Texas Commission on Environmental Quality
INTEROFFICE MEMORANDUM

TO: Office of Chief Clerk **Date:** January 24, 2025

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SUBJECT: Backup Document Filed for Consideration of Hearing Requests at Agenda

Applicant: Wolf Hollow II Power, LLC
Permit No.: 175173, GHGPSDTX238, and PSDTX1636
Program: Air
Docket No.: 2024-1918-AIR

Enclosed please find a copy of the following documents for inclusion in the background material for this permit application:

- The final draft permits, including any special conditions or provisions, for permit nos. 175173, GHGPSDTX238, and PSDTX1636;
- Maximum Allowable Emission Rate Table (MAERT);
- The summaries of the technical review of the permit application;
- The preliminary determination summary for the permit application;
- The second Air Quality Analysis modeling audit; and
- The compliance summary of the applicant.

Special Conditions

Permit Numbers 1715173, PSDTX1636, and GHGPSDTX238

1. This permit covers only those sources of emissions listed in the attached table entitled "Emission Sources – Maximum Allowable Emission Rates (MAERT)," including planned maintenance, startup, and shutdown (MSS) activities, and those sources are limited to the emission limits on that table and other conditions specified in this permit.

Federal Applicability

2. These facilities shall comply with applicable requirements of the EPA regulations on Standards of Performance for New Stationary Sources, Title 40 Code of Federal Regulations Part 60 (40 CFR Part 60):

   A. Subpart A: General Provisions.

   B. Subpart GG: Standards of Performance for Stationary Combustion Turbines

3. These facilities shall comply with applicable requirements of the EPA regulations on National Emission Standards for Hazardous Air Pollutants for Source Categories, Title 40 Code of Federal Regulations Part 63 (40 CFR Part 63):

   A. Subpart A: General Provisions.

   B. Subpart ZZZZ: National Emission Standards for HAPs for Stationary Reciprocating Internal Combustion Engines (RICE)

4. This permit authorizes eight General Electric Model 6B (GE 6B) simple cycle combustion turbines (CTGs) rated at nominal capability of 352 megawatts (MW) combined.

CTG Emission Rates/Operating Specifications

5. Each CTG shall not exceed the following emission limits expressed in parts per million by volume dry (ppmvd) at 15% oxygen (O_2) subject to the following specifications:

Pollutant	Concentration	Averaging time
NO_x	9.0	3-hr average
CO	25.0	3-hr average

   A. Startup is defined as the period beginning when the gas turbine receives a "turbine start" signal and an initial flame detection signal is recorded in the plant's control system and ending when the combustion turbine output reaches minimum sustainable load, which is typically the point at which the unit reaches the lean pre-mix operating mode. A planned startup shall not exceed 60 minutes. Planned startups are excluded from the emission limits of this Special Condition.

   B. The shutdown period is defined as the period beginning when the gas turbine receives a "turbine stop" command and the generator output drops below the minimum stable load and ending when a flame detection signal is no longer recorded in the plant's control system. A planned shutdown shall not exceed 60 minutes. Planned shutdowns are excluded from the emission limits of this Special Condition.

C. Reduced load operation is defined as operational loads below 50% of full load and the emission concentrations are excluded. The emission from reduced load operation shall not exceed the maximum hourly emission rates in the MAERT.

D. In the event a CTG is instructed to return to normal operating load during a shutdown event, this will immediately end the shutdown event (i.e., an interrupted shutdown), and begin a start-up event and is excluded.

6. The CTGs combined shall not exceed 13,076,000 MMBtu/yr on a 12-month rolling average.

CTG GHG Emission Rates/Operating Specifications

7. Each CTG during turbine load operations shall not exceed the following limits based on a 12-month rolling average.

Source	EPNs	Output Specific CO_2 Emission Rate (lbs CO_2e/MWh)
GE 6B Simple Cycle Turbine	E-SCT7	1,482
GE 6B Simple Cycle Turbine	ESCT8	1,482
GE 6B Simple Cycle Turbine	E-SCT9	1,482
GE 6B Simple Cycle Turbine	E-SCT10	1,482
GE 6B Simple Cycle Turbine	E-SCT11	1,482
GE 6B Simple Cycle Turbine	E-SCT12	1,482
GE 6B Simple Cycle Turbine	E-SCT13	1,482
GE 6B Simple Cycle Turbine	E-SCT14	1,482

A. Emissions associated with the activities listed in Special Condition No. 5 (A-D) shall not be included in determining compliance with the performance standards listed above and shall be minimized through the application of work practices. Emissions during all operating modes shall not exceed the carbon dioxide equivalent (CO_2e) mass emission rates identified in the MAERT.

General Operating Specifications/Fuel Specifications

8. During normal operations, opacity of emissions from all stacks authorized by this permit shall not exceed 5 percent averaged over a six-minute period. During periods of MSS operation of the turbines, the opacity shall not exceed 15 percent averaged over a six-minute period. The permit holder shall demonstrate compliance with this Special Condition in accordance with the following procedures:

A. Visible emission observations shall be conducted and recorded at least once during each calendar quarter while the facilities are in operation unless the emission unit is not operating for the entire calendar quarter.

B. This determination shall be made by first observing for visible emissions while each facility is in operation. Observations shall be made at least 15 feet and no more than 0.25 miles from

the emission point(s). Up to three emissions points may be read concurrently, provided that all three emissions points are within a 70-degree viewing sector or angle in front of the observer such that the proper sun position (at the observer's back) can be maintained for all three emission points. A certified opacity reader is not required for these visible emission observations.

C. If visible emissions are observed from an emission point, then the opacity shall be determined and documented within 24 operating hours for that emission point using Title 40 Code of Federal Regulations Part 60 (40 CFR Part 60), Appendix A, Reference Method 9.

D. If the opacity limitations of this Special Condition are exceeded, corrective action to eliminate the source of visible emissions shall be taken promptly and documented within one operating week of the exceedance.

E. Each emergency diesel generator shall each not exceed 100 hours of non-emergency operation per year each on a rolling 12-month average.

Fuel requirements

9. Natural gas containing no more than 1.0 grains total sulfur per 100 dry standard cubic feet (gr/100 dscf) on an hourly/annual basis.

10. Diesel fuel containing no more than 15 ppm sulfur by weight.

Initial Determination of Compliance

11. Sampling ports and platforms shall be incorporated into the design of all exhaust stacks according to the specifications set forth in the manual entitled “Chapter 2, Stack Sampling Facilities.” Alternate sampling facility designs may be submitted for approval by the TCEQ Dallas/Fort Worth Regional Director.

12. The holder of this permit shall perform stack sampling and other testing as required to establish the actual quantities of air contaminants being emitted into the atmosphere from each CTG to determine initial compliance with all emission limits established in this permit.

Sampling shall be conducted in accordance with the appropriate procedures of the TCEQ Sampling Procedures Manual and in accordance with the appropriate EPA Reference Methods to be determined during the pretest meeting.

A. Air contaminants and diluents to be sampled and analyzed on the gas turbines include (but are not limited to) NO_x, O_2, CO, volatile organic compounds, sulfur dioxide (SO_2) unless deriving from the sulfur-in-fuel, particulate matter less than 10 microns in diameter, and formaldehyde.

B. Each CTG shall be tested at ± 10% of peak load.

C. Fuel sampling using the methods and procedures of 40 Code of Federal Regulations, Subpart GG. If fuel sampling is used, compliance with New Source Performance Standards (NSPS) Subpart GG, SO_2 limits shall be based on 100 percent conversion of the sulfur in the fuel to SO_2. Any deviations from those procedures must be approved by the Executive Director of the TCEQ prior to sampling. The TCEQ Executive Director or his designated representative shall be afforded the opportunity to observe all such sampling.

D. The holder of this permit is responsible for providing sampling and testing facilities and conducting the sampling and testing operations at his expense.

E. The TCEQ Dallas/Fort Worth Regional Office shall be contacted as soon as testing is scheduled but not less than 45 days prior to sampling to schedule a pretest meeting. The notice shall include:

(1) Date for pretest meeting.

(2) Date sampling will occur.

(3) Name of firm conducting sampling.

(4) Type of sampling equipment to be used.

(5) Method or procedure to be used in sampling.

(6) Procedure used to determine turbine loads during and after the sampling period.

The purpose of the pretest meeting is to review the necessary sampling and testing procedures, to provide the proper data forms for recording pertinent data, and to review the format procedures for submitting the test reports. A written proposed description of any deviation from sampling procedures specified in permit conditions, or the TCEQ or EPA sampling procedures shall be made available to the TCEQ prior to the pretest meeting. The TCEQ Dallas/Fort Worth Regional Director shall approve or disapprove of any deviation from specified sampling procedures. Requests to waive testing for any pollutant specified in this condition shall be submitted to the TCEQ Office of Air, Air Permits Division. Test waivers and alternate or equivalent procedure proposals for NSPS testing which must have EPA approval shall be submitted to the EPA and copied to TCEQ Dallas/Fort Worth Regional Director.

F. Sampling as required by this condition shall occur within 60 days after achieving the maximum production rate at which each turbine will be operated, but no later than 180 days after initial start-up of each unit. Additional sampling may be required by TCEQ or EPA.

G. Within 60 days after the completion of the testing and sampling required herein, two copies of the sampling reports shall be distributed as follows:

(1) One copy to the TCEQ Dallas/Fort Worth Regional Office.

(2) One copy to the EPA Region 6 Office, Dallas.

GHG Initial Demonstration of Compliance (CTG)

13. After the first full calendar month of operation, the permit holder shall compare that month's gross heat rate and output specific CO_2 emission rate to the limits in this permit and the MAERT. Within 45 days after collecting the data, the permit holder shall submit a report to the region identifying whether the data causes any concerns regarding the permit holder's ability to comply with the applicable limitations.

