

**Technical Support Document**  
Synthetic Minor Source Permit  
Permit R6-NSR-NM-005  
Enterprise Field Services LLC  
Lindrith Compressor Station  
January 2018

## **I. SUMMARY**

This document serves as the technical support document (TSD) that provides an analysis of the application and the legal and factual basis for the Enterprise Field Services LLC (Enterprise), Lindrith Compressor Station (Lindrith) draft permit conditions. This document includes references to the statutory or regulatory provisions, and provisions under 40 CFR §§ 49.151-49.161 that would apply if the permit is finalized. This document is intended for use by all parties interested in the permit.

Enterprise acquired Lindrith from El Paso Field Services and has operated it since 2006. The facility is located on Jicarilla Apache lands in New Mexico. Enterprise has requested to rescind the current 1997 PSD permit and convert it to a synthetic minor new source review (NSR) permit, including a modification of current permit conditions. The modification is for an increase in VOC emissions resulting from the processing of larger quantities of condensate from the pipeline gathering lines.

The PSD permit issued to El Paso Field Services in 1997 was for three (3) compressors, a dehydrator, and miscellaneous tanks/equipment. EPA issued PSD permit [PSD-NM-1644] under available authority at that time to establish legally and practically enforceable requirements (i.e., operation with catalysts) on two of the three compressors, with resulting “minor” permit limits. These conditions were incorporated into the initial and subsequent Part 71 operating permits since the facility was major for HAPs, noting that with the controls the source would be considered a “synthetic minor source.” The November 4, 2015 Part 71 permit R6NM-03-R1 referred to the authority in the minor NSR rule 40 CFR 49.153(a)(3)(iv) allowing for continued operation as a minor source.

EPA Region 6 received an application for a Part 71 minor permit modification to increase the VOC permitted emissions by 73 tons per year. However, since Part 71 regulations prohibit changes to NSR permits without first undergoing a modification to the underlying NSR permit, EPA requested Lindrith provide their request on tribal minor NSR permit forms.

On November 7, 2016, EPA published notice of the rescission rule<sup>1</sup> for PSD permits issued after 1987. Therefore, EPA could now memorialize the previous conditions of the Part 71 permit and also revise the previous PSD permit conditions to a synthetic NSR permit. Lindrith provided information on the tribal minor NSR forms on May 16, 2017, referencing previous equipment and process information from past NSR and Part 71 permits, including a synthetic minor permit application dated March 2013. EPA requested additional information due to conflicting ambiguities in the various applications and received additional information on July 17, 2017.

This modification will require three permitting actions in the following sequence:

1. Public notice the draft synthetic minor permit.

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<sup>1</sup> See “Rescission of Preconstruction Permits Issued Under the Clean Air Act,” 81 FR 78043 (November 7, 2016).

2. Rescind the of PSD permit [PSD-NM-1644-M1] at the time of issuance of the synthetic minor permit, with public notice of the issuance and rescission at the same time. 60-day public notice is required for the rescission of the PSD permit, and 30-day public notice is required for the issuance of the synthetic minor permit. These are only public notices and no comments are accepted for these two final agency actions.
3. Incorporate the synthetic minor permit into Lindrith's Part 71 permit, upon receipt of a completed Part 71 application from Enterprise.

**Applicant:**

Enterprise Field Services LLC  
1100 Louisiana Street  
Houston TX 77002

**Facility Contact:**

Robert Havalda, P.E., Sr. Environmental Engineer  
Lindrith Compressor Station  
Tel: 713.381.6698  
[rmhavalda@eprod.com](mailto:rmhavalda@eprod.com)

**Permitting Authority:**

EPA Region 6  
1445 Ross Ave. Suite 1200  
Dallas TX 75202

The EPA Region 6 Permit Writer is:

Bonnie Braganza, P.E  
Air Permitting Section (6MM-AP)  
214-665-7340  
[Braganza.bonnie@epa.gov](mailto:Braganza.bonnie@epa.gov)

