the floating roof. Vapors that are collected would be piped to a common control device at the site. A vapor combustor would be the chosen control device to control volatile emissions from tanks at the site. The implementation and operation of this effort would be led by site personnel. In addition to the operation and maintenance of the vapor collection device that runs over the top of each tank, operators at the site would also be responsible for the maintenance and operation of the vapor combustor.

Step 2 Eliminate Technically Infeasible Options

At this step, an evaluation of the technical feasibility of each control alternative is made. Each alternative that is determined to be technically infeasible will be excluded from further BACT evaluation and eliminated as a potential option.

All BACT control options identified as part of Step 1 are technically feasible for control of VOC emissions from the storage tanks and warrant additional analysis. These options are further considered in the following steps of the top-down BACT analysis.

Step 3 Rank Remaining Control Options by Control Effectiveness

The following table displays estimated reductions from baseline emissions from each BACT option from each type of tank at the station. The BACT options for working/breathing and for landing losses are listed in order of control effectiveness. The most stringent or most effective has been listed first for each scenario.

Table 12: BACT Options Listed by Control Efficiencies

Options for Working and Breathing Losses	**Effectiveness Above Baseline**
1. IFR with VCU	98%[(a)]
2. Geodesic Dome Roof Add-on	27%[(b)]
3. IFR without VCU	4%[(b)]
Options for Landing Losses	**Effectiveness Above Baseline**
1. IFR with VCU	98%[(c)]
2. Over Top Fixed Vapor Collection	98%[(c)]
3. Mobile Degassing and Vapor Collection	98%[(d)]

[(a)] Based on TANKS 4.0.9d estimates with 98% VCU control efficiency
[(b)] Based on TANKS 4.0.9d estimates
[(c)] Based on control efficiency for VCU
[(d)] Based on industry and manufacturer available data

The emissions from the remaining BACT options were evaluated relative to the baseline option. The following table summarizes the BACT options for working and breathing losses. These emission estimates are based on the TANKS 4.0.9d program with a 98% control efficiency for the vapor combustion unit.

Table 13: Emissions for Tank BACT Options

Tank Size (bbls)	BACT Option			
	Baseline Option (Proposed) TPY	#1 IFR With VCU TPY	#2 Dome Roof Add-On TPY	#3 IFR w/o VCU TPY
250,000	8.28	0.16	6.08	7.95

The emissions summary for BACT options for landing losses is summarized in the following table:

Table 14: Emissions for Roof Landing BACT Options[(a)]

Tank Size (bbls)	BACT Option			
	Baseline Option (Proposed) TPY	#1 Cone Roof with Vapor Collection, TPY	#2 Over Top Fixed Vapor Collection TPY	#3 Mobile Degassing with Vapor Collection TPY
250,000	0.8	0.02	0.04	0.04

[(a)] Emissions estimates developed from these options are based on industry and manufacturer data.

In addition to control effectiveness and emissions considerations, each BACT option must also be evaluated for economic impacts, environmental, and energy impacts. These considerations are further discussed in Step 4.

Step 4: Evaluate and Eliminate Control Technologies Based on Energy, Environmental, and Economic Impacts

This step focuses on the consideration of economic, environmental, and energy impacts brought about by each BACT option. This step will lead to the consideration of the final level of control. The economic consideration for each remaining BACT option is based on a cost analysis evaluating, in part, total capital costs, direct and indirect costs, and total derived annualized cost. The annualized cost with cost per ton of emissions reduced is listed in the following tables. The average cost effectiveness for each option is determined from the annualized cost for implementation of each option divided by the annual emissions reduction gained from each option. The incremental cost effectiveness is an evaluation of the costs and the emissions reduction for each control option as compared to the next most stringent option. This value is also listed in the summary tables.

For the economic analysis, a realistic market-based interest rate of 6% was used for all the BACT options. In addition, for purposes of the capital recovery factor, economic life for equipment utilized in the BACT options were based on an average of 15 years. EPA cost

supporting documents and the BACT guidance document establish that the economic life of a control system varies between 10 and 20 years. Annual operational costs were estimated to be $100,000. These values and cost determinations are detailed in the attached cost worksheets and supporting documents.

Working and Breathing Losses BACT Impacts

The available BACT options to control emissions related to working and breathing losses yield emissions reductions relative to the baseline emissions as represented in the permit application. However, the economic analysis demonstrates that they are infeasible from an economic standpoint. The following table identifies each BACT control option for working and breathing losses.

Table 15: BACT Economic, Environmental and Energy Impact Summary: Working and Breathing Losses Per Tank

	BACT Option			Baseline
	IFR w/VCU	**IFR Only**	**DEFR**	
Estimated Emissions (tpy)	0.16	7.95	6.08	8.28
Emissions Reduced (tpy)	8.12	0.33	2.20	0.0
Total Annualized Costs (Est.)	$218,167	$78,417	$96,625	
Cost Effectiveness (Price/ton reduced)	$26,868	$237,627	$ 43,920	
Environmental Impacts	Additional NOx, CO emissions	None	None	
Energy Impacts	Fuel Consumption	None	None	

Additional consideration of the environmental and energy impacts for BACT options for working and breathing losses was made, specifically for the use of the VCU. Options 2 and 3 have no considerable environmental or energy impacts. For IFRs with VCU, the use of fuel (i.e., natural gas) would be required to operate a VCU, thus creating an energy and environmental impact. These impacts are not further considered due to the economic impacts.

Landing Losses BACT Impacts

The following table in this section identifies each BACT control option for landing losses numerically with the first option listed as being the most stringent or most effective to control.

Table 16: BACT Economic, Environmental and Energy Impact Summary: Landing Losses Per Tank Landing

	BACT Option			Baseline
	IFR w/VCU	**OTT w/VCU**	**Portable**	
Estimated Emissions (tpy)	0.016	0.004	0.004	0.82
Emissions Reduced (tpy)	0.78	0.75	0.76	0.0
Total Annualized Costs (Est.)	$523,600	$72,000	$6,400	
Cost Effectiveness (Price/ ton reduced)	$671,000	$96,000	$8,400*	
Environmental Impacts	NOx, CO emissions	NOx, CO emissions	NOx, CO emissions	
Energy Impacts	Fuel Consumption	Fuel Consumption	Fuel Consumption	

* Costs assumed rental combustion turn-key services.

Environmental and energy impacts related to BACT options for landing losses are primarily related to operating the vapor control equipment. All of the studied BACT options for Landing Losses are the top alternatives because they yield the highest (similar) emissions reductions. The BPV station is expected to have a small number of roof landings (10 per year). Therefore, the economic cost is unreasonable for each of these BACT options.

Step 5 Select BACT and Document the Selection as BACT

The most appropriate level of BACT for working and breathing losses and roof landing losses for the storage tanks at this facility is the use of EFR tanks with primary and secondary seals, as proposed in the permit application. This level of BACT was chosen based on all considerations for technical feasibility, economic, environmental, and energy impact.

The chosen level of BACT is consistent with findings from the EPA's RACT/BACT/LAER Clearinghouse for similar conditions and operations. The clearinghouse listed several facilities (e.g. RBLC IDs OK-0139, LA-0286, and TX-0653) with crude oil storage tanks. Acceptable PSD BACT controls for these facilities were external floating roofs equipped with primary mechanical shoe and secondary seals (double seals).

For roof landing events, the most appropriate level of BACT will be no additional controls beyond the use of an EFR with primary and secondary seals, a limit of 10 total landings per year facility-wide, and an emission rate of 0.82 TPY per tank landing. The chosen level of BACT for roof landing events is based on all available considerations for technical feasibility, economic, environmental, and energy impacts in accordance with the BACT guidance from the EPA Draft NSR Workshop Manual. The EPA's BACT Clearinghouse does not detail any BACT examples for tank roof landings

BACT Analysis for Fugitives

The fugitive equipment (i.e., pumps, valves, flanges, etc.) are subject to BACT analysis as well. The following methodology for performing a top-down BACT analysis has been developed from the US EPA's 1990 Draft New Source Review Workshop Manual - BACT Guidance. The analysis utilizes five key steps to identify the most suited BACT option for the project.

Step 1. Identify Available Control Technologies

Identification of possible BACT options were derived from recently issued regulations and permit decisions from similar projects. There were no results from the EPA's RACT/BACT/LAER Clearinghouse for fugitives at crude oil storage facilities. The following activities were identified as BACT options to control VOC emissions from crude oil storage fugitive equipment. Three different control options have been selected for BACT top-down analysis, as shown in the following table:

Table 17: Summary of BACT Options

Option Description
1. Monthly Audible, Visual, and Olfactory (AVO) observations
2. Annual Leak Detection and Repair using EPA Reference Method 21
3. Monthly AVO and Semi-Annual LDAR (using Optical Gas Imaging)

Monthly Audible, Visual, and Olfactory (AVO) Observations – This method of leak detection has been accepted as Maximum Achievable Control Technology (MACT) in National Emission Standards for Hazardous Air Pollutants for Source Category: Gasoline Distribution Bulk Terminals, Bulk Plants, and Pipeline Facilities (§63.11080 to §63.11100) and New Source Performance Standards (NSPS) Subpart OOOO—Standards of Performance for Crude Oil and Natural Gas Production, Transmission and Distribution for which Construction, Modification or Reconstruction Commenced after August 23, 2011, and on or before September 18, 2015.

This is the most effective LDAR for crude pipeline breakout stations because these facilities store and transport liquids only at relatively low pressures (i.e., 50 psi). An AVO LDAR program also makes sense because crude oil leaks will be detected visually before they could be detected using a Flame Ionization Detector with a 10,000 ppm set point.

Annual LDAR using EPA Reference Method 21 – This method of leak detection has been accepted in several PSD Permits. However, the annual frequency is less stringent than the Monthly AVO and this method (using a 10,000 ppm leak set point) is less effective than visual observation because many crude oil leaks do no exceed the leak detection threshold. Also, there is no evidence that this method is more effective in detecting leaks at a liquids-only facility.

Monthly AVO plus Semi-annual LDAR using EPA Alternative Reference Method 21 – This method of leak detection has been promulgated in NSPS Subpart OOOOa—Standards of Performance for Crude Oil and Natural Gas Facilities for which Construction, Modification or Reconstruction Commenced After September 18, 2015. However, there is no evidence demonstrating that this method is more effective that AVO at a liquids-only terminal.

Step 2 Eliminate Technically Infeasible Options

At this step, an evaluation of the technical feasibility of each control alternative is made. Each alternative that is determined to be technically infeasible will be excluded from further BACT evaluation and eliminated as a potential option.

All BACT control options identified as part of Step 1 are technically feasible for control of VOC emissions from equipment leaks and warrant additional analysis. These options are further considered in the following steps of the top-down BACT analysis.

Step 3 Rank Remaining Control Options by Control Effectiveness

The emissions from the remaining BACT options were evaluated relative to the baseline option. The following table summarizes the BACT options for equipment leaks. These emission estimates are based on the average versus controlled (i.e., leaking at less than 10,000 ppm) information found in Tables 2-4 and 2-8 Protocol for Equipment Leak Emission Estimates" (EPA 453/R95-017).

Table 18: Emissions for Equipment Leak Options

BACT Option Control Efficiencies		
AVO (Proposed) TPY	**Annual LDAR TPY**	**AVO plus OGI TPY**
98%	98%	98%

In absence of scientific evidence that demonstrates otherwise, TSC assumes the same effectiveness above baseline for each of the control options (i.e., 98%).