Acid Rain Permit Cross-State Air Pollution Rule (CSAPR) Trading Program Requirements

14. For the eight CTGs, the designated representative and the owner or operator, as applicable, shall comply with applicable Acid Rain and CSAPR requirements.

15. The facility will, at least initially, utilize the provisions contained within 40 CFR 75.19 for low mass emission (LME) units to calculate NO_x, SO_2, and CO_2 emissions from the eight units. The facility has the option to follow 40 CFR 75 procedures to switch monitoring methods in the future.

Continuous Determination of Compliance

16. Exclusive of MSS hours, the holder of this permit shall demonstrate compliance with TCEQ NOx emission limits (ppm@15%O_2 and lb/hr) each operating hour by monitoring that the turbine is in the low-NOx or premixed combustion mode; therefore, maintaining proper operation of the dry low-NOx premix technology used to control NO_x emissions.

17. In addition to the initial compliance stack testing, the facility may conduct the optional stack testing to obtain fuel-and-unit-specific NOx emission rates every five years (20 calendar quarters) or use the NOx emission rate from Table LM-2 in accordance with 40 CFR 75.19(c)(1)(iv).

18. The TCEQ Dallas/Fort Worth Regional Office shall be notified at least 21 days prior to any optional testing conducted in accordance with 40 CFR 75.19(c)(1)(iv) to provide them the opportunity to observe testing.

19. The permit holder shall install, calibrate, maintain, and operate a continuous monitoring system to monitor and record the average hourly natural gas consumption of the CTGs using a fuel flow meter certified and maintained according to 40 CFR Part 75, Appendix D. The permit holder may use an alternate method as specified in 40 CFR Part 75.19(c)(3)(ii)(B).

GHG Continuous Demonstration of Compliance (CTG)

20. Compliance with the GHG requirements of this permit shall be demonstrated by following the requirements of and using the applicable equations of 40 CFR, Part 98, Mandatory GHG Reporting. Global warming potentials are listed in footnote 3 of the MAERT.

Continuous Demonstration of Compliance (Natural Gas Fugitives)

21. The permit holder shall minimize emissions from pressurized components and equipment containing GHG as follows:

    A. Piping and valves in natural gas service within the operating area must be checked weekly for leaks using audio, visual, and olfactory (AVO) sensing for natural gas leaks. If the site is not manned for a given week, an AVO check shall be performed the next week plant personnel are on-site.

    B. As soon as practicable following the detection of a leak, plant personnel shall take one or more of the following actions:

        (1) Locate and isolate the leak, if necessary.

        (2) Commence repair or replacement of the leaking component.

        (3) Use a leak collection or containment system to control the leak until repair or replacement can be made if immediate repair is not possible.

Continuous Demonstration of Compliance (Circuit Breakers)

22. The sulfur hexafluoride (SF_6)-enclosed circuit breakers shall be designed to meet the latest American National Standards Institute (ANSI) C37.013 standard for high voltage circuit breakers. The circuit breakers must be guaranteed to achieve a SF_6 leak rate of 0.5% by weight or less annually. The circuit breakers must be in a totally enclosed, pressurized compartment equipped with an alarm that signals the plant control room in the event that any circuit breaker loses pressure to the extent that 10% of the SF_6 has leaked.

23. The permit holder shall equip the circuit breakers with a low-pressure alarm and a low pressure lockout. As soon as practicable following the detection of a leak, plant personnel shall take one or more of the following actions:

    A. Locate and isolate the leak using a sulfur hexafluoride (SF_6) leak collections or containment system to control the leak until repair or replacement can be made if immediate repair is not possible.

    B. Commence repair or replacement of the leaking component.

Maintenance

24. Compliance with the emissions limits for planned maintenance activities for each CTG and fugitives (E-TRBMSSP3) identified in Attachment A may be demonstrated as follows.

    A. For each pollutant emitted during planned maintenance activities whose emissions occur through a stack the permit holder shall for each calendar month determine the total emissions of the pollutant.

    B. Sum all emissions from planned maintenance activities on a 12-month rolling basis for each EPN to show compliance with the MAERT.

    C. Emissions from CTG diagnostic load reduction activities identified in Attachment A shall be subject to the hourly MSS emission rates on the MAERT and shall not exceed 54 hours for all CTGs combined at the site.

Recordkeeping Requirements

25. The following records shall be kept at the plant for the life of the permit. All records required in this permit shall be made available at the request of personnel from the TCEQ, EPA, or any air pollution control agency with jurisdiction:

    A. A copy of this permit.

    B. Permit application dated January 25, 2024 and subsequent representations submitted to the TCEQ.

    C. A complete copy of the testing reports and records of the initial performance testing completed to demonstrate initial compliance.

    D. Stack sampling results or other air emissions testing (other than CEMS data) that may be conducted on units authorized under this permit after the date of issuance of this permit.

26. The following information shall be maintained by the holder of this permit in a form suitable for inspection for a period of five years after collection and shall be made available upon request to representatives of the TCEQ, EPA, or any local air pollution control program having jurisdiction:

    A. Records to demonstrate compliance NO_x and CO, and O_2 emissions from each CTG to demonstrate compliance with the emission rates listed in this permit and attached MAERT.

    B. Records of dates and times for startups and shutdowns of each CTG.

    C. Records of the amount of natural gas fired on 12-month rolling average.

    D. Records of visible emissions observations and opacity readings.

    E. Records of hours of operation and sulfur content of diesel fuel fired in each emergency diesel generator.

    F. Records of AVO checks, maintenance performed to any piping and valves in natural gas service.

    G. Records of monitored or calculated maintenance emissions.

    H. Records of all calculations to demonstrate compliance with 40 CFR Part 98.

    I. Records of maintenance or leak repair performed on SF_6 containing circuit breakers.

Date: TBD

Permit Numbers 175173, PSDTX1636, and GHGPSDTX238

Attachment A

Planned Maintenance Activities						
Activities	**EPN**	**Emissions**				
		NO_x	**CO**	**VOC**	**PM**	**SO_2**
Combustion unit tuning[1]	E-SCT7, ESCT8 E-SCT9, E-SCT10 E-SCT11, E-SCT12 E-SCT13, E-SCT14	X	X	X	X	X
On-line turbine washing[2]	E-SCT7, ESCT8 E-SCT9, E-SCT10 E-SCT11, E-SCT12 E-SCT13, E-SCT14	X	X	X	X	X
Miscellaneous PM filter maintenance[3]	E-TRBMSSP3				X	
Management of sludge from pits, ponds, sumps, and water conveyances[4]	E-TRBMSSP3			X		
Inspection, repair, replacement, adjusting, testing, and calibration of analytical equipment, process instruments including sight glasses, meters, gauges, CEMS, PEMS	E-TRBMSSP3		X	X	X	X

Date: TBD

[1] Includes, but is not limited to: leak operability checks (*e.g. turbine overspeed test, troubleshooting*), seasonal tuning, and balancing.

[2] Involves use of water only.

[3] Includes, but is not limited: process-related building filters, and combustion turbine air intake filters

[4] Includes, but is not limited to: mgmt. by vacuum truck/dewatering of material in open pits/ponds/sumps/tanks and other closed or open vessels. Material managed include water and sludge materials containing miscellaneous VOCs such as diesel, lube oil, and other waste oils.

Emission Sources — Maximum Allowable Emission Rates

Permit Numbers 175173 and PSDTX1636

This table lists the maximum allowable emission rates and all sources of air contaminants on the applicant's property covered by this permit. The emission rates shown are those derived from information submitted as part of the application for permit and are the maximum rates allowed for these facilities, sources, and related activities. Any proposed increase in emission rates may require an application for a modification of the facilities covered by this permit.

Air Contaminants Data

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates	
			lbs/hour	TPY (4)
E-SCT7	CT7 (5)	NO_x	17.36	-
		NOx (MSS)	33.00	-
		CO	29.35	-
		CO (MSS)	42.0	-
		VOC	0.94	-
		PM	4.00	-
		PM_{10}	4.00	-
		$PM_{2.5}$	4.00	-
		SO_2	1.48	-
		H_2SO_4	0.18	-
		H_2CO (7)	0.37	-
E-SCT8	CT8 (5)	NO_x	17.36	-
		NOx (MSS)	33.00	-
		CO	29.35	-
		CO (MSS)	42.0	-
		VOC	0.94	-
		PM	4.00	-
		PM_{10}	4.00	-
		$PM_{2.5}$	4.00	-
		SO_2	1.48	-
		H_2SO_4	0.18	-
		H_2CO (7)	0.37	-
E-SCT9	CT9 (5)	NO_x	17.36	-
		NOx (MSS)	33.00	-

Emission Sources - Maximum Allowable Emission Rates

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates	
			lbs/hour	TPY (4)
		CO	29.35	-
		CO (MSS)	42.0	-
		VOC	0.94	-
		PM	4.00	-
		PM_{10}	4.00	-
		$PM_{2.5}$	4.00	-
		SO_2	1.48	-
		H_2SO_4	0.18	-
		H_2CO (7)	0.37	-
E-SCT10	CT10 (5)	NO_x	17.36	-
		NOx (MSS)	33.00	-
		CO	29.35	-
		CO (MSS)	42.0	-
		VOC	0.94	-
		PM	4.00	-
		PM_{10}	4.00	-
		$PM_{2.5}$	4.00	-
		SO_2	1.48	-
		H_2SO_4	0.18	-
		H_2CO (7)	0.37	-
E-SCT11	CT11 (5)	NO_x	17.36	-
		NOx (MSS)	33.00	-
		CO	29.35	-
		CO (MSS)	42.0	-
		VOC	0.94	-
		PM	4.00	-
		PM_{10}	4.00	-