## II. REGULATORY APPLICABILITY

### 1. Synthetic Minor Permit Requirements

On July 1, 2011, EPA promulgated a Federal Implementation Plan (FIP) under the Clean Air Act for Indian Country. The FIP includes two New Source Review (NSR) regulations for the protection of air resources in Indian country. The first rule applies to new and modified minor stationary sources (minor sources) and to minor modifications at existing major stationary sources (major sources) throughout Indian country. The second rule (nonattainment major NSR rule) applies to new and modified major sources in areas of Indian Country that are designated as not attaining the National Ambient Air Quality Standards (NAAQS). Currently, EPA directly implements these rules on reservation lands within Region 6, which includes Pueblos and tribally-owned trust lands.

On November 7, 2016, EPA promulgated the final PSD rescission rule that removed the date restriction from 40 CFR 52.21(w), but maintained a requirement that rescission of a PSD permit is contingent on the reviewing authority's concurrence with a rescission applicant's demonstration that the PSD permit provisions would not apply to the source or modification. The original issuance and modification of the

PSD permit for Lindrith in 1997 was based on existing EPA authority to issue PSD permits to tribal sources, with background documents showing that the facility operates as a synthetic minor NSR source. Lindrith asserts that it has always maintained emissions (using the applicable control devices on two of the three compressor engines) below the major source threshold (i.e. <250 tpy). The initial 2003 Part 71 permit issued to El Paso Field services and subsequent renewals issued to Enterprise considered the operations of Lindrith as a synthetic minor source.

40 CFR § 49.158(a)(3)(iv) codifies the tribal minor NSR rule which states that an operating synthetic minor source having practically enforceable conditions in a Part 71 permit prior to August 2011 may maintain synthetic minor status through the Part 71 permit. However, Lindrith has also proposed a modification to the NSR permit limits which will now allow EPA to rescind the current PSD permit (PSD-NM-1644-M1) and modify the source's status to be a true synthetic minor source through this permitting action. Therefore, EPA will process the request from Enterprise to rescind PSD-NM-1644-M1, in accordance with 40 CFR § 52.21(w)(2) and (3).

Lindrith is still considered a major source for HAPs as indicated in the 2015 Part 71 permit, and will require a Part 71 permit in addition to the synthetic minor NSR permit. Conditions in the synthetic minor NSR permit will be incorporated into Lindrith's Part 71 permit upon receipt of the required application from Enterprise.

## **2. PTE Limitations**

To establish the synthetic minor NSR permit with the recent VOC emission increases, the PTE may be limited through "any physical or operational limitation on the capacity of the source to emit a pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored, or processed if the limitation is enforceable as a practical matter<sup>1</sup>." The proposed permit contains enforceable, operational limitations on two compressors to operate with the stated catalytic controls as required in PSD-NM-1644-M1. The provisions in the proposed permit meet requirements for practical enforceability, as they specify the emission units and activities subject to the limitations, the time period for the limitations, and the methods to determine compliance. Additionally, the emission calculations in the permit application indicate that all criteria pollutants are limited by the maximum design capacity of the compressors, and the VOC emissions are based on a maximum condensate throughput limit of 60,000 bbl/yr.

As a result of the practical, enforceable conditions in this permit, the facility-wide VOC emissions will be below the 250 TPY major stationary source threshold for unnamed sources under 40 CFR 52.21. In addition, operation of the two compressors with the catalytic oxidation control will keep the other criteria pollutants below the major stationary source threshold.

## **3. Applicability of Other EPA Regulations**

- a) The source is major for HAP emissions, primarily formaldehyde from the compressor engines. The three (3) compressor engines were constructed and operated prior to 1995 and are four stroke lean burn engines [4SLB]. The engines are considered existing units, subject to 40 CFR § 63.6590(b)(3)(ii) and are not required to meet any requirements in 40 CFR-Subpart ZZZZ or Subpart A.