In addition to control effectiveness and emissions considerations, each BACT option must also be evaluated for economic impacts, environmental, and energy impacts. These considerations are further discussed in Step 4.

Step 4: Evaluate and Eliminate Control Technologies Based on Energy, Environmental, and Economic Impacts

This step focuses on the consideration of economic, environmental, and energy impacts brought about by each BACT option. This step will lead to the consideration of the final level of control. The economic consideration for each remaining BACT option is based on a cost analysis evaluating, in part, total capital costs, direct and indirect costs, and total derived annualized cost.

The annualized cost with cost per ton of emissions reduced is listed in the following tables. The average cost effectiveness for each option is determined from the annualized cost for implementation of each option divided by the annual emissions reduction gained from each option. The incremental cost effectiveness is an evaluation of the costs and the emissions reduction for each control option as compared to the next most stringent option. This value is also listed in the summary tables.

For the economic analysis, a realistic market-based interest rate of 3.5% was used for all the BACT options. In addition, for purposes of the capital recovery factor, economic life for equipment utilized in the BACT options were based on an average of 10 years. EPA cost supporting documents and the BACT guidance document establish that the economic life of a control system varies between 10 and 20 years. Annual operational costs were estimated to be $50,000 for both the annual Reference Method 21 and Monthly AVO with Semi-annual OGI for the addition of an instrument technician to the facility. These values and cost determinations are detailed in the attached cost worksheets and supporting documents.

Fugitive Equipment BACT Impacts

The available BACT options to control emissions related to fugitive emissions yield no substantial emissions reductions relative to the baseline emissions as represented in the permit application. Furthermore, the economic analysis demonstrates that they are infeasible from an economic standpoint. Table 3 identifies each BACT control option for fugitive equipment leaks.

Table 19: BACT Economic, Environmental and Energy Impact Summary: Fugitive Equipment Leaks

	BACT Option			**Uncontrolled TPY**
	AVO (Proposed) TPY	**Annual LDAR TPY**	**AVO plus OGI TPY**	
Estimated Emissions (tpy)	0.17	0.17	0.17	10.3
Emissions Reduced (tpy)	10.1	10.1	10.1	0.0
Total Annualized Costs (Est.)	$12,000	$51,503	$65,303	
Cost Effectiveness (Price/ton reduced)	$1,185	$5,084	$ 6,420	
Environmental Impacts	None	None	None	
Energy Impacts	None	None	None	

All of the studied BACT options for fugitive equipment leaks are the top alternatives because they yield the highest (similar) emissions reductions. However, the economic costs for both annual LDAR and Monthly AVO plus semi-annual LDAR unreasonable compared to the cost of AVO.

Step 5 Select BACT and Document the Selection as BACT

The BACT for fugitive emissions is selected as Monthly AVO.

BACT Analysis for the Emergency Generator

The Oklahoma Department of Environmental Quality (ODEQ) has asked for BACT information on the emergency generator. The following methodology for performing a top-down BACT analysis has been developed from the US EPA's 1990 Draft New Source Review Workshop Manual - BACT Guidance. The analysis utilizes five key steps to identify the most suited BACT option for the project.

Step 1. Identify Available Control Technologies

Identification of possible BACT options were derived from EPA and state BACT clearinghouses, recently issued regulations and permit decisions from similar projects. The following activities were identified as BACT options to control emissions from the emergency generator. BPV is proposing to install a generator that is NSPS Subpart IIII compliant, which meet EPA Tier III off-road standards. The EPA has mandated the use of Tier IV engines for continuous power generation, but acknowledges that an "emergency Use" engine has significantly less potential emissions. Therefore, the control options studied in this analysis are the proposed Tier III generator compared to a Tier IV generator. Three control options are shown in the following table:

Table 20: Summary of BACT Options

Option Description
1. NSPS IIII (Tier III) Compliant Engine
2. EPA Tier IV Engine

NSPS IIII Complaint Engine – This level of control has been accepted as the standard in New Source Performance Standards (NSPS) Subpart IIII--Standards of Performance for Stationary Compression Ignition Internal Combustion Engines.

EPA Tier IV Compliant Engine – EPA require Tier IV engines for continuous power generation and peak shaving.

Step 2 Eliminate Technically Infeasible Options

At this step, an evaluation of the technical feasibility of each control alternative is made. Each alternative that is determined to be technically infeasible will be excluded from further BACT evaluation and eliminated as a potential option.

All BACT control options identified as part of Step 1 are technically feasible. These options are further considered in the following steps of the top-down BACT analysis.

Step 3 Rank Remaining Control Options by Control Effectiveness

The emissions from the remaining BACT options were evaluated relative to the baseline option. The following table summarizes the BACT options. These emission estimates are based Tier III versus Tier IV Standards.

Table 21: Emissions for Emergency Generators

Pollutant	Tier III (Proposed) TPY	Tier IV TPY
VOC	0.004	0.004

In addition to control effectiveness and emissions considerations, each BACT option must also be evaluated for economic impacts, environmental, and energy impacts. These considerations are further discussed in Step 4.

Step 4: Evaluate and Eliminate Control Technologies Based on Energy, Environmental, and Economic Impacts

This step focuses on the consideration of economic, environmental, and energy impacts brought about by each BACT option. This step will lead to the consideration of the final level of control. The economic consideration for each remaining BACT option is based on a cost analysis evaluating, in part, total capital costs, direct and indirect costs, and total derived annualized cost. The annualized cost with cost per ton of emissions reduced is listed in the following tables. The average cost effectiveness for each option is determined from the annualized cost for implementation of each option divided by the annual emissions reduction gained from each option. The incremental cost effectiveness is an evaluation of the costs and the emissions reduction for each control option as compared to the next most stringent option. This value is also listed in the summary tables.

For the economic analysis, a realistic market-based interest rate of 3.5% was used for all the BACT options. In addition, for purposes of the capital recovery factor, economic life for equipment utilized in the BACT options were based on an average of 20 years. EPA cost supporting documents and the BACT guidance document establish that the economic life of a control system varies between 10 and 20 years. These values and cost determinations are detailed in the attached cost worksheets and supporting documents.

The available BACT options to for the emergency generator (i.e., Tier IV engine) yield a VOC emissions reduction relative to the baseline emissions as represented in the permit application. The Tier IV generator studied as a BACT option for the emergency generator yields the same VOC emissions, but may require a larger engine (some manufacturer do not offer smaller Tier IV

compliant engines). The economic analysis for VOC demonstrates that the Tier IV engine is economically infeasible.

Step 5 Select BACT and Document the Selection as BACT

BACT for the emergency generator is selected as NSPS IIII (Tier III) Engine limited to VOC emissions of 0.004 TPY.

B. Air Quality Impacts Analysis

Ozone (O_3) Monitoring

Pre-construction monitoring for ozone is required for any new source or modified existing source located in an unclassified or attainment area with greater than 100 tons per year of VOC emissions. Continuous ozone monitoring data must be used to establish existing air quality concentrations in the vicinity of the proposed source or modification.

The siting guidance for ozone monitors in the "Ambient Monitoring Guidelines for Prevention of Significant Deterioration", EPA-450/4-87-007, is less prescriptive than the guidance for primary pollutants. The guidance provides that, where the NO interactions may be minimal, the travel time to expected maximum ozone concentrations may be 3 to 4 hours downwind; but "in general, the downwind distance for the maximum ozone site should not be more than 15 to 20 miles from the source because a lower wind speed (2-3 miles per hour) with less dilution would be a more critical case." Reviewing wind roses from met stations in Cushing, Stillwater, and Oilton, wind speeds are generally greater than a minimum of 5 miles per hour with primary flow vectors (blowing to) ranging between NW and NE.

The nearest existing ozone monitoring site is the Tulsa West site, 40-037-0144 at 25 miles NE of the proposed project. The current ozone design value for Tulsa West is 0.064 ppm.

The Tulsa West monitoring site is part of the Tulsa Metropolitan Statistical Area and would be impacted by pollution from urban area sources and significant individual point sources. Ozone concentrations measured at this site should be considered conservative for the community of Cushing and the surrounding area including the crude oil tank farms. This determination is corroborated by the fact that the terrain in both areas is relatively flat, emission inventories and photochemical modeling[1] has shown the area to be NO_X limited and there are no significant NO_X emission sources in or around Cushing. While Cushing has a large number of crude oil storage tanks and associated VOC emissions, due to the relative scarcity of NO_X emissions, increases in VOC are not expected to significantly impact ozone concentrations. Therefore, use of the monitoring data collected at the Tulsa West monitoring site is presumed to satisfy preconstruction monitoring requirements.

[1] Ramboll Environ US Corporation. 2015Assessment of the Ozone Impacts Associated with New Emissions from Tinker Air Force Base in Oklahoma City.

Site	Name	Distance	Average 4th High 2013-2015	Average 4th High 2014-2016*
40-143-0174	Tulsa South	42 miles E	0.064 ppm	0.062 ppm
40-037-0144	**Tulsa West**	**25 miles NE**	**0.065 ppm**	**0.064 ppm**
40-109-0096	Choctaw	44 miles SW	0.067 ppm	0.065 ppm
40-109-1037	OKC North	47 miles SW	0.070 ppm	0.068 ppm

*The average of the 4th high monitored 8-hour ozone values from 2014 through December 18 of 2016.

Ozone Modeling

EPA conducted photochemical modeling studies to provide guidance on the development of Modeled Emission Rates for Precursors (MERPs). These MERPs are intended to be used, where appropriate, as a Tier I demonstration tool for ozone and secondary formation $PM_{2.5}$ evaluation requirements under PSD. The draft guidance was released for public review and comment on December 2, 2016. The guidance uses conservative assumptions to evaluate hypothetical single-source impacts on downwind O_3. The parameters relied upon are documented in EPA document number EPA-454/R-16-006, December 2016.
The new VOC emission sources under review in this permit are twenty-four 250,000 barrel external floating roof tanks and associated fugitives. The facility also anticipates 0.44 tons per year of NO_X emissions from an emergency engine. The highest and most common release height for emissions is 14.6 meters. Emissions from the storage tanks were developed with Tanks 4.0.9d assuming crude with an RVP of 9.

In EPA's draft guidance, Table 7.1 breaks the country up into three regions and identifies the most conservative (lowest) illustrative MERP Values in tons per year by precursor, pollutant, and region. The analysis identified an Ozone MERP for VOC precursors of 948 tons per year for the central region. When narrowing it down to a low level VOC source in Canadian and Muskogee counties, the MERP increases to 7,143 and 3,571 tons per year respectively. In deriving the lowest MERP values, EPA explored impacts from surface level releases and high level, 90 meter, releases of precursor pollutants. Emissions were modeled using a typical industrial speciation for VOCs. Sensitivity analyses identified that using more reactive assumptions such as speciating VOCs as formaldehyde increased concentration by a factor of 1.5 to 2. The critical air quality threshold for ozone or Significant Impact Level, SIL, used to derive the MERP was 1.0 ppb.

