**DRAFT**

**OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY**
**AIR QUALITY DIVISION**

**MEMORANDUM** **May 27, 2022**

**TO:** Lee Warden, P.E., Permits & Engineering Group Manager

**THROUGH:** Richard Kienlen, P.E., Engineering Manager, New Source Permits Section

**THROUGH:** Ryan Buntyn, P.E., New Source Permits Section

**FROM:** Caleb Jobe, E.I., New Source Permits Section

**SUBJECT:** Authorization to Construct No. **2022-0174-C**
Geosyntec Consultants, Inc
Former B.F. Goodrich Facility (SIC 4959 / NAICS 562910)
Facility ID: 2127
Section 24, Township 28N, Range 22E, Ottawa County, Oklahoma
Latitude: 36.88937 º, Longitude: -94.88945º

## SECTION I. INTRODUCTION

Geosyntec Consultants, Inc. (GC or the applicant) has requested a minor source construction permit on behalf of Michelin North America, Inc. for their Former B.F. Goodrich Facility in Ottawa County. The applicant submitted an Applicability Determination on April 11, 2022, which determined that a permit is needed for the facility. The Former B.F. Goodrich Facility is no longer in operation, but the remediation project will commence on the property.

Based on data provided by GC, the facility has uncontrolled emissions of 49.10 TPY VOC and 34.06 TPY HAP. The $NO_X$ and CO emissions are negligible. The uncontrolled HAP emissions exceed the major source thresholds of 10 TPY for any single HAP and 25 TPY for any combination of HAPs. With controls, the total HAP emissions are 1.71 TPY and individual HAP emissions are each under 10 TPY which are below the major source threshold, thus the facility qualifies as a "Synthetic Minor".

## SECTION II. PROCESS DESCRIPTION

The multi-phase extraction and air sparging (MPE/AS) system will be used to extract and treat VOC impacted groundwater at the site. The MPE process recovers hydrocarbon compounds in multiple phases: groundwater, light non-aqueous phase liquid (LNAPL), and soil vapor will be extracted from MPE wells using an electric vacuum blower. The extracted fluids will be routed through an air/water separator. The extracted liquids will be pumped to an oil/water separator. The LNAPL separated by the oil/water separator unit will be stored in a closed tank for later disposal. The water will be treated through particulate filters followed by liquid granular

activated carbon (LGAC) filters. The soil vapor extracted from MPE wells and separated by the air/water separator will be treated by vapor granular activated carbon (VGAC) filter units.

The air sparge compressor will inject air under pressure into the impacted portion of the aquifer and the returned air will be captured by the MPE system. The air compressor to operate the AS system, the vacuum blower, and transfer pumps will be housed in the MPE/AS equipment building, along with manifolds for each system. This equipment will be run off existing electrical power.

The MPE/AS system piping will be located above ground, and will not be insulated, therefore the MPE/AS system cannot operate in freezing conditions and will be shut down during winter months (i.e., approximately mid-November through mid-March when freezing conditions are anticipated).

## SECTION III. EQUIPMENT

| ID# | Equipment Type | Size / Rating | Control |
|---|---|---|---|
| VE1 | MPE system | 0.55-MMSCFD | Carbon Filters (95%) |
| TANK1 | LNAPL Storage Tank | 225-gal | - |

## SECTION IV. EMISSIONS

Emission estimates from the facility are based on operating hours of 8,760 hours per year, the pilot test vapor extraction concentrations, maximum design ratings, and the following methods.

**All VOC Listed in Pilot Test**

| Compound | Maximum Concentration ($g/m^3$) |
|---|---|
| 1,2,4-Trimethylbenzene | 0.368 |
| 1,3,5-Trimethylbenzene | 0.372 |
| 4-Ethyltoluene | 0.442 |
| Benzene (1) | 0.054 |
| Cyclohexane | 0.608 |
| Ethylbenzene (1) | 0.309 |
| m&p-Xylene (1) | 1.69 |
| n-Heptane | 0.592 |
| n-Hexane (1) | 2.28 |
| o-Xylene (1) | 0.863 |
| Toluene (1) | 0.195 |
| **TOTAL VOC** | **7.773** |
| **TOTAL HAP** | **5.391** |

(1) This VOC is also a registered HAP

Vapor Extraction

The vapor extraction system will consist of 11 extraction wells which operate for 8,760 hours at a flow rate of 35 scfm (based on maximum design rating). The emissions for VOC and HAP are calculated as follows:

Emissions in TPY =

$$(VOC\ concentration\ in\ \frac{g}{m^3})\left(\frac{m^3}{35.3ft^3}\right)(\frac{35ft^3}{\min})(\frac{60min}{hr})(\frac{8760hr}{year})(\frac{1ton}{907{,}185g})(11\ wells)$$

The vapor extraction emissions are controlled by the VGAC filters through adsorption and the control efficiency of the VGAC filters are conservatively listed at 95% to allow for environmental factors and filter material quality.