- b) The RICE emergency generator is subject to 40 CFR Part 63, Subpart ZZZZ, and the diesel fuel is limited to low sulfur fuel of 15 ppm [40 CFR § 80.510(b)].
- c) NESHAP requirements will be included in the Part71 permit.
- d) 40 CFR § 71.2 applies to this facility and an amendment to the existing Part 71 permit is required within 12 months from the issuance of the synthetic minor permit.
- e) 40 CFR § 60.110(b)(d)(4) exempts vessels up to 10,000 bbl volume that are used for condensate storage prior to custody transfer.
- f) The PSD permit PSD-NM-1644-M1 will be rescinded according to 40 CFR 52.21(w)(3).

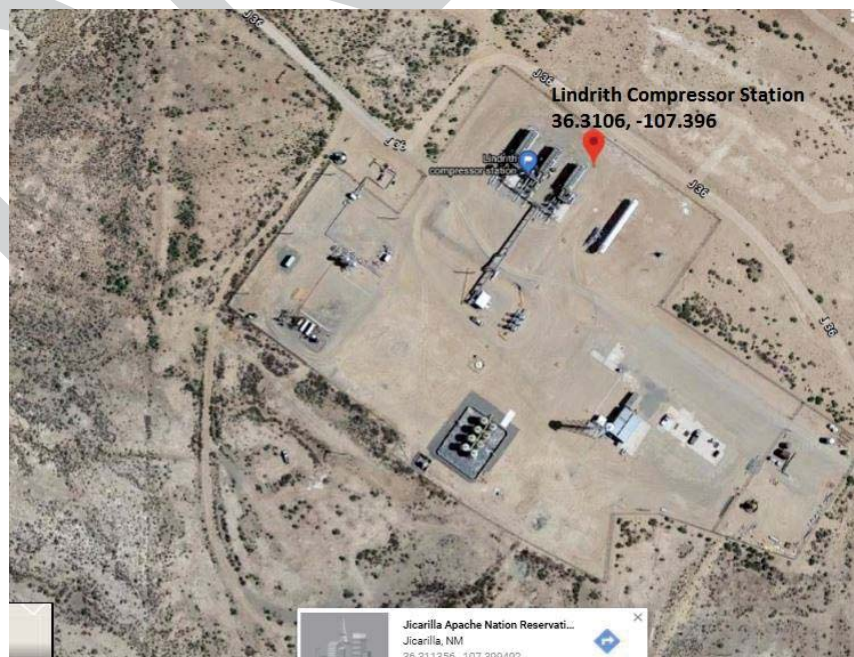
#### 4. Attainment Demonstration

Rio Arriba County, New Mexico is currently designated as an unclassified/attainment area for all criteria pollutants. Additionally, there are no designated non-attainment areas near the facility. This permit will allow an increase in VOC emissions below the major source threshold of 250 tpy for this source. There are no known air quality monitoring stations in the area of Indian Country where the Lindrith facility is located. The closest EPA approved monitoring stations are maintained by the City of Albuquerque-Bernalillo County as an air pollution control authority. An evaluation of the air quality impact of this facility is given later in this TSD in Section VI

#### 5. Location

The compressor station is located on Jicarilla Apache land in Rio Arriba County at 36.3106 latitude and -107.396 longitude.