Emission Sources - Maximum Allowable Emission Rates

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates	
			lbs/hour	TPY (4)
		$PM_{2.5}$	4.00	-
		SO_2	1.48	-
		H_2SO_4	0.18	-
		H_2CO (7)	0.37	-
E-SCT12	CT12 (5)	NO_x	17.36	-
		NOx (MSS)	33.00	-
		CO	29.35	-
		CO (MSS)	42.0	-
		VOC	0.94	-
		PM	4.00	-
		PM_{10}	4.00	-
		$PM_{2.5}$	4.00	-
		SO_2	1.48	-
		H_2SO_4	0.18	-
		H_2CO (7)	0.37	-
E-SCT13	CT13 (5)	NO_x	17.36	-
		NOx (MSS)	33.00	-
		CO	29.35	-
		CO (MSS)	42.0	-
		VOC	0.94	-
		PM	4.00	-
		PM_{10}	4.00	-
		$PM_{2.5}$	4.00	-
		SO_2	1.48	-
		H_2SO_4	0.18	-
		H_2CO (7)	0.37	-
E-SCT14	CT14 (5)	NO_x	17.36	-

Emission Sources - Maximum Allowable Emission Rates

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates	
			lbs/hour	TPY (4)
		NOx (MSS)	33.00	-
		CO	29.35	-
		CO (MSS)	42.0	-
		VOC	0.94	-
		PM	4.00	-
		PM_{10}	4.00	-
		$PM_{2.5}$	4.00	-
		SO_2	1.48	-
		H_2SO_4	0.18	-
		H_2CO (7)	0.37	-
8 SCTs	Simple Cycle CTGs	NO_x	-	244.61
		CO	-	394.36
		VOC	-	11.96
		PM	-	56.00
		PM_{10}	-	56.00
		$PM_{2.5}$	-	56.00
		SO_2	-	4.01
		H_2SO_4	-	0.49
		H_2CO (7)	-	4.75
ST-SCT7LOV	Turbine 7 Lube Oil Vent	VOC	<0.01	0.01
		PM	<0.01	0.01
		PM_{10}	<0.01	0.01
		$PM_{2.5}$	<0.01	0.01
ST-SCT8LOV	Turbine 8 Lube Oil Vent	VOC	<0.01	0.01
		PM	<0.01	0.01
		PM_{10}	<0.01	0.01
		$PM_{2.5}$	<0.01	0.01

Emission Sources - Maximum Allowable Emission Rates

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates	
			lbs/hour	TPY (4)
ST-SCT9LOV	Turbine 9 Lube Oil Vent	VOC	<0.01	0.01
		PM	<0.01	0.01
		PM_{10}	<0.01	0.01
		$PM_{2.5}$	<0.01	0.01
ST-SCT10LOV	Turbine 10 Lube Oil Vent	VOC	<0.01	0.01
		PM	<0.01	0.01
		PM_{10}	<0.01	0.01
		$PM_{2.5}$	<0.01	0.01
ST-SCT11LOV	Turbine 11 Lube Oil Vent	VOC	<0.01	0.01
		PM	<0.01	0.01
		PM_{10}	<0.01	0.01
		$PM_{2.5}$	<0.01	0.01
ST-SCT12LOV	Turbine 12 Lube Oil Vent	VOC	<0.01	0.01
		PM	<0.01	0.01
		PM_{10}	<0.01	0.01
		$PM_{2.5}$	<0.01	0.01
ST-SCT13LOV	Turbine 13 Lube Oil Vent	VOC	<0.01	0.01
		PM	<0.01	0.01
		PM_{10}	<0.01	0.01
		$PM_{2.5}$	<0.01	0.01
ST-SCT14LOV	Turbine 14 Lube Oil Vent	VOC	<0.01	0.01
		PM	<0.01	0.01
		PM_{10}	<0.01	0.01
		$PM_{2.5}$	<0.01	0.01
E-GEN3	Emergency Generator 3	NO_x	45.74	2.29
		CO	6.44	0.32
		VOC	1.29	0.06

Emission Sources - Maximum Allowable Emission Rates

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates	
			lbs/hour	TPY (4)
		PM	0.26	0.01
		PM_{10}	0.26	0.01
		$PM_{2.5}$	0.26	0.01
		SO_2	0.03	<0.01
		H_2CO (7)	<0.01	<0.01
E-GEN4	Emergency Generator 4	NO_x	45.74	2.29
		CO	6.44	0.32
		VOC	1.29	0.06
		PM	0.26	0.01
		PM_{10}	0.26	0.01
		$PM_{2.5}$	0.26	0.01
		SO_2	0.03	<0.01
		H_2CO (7)	<0.01	<0.01
E-GEN5	Emergency Generator 5	NO_x	45.74	2.29
		CO	6.44	0.32
		VOC	1.29	0.06
		PM	0.26	0.01
		PM_{10}	0.26	0.01
		$PM_{2.5}$	0.26	0.01
		SO_2	0.03	<0.01
		H_2CO (7)	<0.01	<0.01
E-NGFUG-P3	Natural Gas Fugitives Plant 3	VOC	0.02	0.07
E-TRBMSSP3	Turbine Maintenance Fugitives Plant 3	NO_x	0.01	0.01
		CO	0.01	0.01
		VOC	0.85	0.01
		PM	0.37	0.07

Emission Sources - Maximum Allowable Emission Rates

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates	
			lbs/hour	TPY (4)
		PM_{10}	0.37	0.07
		$PM_{2.5}$	0.37	0.07
E-DSLTK3	Storage Tank – No. 2 Fuel Oil	VOC	0.11	<0.01
E-DSLTK4	Storage Tank – No. 2 Fuel Oil	VOC	0.11	<0.01
E-DSLTK5	Storage Tank – No. 2 Fuel Oil	VOC	0.11	<0.01

(1) Emission point identification - either specific equipment designation or emission point number from plot plan.

(2) Specific point source name. For fugitive sources, use area name or fugitive source name.

(3) NO_x - total oxides of nitrogen
VOC - volatile organic compounds as defined in Title 30 Texas Administrative Code § 101.1
CO - carbon monoxide
H_2CO - formaldehyde
PM - total particulate matter, suspended in the atmosphere, including PM_{10} and $PM_{2.5}$
PM_{10} - total particulate matter equal to or less than 10 microns in diameter, including $PM_{2.5}$
$PM_{2.5}$ - particulate matter equal to or less than 2.5 microns in diameter
SO_2 - sulfur dioxide
H_2SO_4 - sulfuric acid
H_2CO - formaldehyde
MSS - maintenance, startup, and shutdown
NH_3 - ammonia

(4) Compliance with annual emission limits (tons per year) is based on a 12-month rolling period.

(5) Planned maintenance, startup, and shutdown emissions for all pollutants are authorized even if not specifically identified as MSS. During any clock hour that includes one or more minutes of planned MSS that pollutant's maximum hourly emission rated shall apply during that clock hour.

(6) Emission rate is an estimate and is enforceable through compliance with the applicable special condition(s) and permit application representations.

(7) The speciated emission rate is included in the VOC emission rate.

Date: TBD

Emission Sources — Maximum Allowable Emission Rates

Permit Number GHGPSDTX238

This table lists the maximum allowable emission rates of greenhouse gas (GHG) emissions, as defined in Title 30 Texas Administrative Code § 101.1, for all sources of GHG air contaminants on the applicant's property that are authorized by this permit. The emission rates shown are those derived from information submitted as part of the application for permit and are the maximum rates allowed for these facilities, sources, and related activities. Any proposed increase in emission rates may require an application for a modification of the facilities authorized by this permit.

Air Contaminants Data

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates
			TPY (4,5)
8 SCTs	Simple Cycle CTGs	N_2O (5)	1.47
		CH_4 (5)	14.72
		CO_2 (5)	795,115.89
		CO_2e (a)	795,922.40
		CO_2e (b)	795,917.99
E-GEN3	Emergency Generator 3	N_2O (5)	<0.01
		CH_4 (5)	0.01
		CO_2 (5)	154.47
		CO_2e (a)	155.00
		CO_2e (b)	154.98
E-GEN4	Emergency Generator 4	N_2O (5)	<0.01
		CH_4 (5)	0.01
		CO_2 (5)	154.47
		CO_2e (a)	155.00
		CO_2e (b)	154.98
E-GEN5	Emergency Generator 5	N_2O (5)	<0.01
		CH_4 (5)	0.01
		CO_2 (5)	154.47
		CO_2e (a)	155.00
		CO_2e (b)	154.98
E-TRBMSSP3	Turbine Maintenance Fugitives Plant 3	CH_4 (5)	0.10
		CO_2 (5)	<0.01
		CO_2e (a)	2.56
		CO_2e (b)	2.87
E-NGFUG-P3	Natural Gas Fugitives – Plant 3	CH_4 (5)	8.43
		CO_2 (5)	0.08

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates
			TPY (4,5)
		CO_2e (a)	210.94
		CO_2e (b)	236.24
E-SF6FUG	SF6 Fugitives	SF_6 (5)	<0.01
		CO_2e (a)	22.80
		CO_2e (b)	23.50

(1) Emission point identification - either specific equipment designation or emission point number from plot plan.
(2) Specific point source name. For fugitive sources, use area name or fugitive source name.
(3) N_2O - nitrous oxide
CH_4 - methane
CO_2 - carbon dioxide
SF_6 - sulfur hexafluoride
CO_2e - carbon dioxide equivalents based on the following Global Warming Potentials (GWP): a) found in Table A-1 of Subpart A 40 CFR Part 98 (78 FR 71904) for each pollutant: CO_2 (1), N_2O (298), CH_4 (25), SF_6 (22,800) and effective prior to 01/2025, b) found in Table A-1 of Subpart A 40 CFR Part 98 (89 FR 31894) for each pollutant: CO_2 (1), N_2O (265), CH_4 (28), SF_6 (23,500) and effective on or after 01/2025
(4) Compliance with annual emission limits (tons per year) is based on a 12- month rolling period.
(5) SF_6, NO_2, CH_4, and CO_2 emission rates are for informational purposes only and does not constitute an enforceable limit.