**Vapor Extraction Emissions**

| Parameter | Data |
|---|---|
| Inlet Gas Flow Rate, MMSCFD | 0.55 |
| Inlet Gas VOC Concentration, ppmv | 7.77 |
| Inlet Gas HAP Concentration, ppmv | 5.39 |
| Uncontrolled VOC Emissions, TPY | 49.10 |
| Uncontrolled HAP Emissions, TPY | 34.06 |
| Control Type | Activated Carbon Filters |
| Control Efficiency, % | 95 |
| Outlet Gas VOC Concentration, ppmv | 0.39 |
| Outlet Gas HAP Concentration, ppmv | 0.27 |
| **VOC Emissions, TPY** | **2.46** |
| **HAP Emission, TPY** | **1.71** |

Storage Tank

The LNAPL storage tank has a 225-gal capacity and a conservative throughput of 75 gallons per year. This conservative estimate comes from a well skimming test that produced 0.00625 gallons per day per well, which would equate to 25 gallons per year. When a vacuum is used to remove fluids, roughly 3 times more LNAPL is removed, thus 75 gallons per year. The working and breathing emissions for the storage tank are based on the equations found in AP-42 (11/19) Section 7.1, material properties of Jet Naptha (JP-4), and the throughput estimate. There are no flash emissions from the storage tank.

**Tank Emissions**

| Parameter | TANK 1 |
|---|---|
| Throughput, gal/yr | 75 |
| Liquid in Tank(s) | Oil |
| Working/Breathing Method/Tool | Storage Tank Emissions Calculation Tool |
| Working/Breathing Emissions, TPY | 0.0015 |
| **Total VOC Emitted** | <0.01 |

Since the VOC emissions are less than 0.01 TPY, the storage tank emissions are considered negligible.

Since the emission levels for each criteria pollutant are below 100 TPY and HAP emissions are below 10 TPY for a single HAP and 25 TPY for combined HAP, the facility is a "synthetic minor" facility.

**SECTION V. 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]
Primary Standards are in Appendix E and Secondary Standards are in Appendix F of the Air Pollution Control Rules. At this time, all of Oklahoma is in attainment of these standards.

OAC 252:100-5 (Registration, Emission Inventory, and Annual Fees) [Applicable]
The owner or operator of any facility that is a source of air emissions shall submit a complete emission inventory annually on forms obtained from the Air Quality Division. Required annual information (Turn-Around Document) shall be provided to Air Quality.

OAC 252:100-7 (Permits for Minor Facilities) [Applicable]
Subchapter 7 sets forth the permit application fees and the basic substantive requirements of permits for minor facilities. The criteria pollutant emissions from this project exceed the 40 TPY limit, the total HAP emissions exceed the 25 TPY limit and two individual HAPs exceed the 10 TPY and thus the project is not a true minor. Taking into the account the controls and the natural decline of pollutant concentrations over the course of operation, the emissions would qualify the project as a synthetic minor under this rule. This project meets the conditions for a minor facility operating permit because there is no actual emission of any regulated pollutant of 100 TPY or more and HAP emissions do not exceed the 10/25 TPY threshold. As such, major source BACT consideration and public review are not required. The facility is considered as a synthetic minor source.

OAC 252:100-9 (Excess Emission Reporting Requirement) [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 for mitigation, 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, and 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) [Not Applicable]
This subchapter limits particulate emissions from fuel-burning units less than 10-MMBTUH to 0.6 lb./MMBTU. AP-42(3/98), Table 1.4-2, lists natural gas TPM emissions to be 7.6 lb./MMSCF or about 0.0076 lb./MMBTU. For diesel fuel, AP-42(10/96), Table 3.4-2, lists TPM emissions of 0.0697 lb./MMBTU. There is no fuel-burning equipment at this facility.
Section 19-12 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 any processes at the facility, compliance with the standard is assured without any special monitoring provisions.