Calculated MERP values based on EPA:

Location	Modeled Emission Rate	Modeled Concentration	MERP	MERP adjusted for Reactivity
	TPY	PPB	TPY	TPY
Canadian County	500	0.07	7,143	3,572
Muskogee County	500	0.14	3,571	1,785

Photochemical modeling was conducted in August of 2015 on behalf of Tinker Air Force Base by Ramboll Environ. The modeling study was based on a Texas Commission on Environmental Quality (TCEQ) developed Photochemical Grid Model (PGM) modeling database for ozone episodes in June of 2012. The TCEQ episodes included high monitored ozone concentrations in Oklahoma as well. The Comprehensive Air-quality Model with extensions version 6.11 with the Carbon Bond 6 revision 2 chemical mechanism was used in the study. The TCEQ database used a 36 km continental U.S. (CONUS) and a 12 km Texas-Oklahoma domain. These domains were retained and a new 4 km OKC/Tulsa modeling domain was added. This new domain included the Cushing area. The 4 km domain-wide 8-hour ozone performance statistics achieved EPA's performance goals with a slight overestimation bias.

Using the method provided in the draft EPA guidance, modeling conducted on behalf of Tinker for 608 tons per year of VOCs would yield an unadjusted MERP consistent with the values provided by EPA.

Location	Modeled Emission Rate	Modeled Concentration	MERP
	TPY	PPB	TPY
Tinker	608	0.10	6,080

The critical air quality threshold for ozone or SIL of 1.0 ppb should not be relied upon without justification. However, given the conservative design value for the Cushing area was established by the Tulsa West monitor at 64 ppb and that the ozone impact from the new tank farm and VOC increase of 217.24 TPY would be a relative ozone increase in the neighborhood of 0.04 ppb, the project is anticipated to be well below any reasonably established significant impact level and therefore no further evaluation is necessary.

C. Evaluation of Additional Source-Related Impacts

Growth Impact Analysis

A growth analysis is intended to evaluate the amount of new growth that is likely to occur in support of the project and to estimate secondary emissions resulting from that associated growth. Associated growth includes residential and commercial/ industrial expansion resulting from the new facility. Residential growth depends on the number of new employees and the availability of housing in the area, while associated commercial and industrial growth consists of new sources providing services to the new employees and the facility. For the proposed installation of new tanks, the facility does not anticipate a significant increase in required permanent manpower or third-party services (perhaps 3 to 5 FTE personnel). Thus, since secondary growth analyses generally do not consider temporary sources such as construction, the proposed project will have negligible secondary growth impact.

Soils and Vegetation

PSD regulations require that additional impact analyses be conducted to consider the project's effects on soils and vegetation. Elevated ground-level ozone concentrations can damage plant life and reduce crop production. Ozone interferes with the ability of plants to produce and store

food, making them more susceptible to disease, insects and harsh weather. The increased potential VOC emissions resulting from the proposed facility are predicted to cause a maximum 8-hour increase of 0.04 ppb ozone, a level that will have an insignificant impact on soils and vegetation.

Visibility Impairment

Based on the location of the facility and the contents of tanks on-site, it is expected that the facility will have no visibility impacts on the nearby area.

D. Evaluation Of Class I Area Impacts

Class I Areas are defined by the U.S. EPA's New Source Review Manual as those areas of the nation that are of special natural, scenic, recreational, or historic interest to the public. The closest Class I Area to the Cushing facility is the Wichita Mountain Wildlife Refuge, which is located approximately 218 kilometers (km) southwest of the facility. This Class I Area is managed by the U.S. Forest Service (FS).

Class I Area analyses examine two separate items: (1) Class I Increments and (2) Air Quality Related Values (AQRVs). Class I Increment modeling is explicitly required by U.S. EPA under the PSD program and is reviewed for approval by the state permitting agency. Class I Areas have a separate set of PSD Increments for PM_{10}, SO_2, and NO_X that are more stringent than the typically considered Class II Increments. The method recommended by the Federal Land Managers (FLMs) for Class I Area impact analysis has been utilized. As an alternative to the standard Class I analysis, the FLMs consider a source located greater than 50 km from a Class I area to have negligible impacts with respect to Class I air quality related values (AQRV) if its total SO_2, NO_X, PM_{10}, and H_2SO_4 annual emissions (in tons per year), divided by the distance (in km) from the Class I area (Q/D) is 10 or less. Based on the Federal Land Managers' Air Quality Related Values Workgroup (FLAG), *Phase I Report—Revised*, DRAFT, June 27, 2008, the FLMs would not request any further Class I AQRV impact analyses from such sources. Therefore, the FLM recommended formula *Q/D<10* was used in conducting the Class I impact analysis. There are negligible expected emissions of SO_2, NO_X, PM_{10}, or H_2SO_4 from the facility, so Q = 0.44.

Q/D<10 Analysis

Class I Area	Quantity (TPY)	Distance (km)	Q/D	Q/D<10?
Caney Creek	0.44	289	0.0015	Yes
Upper Buffalo	0.44	297	0.0148	Yes
Wichita Mountains	0.44	218	0.0020	Yes

The proposed project is not expected to significantly impact any AQRVs in the Wichita Mountain Wildlife Refuge because the ratio of Q/D is less than 10. Therefore, further analysis is not required.

SECTION VII. OKLAHOMA AIR POLLUTION CONTROL RULES

OAC 252:100-1 (General Provisions) [Applicable]
Subchapter 1 includes definitions but there are no regulatory requirements.

OAC 252:100-2 (Incorporation by Reference) [Applicable]
This subchapter incorporates by reference applicable provisions of Title 40 of the Code of Federal Regulations. These requirements are addressed in the "Federal Regulations" section.

OAC 252:100-3 (Air Quality Standards and Increments) [Applicable]
Subchapter 3 enumerates the primary and secondary ambient air quality standards and the PSD increments. The primary standards are enumerated in Appendix E and the secondary standards are enumerated in Appendix F of the Air Pollution Control Rules (OAC 252:100). NAAQs are established by the EPA. The actual ambient air concentrations of criteria pollutants are monitored within the State of Oklahoma by the DEQ Air Quality Division. At this time, all of Oklahoma is in "attainment" of these standards.

OAC 252:100-5 (Registration, Emissions Inventory, and Annual Operating Fees) [Applicable]
Subchapter 5 requires sources of air contaminants to register with Air Quality, file emission inventories annually, and pay annual operating fees based upon total annual emissions of regulated pollutants. The owner/operator will be required to submit emissions inventories and pay the appropriate fees.

OAC 252:100-8 (Permits for Part 70 Sources) [Applicable]
Part 5 includes the general administrative requirements for part 70 permits. Any planned changes in the operation of the facility which result in emissions not authorized in the permit and which exceed the "Insignificant Activities" or "Trivial Activities" thresholds require prior notification to AQD and may require a permit modification. Insignificant activities mean individual emission units that either are on the list in Appendix I (OAC 252:100) or whose actual calendar year emissions do not exceed the following limits:

- 5 TPY of any one criteria pollutant; and
- 2 TPY of any one hazardous air pollutant (HAP) or 5 TPY of multiple HAPs or 20% of any threshold less than 10 TPY for a HAP that the EPA may establish by rule.

Emission limitations and operational requirements necessary to assure compliance with all applicable requirements for all sources are taken from the existing permit or from the current permit application, or are developed from the applicable requirement.

OAC 252:100-9 (Excess Emissions Reporting Requirements) [Applicable]
Except as provided in OAC 252:100-9-7(a)(1), the owner or operator of a source of excess emissions shall notify the Director as soon as possible but no later than 4:30 p.m. the following working day of the first occurrence of excess emissions in each excess emission event. No later than thirty (30) calendar days after the start of any excess emission event, the owner or operator of an air contaminant source from which excess emissions have occurred shall submit a report for each excess emission event describing the extent of the event and the actions taken by the

owner or operator of the facility in response to this event. Request to be relieved from an administrative penalty, as described in OAC 252:100-9-8, shall be included in the excess emission event report. Additional reporting may be required in the case of ongoing emission events and in the case of excess emissions reporting required by 40 CFR Parts 60, 61, or 63.

OAC 252:100-13 (Open Burning) [Applicable]
Open burning of refuse and other combustible material is prohibited except as authorized in the specific examples and under the conditions listed in this subchapter.

OAC 252:100-19 (Particulate Matter) [Applicable]
Section 19-4 regulates emissions of PM from new and existing fuel-burning equipment, with emission limits based on maximum design heat input rating. Fuel-burning equipment is defined in OAC 252:100-19 as any internal combustion engine or gas turbine, or other combustion device used to convert the combustion of fuel into usable energy. Fuel-burning equipment is limited to the emergency generator and there are not any significant particulate emission sources on location.

This subchapter also limits emissions of particulate matter from industrial processes and direct-fired fuel-burning equipment based on their process weight rates. Since there are no significant particulate emissions from the nonfuel-burning processes at the facility compliance with the standard is assured without any special monitoring provisions.

OAC 252:100-25 (Visible Emissions and Particulates) [Applicable]
No discharge of greater than 20% opacity is allowed except for short-term occurrences that consist of not more than one six-minute period in any consecutive 60 minutes, not to exceed three such periods in any consecutive 24 hours. In no case shall the average of any six-minute period exceed 60% opacity. Since fuel-burning equipment is limited to the emergency generator and there are not any PM producing activities, compliance is assured.

OAC 252:100-29 (Fugitive Dust) [Applicable]
No person shall cause or permit the discharge of any visible fugitive dust emissions beyond the property line on which the emissions originate in such a manner as to damage or to interfere with the use of adjacent properties, or cause air quality standards to be exceeded, or interfere with the maintenance of air quality standards. Under normal operating conditions, this facility is not expected to cause a problem in this area; therefore it is not necessary to require specific precautions to be taken.

OAC 252:100-31 (Sulfur Compounds) [Applicable]
Part 2 limits ambient air concentration impacts of hydrogen sulfide (H_2S) to 0.2 parts per million (ppm) (24-hour average). The majority of the crude stored at the tank farm is of the "sweet" variety (i.e., negligible-to-very low sulfur content, < 0.5%). Sweet crude typically contains < 2.0 parts per million by weight (ppmw) H_2S, but 10,000 ppmw is assumed for the emission calculations. Screen modeling using AERMOD (Version 15181) was conducted to demonstrate compliance with the ambient standard. The entire facility was modeled as a pseudo-point source with the worst-case emissions scenario from emptying a single storage tank nearest to the fence line. The modeling was conducted using the potential VOC emission rate of 6.18 lb/hr from a 7.6

hour emptying event. It was assumed that the sulfur content in crude oil is 50,000 ppm or 5%, 20% sulfur is converted to H_2S (10,000 ppm), and the maximum amount of H_2S released occurs during the tank unloading operations. The modeled impact for H_2S is 3.6 µg/m^3 (24-hr average), which is in compliance with the limit of 0.2 ppm (283 µg/m^3 based on EPA standard conditions) (24-hour average).

OAC 252:100-33 (Nitrogen Oxides) [Not Applicable]
This subchapter limits NOx emissions from new fuel-burning equipment with rated heat input greater than or equal to 50 MMBTUH to emissions of 0.2 lb of NOx per MMBTU. There are no equipment items that exceed the 50 MMBTUH threshold.

OAC 252:100-35 (Carbon Monoxide) [Not Applicable]
None of the following affected processes are located at this facility: gray iron cupola, blast furnace, basic oxygen furnace, petroleum catalytic cracking unit, or petroleum catalytic reforming unit.