Date: TBD

Construction Permit
Source Analysis & Technical Review

Company	**Wolf Hollow II Power, LLC**	Permit Numbers	**175173, GHGPSDTX238, and PSDTX1636**
City	**Granbury**	Project Number	**369521**
County	**Hood**	Regulated Entity Number	**RN108779729**
Project Type	**Initial**	Customer Reference Number	**CN604679639**
Project Reviewer	**Jason La**	Received Date	**January 25, 2024**
Site Name	**Wolf Hollow II Power Plant**		

Project Overview

Wolf Hollow II Power LLC (Wolf Hollow) owns and operates the Wolf Hollow II electric generating facility located in Granbury, Hood County, Texas. The site currently consists of two natural gas-fired combustion turbine generators (CTGs), an auxiliary boiler, a dew point heater, emergency equipment, and fugitives authorized by Permit No. 83638.

Wolf Hollow is seeking authorization to expand the existing Wolf Hollow II Power Plant and will be referred to as Wolf Hollow III (WHIII). The WHIII expansion will include new equipment consisting of eight simple cycle combustion turbines, three emergency generators, diesel storage tanks, and fugitives.

Emission Summary

Air Contaminant	Current Allowable Emission Rates (tpy)	Proposed Allowable Emission Rates (tpy)
NO_X	-	251.49
CO	-	395.33
VOC	-	12.30
PM	-	56.18
PM_{10}	-	56.18
$PM_{2.5}$	-	56.18
SO_2	-	4.01
H_2SO_4	-	0.49
H_2CO	-	4.75
N_2O	-	1.47
CH_4	-	23.28
SF_6	-	<0.01
CO_2	-	795,579.38
CO_{2e}[1]		796,623.70
CO_2e[2]	-	796,645.54

Note: SF_6, NO_2, CH_4, and CO_2 emission rates are for informational purposes only and does not constitute an enforceable limit. Carbon dioxide equivalents (CO_{2e}) based on the following Global Warming Potentials (GWP): [1] found in Table A-1 of Subpart A 40 CFR Part 98 (78 FR 71904) for each pollutant: CO_2 (1), N_2O (298), CH_4 (25), SF_6 (22,800) and effective prior to 01/2025. [2] found in Table A-1 of Subpart A 40 CFR Part 98 (89 FR 31894) for each pollutant: CO_2 (1), N_2O (265), CH_4 (28), SF_6 (23,500) and effective on or after 01/2025.

Compliance History Evaluation - 30 TAC Chapter 60 Rules

A compliance history report was reviewed on:	February 23, 2024
Site rating & classification:	0.00 / High

Company rating & classification:	0.00 / High
Has the permit changed on the basis of the compliance history or rating?	No
Did the Regional Office have any comments? If so, explain.	**No**

Public Notice Information

Requirement	**Date**
Legislator letters mailed	**February 1, 2024**
Date 1st notice published	**March 2, 2024**
Publication Name: **Hood County News**	
Pollutants: **NO_x, CO, PM, PM_{10}, $PM_{2.5}$, SO_2, H_2SO_4, HAPs, SF_6, GHG, and organic compounds**	
Date 1st notice Alternate Language published	**March 5, 2024**
Publication Name (Alternate Language): **La Prensa Comunidad**	
1st public notice tearsheet(s) received	**April 4, 2024**
1st public notice affidavit(s) received	**April 4, 2024**
1st public notice certification of sign posting/application availability received	**April 16, 2024**
SB709 Notification mailed	**February 29, 2024, June 21, 2024**
Date 2nd notice published	**August 10, 2024**
Publication Name: **Hood County News**	
Pollutants: **NO_x, CO, PM, PM_{10}, $PM_{2.5}$, SO_2, H_2SO_4, HAPs, SF_6, GHG, and organic compounds**	
Date 2nd notice published (Alternate Language)	**August 6, 2024**
Publication Name (Alternate Language): **La Prensa Comunidad**	
2nd public notice tearsheet(s) received	**August 13, 2024**
2nd public notice affidavit(s) received	**August 13, 2024**
2nd public notice certification of sign posting/application availability received	**September 12, 2024**

Public Interest

Number of comments received	83
Number of meeting requests received	63
Number of hearing requests received	147
Date meeting held	September 09, 2024
Date response to comments filed with OCC	TBD
Date of SOAH hearing	TBD

Federal Rules Applicability

Requirement	
Subject to NSPS?	**Yes**
Subparts **A** & **GG**	
Subject to NESHAP?	**No**
Subject to NESHAP (MACT) for source categories?	**Yes**
Subparts **A** & **ZZZZ**	

Nonattainment review applicability: The site is an existing major source located in Hood County, which was designated as attainment for ozone. A nonattainment review is not applicable.

PSD review applicability: Plant III is in Hood County which is classified as attainment. The site is an existing major source with respect to the Prevention of Significant Deterioration (PSD) Program.

This project is a new source at an existing site, there are no changes in the contemporaneous period, and a baseline of zero was used for all pollutants. The new project will have the potential to emit emissions greater than the major modification significance level for the pollutants identified below. A minor NSR review was performed for all pollutants not triggering a federal review.

The following tables illustrate the annual project emissions for each pollutant and whether this pollutant triggers PSD review. These totals include MSS emissions.

PSD Major Modification Trigger

Pollutant	Project Increase tpy	PSD Netting Trigger tpy	Netting Required tpy	Net Emission Change tpy	PSD Major Mod Trigger tpy	PSD Review Triggered Y/N
NO_x	251.49	40	Y	NA	40	Y
CO	395.33	100	Y	NA	100	Y
VOC	12.30	40	N	NA	40	N
PM	56.18	25	Y	NA	25	Y
PM_{10}	56.18	15	Y	NA	15	Y
$PM_{2.5}$	56.18	10	Y	NA	10	Y
SO_2	4.01	40	N	NA	40	N
H_2SO_4	0.49	7	N	NA	7	N

GHG PSD Major Modification Trigger

Pollutant	Project Increase Tpy	GHG Netting Trigger Tpy	Netting Required Tpy	Net Emission Change Tpy	GHG Major Mod Trigger Tpy	GHG Review Triggered Y/N
GHG, CO_2e^1	796,623.70	75,000	Y	NA	75,000	Y
GHG, CO_2e^2	796,645.54	75,000	Y	NA	75,000	Y

Carbon dioxide equivalents (CO_{2e}) based on the following Global Warming Potentials (GWP): [1] found in Table A-1 of Subpart A 40 CFR Part 98 (78 FR 71904) for each pollutant: CO_2 (1), N_2O (298), CH_4 (25), SF_6 (22,800) and effective prior to 01/2025. [2] found in Table A-1 of Subpart A 40 CFR Part 98 (89 FR 31894) for each pollutant: CO_2 (1), N_2O (265), CH_4 (28), SF_6 (23,500) and effective on or after 01/2025.

Title V Applicability - 30 TAC Chapter 122 Rules

Requirement

Title V applicability: The site is an existing Title V major source and operates under O-3848.

Periodic Monitoring (PM) applicability: The site is a major and is subject to PM under 30 TAC Chapter 122. The following methods of monitoring meet PM requirements:

Source	EPN	SC No.	PM Condition Summary
Turbines	SCT7 thru SCT14	5, 6, 7, 8, 10	Emission rates. Startup/Shutdown limitation. Reduced load authorization. Interrupted startup authorization. Annual operations limitation. GHG limitations. Visible emission observations and opacity limitation. Natural gas limitation.
Diesel-Fired Generators	EGEN3 EGEN4 EGEN5	8, 9, 11	Visible emission observations and opacity limitation. Diesel generator annual hours of operations. Diesel fuel requirements.
Fugitives	E-TRBMMP3	22	AVO for natural gas leaks.
SF_6 Electrical Equipment	E-SF6FUG	23, 24	Circuit breaker check requirements.
Maintenance	SCT7 thru SCT14 E-TRBMSSP3	25	Monthly records of maintenance activities.

Compliance Assurance Monitoring (CAM) applicability: The site is a major source subject to 30 TAC Chapter 122; however, there are no control devices in use. Therefore, CAM is not applicable.

Process Description

A CTG combusts natural gas to power a generator to produce electricity. The main components of a CTG consist of a compressor, combustor, turbine, and generator. The compressor pressurizes combustion air to the combustor where the fuel is mixed with the combustion air and burned. Hot pressurized exhaust gases then enter the power turbine where the gases expand across the turbine blades, driving a shaft to power an electric generator. Each of the proposed CTGs will be equipped with a lube oil recirculation system to lubricate moving parts of the turbines. Emissions of condensed lube oil droplets from the lube oil system will be exhausted through vapor extraction vents. Natural gas will be delivered to the site via pipeline, metered, and piped to the combustion turbines.

Project Scope

Wolf Hollow is seeking authorization to install and operate eight natural gas-fired, simple cycle combustion turbines at the existing Wolf Hollow II Power Plant and will be referred to as Wolf Hollow III (WHIII). The new units will be capable of generating approximately 44 MW each and are designed for peaking service, including daily startup and shutdown (SUSD) and extended periods of operation or non-operation. In addition to the power generating equipment, the ancillary equipment includes three emergency generators, diesel storage tanks, and fugitives.