OAC 252:100-25 (Visible Emissions and Particulate Matter) [Applicable]
No discharge of greater than 20% opacity is allowed except for 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.

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 will not 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 the ambient air concentration of hydrogen sulfide ($H_2S$) emissions from any facility to 0.2 p.m. (24-hour average) at standard conditions which is equivalent to 283 $\mu g/m^3$. There are no significant sources of $H_2S$ at the facility.
Part 5 limits sulfur dioxide emissions from new equipment. There is no fuel-burning equipment at this facility and no significant sources of $SO_2$.

OAC 252:100-33 (Nitrogen Oxides) [Not Applicable]
This subchapter limits new gas-fired fuel-burning equipment with rated heat input greater than or equal to 50MMBTUH 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]
This facility has none of the affected sources: gray iron cupola, blast furnace, basic oxygen furnace, petroleum catalytic cracking unit, or petroleum catalytic reforming unit.

OAC 252:100-37 (Volatile Organic Compounds) [Not Applicable]

Part 3 requires storage tanks constructed after December 28, 1974, with a capacity of 400 gallons or more and storing a VOC with a vapor pressure greater than 1.5-psia at maximum storage temperature to be equipped with a permanent submerged fill pipe or with an organic vapor recovery system. There are no storage tanks on-site that are subject to this requirement.
Part 3 requires VOC loading facilities with a throughput equal to or less than 40,000 gallons per day to be equipped with a system for submerged filling of tank trucks or trailers if the capacity of the vehicle is greater than 200 gallons. This facility does not have the physical equipment (loading arm and pump) to conduct this type of loading and is not subject to this requirement.
Part 5 limits the VOC content of coating or other operations. Section 37-25 sets limits on VOC content per gallon of paint and Section 37-26 specifies that clean up solvents and thinners must be included in the calculations. There are no applicable operations on-site.
Part 7 requires fuel-burning and refuse-burning equipment to be operated to minimize emissions of VOC. There is no applicable equipment on-site.
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)) [Applicable]
This subchapter regulates 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 anywhere in the state, 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 followed applicable requirements if the appropriate performance or compliance test or procedure had been performed.

The facility will collect air samples from the MPE system influent and effluent of the VGAC units once a week using USEPA Method TO-15 for the first 4 weeks. If after 4 weeks the applicant is able to project continued compliance with the TPY cap based on the latest control

efficiency measured, they may decrease the testing frequency to once every 30 days. Likewise, if after the first 90 days the applicant is able to project continued compliance with the TPY cap based on the latest measured control efficiency they may decrease the testing frequency to once every 90 days.

## SECTION VI. FEDERAL REGULATIONS

NSPS, 40 CFR Part 60 [Not Applicable]
There are no applicable subparts under this regulation.

NESHAP, 40 CFR Part 61 [Not Applicable]
There are no emissions of any of the pollutants subject to 40 CFR 61 (arsenic, asbestos, radionuclides, coke oven emissions, mercury, beryllium, vinyl chloride, and benzene) except for benzene. Subpart J affects process streams, which contain more than 10% benzene by weight. Benzene is present in amounts less than the threshold in this subpart.

NESHAP, 40 CFR Part 63 [Not Applicable]
Subpart GGGGG establishes emissions limitations and work practice standards for HAPs emitted from site remediation activities. Since the facility is no longer in operation and the facility is not co-located with any other stationary sources that emit HAPs, the project is not subject to this subpart.

## SECTION VII. COMPLIANCE

TIER CLASSIFICATION AND PUBLIC REVIEW
This application has been classified as **Tier I** based on the request for a minor construction permit that has not undergone the FESOP Enhanced NSR Process.

The draft permit will undergo public notice on the DEQ's web site as required in OAC 252:4-7-13(g). The public, tribal governments, and the EPA will have 30 days to comment on the draft permit. Permits available for public review and comment are found at this location:

https://www.deq.ok.gov/permits-for-public-review/

INSPECTION
An inspection is not required for a construction permit.

FEE PAID
The fee for an individual minor source construction permit is $2,000. GC has submitted $1,500, and $500 has been applied from the Applicability Determination fee, for a total of $2,000 for the Construction Permit application fee.