OAC 252:100-37 (Volatile Organic Compounds) [Applicable]
Part 3 requires storage tanks constructed after December 28, 1974, with a capacity between 400 and 40,000 gallons and storing a VOC with a vapor pressure greater than 1.5 psia to be equipped with a permanent submerged fill pipe or with an organic vapor recovery system. All of the new tanks have a capacity greater than 40,000 gallons and will comply due to the floating roof design.
Part 3 requires storage tanks constructed after December 28, 1974, with a capacity greater than 40,000 gallons to be equipped with a floating roof or a vapor-recovery system capable of collecting 85% or more of the uncontrolled VOCs. All tanks on-site that would be subject to this requirement are equipped with external floating roofs. However, these tanks are subject to the equipment standards of NSPS Subpart Kb and are therefore exempt from this section.
Part 5 limits the VOC content of coatings from any coating line or other coating operation. Painting operations will involve maintenance coatings of buildings and equipment emitting less than 100 pounds per day of VOC, which are exempt.
Part 7 requires fuel-burning and refuse-burning equipment to be operated to minimize emissions of VOC. The fuel-burning equipment will be subject to this subpart.
Part 7 requires all effluent water separator openings which receive water containing more than 200 gallons per day of any VOC, to be sealed or the separator to be equipped with an external floating roof or a fixed roof with an internal floating roof or a vapor recovery system. No effluent water separators are located at this facility.

OAC 252:100-42 (Toxic Air Contaminants (TAC)) [Not Applicable]
This subchapter regulates toxic air contaminants (TAC) that are emitted into the ambient air in areas of concern (AOC). Any work practice, material substitution, or control equipment required by the Department prior to June 11, 2004, to control a TAC, shall be retained, unless a modification is approved by the Director. Since no AOC has been designated there are no specific requirements for this facility at this time.

OAC 252:100-43 (Testing, Monitoring, and Recordkeeping) [Applicable]
This subchapter provides general requirements for testing, monitoring and recordkeeping and applies to any testing, monitoring or recordkeeping activity conducted at any stationary source.

To determine compliance with emissions limitations or standards, the Air Quality Director may require the owner or operator of any source in the state of Oklahoma to install, maintain and operate monitoring equipment or to conduct tests, including stack tests, of the air contaminant source. All required testing must be conducted by methods approved by the Air Quality Director and under the direction of qualified personnel. A notice-of-intent to test and a testing protocol shall be submitted to Air Quality at least 30 days prior to any EPA Reference Method stack tests. Emissions and other data required to demonstrate compliance with any federal or state emission limit or standard, or any requirement set forth in a valid permit shall be recorded, maintained, and submitted as required by this subchapter, an applicable rule, or permit requirement. Data from any required testing or monitoring not conducted in accordance with the provisions of this subchapter shall be considered invalid. Nothing shall preclude the use, including the exclusive use, of any credible evidence or information relevant to whether a source would have been in compliance with applicable requirements if the appropriate performance or compliance test or procedure had been performed.

The following Oklahoma Air Pollution Control Rules are not applicable to this facility:

OAC 252:100-11	Alternative Emissions Reduction	Not requested
OAC 252:100-15	Mobile Sources	Not in source category
OAC 252:100-17	Incinerators	Not type of emission unit
OAC 252:100-23	Cotton Gins	Not type of emission unit
OAC 252:100-24	Grain Elevators	Not in source category
OAC 252:100-39	Nonattainment Areas	Not in area category
OAC 252:100-47	Municipal Solid Waste Landfills	Not in source category

SECTION VIII. FEDERAL REGULATIONS

PSD, 40 CFR Part 52 [Applicable]

The facility is a listed source having petroleum storage and transfer units with a total storage capacity exceeding 300,000-barrels (bbl) which emits, or has the potential to emit, 100 TPY or more of any regulated NSR pollutant. The potential emissions of the facility are greater than 100 TPY for VOC. Therefore, the facility is a major source and is subject to PSD review. The PSD review is discussed in Section VI of this memorandum.

NSPS, 40 CFR Part 60 [Subparts Kb and IIII are Applicable]

Subpart Kb, VOL Storage Vessels. This subpart applies to volatile organic liquids storage vessels (including petroleum liquids storage vessels) for which construction, reconstruction, or modification commenced after July 23, 1984, and which have a capacity of 19,813 gallons (75 cubic meters) or more. 40 CFR Part 60.112b specifies that vessels with a design capacity greater than or equal to 39,980 gallons containing a VOL that, as stored, has a maximum true vapor pressure greater than or equal to 0.75 psia but less than 11 psia shall have one of the following vapor control devices: an external fixed roof in combination with an internal floating roof; an external floating roof; a closed vent system to a control device (flare, condenser, or absorber); or an equivalent system. The storage tanks (EUG-1) are all subject to this subpart. The permittee shall comply with this subpart by using external floating roofs as defined in §60.112b(a)(2). The permit will also require compliance with the testing (§60.113b), reporting and recordkeeping (§60.115b), and monitoring (§60.116b) of this subpart. In addition, the facility shall comply

with all the applicable requirements 40 CFR Part 60 Subpart A including the notifications as described in §60.7.

Subpart GG, Stationary Gas Turbines. This subpart affects combustion turbines which commenced construction, reconstruction, or modification after October 3, 1977, and which have a heat input rating of 10 MMBTUH or more. There are no turbines at this facility.

Subpart KKK, Equipment Leaks of VOC from Onshore Natural Gas Processing Plants. This subpart applies to natural gas processing plants constructed, reconstructed or modified after January 20, 1984 but prior to August 23, 2011. The facility does not engage in natural gas processing.

Subpart LLL, Onshore Natural Gas Processing: SO_2 Emissions. This subpart affects sweetening units and sweetening units followed by sulfur recovery units. This facility does not have a sweetening unit.

Subpart IIII, Stationary Compression Ignition (CI) Internal Combustion Engines (ICE). This subpart affects CI ICE manufactured after 2007. The emergency generator is subject to this subpart.

Subpart JJJJ, Stationary Spark Ignition Internal Combustion Engines (SI-ICE). This subpart promulgates emission standards for all new SI engines ordered after June 12, 2006, and all SI engines modified or reconstructed after June 12, 2006, regardless of size. There are no such engines at this facility.

Subpart OOOO, Crude Oil and Natural Gas Production, Transmission, and Distribution. This subpart affects natural gas wells, centrifugal compressors, reciprocating compressors, pneumatic controllers, storage vessels, onshore natural gas processing plants, and onshore natural gas sweetening units that commence construction, modification, or reconstruction after August 23, 2011, and on or before September 18, 2015. All equipment at the facility will commence construction after September 18, 2015. Therefore, this subpart does not apply.

Subpart OOOOa, Crude Oil and Natural Gas Facilities. This subpart applies to hydraulically fractured wells, centrifugal compressors, reciprocating compressors, pneumatic controllers and pumps, natural gas processing plants, storage vessels, equipment leaks, and natural gas sweetening units that commence construction, modification, or reconstruction after September 18, 2015. All equipment at the facility will commence construction after this date and the storage vessels and equipment leaks at this facility are potentially subject. However, this subpart only affects facilities located in the crude oil production source category, which includes the well and extends to the point of custody transfer to the crude oil transmission pipeline or any other forms of transportation. All liquids received by this facility will have already passed the point of custody transfer to a crude oil transmission pipeline. Therefore, this subpart does not apply.

NESHAP, 40 CFR Part 61 [Not Applicable]

There are no emissions of any of the regulated pollutants: arsenic, asbestos, benzene, beryllium, coke oven emissions, mercury, radionuclides, or vinyl chloride except for trace amounts of benzene. Subpart J, Equipment Leaks of Benzene, concerns only process streams that contain more than 10% benzene by weight. All process streams at this facility are below this threshold.

NESHAP, 40 CFR Part 63 [Subparts ZZZZ and BBBBBB are Applicable]

Subpart R, Gasoline Distribution Facilities (Bulk Gasoline Terminals and Pipeline Breakout Stations). This subpart only applies to gasoline facilities which are major sources of HAPs. The

facility is not a major source of HAPs. This facility does not store gasoline. Therefore, this facility is not subject to this subpart.
Subpart EEEE, Organic Liquids Distribution (Non-Gasoline). This subpart affects organic liquid distribution (OLD) operations only at major sources of HAP emissions with an organic liquid throughput greater than 7.29 million gallons per year (173,571 bbl/yr). This facility is not a major source of HAPs. Therefore, this facility is not subject to this subpart.
Subpart BBBBBB, Gasoline Distribution Bulk Terminals, Bulk Plants, and Pipeline Facilities. This subpart affects area sources that are bulk gasoline terminals that are not subject to the control requirements of 40 CFR Part 63, Subpart R or 40 CFR Part 63, Subpart CC, pipeline beakout stations that are not subject to the control requirements of 40 CFR Part 63 Subpart R, pipeline pumping stations, and bulk gasoline plants. The facility does not handle gasoline and is therefore not subject to this subpart. However, the facility will comply with the LDAR requirements of this subpart as required by the BACT review.
Subpart ZZZZ, Reciprocating Internal Combustion Engines (RICE). This subpart affects any existing, new, or reconstructed stationary RICE located at a major or area source of HAP emissions. The emergency generator will meet the requirements of this subpart by complying with Subpart IIII.

CAM, 40 CFR Part 64 [Not Applicable]
Compliance Assurance Monitoring (CAM) as published in the Federal Register on October 22, 1997, applies to any pollutant specific emission unit at a major source, that is required to obtain a Title V permit, if it meets all of the following criteria:

- It is subject to an emission limit or standard for an applicable regulated air pollutant.
- It uses a control device to achieve compliance with the applicable emission limit or standard.
- It has potential emissions, prior to the control device, of the applicable regulated air pollutant greater than major source threshold.

There are no individual emission units at this facility that meet all of the above criteria. Although the facility is a major source required to obtain a part 70 permit, the storage tanks will not be equipped with control devices and is not subject to CAM monitoring. Control devices do not include passive control measures such as seals, lids or roofs.

Chemical Accident Prevention Provisions, 40 CFR Part 68 [Not Applicable]
The definition of a stationary source does not apply to transportation, including storage incident to transportation, of any regulated substance or any other extremely hazardous substance under the provisions of this part. Naturally occurring hydrocarbon mixtures, prior to entry into a natural gas processing plant or a petroleum refining process unit, including: condensate, crude oil, field gas, and produced water, are exempt for the purpose of determining whether more than a threshold quantity of a regulated substance is present at the stationary source. More information on this federal program is available on the web page: *www.epa.gov/rmp*.

Stratospheric Ozone Protection, 40 CFR Part 82 [Subpart A and F are Applicable]
These standards require phase out of Class I & II substances, reductions of emissions of Class I & II substances to the lowest achievable level in all use sectors, and banning use of nonessential

products containing ozone-depleting substances (Subparts A & C); control servicing of motor vehicle air conditioners (Subpart B); require Federal agencies to adopt procurement regulations which meet phase out requirements and which maximize the substitution of safe alternatives to Class I and Class II substances (Subpart D); require warning labels on products made with or containing Class I or II substances (Subpart E); maximize the use of recycling and recovery upon disposal (Subpart F); require producers to identify substitutes for ozone-depleting compounds under the Significant New Alternatives Program (Subpart G); and reduce the emissions of halons (Subpart H).

Subpart A identifies ozone-depleting substances and divides them into two classes. Class I controlled substances are divided into seven groups; the chemicals typically used by the manufacturing industry include carbon tetrachloride (Class I, Group IV) and methyl chloroform (Class I, Group V). A complete phase-out of production of Class I substances is required by January 1, 2000 (January 1, 2002, for methyl chloroform). Class II chemicals, which are hydrochlorofluorocarbons (HCFCs), are generally seen as interim substitutes for Class I CFCs. Class II substances consist of 33 HCFCs. A complete phase-out of Class II substances, scheduled in phases starting by 2002, is required by January 1, 2030.