Best Available Control Technology

BACT for the proposed project is summarized in the table below for each emitting source and the pollutants that triggered PSD review, which are NOx, CO, PM/PM_{10}/$PM_{2.5}$, and GHGs as CO_{2e}. State minor BACT was also evaluated for the other pollutants that did not trigger PSD review and is also summarized in the table below. The applicant submitted RACT/BACT/LAER Clearinghouse (RBLC) database search summaries for the pollutants that triggered PSD review (NOx, CO, PM/PM_{10}/$PM_{2.5}$, and GHGs as CO_{2e}), and these RBLC search summary results are included in the table below. The EPA has agreed to accept the TCEQ three-tier BACT approach as equivalent to the EPA top-down BACT approach for PSD review when the following are considered: recently issued/approved permits within the state of Texas; recently issued/approved permits in other states; and control technologies contained within the EPA's RBLC. BACT determinations are based upon an evaluation of information from the Environmental Protection Agency's (EPA's) RACT/BACT/LAER Clearinghouse (RBLC), TCEQ Current BACT Spreadsheet (June 2019), TCEQ Gas Turbine list (February 2022), on-going permitting in Texas and other states, and the TCEQ's continuing review of emissions control developments. The applicant fulfilled these requirements.

Source Name	EPN	Best Available Control Technology Description
Simple-Cycle Combustion Turbine Generators	E-SCT7 through E-SCT14	NO_x: Dry low NOx (DLN) combustors will limit NO_x emissions to 9.0 ppmvd corrected to 15 % O_2 on a rolling three-hour average. The RBLC search returned 50 projects for which natural gas-fired simple-cycle units were permitted between 2012 and 2021, with reported NO_x emission limit. CO: Good combustion practices, and DLNs will limit CO to a level of 25.0 ppmvd on a rolling 3-hour average corrected to 15% O_2. The proposed controls and emission limits are consistent with the expectations for control of CO for natural gas-fired combined cycle turbines and the result of the RBLC search returned reported CO emission limit; therefore, BACT is satisfied. VOC: Good combustion practices, DLNs, and an oxidation catalyst will limit VOC emissions to 2.0 ppmvd for both natural gas and diesel corrected to 15% O_2 on rolling three-hour average. The proposed controls and emission limits represent BACT. PM/PM_{10}/PM $_{2.5}$: PM/PM_{10}/$PM_{2.5}$ is emitted from combustion processes due to the presence of ash and other inorganic constituents contained in the fuel, particulate matter in the inlet air, and incomplete combustion of the organic constituents in the fuel. PM/PM_{10}/$PM_{2.5}$ emissions is due to incomplete combustion and are anticipated to be relatively low. A search of the RBLC and TCEQ Gas Turbine List shows that no add-on controls are required for natural gas-fired combustion turbines to control PM/PM_{10}/$PM_{2.5}$. Therefore, the use of good combustion practices to minimize emissions of particulate matter and the use of natural gas is BACT for PM/PM_{10}/$PM_{2.5}$. Sulfur Compound: Emissions of SO_2 occurs as a result of oxidation of sulfur in the natural gas-fired in the combustion turbines, with the majority of the sulfur converted to SO_2. A portion of the SO_2 will be further converted to H_2SO_4, with a conversion contribution due to the

Source Name	EPN	Best Available Control Technology Description
		action of the SCR. The formation of SO2 and H_2SO_4 will be minimized by using pipeline-quality natural gas with a sulfur content not exceeding 1.0 grains sulfur per 100 standard cubic feet on an hourly/annual basis. Therefore, the proposed fuel and sulfur limits represented are BACT for SO_2 and H_2SO_4. Greenhouses Gases (GHG): Simple cycle units serve a different purpose that the combined cycle turbine and their ability to quickly ramp up and down make them ideal for "peaking", quick ramping for use during periods with the highest electricity demand. Wolf Hollow proposing a limit per turbine of 1,482 lb CO_2e/MWh and an operational limitation of 13,076,000MMBtu/yr (all turbines combined) firing on natural gas firing. A search of the RBLC and the TCEQ Gas Turbine List for facilities permitted since January 2012 to 2021 show that the CO_2 emission limits ranged from 1,276 to 1,707 lb/MWh. The proposed emission limit and operational limitation represents BACT. Maintenance, Startup, and Shutdown (MSS): Operation of the combustion turbines will result in emissions from startup and shutdown. The combustion turbines will be started up and shut down in a manner that minimizes the emissions during these events. The duration of each startup and shutdown is limited to 60 minutes. BACT will be achieved by minimizing the duration of the startup and shutdown events (consistent with market demands), engaging the pollution control equipment as soon as practicable (based on vendor recommendations and guarantees), and meeting the emissions limitations on the MAERT.
Turbine lube oil vent	ST-SCTLOV7 through ST-SCTLOV14	VOC: The heating of recirculating lubrication oil in the gas turbine generates oil vapor and oil condensate droplets in the oil reservoir compartments. The venting of turbine lubrication oil is a minor source of VOC and PM/PM_{10}/$PM_{2.5}$ emissions, represented as <0.01 lb/hr and 0.01 tpy for VOC and <0.01 lb/hr and 0.01 tpy for PM/PM10/PM2.5. These emissions will be controlled with oil mist eliminators. PM/PM_{10}/$PM_{2.5}$ The TCEQ does not provide Tier 1 BACT guidelines lube oil vent emissions. There is no process code associated with lube oil vents that can be searched in the RBLC. However, a search by the permit reviewer for simple cycle energy projects in the RBLC and a review of other available permits identified a recently permitted facility with lube oil vent listed as a process source. These recent RBLC determinations identify mist eliminators as the control method. The proposed use of mist eliminators satisfies BACT.
Diesel-Fired Generator	E-GEN3, E-GEN4, E-GEN5	BACT will be achieved through firing diesel fuel containing no more than 15 parts per million sulfur by weight, proper operation, maintenance, and limiting annual operation to 100 hours per year for each engine. The requirement of NSPS Subpart IIII does not apply since the engines were constructed prior to 07/11/2005. However, the engines will meet the Tier 1 Exhaust Standard for Generator Sets, 40 CFR 1039, Appendix I, and have a non-resettable runtime meter.
Diesel Storage Tanks	E-DSLTK3, E-DSLTK4,	BACT for fixed roof storage tanks with a capacity less than 25,000 gallons or containing a material with a true vapor pressure less than 0.5 psia is met by using

Source Name	EPN	Best Available Control Technology Description
	E-DSLTK	submerged fill and uninsulated exterior surfaces exposed to the sun shall be white or aluminum. The diesel tanks have a max storage capacity of 1,900 gallons and will be storing ultra-low sulfur diesel (0.01 psia).
Fugitives	E-NGFUG-P3	Includes VOC which originate from the natural gas fuel lines. The uncontrolled VOC emissions are less than 10 tons per year and due to the negligible amount of GHG emissions from process fugitives, the only available control, implementation of a Leak Detection and Repair Program (LDAR), is not cost effective and would result in no significant reduction in overall project GHG emissions. Periodic audio/visual/olfactory inspections will be performed for natural gas. Any leaks will be repaired when detected. Therefore, BACT is satisfied.
MSS Fugitives	E-TRBMSSP3	Emissions associated with result from routine maintenance activities undertaken to ensure the proper operability of equipment. Good work practices and limiting the frequency and duration of maintenance activities represents BACT.
SF_6 Electrical Equipment	E-SF6FUG	The use of circuit breakers with totally enclosed insulation systems equipped with a low-pressure alarm/lockout is BACT.

Permits Incorporation – The are no Permit by Rule (PBR) / Standard Permit / Permit to be incorporated.

Impacts Evaluation

Was modeling conducted? **Yes** Type of Modeling: **AERMOD**

Is the site within 3,000 feet of any school? **No**

Additional site/land use information:

The applicant provided an air quality analysis, which was audited by the TCEQ ADMT. The air quality analysis is acceptable for all review types and pollutants. More detailed information regarding the air quality analysis may be found in the ADMT modelling memo, ADMT Project No. 9320, dated July 23, 2024. The modeling results are summarized below.

De Minimis Analysis

A De Minimis analysis was initially conducted to determine if a full impacts analysis would be required. The De Minimis analysis modeling results indicate that 1-hr NO_2 and 24-hr and annual $PM_{2.5}$ (NAAQS [National Ambient Air Quality Standards] and Increment) exceed the respective de minimis concentrations and require a full impacts analysis. The De Minimis analysis modeling results for annual NO_2, 1-hr and 8-hr CO and 24-hr and annual PM_{10} indicate that the project is below the respective de minimis concentrations and no further analysis is required.

The justification for selecting EPA's interim 1-hr NO_2 De Minimis level is based on the assumptions underlying EPA's development of the 1-hr NO_2 De Minimis level. As explained in EPA guidance memoranda[1], EPA believes it is reasonable as an interim approach to use a De Minimis level that represents 4% of the 1-hr NO_2 NAAQS.

The $PM_{2.5}$ and ozone De Minimis levels are EPA recommended De Minimis levels. The use of EPA recommended De Minimis levels is sufficient to conclude that a proposed source will not cause or contribute to a violation of an ozone and $PM_{2.5}$ NAAQS or $PM_{2.5}$ Prevention of Significant Deterioration (PSD) increments based on the analyses documented in EPA guidance and policy memoranda[2].

While the De Minimis levels for both the NAAQS and increment are identical for $PM_{2.5}$ in the table below, the procedures to determine significance (that is, predicted concentrations to compare to the De Minimis levels) are different. This

1 www.tceq.texas.gov/assets/public/permitting/air/memos/guidance_1hr_no2naaqs.pdf

2 www.tceq.texas.gov/permitting/air/modeling/epa-mod-guidance.html

difference occurs because the NAAQS for $PM_{2.5}$ are statistically-based, but the corresponding increments are exceedance-based.