Figure 1





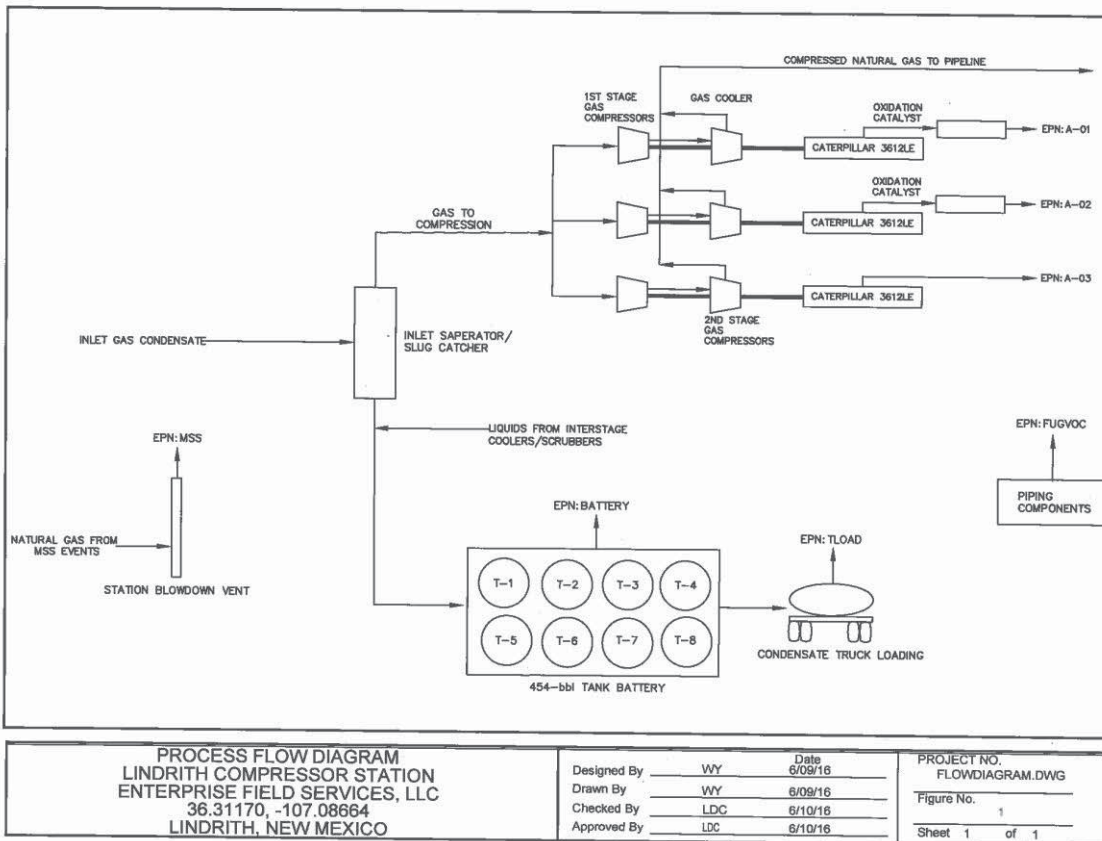
### III. SOURCE DESCRIPTION

On March 3, 2017, an application requesting changes to VOC emission limits to the Lindrith compressor station permit from Enterprise was submitted to EPA and additional updates on the NSR application were submitted, with the last update received in December 2017.

This is an existing facility that has been modified since the 1997 PSD permit (PSD-NM-1644-M1) was issued. Modifications to the facility included the removal of the dehydrator and associated equipment including the flash tank and separator. The facility added a new tank battery consisting of eight (8) 454-barrel condensate and produced water tanks in 1995. Lindrith claims that the modifications reduced emissions and, therefore, did not require a modification to the preconstruction permit.

Under current design and operation, Lindrith is a natural gas compression and transmission facility that receives natural gas from a gathering system and compresses that gas for transmission via pipeline. The field gas and condensate enters an inlet separator/slug catcher where condensate and produced water drops off due to the drop in pressure. The wet gas is then compressed in the two phased compressors and discharged into the transmission pipeline. Figure 2 shows the process diagram with the emission points.

Figure 2  
Process Flow Diagram



The three compressors use natural gas in the engines, and the facility also has a 192 bhp diesel generator to power the compressors in an emergency. The gas compressors have a short startup timeframe and the compressors are started up on an as needed basis. It was estimated that there were 218 startup/shutdowns

in 2016 for all three compressors. The separator/slug catcher also receives condensate from the pigging operations as well as from the gas coolers of the compressors.

The condensate from the inlet separator then enters the tank battery header line and is temporarily stored in eight (8) 454 bbl tanks prior to being loaded onto trucks and taken offsite.

### III. EQUIPMENT COVERED IN THE PERMIT

Existing emission sources, not specifically identified in this table are authorized to continue to operate as demonstrated in the permit application. These emission sources are subject to applicable federal standards and are considered insignificant emission units for purposes of this permit and are included in Appendix A of the permit.