Subpart F requires that any persons servicing, maintaining, or repairing appliances except for motor vehicle air conditioners; persons disposing of appliances, including motor vehicle air conditioners; refrigerant reclaimers, appliance owners, and manufacturers of appliances and recycling and recovery equipment comply with the standards for recycling and emissions reduction.

The standard conditions of the permit address the requirements specified at §82.156 for persons opening appliances for maintenance, service, repair, or disposal; §82.158 for equipment used during the maintenance, service, repair, or disposal of appliances; §82.161 for certification by an approved technician certification program of persons performing maintenance, service, repair, or disposal of appliances; §82.166 for recordkeeping; § 82.158 for leak repair requirements; and §82.166 for refrigerant purchase records for appliances normally containing 50 or more pounds of refrigerant.

This facility does not utilize any Class I or Class II substances.

SECTION IX. COMPLIANCE

A. Tier Classification and Public Review

This application has been determined to be a Tier III based on the fact that it is a request for a construction permit for a new PSD major source.

The applicant published the DEQ "Notice of Tier III Permit Application Filing" in The Cushing Citizen, a twice weekly newspaper published in Cushing, Payne County, Oklahoma, on December 31, 2016. The notice stated that the application was available for public review in the Cushing City Library at 215 N Steele Avenue, Cushing, Oklahoma 74023, or at the DEQ main office at 707 N. Robinson, Oklahoma City, Oklahoma.

The applicant published the "Notice of Tier III Draft Permit" in The Cushing Citizen, a twice weekly newspaper published in Cushing, Payne County, Oklahoma, on April 15, 2017. The notice stated that the draft permit was made available for public review at the Cushing City Library at 215 N Steele Avenue, Cushing, Oklahoma 74023, or at the DEQ main office at 707 N. Robinson, Oklahoma City, Oklahoma. No public comments were made.

The applicant published the "Notice of Tier III Proposed Permit" in The Cushing Citizen, a twice weekly newspaper published in Cushing, Payne County, Oklahoma, on June 17, 2017. The notice stated that the proposed permit was made available for public review at the Cushing City Library at 215 N Steele Avenue, Cushing, Oklahoma 74023, or at the DEQ main office at 707 N. Robinson, Oklahoma City, Oklahoma. No public comments were made.

The permittee has submitted an affidavit that they are not seeking a permit for land use or for any operation upon land owned by others without their knowledge. The affidavit certifies that the applicant (or applicant business) has notified the landowner(s) by means of an actual notice, for which the applicant has a signed and dated receipt. Information on all permits is available for review by the public in the Air Quality Section of the DEQ Web Page: http://www.deq.state.ok.us.

B. State Review

This facility is not located within 50 miles of the Oklahoma border. Therefore, no bordering states will be notified of the draft permit.

C. EPA Review

BPV requested and was granted concurrent public and EPA review periods. The draft permit was submitted to the EPA for a 45 day review period. No EPA comments were made.

SECTION X. FEES PAID

A fee of $7,500 is required for a new Part 70 source. A payment of $7,500 was received on November 23, 2016.

SECTION XI. SUMMARY

The facility has demonstrated the ability to comply with the requirements of the several air pollution control rules and regulations. Ambient air quality standards are not threatened at this site. There are no active Air Quality compliance or enforcement issues concerning this facility. Issuance of this construction permit is recommended.

PERMIT TO CONSTRUCT
AIR POLLUTION CONTROL FACILITY
SPECIFIC CONDITIONS

BPV Gathering and Marketing, LLC **Permit No. 2016-1247-C (PSD)**
BPV Gathering and Marketing Cushing Station

The permittee is authorized to construct in conformity with the specifications submitted to Air Quality on November 22, 2016. The evaluation Memorandum, data July 10, 2017, explains the derivation of applicable permit requirements and estimates of emissions; however, it does not contain operating limitations or permit requirements. Commencing construction or continuing operations under this permit constitutes acceptance of, and consent to, the conditions contained herein:

1. Points of emissions limitations for each point: [OAC 252:100-8-6(a)(1)]

A. EUG 1: NSPS Subpart Kb Tanks

EU ID#	Contents	Roof Type	Bottom Design	Capacity (bbl)	Diameter (ft)	Construction Date
T-1755	Crude Oil	EFR	Drain-Dry	250,000	196	TBD
T-1756	Crude Oil	EFR	Drain-Dry	250,000	196	TBD
T-1757	Crude Oil	EFR	Drain-Dry	250,000	196	TBD
T-1758	Crude Oil	EFR	Drain-Dry	250,000	196	TBD
T-1759	Crude Oil	EFR	Drain-Dry	250,000	196	TBD
T-1760	Crude Oil	EFR	Drain-Dry	250,000	196	TBD
T-1762	Crude Oil	EFR	Drain-Dry	250,000	196	TBD
T-1763	Crude Oil	EFR	Drain-Dry	250,000	196	TBD
T-1764	Crude Oil	EFR	Drain-Dry	250,000	196	TBD
T-1765	Crude Oil	EFR	Drain-Dry	250,000	196	TBD
T-1766	Crude Oil	EFR	Drain-Dry	250,000	196	TBD
T-1767	Crude Oil	EFR	Drain-Dry	250,000	196	TBD
T-1768	Crude Oil	EFR	Drain-Dry	250,000	196	TBD
T-1769	Crude Oil	EFR	Drain-Dry	250,000	196	TBD
T-1770	Crude Oil	EFR	Drain-Dry	250,000	196	TBD
T-1771	Crude Oil	EFR	Drain-Dry	250,000	196	TBD
T-1772	Crude Oil	EFR	Drain-Dry	250,000	196	TBD
T-1773	Crude Oil	EFR	Drain-Dry	250,000	196	TBD
T-1774	Crude Oil	EFR	Drain-Dry	250,000	196	TBD
T-1775	Crude Oil	EFR	Drain-Dry	250,000	196	TBD
T-1776	Crude Oil	EFR	Drain-Dry	250,000	196	TBD
T-1777	Crude Oil	EFR	Drain-Dry	250,000	196	TBD
T-1778	Crude Oil	EFR	Drain-Dry	250,000	196	TBD
T-1779	Crude Oil	EFR	Drain-Dry	250,000	196	TBD

*EFR = External Floating Roof.

a. Each tank shall be equipped with an external floating roof.
b. Each external floating roof shall be equipped with a primary mechanical shoe seal and a secondary seal.
c. Each tank bottom shall be drain-dry by design with a slope which drains the liquid contents to the sump or sumps when liquid levels fall below the pipe outlet.
d. Each tank shall be limited to 54,450,000 barrels throughput in any continuous 12-month period. VOC emissions from the tanks are included in the facility-wide total emission limitation.

B. EUG 2: Fugitive Equipment Leaks

Fugitive equipment items are not limited in number or VOC emissions. The associated emissions shall be included to demonstrate compliance with the facility-wide emission limits. The facility shall maintain an updated list of all fugitive emission sources. The facility shall conduct and record monthly Audible, Visual, and Olfactory (AVO) Observations. The AVO Observations requirements are listed in Specific Condition No. 3.

C. EUG 3: Roof Landings

The facility shall be limited to ten (10) roof landings in any continuous 12-month period and an emission rate of 0.82 TPY per tank landing. VOC emissions from the tank roof landings are included in the facility-wide total emission limitation.

D. EUG 4: Emergency Generator

VOC emissions from the emergency generator are included in the facility-wide total emission limitation. The emergency generator shall:

- Be limited to hours of operation consistent with Subpart IIII and Subpart ZZZZ.
- Be equipped with non-resettable hour meters, and the hours of operation shall be recorded monthly, along with a 12-month rolling total.
- Only be fired with ultra-low sulfur diesel fuel, 0.015% or less by weight sulfur.

E. Facility-Wide Emission Limit

Facility-wide emissions of VOC from all sources, tanks, fugitives, and any other VOC emission source) are limited to 217.24 tons in any continuous 12-month period. Facility-wide emissions of Hazardous Air Pollutants (HAP) from all sources (tanks, fugitives, and any other HAP emission source) are limited to not more than 9.9 tons of any single HAP or 24.9 tons of any combination of HAPs in any continuous 12-month period. Compliance shall be demonstrated by:

- TANKS4.0 or other emission estimation software approved by AQD.
- Records of material stored and throughput for each tank.
- Calculations of emissions from roof landing events.
- Inclusion of emission estimates for fugitive VOC sources and any other identified sources of VOC emissions.

2. Each tank in EUG 1 is subject to federal New Source Performance Standards, 40 CFR Part 60, Subpart Kb, and shall comply with all applicable requirements for external floating roof tanks which shall include, but are not limited to, the following requirements: [40 CFR Part 60.110b through 60.116b]

   a. § 60.110b Applicability and designation of affected facility.
   b. § 60.111b Definitions.
   c. § 60.112b Standard for volatile organic compounds (VOC).
   d. § 60.113b Testing procedures.
   e. § 60.114b Alternative means of emission limitation.
   f. § 60.115b Reporting and recordkeeping requirements.
   g. § 60.116b Monitoring of operations.

3. Fugitive equipment leaks (EUG 2) are subject to monthly Audible, Visual, and Olfactory (AVO) observation procedures as described in federal National Emission Standards for Hazardous Air Pollutants, 40 CFR Part 63, Subpart BBBBBB, and shall comply with the following requirements:

   a. The owner or operator shall perform a monthly leak inspection of all equipment. For this inspection, detection methods incorporating sight, sound, and smell are acceptable.
   b. 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 at the facility.
   c. Each detection of a liquid or vapor leak shall be recorded in the log book. 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, except as provided in paragraph (d) of this section
   d. Delay of repair of leaking equipment will be allowed if the repair is not feasible within 15 days.
   e. Each owner or operator shall record in the log book for each leak that is detected the following information:

      - The equipment type and identification number.
      - The nature of the leak (i.e., vapor or liquid) and the method of detection (i.e., sight, sound, or smell).
      - The date the leak was detected and the date of each attempt to repair the leak.
      - Repair methods applied in each attempt to repair the leak.
      - “Repair delayed” and the reason for the delay if the leak is not repaired within 15 calendar days after discovery of the leak.
      - The expected date of successful repair of the leak if the leak is not repaired within 15 days.
      - The date of successful repair of the leak.