## SECTION VII. SUMMARY

The facility has demonstrated the ability to comply with all applicable air quality 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 the construction permit is recommended, contingent on public review.

**DRAFT**

# PERMIT TO CONSTRUCT
# AIR POLLUTION CONTROL FACILITY
# SPECIFIC CONDITIONS

**Geosyntec Consultants, Inc** **Permit No. 2022-0174-C**
**Former B.F Goodrich Facility**

The permittee is authorized to construct in conformity with the specifications submitted to Air Quality on April 20, 2022, and supplemental information. The Evaluation Memorandum dated May 27, 2022, explains the derivation of applicable permit requirements and estimates of emissions; however, it does not contain operating limitations or permit requirements. Commencing construction and continuing operations under the permit constitutes acceptance of, and consent to, the conditions contained herein:

1. **Facility-Wide VOC and HAP Emission Limits:** Facility-wide VOC and HAP emissions are based on the throughput through the MPE separator, hours of operation, and pollutant concentrations after the carbon filters. The facility-wide total VOC and HAP emissions shall not exceed the following limits based on a monthly 12-month rolling total. Each month the permittee shall calculate the total facility-wide emissions for that month and add it to the previous eleven months for the following: VOC and HAPs reported on any concentration test after the activated carbon filters.

| **Pollutant** | **Facility-Wide Emission Limit (1)** |
|---|---|
| VOCs | 79.99 TPY |
| Individual HAP | 7.99 TPY |
| Combination of HAPs | 19.99 TPY |

(1) *TPY limits are expressed as a 12-month rolling total.*

2. The permittee shall be authorized to operate this facility continuously (24 hours per day, every day of the year).

3. The multi-phase extraction (MPE) system shall be controlled by activated carbon filters. The filter efficiencies shall be calculated by conducting air sample testing from the MPE system influent and effluent of the vapor granular activated carbon (VGAC) units in accordance with USEPA method TO-15, calculating the percent reduction of total VOC and HAP reduction as the control efficiency of the filter.

    a. The facility will collect samples once a week for the first 4 weeks. If after 4 weeks the applicant is able to project continued compliance with the emission limits in Specific Condition No. 1 based on the latest control efficiency measured, they may decrease the testing frequency to once every 30 days. Likewise, if after the first 90 days the applicant is able to project continued compliance with the emission limits in Specific Condition No. 1 based on the latest measured control efficiency they may decrease the testing frequency to once every 90 days.

b. Prior to decreasing the testing frequency as allowed in Specific Condition No. 3, the facility will perform calculations of TPY emissions projections demonstrating compliance with the emission limitations in Specific Condition No. 1 based on the most recent calculated control efficiencies and concurrent emission concentrations from the MPC influent and maximum observed flowrates of the extraction wells.
c. If the system is shut down for a period of 30 days or more, perform testing as described in (a) and (b) above within 1 week of resuming operations. If testing demonstrates the continued ability to comply with the emission limitations established in Specific Condition No. 1, the facility may resume the previous testing schedule.

4. For the MPE System, compliance with VOC and HAP emission limits shall be demonstrated based on the VOC and HAP concentration of monthly vapor samples (in $g/m^3$), the flow rate of the extraction wells, and the capture efficiencies of the filters.

5. The permittee shall maintain records of operations as listed below. These records shall be maintained on-site or at a local field office for at least five years after the date of recording and shall be provided to regulatory personnel upon request.
    a. Monthly air sample test results showing the VOC and HAP concentration by weight of each pollutant as described in Specific Condition No. 3.
    b. Calculations showing filter efficiency as described in Specific Condition No. 3.
    c. As described in Specific Condition No. 3, calculations of TPY emissions projections demonstrating compliance with the emission limitations in Specific Condition No. 1 based on the most recent calculated control efficiencies and concurrent emission concentrations from the MPC influent and maximum observed flowrates of the extraction wells.
    d. Calculations showing compliance with the facility-wide VOC and HAP (individual and total) emission limitation of Specific Condition No. 1 (monthly and 12-month rolling totals) as described in Specific Condition No. 4.

6. Upon commencement of operation and in accordance with OAC 252:100-7-18(a)(1), the permittee shall submit an application for an operating permit and notify Air Quality of any changes from the construction permit application.