Modeling Results for PSD De Minimis Analysis in Micrograms Per Cubic Meter (µg/m³)

Pollutant	Averaging Time	GLCmax[3] (µg/m³)	De Minimis (µg/m³)
PM_{10}	24-hr	1.83	5
PM_{10}	Annual	0.36	1
$PM_{2.5}$ (NAAQS)	24-hr	1.35	1.2
$PM_{2.5}$ (NAAQS)	Annual	0.34	0.13
$PM_{2.5}$ (Increment)	24-hr	1.83	1.2
$PM_{2.5}$ (Increment)	Annual	0.36	0.13
NO_2	1-hr	35	7.5
NO_2	Annual	0.58	1
CO	1-hr	181	2000
CO	8-hr	19	500

The 24-hr and annual $PM_{2.5}$ (NAAQS) and 1-hr NO_2 GLCmax are based on the highest five-year averages of the maximum predicted concentrations determined for each receptor. The GLCmax for all other pollutants and averaging times represent the maximum predicted concentrations over five years of meteorological data.

EPA intermittent guidance was relied on for the 1-hr NO_2 PSD De Minimis and NAAQS analyses. Refer to the Modeling Emissions Inventory section for details.

To evaluate secondary $PM_{2.5}$ impacts, the applicant provided an analysis based on a Tier 1 demonstration approach consistent with EPA's Guideline on Air Quality Models (GAQM). Specifically, the applicant used a Tier 1 demonstration tool developed by EPA referred to as Modeled Emission Rates for Precursors (MERPs). The basic idea behind the MERPs is to use technically credible air quality modeling to relate precursor emissions and peak secondary pollutants impacts from a source. Using data associated with the 500 tpy Parker County source, the applicant estimated 24-hr and annual secondary $PM_{2.5}$ concentrations of 0.25 µg/m³ and 0.005 µg/m³, respectively. Since the combined direct and secondary 24-hr and annual $PM_{2.5}$ impacts are above the De minimis levels, a full impacts analysis is required.

Modeling Results for Ozone PSD De Minimis Analysis in Parts per Billion (ppb)

Pollutant	Averaging Time	GLCmax (ppb)	De Minimis (ppb)
O_3	8-hr	0.989	1

3 Ground level maximum concentration

The applicant performed an O_3 analysis as part of the PSD AQA. The applicant evaluated project emissions of O_3 precursor emissions (NO_X and VOC). For the project NO_X and VOC emissions, the applicant provided an analysis based on a Tier 1 demonstration approach consistent with EPA's GAQM. Specifically, the applicant used a Tier 1 demonstration tool developed by the EPA referred to as MERPs. Using data associated with the 500 tpy Parker County source, the applicant estimated an 8-hr O_3 concentration of 0.989 ppb. When the estimates of ozone concentrations from the project emissions are added together, the results are less than the De Minimis level.

Air Quality Monitoring
The De Minimis analysis modeling results indicate that 24-hr PM_{10}, annual NO_2, and 8-hr CO are below their respective monitoring significance level.

Modeling Results for PSD Monitoring Significance Levels

Pollutant	Averaging Time	GLCmax (µg/m^3)	Significance (µg/m^3)
PM_{10}	24-hr	1.83	10
NO_2	Annual	0.58	14
CO	8-hr	19	575

The GLCmax represent the maximum predicted concentrations over five years of meteorological data.

The applicant evaluated ambient $PM_{2.5}$ monitoring data to satisfy the requirements for the pre-application air quality analysis.

Background concentrations for $PM_{2.5}$ were obtained from the EPA AIRS monitor 481390016 located at 2725 Old Fort Worth Rd., Midlothian, Ellis County. The three-year average (2019-2021) of the 98th percentile of the annual distribution of the 24-hr concentrations was used for the 24-hr value (17.51 ug/m^3). The three-year average (2019-2021) of the annual concentrations was used for the annual value (7.78 ug/m^3). The use of this monitor is reasonable based on a comparison of county-wide emissions, population, and a quantitative review of emissions sources in the surrounding area of the monitor site relative to the project site. Please note that the selected monitor was discontinued April 2022. Although the data relied on is older, the applicant noted that data from this representative monitoring station located within the same airshed offers background concentrations estimates that are more representative to the site location than selecting alternative data from a monitor outside the airshed or state. These background concentrations were also used as part of the NAAQS analysis.

Since the project has a net emissions increase of 100 tpy or more of VOC or NO_X, the applicant evaluated ambient O_3 monitoring data to satisfy the requirements for the pre-application air quality analysis.

Background concentrations for ozone were obtained from EPA AIRS monitor 482210001 located at 200 N Gordon St., Granbury, Hood County. The applicant used the three-year average (2021-2023) of the annual fourth highest daily maximum 8-hr concentrations in the analysis (76 ppb). This monitor is reasonable based on the applicant's quantitative review of emissions sources in the surrounding area of the monitor site relative to the project site and proximity of the monitor to the project site (approximately 12.5 kilometers (km) northwest). The proposed project is located in an attainment area for ozone and is required to obtain a PSD permit[4]. The PSD permitting program requires that proposed new major stationary sources and major modifications must demonstrate that the emissions from the proposed source or modification will not cause or contribute to a violation of any NAAQS[5]. The predicted concentrations in Table 2 demonstrate the proposed project would not cause or contribute to a violation of the NAAQS.

4 October 26, 2015 *Federal Register* (80 FR 65292)
5 40 Code of Federal Regulations (CFR) 52.21(k)

National Ambient Air Quality Standard (NAAQS) Analysis
The De Minimis analysis modeling results indicate that 24-hr and annual $PM_{2.5}$ and 1-hr NO_2 exceed the respective de minimis concentration and require a full impacts analysis. The full NAAQS modeling results indicate the total predicted concentrations will not result in an exceedance of the NAAQS.

Total Concentrations for PSD NAAQS (Concentrations > De Minimis)

Pollutant	Averaging Time	GLCmax ($\mu g/m^3$)	Background ($\mu g/m^3$)	Total Conc. = [Background + GLCmax] ($\mu g/m^3$)	Standard ($\mu g/m^3$)
$PM_{2.5}$	24-hr	4.03	17.51	21.54	35
$PM_{2.5}$	Annual	0.66	7.78	8.44	9
NO_2	1-hr	164.33	See background discussion below	164.33	188

The 24-hr $PM_{2.5}$ GLCmax is the highest five-year average of the 98th percentile of the annual distribution of predicted 24-hr concentrations determined for each receptor. The annual $PM_{2.5}$ GLCmax is the maximum five-year average of the annual concentrations determined for each receptor. The 1-hr NO_2 GLCmax is the highest five-year average of the 98th percentile of the annual distribution of predicted daily maximum 1-hr concentrations determined for each receptor.

Background concentrations for NO_2 were obtained from the EPA AIRS monitor 483491051 at Corsicana Airport, Corsicana, Navarro County. For the 1-hr NO_2 NAAQS analysis, the applicant conducted the evaluation by combining NO_2 background concentrations with the predicted concentrations on a seasonal-hour of day basis for each modeled receptor. The applicant followed EPA guidance when developing seasonal-hour of day background concentrations. The seasonal-hour of day background concentrations were based on the three-year average (2020-2022) of the 98th percentile of the annual distribution of the maximum daily 1-hr concentrations for each season and hour of day. These background values were then used in the model (as background scalars) to be combined with model predictions giving a total predicted concentration. Monitoring data for 2023 are available but less than 50% complete for the second quarter and could not be validated since it does not meet the EPA's requirement for completeness to use the substitution test; however, ADMT reviewed the available monitoring data and verified that the background concentrations used are comparable to the recent data and relying on complete data is reasonable. The use of this monitor is reasonable based on a comparison of county-wide emissions, population, and a quantitative review of emissions sources in the surrounding area of the monitor site relative to the project site.

As stated above, to evaluate secondary $PM_{2.5}$ impacts, the applicant provided an analysis based on a Tier 1 demonstration approach consistent with EPA's GAQM. Specifically, the applicant used a Tier 1 demonstration tool developed by EPA referred to as MERPs. Using data associated with the 500 tpy Parker County source, the applicant estimated 24-hr and annual secondary $PM_{2.5}$ concentrations of 0.25 $\mu g/m^3$ and 0.005 $\mu g/m^3$, respectively. When these estimates are added to the GLCmax listed in Table 4 above, the results are less than the NAAQS.

Increment Analysis
The De Minimis analysis modeling results indicate that 24-hr and annual $PM_{2.5}$ exceed the respective de minimis concentrations and require a PSD increment analysis.

Results for PSD Increment Analysis

Pollutant	Averaging Time	GLCmax (µg/m^3)	Increment (µg/m^3)
$PM_{2.5}$	24-hr	6.63	9
$PM_{2.5}$	Annual	0.71	4

The GLCmax for 24-hr $PM_{2.5}$ is the maximum high, second high (H2H) predicted concentration across five years of meteorological data. For annual $PM_{2.5}$, the GLCmax represents the maximum predicted concentration over five years of meteorological data.

The GLCmax for 24-hr and annual $PM_{2.5}$ reported in the table above represent the total predicted concentrations associated with modeling the direct $PM_{2.5}$ emissions and the contributions associated with secondary $PM_{2.5}$ formation (discussed above in the NAAQS Analysis section).

Additional Impacts Analysis
The applicant performed an Additional Impacts Analysis as part of the PSD AQA. The applicant conducted a growth analysis and determined that population will not significantly increase as a result of the proposed project. The applicant conducted a soils and vegetation analysis and determined that all evaluated criteria pollutant concentrations are below their respective secondary NAAQS. The applicant meets the Class II visibility analysis requirement by complying with the opacity requirements of 30 Texas Administrative Code Chapter 111. The Additional Impacts Analyses are reasonable and possible adverse impacts from this project are not expected.

The ADMT evaluated predicted concentrations from the proposed project to determine if emissions could adversely affect a Class I area. The nearest Class I area, Wichita Mountains Wildlife Refuge, is located approximately 277 km from the proposed site.