4. Upon issuance of an operating permit, the permittee shall be authorized to operate this facility continuously (24 hours per day, every day of the year). [OAC 252:100-8-6(a)]

5. Alternative materials other than crude oil may be stored in the tanks provided the true vapor pressure of alternative material is less than 11.1 psia at storage conditions and there will be no exceedance of the permitted 12-month VOC emission limits. HAP emission from such alternate storage, combined with HAP emissions from storage of crude oil, may not exceed major source thresholds for any 12-month period. The permittee must provide 30 days advance written notice to DEQ and EPA of such a change. The notice shall provide a brief description of the change, effective date, any change in emissions (including HAPs) between the storage of alternative material and the storage of crude oil in the tank, and list (if any) permit terms or conditions no longer applicable as a result. [OAC 252:100-8-6(f)]

6. Each tank to which these specific conditions apply shall have a permanent means of identification which distinguishes it from other equipment. [OAC 252:100-8-5(e)(3)(B)]

7. The emergency generator at the facility shall have a permanent identification plate attached which shows the make, model number, and serial number. [OAC 252:100-43]

8. The permittee shall comply with all applicable requirements of 40 CFR Part 60, Subpart IIII, Standards of Performance for Stationary Compression Ignition Internal Combustion Engines and shall comply with all applicable requirements including but not limited to the following: [40 CFR §§ 60.4200 to 60.4219]

   a. § 60.4200 Am I subject to this subpart?
   b. § 60.4201 What emission standards must I meet for non-emergency engines if I am a stationary CI internal combustion engine manufacturer?
   c. § 60.4202 What emission standards must I meet for emergency engines if I am a stationary CI internal combustion engine manufacturer?
   d. § 60.4203 How long must my engines meet the emission standards if I am a stationary CI internal combustion engine manufacturer?
   e. § 60.4204 What emission standards must I meet for non-emergency engines if I am an owner or operator of a stationary CI internal combustion engine?
   f. § 60.4206 How long must I meet the emission standards if I am an owner or operator of a stationary CI internal combustion engine?
   g. § 60.4207 What fuel requirements must I meet if I am an owner or operator of a stationary CI internal combustion engine subject to this subpart?
   h. § 60.4209 What are the monitoring requirements if I am an owner or operator of a stationary CI internal combustion engine?
   i. § 60.4210 What are my compliance requirements if I am a stationary CI internal combustion engine manufacturer?
   j. § 60.4211 What are my compliance requirements if I am an owner or operator of a stationary CI internal combustion engine?

k. § 60.4212 What test methods and other procedures must I use if I am an owner or operator of a stationary CI internal combustion engine with a displacement of less than 30 liters per cylinder?
l. §60.4214 What are my notification, reporting, and recordkeeping requirements if I am an owner or operator of a stationary CI internal combustion engine?
m. § 60.4217 What emission standards must I meet if I am an owner or operator of a stationary internal combustion engine using special fuels?
n. § 60.4218 What parts of the General Provisions apply to me?
o. § 60.4219 What definitions apply to this subpart?

9. The permittee shall comply with all applicable requirements of the NESHAP for Stationary Reciprocating Internal Combustion Engines (RICE), Subpart ZZZZ, for each affected engine, including but not limited to:

a. § 63.6580 What is the purpose of subpart ZZZZ?
b. § 63.6585 Am I subject to this subpart?
c. § 63.6590 What parts of my plant does this subpart cover?
d. § 63.6595 When do I have to comply with this subpart?
e. § 63.6600 What emission limitations and operating limitations must I meet?
f. § 63.6605 What are my general requirements for complying with this subpart?
g. § 63.6610 By what date must I conduct the initial performance tests or other initial compliance demonstrations?
h. § 63.6615 When must I conduct subsequent performance tests?
i. § 63.6620 What performance tests and other procedures must I use?
j. § 63.6625 What are my monitoring, installation, operation, and maintenance requirements?
k. § 63.6630 How do I demonstrate initial compliance with the emission limitations and operating limitations?
l. § 63.6635 How do I monitor and collect data to demonstrate continuous compliance?
m. § 63.6640 How do I demonstrate continuous compliance with the emission limitations and operating limitations?
n. § 63.6645 What notifications must I submit and when?
o. § 63.6650 What reports must I submit and when?
p. § 63.6655 What records must I keep?
q. § 63.6660 In what form and how long must I keep my records?
r. § 63.6665 What parts of the General Provisions apply to me?
s. § 63.6670 Who implements and enforces this subpart?
t. § 63.6675 What definitions apply to this subpart?

10. The facility may handle crude oil with a sulfur content of 5% or less in any external floating roof tank. The crude oil in each tank shall be classified as “sweet” or “sour” based on sulfur content, and records of classification and sulfur content shall be kept each month for each tank of crude oil classification and sulfur content.

[OAC 252:100-8-6(a)(1) & (3)]

11. The permittee shall maintain records of operations as listed below. These records shall be retained on-site for at least five years from the date of recording, inspection, testing, or repair, and shall be made available to regulatory personnel upon request.
[OAC 252:100-8-6(a)(3)(B)]

    a. Throughput for each tank in Specific Condition No. 1 (monthly and 12-month rolling totals calculated no later than 30 days after the end of each 12-month period). Throughput shall be derived from flow measurement.
    b. Records of emissions calculations to show compliance with VOC emission limits in Specific Condition No. 1.
    c. Records of number of roof landings.
    d. Type of liquid material, maximum true vapor pressure, and period of storage for each tank.
    e. Records of crude oil classification ("sour" or "sweet") and sulfur content of crude oil in each tank (monthly) as required by Specific Condition No. 10.
    f. Records required by NSPS 40 CFR Part 60, Subpart Kb.
    g. AVO observations of fugitive equipment leaks as required by Specific Condition No. 3 (monthly).
    h. Records required under NSPS 40 CFR Part 60, Subparts IIII.
    i. Records required under NESHAP 40 CFR Part 63, Subparts ZZZZ.

12. The Permit Shield (Standard Conditions, Section VI) is extended to the following requirements that have been determined to be inapplicable to this facility.
[OAC 252:100-8-6(d)(2)]

    a. OAC 252:100-7 Permits for Minor Facilities
    b. OAC 252:100-11 Alternative Emissions Reduction
    c. OAC 252:100-15 Mobile Sources
    d. OAC 252:100-39 Nonattainment Areas

13. The permittee shall submit an administratively complete operating permit application for an initial Title V operating permit within 180 days of start-up of any new unit authorized by this construction permit. [OAC 252:100-8-4(b)(5)(A)]

MAJOR SOURCE AIR QUALITY PERMIT
STANDARD CONDITIONS
(June 21, 2016)

SECTION I. DUTY TO COMPLY

A. This is a permit to operate / construct this specific facility in accordance with the federal Clean Air Act (42 U.S.C. 7401, et al.) and under the authority of the Oklahoma Clean Air Act and the rules promulgated there under. [Oklahoma Clean Air Act, 27A O.S. § 2-5-112]

B. The issuing Authority for the permit is the Air Quality Division (AQD) of the Oklahoma Department of Environmental Quality (DEQ). The permit does not relieve the holder of the obligation to comply with other applicable federal, state, or local statutes, regulations, rules, or ordinances. [Oklahoma Clean Air Act, 27A O.S. § 2-5-112]

C. The permittee shall comply with all conditions of this permit. Any permit noncompliance shall constitute a violation of the Oklahoma Clean Air Act and shall be grounds for enforcement action, permit termination, revocation and reissuance, or modification, or for denial of a permit renewal application. All terms and conditions are enforceable by the DEQ, by the Environmental Protection Agency (EPA), and by citizens under section 304 of the Federal Clean Air Act (excluding state-only requirements). This permit is valid for operations only at the specific location listed.
[40 C.F.R. §70.6(b), OAC 252:100-8-1.3 and OAC 252:100-8-6(a)(7)(A) and (b)(1)]

D. It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of the permit. However, nothing in this paragraph shall be construed as precluding consideration of a need to halt or reduce activity as a mitigating factor in assessing penalties for noncompliance if the health, safety, or environmental impacts of halting or reducing operations would be more serious than the impacts of continuing operations. [OAC 252:100-8-6(a)(7)(B)]

SECTION II. REPORTING OF DEVIATIONS FROM PERMIT TERMS

A. Any exceedance resulting from an emergency and/or posing an imminent and substantial danger to public health, safety, or the environment shall be reported in accordance with Section XIV (Emergencies). [OAC 252:100-8-6(a)(3)(C)(iii)(I) & (II)]

B. Deviations that result in emissions exceeding those allowed in this permit shall be reported consistent with the requirements of OAC 252:100-9, Excess Emission Reporting Requirements.
[OAC 252:100-8-6(a)(3)(C)(iv)]

C. Every written report submitted under this section shall be certified as required by Section III (Monitoring, Testing, Recordkeeping & Reporting), Paragraph F.
[OAC 252:100-8-6(a)(3)(C)(iv)]

SECTION III. MONITORING, TESTING, RECORDKEEPING & REPORTING

A. The permittee shall keep records as specified in this permit. These records, including monitoring data and necessary support information, shall be retained on-site or at a nearby field office for a period of at least five years from the date of the monitoring sample, measurement, report, or application, and shall be made available for inspection by regulatory personnel upon request. Support information includes all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit. Where appropriate, the permit may specify that records may be maintained in computerized form.

[OAC 252:100-8-6 (a)(3)(B)(ii), OAC 252:100-8-6(c)(1), and OAC 252:100-8-6(c)(2)(B)]

B. Records of required monitoring shall include:

(1) the date, place and time of sampling or measurement;
(2) the date or dates analyses were performed;
(3) the company or entity which performed the analyses;
(4) the analytical techniques or methods used;
(5) the results of such analyses; and
(6) the operating conditions existing at the time of sampling or measurement.

[OAC 252:100-8-6(a)(3)(B)(i)]

C. No later than 30 days after each six (6) month period, after the date of the issuance of the original Part 70 operating permit or alternative date as specifically identified in a subsequent Part 70 operating permit, the permittee shall submit to AQD a report of the results of any required monitoring. All instances of deviations from permit requirements since the previous report shall be clearly identified in the report. Submission of these periodic reports will satisfy any reporting requirement of Paragraph E below that is duplicative of the periodic reports, if so noted on the submitted report. [OAC 252:100-8-6(a)(3)(C)(i) and (ii)]

D. If any testing shows emissions in excess of limitations specified in this permit, the owner or operator shall comply with the provisions of Section II (Reporting Of Deviations From Permit Terms) of these standard conditions. [OAC 252:100-8-6(a)(3)(C)(iii)]

E. In addition to any monitoring, recordkeeping or reporting requirement specified in this permit, monitoring and reporting may be required under the provisions of OAC 252:100-43, Testing, Monitoring, and Recordkeeping, or as required by any provision of the Federal Clean Air Act or Oklahoma Clean Air Act. [OAC 252:100-43]

F. Any Annual Certification of Compliance, Semi Annual Monitoring and Deviation Report, Excess Emission Report, and Annual Emission Inventory submitted in accordance with this permit shall be certified by a responsible official. This certification shall be signed by a responsible official, and shall contain the following language: "I certify, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete."

[OAC 252:100-8-5(f), OAC 252:100-8-6(a)(3)(C)(iv), OAC 252:100-8-6(c)(1), OAC 252:100-9-7(e), and OAC 252:100-5-2.1(f)]

G. Any owner or operator subject to the provisions of New Source Performance Standards ("NSPS") under 40 CFR Part 60 or National Emission Standards for Hazardous Air Pollutants ("NESHAPs") under 40 CFR Parts 61 and 63 shall maintain a file of all measurements and other information required by the applicable general provisions and subpart(s). These records shall be maintained in a permanent file suitable for inspection, shall be retained for a period of at least five years as required by Paragraph A of this Section, and shall include records of the occurrence and duration of any start-up, shutdown, or malfunction in the operation of an affected facility, any malfunction of the air pollution control equipment; and any periods during which a continuous monitoring system or monitoring device is inoperative.

[40 C.F.R. §§60.7 and 63.10, 40 CFR Parts 61, Subpart A, and OAC 252:100, Appendix Q]

H. The permittee of a facility that is operating subject to a schedule of compliance shall submit to the DEQ a progress report at least semi-annually. The progress reports shall contain dates for achieving the activities, milestones or compliance required in the schedule of compliance and the dates when such activities, milestones or compliance was achieved. The progress reports shall also contain an explanation of why any dates in the schedule of compliance were not or will not be met, and any preventive or corrective measures adopted. [OAC 252:100-8-6(c)(4)]

I. All testing must be conducted under the direction of qualified personnel by methods approved by the Division Director. All tests shall be made and the results calculated in accordance with standard test procedures. The use of alternative test procedures must be approved by EPA. When a portable analyzer is used to measure emissions it shall be setup, calibrated, and operated in accordance with the manufacturer's instructions and in accordance with a protocol meeting the requirements of the "AQD Portable Analyzer Guidance" document or an equivalent method approved by Air Quality.