	EPN	Constructi on date	Capacity	Content/Fuel	Serial No. or Manufacturer
4SLB RICE, with catalytic oxidation control	A-01	4-17-95	3267 HP 22.09MMBtu/hr	Natural gas	Caterpillar 36121E SN 1YG00055
4SLB RICE, with catalytic oxidation control	A-02	4-17-95	3267 HP 22.09MMbtu/hr	Natural Gas	Caterpillar 36121E SN 1YG00050
4SLB RICE- No controls	A-03	5-15-95	3267 HP 22.09 MMBtu/hr	Natural gas	Caterpillar 36121E SN 83Z09381
Inlet Separator Pressurized- no emissions				Gathering line gas/ condensate	
Emergency Generator engine	EMERGEN	5-1-95	192 HP 1.30 MMBtu/hr	Diesel fuel	Caterpillar -3304 SN 83Z03981
Condensate tanks	T1 to T8	circa 1995	454 bbl each	Condensate	Fixed Roof
Loading System	L-load	1995	60,000 bbls/yr	Condensate	No controls

### IV. CONTROL TECHNOLOGY REVIEW

This is an existing operation and the facility will meet all the applicable regulations for compressor engines, tanks, and loading operations. Submerged loading of condensate to the tanks and trucks will be required to minimize emissions. Closed vent control for loading was considered economically prohibitive in reducing the estimated 3.5 tpy VOC associated with the loading operations.

The facility is located in an NAAQS attainment area for all criteria pollutants and an air quality analysis is provided in Section VI.

All the three (3) compressors are four stroke lean burn engines and a technology review starting at NSPS and MACT regulations for these compressors indicates that the control options are oxidation control

which is currently being used in two of the three compressors. Additionally, since these are existing 4SLB engines there are no additional regulatory requirements [40 CFR § 63.6590(b)(3)(ii)]. A-01 and A-02 have catalytic converters for CO (to maintain emissions below major source threshold), and VOC. The facility is utilizing only natural gas in the compressor engines which is considered a clean fuel. An additional oxidation control for the third engine A-03 was considered but this was not economically viable since the processing feed in the gathering lines from the production gas wells to this compressor station has been reduced considerably. The annual emission inventory on the combustion pollutants from the engines is less than 50% of the permit limits. The emergency compressor engine (EMERGEN) will meet the requirements for an emergency RICE, and is required to meet 40 CFR Part 63, Subpart ZZZZ as noted in the Part 71 operating permit.

The MSS emissions include all the compressor blowdown events as well as the pipeline pigging operations.

## V. CONDITIONS PROPOSED IN THE DRAFT PERMIT

### a. Permit Standards and Limits

The permit specifies the relevant regulatory standards for the equipment with the practically enforceable conditions and emissions limits, as required by 40 CFR § 49.154(c)(3) and 40 CFR § 49.155(2). These conditions are presented in the table below and in Section V. of the draft permit.

1. The PTE (in tons per year) in the permit table below are based on the calculations provided in the NSR permit application and in the Part 71 permit R6FOPP71-03-R1 issued in 2015.

Emission Unit Description	EPN <sup>1</sup>	NO <sub>x</sub>	VOC	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>	CO	HAP <sup>2</sup>
Caterpillar 3612LE (NG-fired Engine) with catalytic control.	A-01	22.09	20.54	1.42	0.97	0.97	11.83	10.28
Caterpillar 3612LE (NG-fired Engine) with catalytic control	A-02	22.09	20.54	1.42	0.97	0.97	11.83	10.28
Caterpillar 3612LE (NG-fired Engine)	A-03	22.09	29.34	1.42	0.97	0.97	78.88	14.69
Emergency Generator Caterpillar 3304 (Diesel-fired engine) <sup>3</sup>	EMERGEN	0.02	0.01	<.001	0.002	0.002	0.03	
Maintenance, startup and shutdown for the facility <sup>5</sup>	MSS		30.00					0.64
Fugitives for facility <sup>4</sup>	FUGVOC		3.31					0.03
Condensate Tanks T1-T8	TBATTERY		102.63					1.32
Loading System at 60,000 bbls/yr	TLOAD		4.98					0.07
<b>TOTALS in tpy</b>		66.29	211.34	4.26	22.91	22.91	102.57	37.31