# 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. 2022-0174-C

**Geosyntec Consultants Inc.,**

**having complied with the requirements of the law, is hereby granted permission to construct the Former B.F. Goodrich Facility, located in Section 24, Township 28N, Range 22E, Ottawa County, Oklahoma, subject to standard conditions dated May 26, 2022, and specific conditions, both attached.**

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

DRAFT

**Lee Warden, P.E.**
**Permits and Engineering Group Manager**

**Date Issued**

Geosyntec Consultants, Inc.
Attn.: Emily Stockwell, P.E.
One Parkway South
Greenville, SC 29615

Re: Construction Permit No. **2022-0174-C**
Former B.F. Goodrich Facility
Facility ID: 2127
Section 24, Township 28N, Range 22E, Miami, Ottawa County

Dear Ms. Stockwell:

Enclosed is the permit authorizing construction at the referenced facility. 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 emission inventory for this facility. An emission inventory must be completed through DEQ's electronic reporting system by April 1st of every year. Any questions concerning the form or submittal process should be referred to the Emission Inventory Staff at (405) 702-4100.

Thank you for your cooperation. If you have any questions, please refer to the permit number above and contact Caleb Jobe at Caleb.Jobe@deq.ok.gov, or at (405) 702-4187.

Sincerely,

DRAFT

Lee Warden, P.E.
Permits and Engineering Group Manager
**AIR QUALITY DIVISION**

Enclosures

**Scott A. Thompson**
Executive Director

OKLAHOMA Environmental Quality

**Kevin Stitt**
Governor

Cherokee Nation
Attn.: Chuck Hoskin, Jr., Principal Chief
P.O. Box 948
Tahlequah, OK 74465

Re: Permit Application No. 2022-0174-C
Former B.F. Goodrich Facility (FAC ID 2127)
Ottawa County
Date Received: April 20, 2022

Dear Mr. Hoskin:

The Oklahoma Department of Environmental Quality (ODEQ), Air Quality Division (AQD), has received the Tier I application referenced above. A Tier I application requires AQD to provide a 30-day public comment period on the draft Tier I permit on the ODEQ website. Since the proposed project falls within your Tribal jurisdiction, AQD is providing this direct notice. This letter notification is in addition to email notifications provided to tribal contacts on record.

Copies of draft permits and comment opportunities are provided to the public on the ODEQ website at the following location:

https://www.deq.ok.gov/permits-for-public-review/

If you prefer a copy of the draft permit, or direct notification by letter for any remaining public comment opportunities, if applicable, on the referenced permit action, please notify our Chief Engineer, Phillip Fielder, by e-mail at phillip.fielder@deq.ok.gov, or by letter at:

Department of Environmental Quality, Air Quality Division
Attn.: Phillip Fielder, Chief Engineer
P.O. Box 1677
Oklahoma City, OK, 73101-1677

Thank you for your cooperation. If you have any questions, I can be contacted at (405) 702-4237, and Mr. Fielder may be reached at (405) 702-4185.

Sincerely,

Lee Warden, P.E.
Permits and Engineering Group Manager
**AIR QUALITY DIVISION**

Quapaw Nation
Attn.: Craig Kreman
5681 South 630 Road
Quapaw, OK 74363

Re: Permit Application No. 2022-0174-C
Former B.F. Goodrich Facility (FAC ID 2127)
Ottawa County
Date Received: April 20, 2022

Dear Mr. Kreman:

The Oklahoma Department of Environmental Quality (ODEQ), Air Quality Division (AQD), has received the Tier I application referenced above. A Tier I application requires AQD to provide a 30-day public comment period on the draft Tier I permit on the ODEQ website. Since the proposed project falls within your Tribal jurisdiction, AQD is providing this direct notice. This letter notification is in addition to email notifications provided to tribal contacts on record.

Copies of draft permits and comment opportunities are provided to the public on the ODEQ website at the following location:

https://www.deq.ok.gov/permits-for-public-review/

If you prefer a copy of the draft permit, or direct notification by letter for any remaining public comment opportunities, if applicable, on the referenced permit action, please notify our Chief Engineer, Phillip Fielder, by e-mail at phillip.fielder@deq.ok.gov, or by letter at:

Department of Environmental Quality, Air Quality Division
Attn.: Phillip Fielder, Chief Engineer
P.O. Box 1677
Oklahoma City, OK, 73101-1677

Thank you for your cooperation. If you have any questions, I can be contacted at (405) 702-4237, and Mr. Fielder may be reached at (405) 702-4185.