The H_2SO_4 24-hr maximum predicted concentration of 0.04 µg/m^3 occurred within the noncontiguous property to the north of Mitchel Bend Highway (approximately 365 meters to the north of the project boundary). The H_2SO_4 24-hr maximum predicted concentration occurring at the edge of the receptor grid, 30 km from the proposed sources, in the direction of the Wichita Mountains Wildlife Refuge Class I area is 0.004 µg/m^3. The Wichita Mountains Wildlife Refuge Class I area is an additional 247 km from the edge of the receptor grid. Therefore, emissions of H_2SO_4 from the proposed project are not expected to adversely affect the Wichita Mountains Wildlife Refuge Class I area.

The predicted concentrations of 24-hr and annual PM_{10}, 24-hr and annual $PM_{2.5}$, annual NO_2, and 1-hr and 3-hr SO_2 are all less than de minimis levels at a distance of one km from the proposed sources in the direction the Wichita Mountains Wildlife Refuge Class I area. The predicted concentrations of 1-hr NO_2 are greater than de minimis levels at a distance of 50 km from the proposed sources to the west of the project site; however, this will not adversely affect the Class I area since the concentrations decrease with distance, and the Class I area is an additional 227 km to the north. In addition, the NO_2 1-hr maximum predicted concentration occurring at the edge of the receptor grid, 50 km from the proposed sources, in the direction of the Wichita Mountains Wildlife Refuge Class I area is 3.39 µg/m^3, which is de minimis. As noted, the Wichita Mountains Wildlife Refuge Class I area is an additional 227 km from the edge of the receptor grid. Therefore, emissions from the proposed project are not expected to adversely affect the Wichita Mountains Wildlife Refuge Class I area.

Minor Source NSR and Air Toxics Analysis
Project-Related Modeling Results for State Property Line

Pollutant	Averaging Time	GLCmax (µg/m^3)	De Minimis (µg/m^3)
SO_2	1-hr	1.87	20.42

Pollutant	Averaging Time	GLCmax (µg/m^3)	De Minimis (µg/m^3)
H_2SO_4	1-hr	0.23	1
H_2SO_4	24-hr	0.04	0.3

Modeling Results for Minor NSR De Minimis

Pollutant	Averaging Time	GLCmax (µg/m^3)	De Minimis (µg/m^3)
SO_2	1-hr	1.87	7.8
SO_2	3-hr	1.06	25

The GLCmax are the maximum predicted concentrations associated with one year of meteorological data.

EPA intermittent guidance was relied on for the 1-hr SO_2 De Minimis analysis. Refer to the Modeling Emissions Inventory section for details.

The justification for selecting EPA's interim 1-hr SO_2 De Minimis level was based on the assumptions underlying EPA's development of the 1-hr SO_2 De Minimis level. As explained in EPA guidance memoranda[6] , EPA believes it is reasonable as an interim approach to use a De Minimis level that represents 4% of the 1-hr SO_2 NAAQS.

Minor NSR Project (Increases Only) Modeling Results for Health Effects

Pollutant & CAS#[7]	Averaging Time	GLCmax (µg/m^3)	10% ESL[8] (µg/m^3)
formaldehyde 50-00-0	1-hr	0.73	1.5
n-hexane 110-54-3	1-hr	0.23	560
n-hexane 110-54-3	Annual	<0.01	20

Minor NSR Site-Wide Modeling Results for Health Effects

Pollutant	CAS#	Averaging Time	GLCmax (µg/m^3)	GLCmax Location	ESL (µg/m^3)
fuel oil No. 2	68476-30-2	1-hr	557	W Property Line	1000

MERA Summary
The applicant provided a health effects review as specified in the TCEQ's Modelling and Effects Review Applicability (MERA) guidance (APDG 5874 dated March 2018) for project emission increases of non-criteria pollutants. The project emissions of non-criteria pollutants listed below satisfy the MERA and are protective of human health and the environment.

6 www.epa.gov/sites/production/files/2015-07/documents/appwso2.pdf

7 Chemical Abstract Service Number
8 Effects Screening Level

Health Effects Review - Minor NSR Project-Related Results

Pollutant & CAS#	Averaging Time	GLC_{max} ($\mu g/m^3$)	ESL ($\mu g/m^3$)	Modelling and Effects Review Applicability (MERA) Step in Which Pollutant Screened Out
Propane 74-98-6	1-hr	N/A	N/A	Step 0 – simple asphyxiate
	Annual	N/A	N/A	
Propylene 115-07-1	1-hr	N/A	N/A	Step 0 – simple asphyxiate
	Annual	N/A	N/A	
n-Butane 106-97-8	1-hr	N/A	66,000	Step 2 – long-term ESL ≥ 10% of short-term ESL, short-term ESL is greater than 3,500 $\mu g/m^3$ and production emissions increase ≤ 0.4 lb/hr
	Annual	N/A	7100	Step 0 – long-term ESL ≥ 10% of short-term ESL
n-Pentane 109-66-0	1-hr	N/A	59,000	Step 2 – long-term ESL ≥ 10% of short-term ESL, short-term ESL is greater than 3,500 $\mu g/m^3$ and production emissions increase ≤ 0.4 lb/hr
	Annual	N/A	7100	Step 0 – long-term ESL ≥ 10% of short-term ESL
n-hexane 110-54-3	1-hr	0.23	5600	Step 3 – GLCmax < 10% ESL
	Annual	<0.01	200	
Formaldehyde 50-00-0	1-hr	0.73	15	Step 3 – GLCmax < 10% ESL
	Annual	N/A	3.3	Step 0 - Long-term ESL ≥ 10% of short-term ESL
Fuel oil No. 2 68476-30-2	1-hr	556.53	1000	Step 7 – Sitewide modeling deemed acceptable by ADMT
	Annual	0.06	100	

Thus, the applicant has demonstrated that the proposed project's emissions will not adversely affect public health and welfare, which includes NAAQS, additional impacts, minor new source review of regulated pollutants without a NAAQS, and air toxics review. The proposed increases in health effects pollutants will not cause or contribute to any federal or state exceedances. Therefore, emissions from the facility are not expected to have an adverse impact on public health or the environment.

DRAFT

Project Reviewer	Date	Section Manager	Date
Jason La		Kristyn Campbell	

Preliminary Determination Summary
Wolf Hollow II Power LLC
Permit Numbers 175173, PSDTX1636, GHGPSDTX238

I. Applicant

Wolf Hollow II Power LLC
8787 Wolf Hollow Court
Granbury, Texas 76048

II. Project Location

Wolf Hollow II
8787 Wolf Hollow Court
Hood County
Granbury, Texas 76048

III. Project Description

Wolf Hollow II Power LLC owns and operates the Wolf Hollow II electric generating facility. The site currently consists of two combined cycle natural gas-fired combustion turbine generators (CTGs), an auxiliary boiler, a dew point heater, emergency equipment, and fugitives authorized by Permit No. 83638.

Wolf Hollow is seeking authorization to expand the existing Wolf Hollow II Power Plant and will be referred to as Wolf Hollow III (WHIII). The WHIII power project will consist of eight simple cycle CTGs, three emergency generators, turbine lube oil vents, three diesel storage tanks, and fugitives.

Combustion Turbine Generator

Each CTG is a General Electric 6E that will be fired with natural gas. The new units will be capable of generating approximately 44 MW each and are designed for peaking service, including daily startup and shutdown (SUSD) and extended periods of operation or non- operation.

Diesel Emergency Generators

Three diesel-fired emergency generators will be installed to provide electricity to essential service users during emergencies. Each emergency will have its own storage tank.

Natural Gas Piping Fugitives

Natural gas will be delivered to the site via pipeline and then metered and piped to the combustion turbine. The piping and fittings associated with the pipeline will be sources of fugitive emissions.

Maintenance, Startup and Shutdown (MSS)

Planned MSS emissions are being authorized in this project. This will result in separate emission rates for MSS in the table entitled "Emission Sources - Maximum Allowable Emission Rates," (MAERT). The startup and shutdown will have separate short term (hourly) limits and the annual emissions are not expected to exceed the normal operations annual emissions and are included in the annual emissions limits in the MAERT. The durations of startups and shutdowns are included in the Special Conditions of the permit.

Maintenance Activities are identified in Attachment A and are quantified on the MAERT as Emission Point Number (EPN): E-TRBMSSP3.

IV. Emissions

Emission sources for the proposed project consists of the CTG, lube oil vents, emergency diesel generator, fire foam suppression diesel pump, and equipment fugitives.

Air Contaminant	Proposed Allowable Emission Rates (tpy)
NO_x	251.49
CO	395.33
VOC	12.30
PM	56.18
PM_{10}	56.18
$PM_{2.5}$	56.18
SO_2	4.01
H_2SO_4	0.49
CH_2O	4.75
N_2O	1.47
CH_4	23.28
SF_6	<0.01
CO_2	795,579.38
CO_{2e}[1]	796,623.70
CO_{2e}[2]	796,645.54

Note: SF_6, NO_2, CH_4, and CO_2 emission rates are for informational purposes only and does not constitute an enforceable limit. Carbon dioxide equivalents (CO_{2e}) based on the following Global Warming Potentials (GWP): [1] found in Table A-1 of Subpart A 40 CFR Part 98 (78 FR 71904) for each pollutant: CO_2 (1), N_2O (298), CH_4 (25), SF_6 (22,800) and effective prior to 01/2025. [2] found in Table A-1 of Subpart A 40 CFR Part 98 (89 FR 31894) for each pollutant: CO_2 (1), N_2O (265), CH_4 (28), SF_6 (23,500) and effective on or after 01/2025.

V. Federal Applicability

Plant III is in Hood County which is classified as attainment. The site is an existing major source with respect to the Prevention of Significant Deterioration (PSD) Program.

This is a project is a new source at an existing site, there are no changes in the contemporaneous period, and a baseline of zero was used for all pollutants. The new project will have the potential to emit emissions greater than the major modification significance level for the pollutants identified below. This is new source, and the baseline is zero. A minor NSR review was performed for all pollutants not triggering a federal review.

The following tables illustrate the annual project emissions for each pollutant and whether this pollutant triggers PSD review. These totals include MSS emissions.