1. Emission Point Number
  2. HAP emissions are primarily formaldehyde emissions
  3. The emission calculations are based on 50 hrs/yr for maintenance and testing purposes only.
  4. Fugitive emissions are estimated and not required to be monitored and is not enforceable.
  5. MSS emissions include, but are not limited to compressor shutdowns, vessel and piping blowdowns, pigging activities.
2. The compressors will only use natural gas and A-01 and A-02 will only operate with the catalytic control system. The short term limits for all three compressors are in Section V, Table 3 of the permit. Additional monitoring for the catalytic system is specified in Section V of the permit
  3. Additional conditions for the condensate throughput are specified in Section V. of the permit.
  4. Section VI. specifies the compliance tests required for the facility.
  5. Any addition or modification to the above pieces of equipment or changes to the process will require a minor NSR analyses as stated in General Condition 7 of the permit [40 CFR § 49.152(d)].
  6. The permit specifies the NESHAP requirements for the EMERGEN compressor.

**b. Monitoring and Recordkeeping Requirements**

1. Monitoring and recordkeeping requirements are specified to keep the cumulative criteria emissions (including startup, shutdown and maintenance emissions) below that of the major stationary source threshold for a major NSR source. Section VII. of the permit provides the recordkeeping and monitoring requirements for the facility.
2. Recordkeeping on the catalytic oxidation system has been specified in condition 6 in Section VII of the draft permit.
3. All records will be maintained for five (5) years from the date the record is created.
4. Other monitoring and recordkeeping requirements specified in the permit are compliance requirements, pursuant to 40 CFR Part 63, Subparts ZZZZ.
5. The permit also requires initial and periodic compliance tests.

**c. Reporting Requirements**

40 CFR § 49.155(5) specifies annual reports of monitoring and prompt reporting of deviations from permit requirements, including upset conditions causing probable deviation of permit conditions. These conditions are in Section VIII. of the draft permit and the reports should be sent electronically to: EPA Compliance and Assurance Division at [R6TribalNSRCompliance@epa.gov](mailto:R6TribalNSRCompliance@epa.gov) with a copy to [R6AirPermits@epa.gov](mailto:R6AirPermits@epa.gov)

The existing Part 71 permit contains the 40 CFR Part 63, Subpart ZZZZ reporting requirements.