Sincerely,

Lee Warden, P.E.
Permits and Engineering Group Manager
**AIR QUALITY DIVISION**

# Department of Environmental Quality (DEQ)
# Air Quality Division (AQD)
# Acronym List
# 9-10-21

| | |
|---|---|
| **ACFM** | Actual Cubic Feet per Minute |
| **AD** | Applicability Determination |
| **AFRC** | Air-to-Fuel Ratio Controller |
| **API** | American Petroleum Institute |
| **ASTM** | American Society for Testing and Materials |
| **BACT** | Best Available Control Technology |
| **BAE** | Baseline Actual Emissions |
| **BBL** | Barrel(s) |
| **BHP** | Brake Horsepower (bhp) |
| **BTU** | British thermal unit (Btu) |
| **C&E** | Compliance and Enforcement |
| **CAA** | Clean Air Act |
| **CAM** | Compliance Assurance Monitoring |
| **CAS** | Chemical Abstract Service |
| **CAAA** | Clean Air Act Amendments |
| **CC** | Catalytic Converter |
| **CCR** | Continuous Catalyst Regeneration |
| **CD** | Consent Decree |
| **CEM** | Continuous Emission Monitor |
| **CFC** | Chlorofluorocarbon |
| **CFR** | Code of Federal Regulations |
| **CI** | Compression Ignition |
| **CNG** | Compressed Natural Gas |
| **CO** | Carbon Monoxide or Consent Order |
| **COA** | Capable of Accommodating |
| **COM** | Continuous Opacity Monitor |
| **D** | Day |
| **DEF** | Diesel Exhaust Fluid |
| **DG** | Demand Growth |
| **DSCF** | Dry Standard (At Standard Conditions) Cubic Foot (Feet) |
| **EGU** | Electric Generating Unit |
| **EI** | Emissions Inventory |
| **EPA** | Environmental Protection Agency |
| **ESP** | Electrostatic Precipitator |
| **EUG** | Emissions Unit Group |
| **EUSGU** | Electric Utility Steam Generating Unit |
| **FCE** | Full Compliance Evaluation |
| **FCCU** | Fluid Catalytic Cracking Unit |
| **FESOP** | Federally Enforceable State Operating Permit |
| **FIP** | Federal Implementation Plan |
| **FR** | Federal Register |
| **GACT** | Generally Achievable Control Technology |
| **GAL** | Gallon (gal) |
| **GDF** | Gasoline Dispensing Facility |
| **GEP** | Good Engineering Practice |
| **GHG** | Greenhouse Gases |
| **GR** | Grain(s) (gr) |
| **$H_2CO$** | Formaldehyde |
| **$H_2S$** | Hydrogen Sulfide |
| **HAP** | Hazardous Air Pollutants |
| **HC** | Hydrocarbon |
| **HCFC** | Hydrochlorofluorocarbon |
| **HFR** | Horizontal Fixed Roof |
| **HON** | Hazardous Organic NESHAP |
| **HP** | Horsepower (hp) |
| **HR** | Hour (hr.) |
| **I&M** | Inspection and Maintenance |
| **IBR** | Incorporation by Reference |
| **ICE** | Internal Combustion Engine |
| **LAER** | Lowest Achievable Emission Rate |
| **LB** | Pound(s) [Mass] (lb., lbs., lb.) |
| **LB/HR** | Pound(s) per Hour (lb./hr.) |
| **LDAR** | Leak Detection and Repair |
| **LNG** | Liquefied Natural Gas |
| **LT** | Long Ton(s) (metric) |
| **M** | Thousand (Roman Numeral) |
| **MAAC** | Maximum Acceptable Ambient Concentration |
| **MACT** | Maximum Achievable Control Technology |
| **MM** | Prefix used for Million (Thousand Thousand) |
| **MMBTU** | Million British Thermal Units (MMBtu) |
| **MMBTUH** | Million British Thermal Units per Hour (MMBtu/hr.) |
| **MMSCF** | Million Standard Cubic Feet (MSc) |
| **MMSCFD** | Million Standard Cubic Feet per Day |
| **MSDS** | Material Safety Data Sheet |
| **MWC** | Municipal Waste Combustor |
| **MWe** | Megawatt Electrical |
| **NA** | Nonattainment |
| **NAAQS** | National Ambient Air Quality Standards |
| **NAICS** | North American Industry Classification System |
| **NESHAP** | National Emission Standards for Hazardous Air Pollutants |
| **$NH_3$** | Ammonia |
| **NMHC** | Non-methane Hydrocarbon |
| **NGL** | Natural Gas Liquids |
| **$NO_2$** | Nitrogen Dioxide |
| **NOx** | Nitrogen Oxides |