[OAC 252:100-8-6(a)(3)(A)(iv), and OAC 252:100-43]

J. The reporting of total particulate matter emissions as required in Part 7 of OAC 252:100-8 (Permits for Part 70 Sources), OAC 252:100-19 (Control of Emission of Particulate Matter), and OAC 252:100-5 (Emission Inventory), shall be conducted in accordance with applicable testing or calculation procedures, modified to include back-half condensables, for the concentration of particulate matter less than 10 microns in diameter (PM_{10}). NSPS may allow reporting of only particulate matter emissions caught in the filter (obtained using Reference Method 5).

K. The permittee shall submit to the AQD a copy of all reports submitted to the EPA as required by 40 C.F.R. Part 60, 61, and 63, for all equipment constructed or operated under this permit subject to such standards. [OAC 252:100-8-6(c)(1) and OAC 252:100, Appendix Q]

SECTION IV. COMPLIANCE CERTIFICATIONS

A. No later than 30 days after each anniversary date of the issuance of the original Part 70 operating permit or alternative date as specifically identified in a subsequent Part 70 operating permit, the permittee shall submit to the AQD, with a copy to the US EPA, Region 6, a certification of compliance with the terms and conditions of this permit and of any other applicable requirements which have become effective since the issuance of this permit.

[OAC 252:100-8-6(c)(5)(A), and (D)]

B. The compliance certification shall describe the operating permit term or condition that is the basis of the certification; the current compliance status; whether compliance was continuous or intermittent; the methods used for determining compliance, currently and over the reporting period. The compliance certification shall also include such other facts as the permitting authority may require to determine the compliance status of the source.

[OAC 252:100-8-6(c)(5)(C)(i)-(v)]

C. The compliance certification shall contain a certification by a responsible official as to the results of the required monitoring. This certification shall be signed by a responsible official, and shall contain the following language: "I certify, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete." [OAC 252:100-8-5(f) and OAC 252:100-8-6(c)(1)]

D. Any facility reporting noncompliance shall submit a schedule of compliance for emissions units or stationary sources that are not in compliance with all applicable requirements. This schedule shall include a schedule of remedial measures, including an enforceable sequence of actions with milestones, leading to compliance with any applicable requirements for which the emissions unit or stationary source is in noncompliance. This compliance schedule shall resemble and be at least as stringent as that contained in any judicial consent decree or administrative order to which the emissions unit or stationary source is subject. Any such schedule of compliance shall be supplemental to, and shall not sanction noncompliance with, the applicable requirements on which it is based, except that a compliance plan shall not be required for any noncompliance condition which is corrected within 24 hours of discovery.

[OAC 252:100-8-5(e)(8)(B) and OAC 252:100-8-6(c)(3)]

SECTION V. REQUIREMENTS THAT BECOME APPLICABLE DURING THE PERMIT TERM

The permittee shall comply with any additional requirements that become effective during the permit term and that are applicable to the facility. Compliance with all new requirements shall be certified in the next annual certification. [OAC 252:100-8-6(c)(6)]

SECTION VI. PERMIT SHIELD

A. Compliance with the terms and conditions of this permit (including terms and conditions established for alternate operating scenarios, emissions trading, and emissions averaging, but excluding terms and conditions for which the permit shield is expressly prohibited under OAC 252:100-8) shall be deemed compliance with the applicable requirements identified and included in this permit. [OAC 252:100-8-6(d)(1)]

B. Those requirements that are applicable are listed in the Standard Conditions and the Specific Conditions of this permit. Those requirements that the applicant requested be determined as not applicable are summarized in the Specific Conditions of this permit. [OAC 252:100-8-6(d)(2)]

SECTION VII. ANNUAL EMISSIONS INVENTORY & FEE PAYMENT

The permittee shall file with the AQD an annual emission inventory and shall pay annual fees based on emissions inventories. The methods used to calculate emissions for inventory purposes shall be based on the best available information accepted by AQD.
[OAC 252:100-5-2.1, OAC 252:100-5-2.2, and OAC 252:100-8-6(a)(8)]

SECTION VIII. TERM OF PERMIT

A. Unless specified otherwise, the term of an operating permit shall be five years from the date of issuance. [OAC 252:100-8-6(a)(2)(A)]

B. A source's right to operate shall terminate upon the expiration of its permit unless a timely and complete renewal application has been submitted at least 180 days before the date of expiration. [OAC 252:100-8-7.1(d)(1)]

C. A duly issued construction permit or authorization to construct or modify will terminate and become null and void (unless extended as provided in OAC 252:100-8-1.4(b)) if the construction is not commenced within 18 months after the date the permit or authorization was issued, or if work is suspended for more than 18 months after it is commenced. [OAC 252:100-8-1.4(a)]

D. The recipient of a construction permit shall apply for a permit to operate (or modified operating permit) within 180 days following the first day of operation. [OAC 252:100-8-4(b)(5)]

SECTION IX. SEVERABILITY

The provisions of this permit are severable and if any provision of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.
[OAC 252:100-8-6 (a)(6)]

SECTION X. PROPERTY RIGHTS

A. This permit does not convey any property rights of any sort, or any exclusive privilege.
[OAC 252:100-8-6(a)(7)(D)]

B. This permit shall not be considered in any manner affecting the title of the premises upon which the equipment is located and does not release the permittee from any liability for damage to persons or property caused by or resulting from the maintenance or operation of the equipment for which the permit is issued. [OAC 252:100-8-6(c)(6)]

SECTION XI. DUTY TO PROVIDE INFORMATION

A. The permittee shall furnish to the DEQ, upon receipt of a written request and within sixty (60) days of the request unless the DEQ specifies another time period, any information that the DEQ may request to determine whether cause exists for modifying, reopening, revoking,

reissuing, terminating the permit or to determine compliance with the permit. Upon request, the permittee shall also furnish to the DEQ copies of records required to be kept by the permit.
[OAC 252:100-8-6(a)(7)(E)]

B. The permittee may make a claim of confidentiality for any information or records submitted pursuant to 27A O.S. § 2-5-105(18). Confidential information shall be clearly labeled as such and shall be separable from the main body of the document such as in an attachment.
[OAC 252:100-8-6(a)(7)(E)]

C. Notification to the AQD of the sale or transfer of ownership of this facility is required and shall be made in writing within thirty (30) days after such sale or transfer.
[Oklahoma Clean Air Act, 27A O.S. § 2-5-112(G)]

SECTION XII. REOPENING, MODIFICATION & REVOCATION

A. The permit may be modified, revoked, reopened and reissued, or terminated for cause. Except as provided for minor permit modifications, the filing of a request by the permittee for a permit modification, revocation and reissuance, termination, notification of planned changes, or anticipated noncompliance does not stay any permit condition.
[OAC 252:100-8-6(a)(7)(C) and OAC 252:100-8-7.2(b)]

B. The DEQ will reopen and revise or revoke this permit prior to the expiration date in the following circumstances: [OAC 252:100-8-7.3 and OAC 252:100-8-7.4(a)(2)]

(1) Additional requirements under the Clean Air Act become applicable to a major source category three or more years prior to the expiration date of this permit. No such reopening is required if the effective date of the requirement is later than the expiration date of this permit.
(2) The DEQ or the EPA determines that this permit contains a material mistake or that the permit must be revised or revoked to assure compliance with the applicable requirements.
(3) The DEQ or the EPA determines that inaccurate information was used in establishing the emission standards, limitations, or other conditions of this permit. The DEQ may revoke and not reissue this permit if it determines that the permittee has submitted false or misleading information to the DEQ.
(4) DEQ determines that the permit should be amended under the discretionary reopening provisions of OAC 252:100-8-7.3(b).

C. The permit may be reopened for cause by EPA, pursuant to the provisions of OAC 100-8-7.3(d). [OAC 100-8-7.3(d)]

D. The permittee shall notify AQD before making changes other than those described in Section XVIII (Operational Flexibility), those qualifying for administrative permit amendments, or those defined as an Insignificant Activity (Section XVI) or Trivial Activity (Section XVII). The notification should include any changes which may alter the status of a "grandfathered source," as defined under AQD rules. Such changes may require a permit modification.
[OAC 252:100-8-7.2(b) and OAC 252:100-5-1.1]

E. Activities that will result in air emissions that exceed the trivial/insignificant levels and that are not specifically approved by this permit are prohibited. [OAC 252:100-8-6(c)(6)]

SECTION XIII. INSPECTION & ENTRY

A. Upon presentation of credentials and other documents as may be required by law, the permittee shall allow authorized regulatory officials to perform the following (subject to the permittee's right to seek confidential treatment pursuant to 27A O.S. Supp. 1998, § 2-5-105(17) for confidential information submitted to or obtained by the DEQ under this section):

(1) enter upon the permittee's premises during reasonable/normal working hours where a source is located or emissions-related activity is conducted, or where records must be kept under the conditions of the permit;
(2) have access to and copy, at reasonable times, any records that must be kept under the conditions of the permit;
(3) 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 the permit; and
(4) as authorized by the Oklahoma Clean Air Act, sample or monitor at reasonable times substances or parameters for the purpose of assuring compliance with the permit.

[OAC 252:100-8-6(c)(2)]

SECTION XIV. EMERGENCIES

A. Any exceedance resulting from an emergency shall be reported to AQD promptly but no later than 4:30 p.m. on the next working day after the permittee first becomes aware of the exceedance. This notice shall contain a description of the emergency, the probable cause of the exceedance, any steps taken to mitigate emissions, and corrective actions taken.

[OAC 252:100-8-6 (a)(3)(C)(iii)(I) and (IV)]

B. Any exceedance that poses an imminent and substantial danger to public health, safety, or the environment shall be reported to AQD as soon as is practicable; but under no circumstance shall notification be more than 24 hours after the exceedance. [OAC 252:100-8-6(a)(3)(C)(iii)(II)]

C. An "emergency" means any situation arising from sudden and reasonably unforeseeable events beyond the control of the source, including acts of God, which situation requires immediate corrective action to restore normal operation, and that causes the source to exceed a technology-based emission limitation under this permit, due to unavoidable increases in emissions attributable to the emergency. An emergency shall not include noncompliance to the extent caused by improperly designed equipment, lack of preventive maintenance, careless or improper operation, or operator error. [OAC 252:100-8-2]

D. The affirmative defense of emergency shall be demonstrated through properly signed, contemporaneous operating logs or other relevant evidence that: [OAC 252:100-8-6 (e)(2)]

(1) an emergency occurred and the permittee can identify the cause or causes of the emergency;
(2) the permitted facility was at the time being properly operated;
(3) during the period of the emergency the permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards or other requirements in this permit.