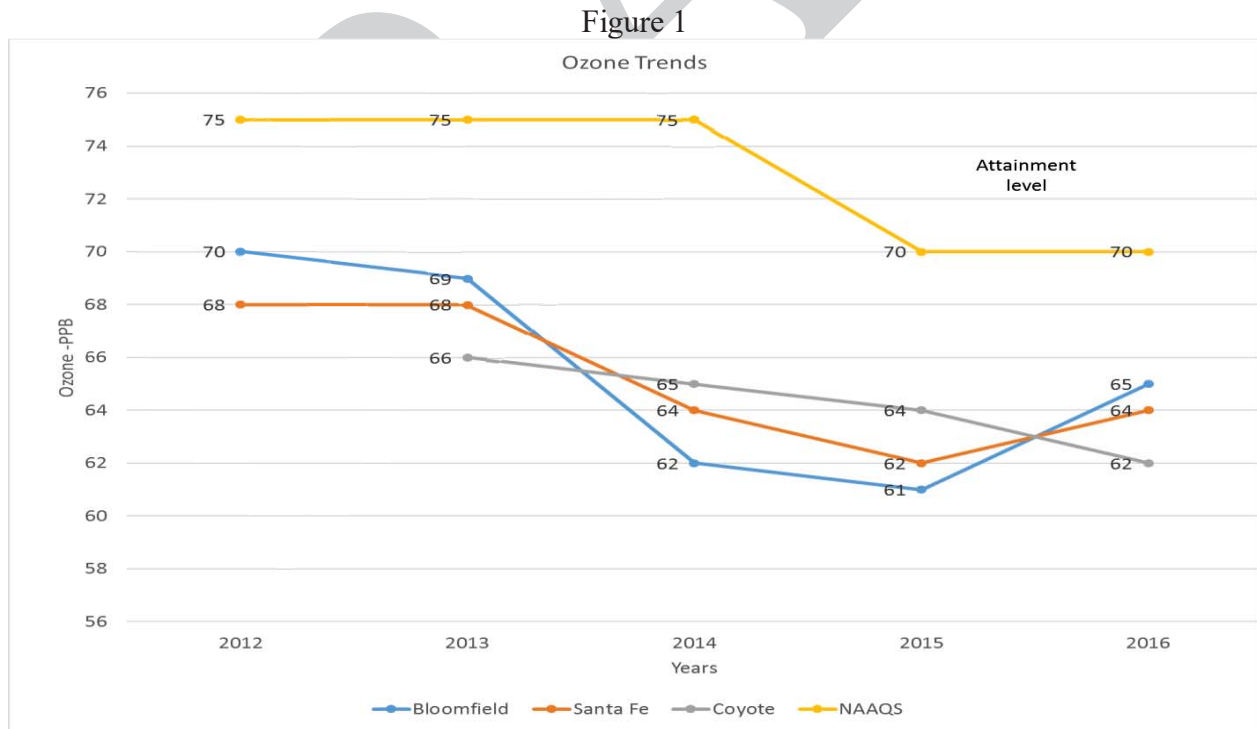
## VI. AIR QUALITY REVIEW

Rio Arriba and neighboring counties are in attainment for all NAAQS criteria pollutants. EPA Region 6 evaluated the existing air quality monitoring data [Bloomfield, 3 CRD Coyote Ranger District] from stations that are located closest to the facility indicating that the area is below the NAAQS for ozone as shown in Figure 1.

In addition to our evaluation of the current ambient air quality in the area supporting the facility, we considered the proposed VOC allowable emission increase and the anticipated ozone impacts. This permit action authorizes a 72.98 tpy increase in VOC permit allowable emissions. Based on EPA Region 6's review of existing ozone air quality analyses, the proposed increase of VOC emissions is not expected to cause or contribute to any NAAQS exceedances.

As part of our recent development of draft guidance regarding single source impacts on ozone for PSD compliance demonstrations, EPA examined existing photochemical modeling to determine the magnitude(s) of precursor emissions that can be expected to result in ozone impacts above specific critical air quality thresholds. The VOC allowable emission increase authorized by this permitting action is well below the most-conservative VOC modeled emission rates identified by EPA for the central region, as well as the other regions, of the United States. Based on the magnitude of the VOC emissions increase and the current ambient air quality at the nearby air monitors, we do not expect the emissions increases associated with this permitting action to negatively impact NAAQS compliance in the area.

Figure 1 shows the applicable ozone standard, and the ozone level readings from the local monitoring stations listed in Figure 1, including the monitoring stations located in or near Santa Fe, New Mexico.



## **VII. TRIBAL AND STATE NOTIFICATIONS**

In compliance with 40 CFR § 49.157(b), the public notice shall be sent to New Mexico Environment Department, Jicarilla Apache Nation, Southern Ute Nation, Pueblo of Jemez, and the Navajo Nation.

## **VIII. ENDANGERED SPECIES ACT**

Pursuant to Section 7(a)(2) of the Endangered Species Act (ESA) (16 U.S.C. 1536) and its implementing regulations at 50 CFR Part 402, EPA is required to insure that any action authorized, funded, or carried out by EPA is not likely to jeopardize the continued existence of any federally-listed endangered or threatened species or result in the destruction or adverse modification of such species' designated critical habitat.

This is an existing facility and an analyses from the Whinton Group Inc. has been provided with the application as well as with the previous 2015 Part 71 operating permit indicating the increase in VOC emissions will have “no effect” on the listed species in the area. As such, EPA has concluded that issuance of the proposed synthetic minor NSR permit will have “no effect” on any of the listed species within the county.