| | |
|---|---|
| **NOI** | Notice of Intent |
| **NSCR** | Non-Selective Catalytic Reduction |
| **NSPS** | New Source Performance Standards |
| **NSR** | New Source Review |
| **$O_3$** | Ozone |
| **O&G** | Oil and Gas |
| **O&M** | Operation and Maintenance |
| **O&NG** | Oil and Natural Gas |
| **OAC** | Oklahoma Administrative Code |
| **OC** | Oxidation Catalyst |
| **PAH** | Polycyclic Aromatic Hydrocarbons |
| **PAE** | Projected Actual Emissions |
| **PAL** | Plant-wide Applicability Limit |
| **Pb** | Lead |
| **PBR** | Permit by Rule |
| **PCB** | Polychlorinated Biphenyls |
| **PCE** | Partial Compliance Evaluation |
| **PEA** | Portable Emissions Analyzer |
| **PFAS** | Per- and Polyfluoroalkyl Substance |
| **PM** | Particulate Matter |
| **$PM_{2.5}$** | Particulate Matter with an Aerodynamic Diameter <= 2.5 Micrometers |
| **$PM_{10}$** | Particulate Matter with an Aerodynamic Diameter <= 10 Micrometers |
| **POM** | Particulate Organic Matter or Polycyclic Organic Matter |
| **ppb** | Parts per Billion |
| **ppm** | Parts per Million |
| **p.m.** | Parts per Million Volume |
| **ppmvd** | Parts per Million Dry Volume |
| **PSD** | Prevention of Significant Deterioration |
| **psi** | Pounds per Square Inch |
| **psia** | Pounds per Square Inch Absolute |
| **psig** | Pounds per Square Inch Gage |
| **RACT** | Reasonably Available Control Technology |
| **RATA** | Relative Accuracy Test Audit |
| **RAP** | Regulated Air Pollutant or Reclaimed Asphalt Pavement |
| **RFG** | Refinery Fuel Gas |
| **RICE** | Reciprocating Internal Combustion Engine |
| **RO** | Responsible Official |
| **ROAT** | Regional Office at Tulsa |
| **RVP** | Reid Vapor Pressure |
| **SCC** | Source Classification Code |
| **SCF** | Standard Cubic Foot |
| **SCFD** | Standard Cubic Feet per Day |
| **SCFM** | Standard Cubic Feet per Minute |
| **SCR** | Selective Catalytic Reduction |
| **SER** | Significant Emission Rate |
| **SI** | Spark Ignition |
| **SIC** | Standard Industrial Classification |
| **SIP** | State Implementation Plan |
| **SNCR** | Selective Non-Catalytic Reduction |
| **$SO_2$** | Sulfur Dioxide |
| **SOx** | Sulfur Oxides |
| **SOP** | Standard Operating Procedure |
| **SRU** | Sulfur Recovery Unit |
| **T** | Tons |
| **TAC** | Toxic Air Contaminant |
| **TEG** | Triethylene Glycol |
| **THC** | Total Hydrocarbons |
| **TPY** | Tons per Year |
| **TRS** | Total Reduced Sulfur |
| **TSP** | Total Suspended Particulates |
| **TV** | Title V of the Federal Clean Air Act |
| **$\mu g/m^3$** | Micrograms per Cubic Meter |
| **US EPA** | U. S. Environmental Protection Agency |
| **VFR** | Vertical Fixed Roof |
| **VMT** | Vehicle Miles Traveled |
| **VOC** | Volatile Organic Compound |
| **VOL** | Volatile Organic Liquid |
| **VRT** | Vapor Recovery Tower |
| **VRU** | Vapor Recovery Unit |
| **YR** | Year |
| **2SLB** | 2-Stroke Lean Burn |
| **4SLB** | 4-Stroke Lean Burn |
| **4SRB** | 4-Stroke Rich Burn |