E. In any enforcement proceeding, the permittee seeking to establish the occurrence of an emergency shall have the burden of proof. [OAC 252:100-8-6(e)(3)]

F. Every written report or document submitted under this section shall be certified as required by Section III (Monitoring, Testing, Recordkeeping & Reporting), Paragraph F.
[OAC 252:100-8-6(a)(3)(C)(iv)]

SECTION XV. RISK MANAGEMENT PLAN

The permittee, if subject to the provision of Section 112(r) of the Clean Air Act, shall develop and register with the appropriate agency a risk management plan by June 20, 1999, or the applicable effective date. [OAC 252:100-8-6(a)(4)]

SECTION XVI. INSIGNIFICANT ACTIVITIES

Except as otherwise prohibited or limited by this permit, the permittee is hereby authorized to operate individual emissions units that are either on the list in Appendix I to OAC Title 252, Chapter 100, or whose actual calendar year emissions do not exceed any of the limits below. Any activity to which a State or Federal applicable requirement applies is not insignificant even if it meets the criteria below or is included on the insignificant activities list.

(1) 5 tons per year of any one criteria pollutant.
(2) 2 tons per year for any one hazardous air pollutant (HAP) or 5 tons per year for an aggregate of two or more HAP's, or 20 percent of any threshold less than 10 tons per year for single HAP that the EPA may establish by rule.
[OAC 252:100-8-2 and OAC 252:100, Appendix I]

SECTION XVII. TRIVIAL ACTIVITIES

Except as otherwise prohibited or limited by this permit, the permittee is hereby authorized to operate any individual or combination of air emissions units that are considered inconsequential and are on the list in Appendix J. Any activity to which a State or Federal applicable requirement applies is not trivial even if included on the trivial activities list.
[OAC 252:100-8-2 and OAC 252:100, Appendix J]

SECTION XVIII. OPERATIONAL FLEXIBILITY

A. A facility may implement any operating scenario allowed for in its Part 70 permit without the need for any permit revision or any notification to the DEQ (unless specified otherwise in the

permit). When an operating scenario is changed, the permittee shall record in a log at the facility the scenario under which it is operating. [OAC 252:100-8-6(a)(10) and (f)(1)]

B. The permittee may make changes within the facility that:

(1) result in no net emissions increases,
(2) are not modifications under any provision of Title I of the federal Clean Air Act, and
(3) do not cause any hourly or annual permitted emission rate of any existing emissions unit to be exceeded;

provided that the facility provides the EPA and the DEQ with written notification as required below in advance of the proposed changes, which shall be a minimum of seven (7) days, or twenty four (24) hours for emergencies as defined in OAC 252:100-8-6 (e). The permittee, the DEQ, and the EPA shall attach each such notice to their copy of the permit. For each such change, the written notification required above shall include a brief description of the change within the permitted facility, the date on which the change will occur, any change in emissions, and any permit term or condition that is no longer applicable as a result of the change. The permit shield provided by this permit does not apply to any change made pursuant to this paragraph. [OAC 252:100-8-6(f)(2)]

SECTION XIX. OTHER APPLICABLE & STATE-ONLY REQUIREMENTS

A. The following applicable requirements and state-only requirements apply to the facility unless elsewhere covered by a more restrictive requirement:

(1) Open burning of refuse and other combustible material is prohibited except as authorized in the specific examples and under the conditions listed in the Open Burning Subchapter. [OAC 252:100-13]

(2) No particulate emissions from any fuel-burning equipment with a rated heat input of 10 MMBTUH or less shall exceed 0.6 lb/MMBTU. [OAC 252:100-19]

(3) For all emissions units not subject to an opacity limit promulgated under 40 C.F.R., Part 60, NSPS, no discharge of greater than 20% opacity is allowed except for: [OAC 252:100-25]

(a) Short-term occurrences which consist of not more than one six-minute period in any consecutive 60 minutes, not to exceed three such periods in any consecutive 24 hours. In no case shall the average of any six-minute period exceed 60% opacity;
(b) Smoke resulting from fires covered by the exceptions outlined in OAC 252:100-13-7;
(c) An emission, where the presence of uncombined water is the only reason for failure to meet the requirements of OAC 252:100-25-3(a); or
(d) Smoke generated due to a malfunction in a facility, when the source of the fuel producing the smoke is not under the direct and immediate control of the facility and the immediate constriction of the fuel flow at the facility would produce a hazard to life and/or property.

(4) No visible fugitive dust emissions shall be discharged beyond the property line on which the emissions originate in such a manner as to damage or to interfere with the use of adjacent properties, or cause air quality standards to be exceeded, or interfere with the maintenance of air quality standards. [OAC 252:100-29]

(5) No sulfur oxide emissions from new gas-fired fuel-burning equipment shall exceed 0.2 lb/MMBTU. No existing source shall exceed the listed ambient air standards for sulfur dioxide. [OAC 252:100-31]

(6) Volatile Organic Compound (VOC) storage tanks built after December 28, 1974, and with a capacity of 400 gallons or more storing a liquid with a vapor pressure of 1.5 psia or greater under actual conditions shall be equipped with a permanent submerged fill pipe or with a vapor-recovery system. [OAC 252:100-37-15(b)]

(7) All fuel-burning equipment shall at all times be properly operated and maintained in a manner that will minimize emissions of VOCs. [OAC 252:100-37-36]

SECTION XX. STRATOSPHERIC OZONE PROTECTION

A. The permittee shall comply with the following standards for production and consumption of ozone-depleting substances: [40 CFR 82, Subpart A]

(1) Persons producing, importing, or placing an order for production or importation of certain class I and class II substances, HCFC-22, or HCFC-141b shall be subject to the requirements of §82.4;
(2) Producers, importers, exporters, purchasers, and persons who transform or destroy certain class I and class II substances, HCFC-22, or HCFC-141b are subject to the recordkeeping requirements at §82.13; and
(3) Class I substances (listed at Appendix A to Subpart A) include certain CFCs, Halons, HBFCs, carbon tetrachloride, trichloroethane (methyl chloroform), and bromomethane (Methyl Bromide). Class II substances (listed at Appendix B to Subpart A) include HCFCs.

B. If the permittee performs a service on motor (fleet) vehicles when this service involves an ozone-depleting substance refrigerant (or regulated substitute substance) in the motor vehicle air conditioner (MVAC), the permittee is subject to all applicable requirements. Note: 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 the system used on passenger buses using HCFC-22 refrigerant. [40 CFR 82, Subpart B]

C. The permittee shall comply with the following standards for recycling and emissions reduction except as provided for MVACs in Subpart B: [40 CFR 82, Subpart F]

(1) Persons opening appliances for maintenance, service, repair, or disposal must comply with the required practices pursuant to § 82.156;
(2) 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;
(3) Persons performing maintenance, service, repair, or disposal of appliances must be certified by an approved technician certification program pursuant to § 82.161;
(4) Persons disposing of small appliances, MVACs, and MVAC-like appliances must comply with record-keeping requirements pursuant to § 82.166;
(5) Persons owning commercial or industrial process refrigeration equipment must comply with leak repair requirements pursuant to § 82.158; and
(6) 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.

SECTION XXI. TITLE V APPROVAL LANGUAGE

A. DEQ wishes to reduce the time and work associated with permit review and, wherever it is not inconsistent with Federal requirements, to provide for incorporation of requirements established through construction permitting into the Source's Title V permit without causing redundant review. Requirements from construction permits may be incorporated into the Title V permit through the administrative amendment process set forth in OAC 252:100-8-7.2(a) only if the following procedures are followed:

(1) The construction permit goes out for a 30-day public notice and comment using the procedures set forth in 40 C.F.R. § 70.7(h)(1). This public notice shall include notice to the public that this permit is subject to EPA review, EPA objection, and petition to EPA, as provided by 40 C.F.R. § 70.8; that the requirements of the construction permit will be incorporated into the Title V permit through the administrative amendment process; that the public will not receive another opportunity to provide comments when the requirements are incorporated into the Title V permit; and that EPA review, EPA objection, and petitions to EPA will not be available to the public when requirements from the construction permit are incorporated into the Title V permit.
(2) A copy of the construction permit application is sent to EPA, as provided by 40 CFR § 70.8(a)(1).
(3) A copy of the draft construction permit is sent to any affected State, as provided by 40 C.F.R. § 70.8(b).
(4) A copy of the proposed construction permit is sent to EPA for a 45-day review period as provided by 40 C.F.R.§ 70.8(a) and (c).
(5) The DEQ complies with 40 C.F.R. § 70.8(c) upon the written receipt within the 45-day comment period of any EPA objection to the construction permit. The DEQ shall not issue the permit until EPA's objections are resolved to the satisfaction of EPA.
(6) The DEQ complies with 40 C.F.R. § 70.8(d).
(7) A copy of the final construction permit is sent to EPA as provided by 40 CFR § 70.8(a).
(8) The DEQ shall not issue the proposed construction permit until any affected State and EPA have had an opportunity to review the proposed permit, as provided by these permit conditions.
(9) Any requirements of the construction permit may be reopened for cause after incorporation into the Title V permit by the administrative amendment process, by

DEQ as provided in OAC 252:100-8-7.3(a), (b), and (c), and by EPA as provided in 40 C.F.R. § 70.7(f) and (g).

(10) The DEQ shall not issue the administrative permit amendment if performance tests fail to demonstrate that the source is operating in substantial compliance with all permit requirements.

B. To the extent that these conditions are not followed, the Title V permit must go through the Title V review process.

SECTION XXII. CREDIBLE EVIDENCE

For the purpose of submitting compliance certifications or establishing whether or not a person has violated or is in violation of any provision of the Oklahoma implementation plan, nothing shall preclude the use, including the exclusive use, of any credible evidence or information, relevant to whether a source would have been in compliance with applicable requirements if the appropriate performance or compliance test or procedure had been performed.

[OAC 252:100-43-6]

BPV Gathering and Marketing, LLC
Attn: Mr. Tyler Fleming
14220 Barbour Ave
Oklahoma City, OK 73134

SUBJECT: Major Source Construction Permit No. **2016-1247-C (PSD)**
BPV Gathering and Marketing, LLC
BPV Gathering and Marketing Cushing Station
Facility ID No. 16815
Section 26, Township 17N, Range 5E
Cushing, Lincoln County, Oklahoma

Dear Mr. Fleming:

Enclosed is the permit authorizing operation of the facility referenced above. Please note that this permit is issued subject to standard and specific conditions, which are attached. These conditions must be carefully followed since they define the limits of the permit and will be confirmed by periodic inspections.

Also note that you are required to annually submit an emissions inventory for this facility. An emissions inventory must be completed on approved AQD forms and submitted (hardcopy or electronically) by April 1st of every year. Any questions concerning the form or submittal process should be referred to the Emissions Inventory Staff at (405) 702-4100.

Thank you for your cooperation in this matter. If we may be of further service, or you have any questions about this permit, please refer to the permit number above and contact our office at (405) 702-4100.

Sincerely,

Brandon Fanning, E.I.
Existing Source Permits Section
AIR QUALITY DIVISION

PART 70 PERMIT

AIR QUALITY DIVISION
STATE OF OKLAHOMA
DEPARTMENT OF ENVIRONMENTAL QUALITY
707 N. ROBINSON, SUITE 4100
P.O. BOX 1677
OKLAHOMA CITY, OKLAHOMA 73101-1677

Permit No. 2016-1247-C (PSD)

BPV Gathering and Marketing, LLC,

having complied with the requirements of the law, is hereby granted permission to construct the BPV Gathering and Marketing Cushing Station at Section 26, Township 17N, Range 5E, Lincoln County, Oklahoma, subject to the Standard Conditions dated June 21, 2016, and the Specific Conditions both of which are attached.

In the absence of commencement of construction, this permit shall expire 18 months from the issuance date, except as authorized under Section VIII of the Standard Conditions.

Director, DEQ **Date**