## **IX. NATIONAL HISTORIC PRESERVATION ACT (NHPA)**

Section 106 of the NHPA requires EPA to consider the effects of this permitting action on properties listed on or eligible for inclusion in the National Register of Historic Places. EPA has determined that issuance of this permit constitutes an “undertaking” as defined in 36 CFR § 800.16(y). However, pursuant to 36 CFR § 800.3(a)(1), EPA has determined that the action is for the continued operation of the facility which does not have the potential to cause effects on historic properties, since the permit does not allow any construction activities. The facility is located within the exterior boundaries of the Jicarilla Apache reservation, and the permitted area has been evaluated previously by the United States Department of the Interior (DOI), as well as the applicant's consultant Whinton Group Inc. Further, the site has been subject to disturbances associated with previous construction and continued operational activities, and any archeological resources would have been compromised many years ago.

## **X. ENVIRONMENTAL JUSTICE CONSIDERATIONS**

Executive Order (EO) 12898, 59 FR 7629 (Feb. 16, 1994), establishes federal executive policy on environmental justice. Its main provision directs federal agencies, to the greatest extent practicable and permitted by law, to make environmental justice part of their mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of their programs, policies, and activities on minority populations and low-income populations in the United States. EPA has applied this directive when reviewing Major NSR permitting actions. This is not a Major NSR permitting action.

The facility is located on tribal lands and is remote to any municipality. All environmental factor values were under the 70th percentile. The demographic data showed a high minority population at 93%. This analysis has been added to the supporting file for this permit and may be revised as necessary before any final decision on the application.

EPA has provided early notification to the neighboring tribal communities regarding this permitting action, and will provide government to government consultation opportunities or any additional information upon request. EPA maintains an ongoing commitment to ensure environmental justice for all people, regardless of race, color, national origin, or income. Ensuring environmental justice means not only protecting human health and the environment for everyone, but also ensuring that all people are treated fairly and are given the opportunity to participate meaningfully in the development, implementation, and enforcement of environmental laws, regulations, and policies.

## **XI. PERMIT PROCESSING PROCEDURES:**

In accordance with 40 CFR § 49.157:

1. EPA provided the draft permit to the Permittee for review via email on 11-17-17 and on 10-29-17. EPA incorporated some changes from Enterprise's review of the draft permits.
2. Public notice will be posted at the Lindrith facility as well as in the Jicarilla Apache Library, and EPA will have an e-Notice on the national EPA website and links to all public documents on the Region 6 public website at: <http://www.epa.gov/caa-permitting/tribal-nsr-permits-epas-south-central-region>
3. As indicated in Section VII notifications providing public notice will be sent to the State agency and adjacent tribal government.

## Table of Acronyms

4SLB	4 Stroke Lean Burn
4SRB	4 Stroke Rich Burn
BACT	Best Available Control Technology
bhp	Brake Horse Power
Btu/hr	British Thermal Units per Hour
CFR	Code of Federal Register
CH <sub>4</sub>	Methane
CAA	Clean Air Act
CO	Carbon Monoxide
dscf	Dry Standard Cubic Feet
FIP	Federal Implementation Plan
FR	Federal Register
GHG	Greenhouse Gases
HHV	High Heating Value
HAP	Hazardous Air Pollutants
hr	Hour
kW	Kilowatt
lb	Pound(s)
lb/yr	Pounds per year
MACT	Maximum Achievable Control Technology
MMBtu/hr	Million British Thermal Units per hour
MMSCFD	Million Standard Cubic Feet per day
NESHAP	National Emission Standards for Hazardous Air Pollutants
NSPS	New Source Performance Standard
NO <sub>x</sub>	Oxides of Nitrogen
NSR	New Source Review
PTE	Potential to Emit
RICE	Reciprocating Internal Combustion Engine
tpy	Tons per year
VOC	Volatile Organic Compounds
%	Percent