Table 1. PSD Major Modification Trigger

Pollutant	Project Increase (tpy)	PSD Netting Trigger (tpy)	Netting Required (Y/N)	Net Emission Change (tpy)	PSD Major Mod Trigger	PSD Review Triggered (Y/N)
NO_x	251.49	40	Y	N/A	40	Y
CO	395.33	100	Y	N/A	100	Y
VOC	12.30	40	N	N/A	40	N
PM	56.18	25	Y	N/A	25	Y
PM_{10}	56.18	15	Y	N/A	15	Y
$PM_{2.5}$	56.18	10	Y	N/A	10	Y
SO_2	4.01	40	N	N/A	40	N
H_2SO_4	0.49	7	N	N/A	7	N

Table 2. GHG PSD Major Modification Trigger

Pollutant	Project Increase (tpy)	GHG Netting Trigger (tpy)	Netting Required (Y/N)	Net Emission Change (tpy)	GHG Major Mod Trigger	GHG Review Triggered (Y/N)
GHG, CO_{2e}[1]	796,623.70	75,000	Y	NA	75,000	Y
GHG, CO_{2e}[2]	796,645.54	75,000	Y	N/A	75,000	Y

Carbon dioxide equivalents (CO_{2e}) based on the following Global Warming Potentials (GWP): [1] found in Table A-1 of Subpart A 40 CFR Part 98 (78 FR 71904) for each pollutant: CO_2 (1), N_2O (298), CH_4 (25), SF_6 (22,800) and effective prior to 01/2025. [2] found in Table A-1 of Subpart A 40 CFR Part 98 (89 FR 31894) for each pollutant: CO_2 (1), N_2O (265), CH_4 (28), SF_6 (23,500) and effective on or after 01/2025.

VI. Control Technology Review

BACT for the proposed project is summarized in the table below for each emitting source and the pollutants that triggered PSD review, which are NOx, CO, PM/PM_{10}/$PM_{2.5}$, and GHGs as CO2e. State minor BACT was also evaluated for the other pollutants that did not trigger PSD review and is also summarized in the table below. The applicant submitted RACT/BACT/LAER Clearinghouse (RBLC) database search summaries for the pollutants that triggered PSD review (NOx, CO, PM/PM_{10}/$PM_{2.5}$, and GHGs as CO2e), and these RBLC search summary results are included in the table below. The EPA has agreed to accept the TCEQ three-tier BACT approach as equivalent to the EPA top-down BACT approach for PSD review when the following are considered: recently issued/approved permits within the state of Texas; recently issued/approved permits in other states; and control technologies contained within the EPA's RBLC. BACT determinations are based upon an evaluation of information from the Environmental Protection Agency's (EPA's) RACT/BACT/LAER Clearinghouse (RBLC), TCEQ Current BACT Spreadsheet (June 2019), TCEQ Gas Turbine list (February 2022), on-going permitting in Texas and other

states, and the TCEQ's continuing review of emissions control developments. The applicant fulfilled these requirements.

Source	EPN	BACT
Simple Cycle Turbine	E-SCT7 through E-SCT14	NO_x: Dry low NOx (DLN) combustors will limit NO_x emissions to 9.0 ppmvd corrected to 15 % O_2 on a rolling three-hour average. The RBLC search returned 50 projects for which natural gas-fired simple-cycle units were permitted between 2012 and 2021, with reported NO_x emission limit. CO: Good combustion practices, and DLNs will limit CO to a level of 25.0 ppmvd on a rolling 3-hour average corrected to 15% O_2. The proposed controls and emission limits are consistent with the expectations for control of CO for natural gas-fired combined cycle turbines and the result of the RBLC search returned reported CO emission limit; therefore, BACT is satisfied. VOC: Good combustion practices, DLNs, and an oxidation catalyst will limit VOC emissions to 2.0 ppmvd for both natural gas and diesel corrected to 15% O_2 on rolling three-hour average. The proposed controls and emission limits represent BACT. PM/PM_{10}/$PM_{2.5}$: PM/PM_{10}/$PM_{2.5}$ is emitted from combustion processes due to the presence of ash and other inorganic constituents contained in the fuel, particulate matter in the inlet air, and incomplete combustion of the organic constituents in the fuel. PM/PM_{10}/$PM_{2.5}$ emissions is due to incomplete combustion and are anticipated to be relatively low. A search of the RBLC and TCEQ Gas Turbine List shows that no add-on controls are required for natural gas-fired combustion turbines to control PM/PM_{10}/$PM_{2.5}$. Therefore, the use of good combustion practices to minimize emissions of particulate matter and the use of natural gas is BACT for PM/PM_{10}/$PM_{2.5}$. Sulfur Compound: Emissions of SO_2 occurs as a result of oxidation of sulfur in the natural gas-fired in the combustion turbines, with the majority of the sulfur converted to SO_2. A portion of the SO_2 will be further converted to H_2SO_4, with a conversion contribution due to the action of the SCR. The formation of SO2 and H_2SO_4 will be minimized by using pipeline-quality natural gas with a sulfur content not exceeding 1.0 grains sulfur per 100 standard cubic feet on an hourly/annual basis. Therefore, the proposed fuel and sulfur limits represented are BACT for SO_2 and H_2SO_4. Greenhouses Gases (GHG): Simple cycle units serve a different purpose that the combined cycle turbine and their ability to quickly ramp up and down make them ideal for "peaking", quick ramping for use during periods with the highest electricity demand. Wolf Hollow proposing a limit per turbine of 1,482 lb CO_2e/MWh and an

Source	EPN	BACT
		operational limitation of 13,076,000MMBtu/yr (all turbines combined) firing on natural gas firing. A search of the RBLC and the TCEQ Gas Turbine List for facilities permitted since January 2012 to 2021 show that the CO_2 emission limits ranged from 1,276 to 1,707 lb/MWh. The proposed emission limit and operational limitation represents BACT. Maintenance, Startup, and Shutdown (MSS): Operation of the combustion turbines will result in emissions from startup and shutdown. The combustion turbines will be started up and shut down in a manner that minimizes the emissions during these events. The duration of each startup and shutdown is limited to 60 minutes. BACT will be achieved by minimizing the duration of the startup and shutdown events (consistent with market demands), engaging the pollution control equipment as soon as practicable (based on vendor recommendations and guarantees), and meeting the emissions limitations on the MAERT.
Turbine lube oil vent	ST-SCTLOV7 through ST-SCTLOV14	VOC: The heating of recirculating lubrication oil in the gas turbine generates oil vapor and oil condensate droplets in the oil reservoir compartments. The venting of turbine lubrication oil is a minor source of VOC and PM/PM_{10}/$PM_{2.5}$ emissions, represented as <0.01 lb/hr and 0.01 tpy for VOC and <0.01 lb/hr and 0.01 tpy for PM/PM10/PM2.5. These emissions will be controlled with oil mist eliminators. PM/PM_{10}/$PM_{2.5}$ The TCEQ does not provide Tier 1 BACT guidelines lube oil vent emissions. There is no process code associated with lube oil vents that can be searched in the RBLC. However, a search by the permit reviewer for simple cycle energy projects in the RBLC and a review of other available permits identified a recently permitted facility with lube oil vent listed as a process source. These recent RBLC determinations identify mist eliminators as the control method. The proposed use of mist eliminators satisfies BACT.
Diesel-Fired Generator	EGEN3, EGEN4, EGEN5	BACT will be achieved through firing diesel fuel containing no more than 15 parts per million sulfur by weight, proper operation, maintenance, and limiting annual operation to 100 hours per year for each engine. The requirement of NSPS Subpart IIII does not apply since the engines were constructed prior to 07/11/2005. However, the engines will meet the Tier 1 Exhaust Standard for Generator Sets, 40 CFR 1039, Appendix I, and have a non-resettable runtime meter.
Diesel Storage Tanks	E-DSLTK3, E-DSLTK4, E-DSLTK5	BACT for fixed roof storage tanks with a capacity less than 25,000 gallons or containing a material with a true vapor pressure less than 0.5 psia is met by using submerged fill and uninsulated exterior surfaces exposed to the sun shall be white or aluminum. The diesel tanks have a max storage capacity of 1,900 gallons and will be storing ultra-low sulfur diesel (0.01 psia).
Fugitives	E-NGFUG-P3	Includes VOC which originate from the natural gas fuel lines. The uncontrolled VOC emissions are less than 10 tons per year and due to the negligible amount of GHG emissions from

Source	EPN	BACT
		process fugitives, the only available control, implementation of a Leak Detection and Repair Program (LDAR), is not cost effective and would result in no significant reduction in overall project GHG emissions. Periodic audio/visual/olfactory inspections will be performed for natural gas. Any leaks will be repaired when detected. Therefore, BACT is satisfied.
MSS Fugitives	E-TRBMSSP3	Emissions associated with result from routine maintenance activities undertaken to ensure the proper operability of equipment. Good work practices and limiting the frequency and duration of maintenance activities represents BACT.
SF6 Electrical Equipment	E-SF6FUG	The use of circuit breakers with totally enclosed insulation systems equipped with a low-pressure alarm/lockout is BACT.

VII. Air Quality Analysis

The air quality analysis (AQA) is acceptable for all review types and pollutants. The results are summarized below.

A. De Minimis Analysis

A De Minimis analysis was initially conducted to determine if a full impacts analysis would be required. The De Minimis analysis modeling results indicate that 1-hr NO_2 and 24-hr and annual $PM_{2.5}$ (NAAQS [National Ambient Air Quality Standards] and Increment) exceed the respective de minimis concentrations and require a full impacts analysis. The De Minimis analysis modeling results for annual NO_2, 1-hr and 8-hr CO and 24-hr and annual PM_{10} indicate that the project is below the respective de minimis concentrations and no further analysis is required.

The justification for selecting EPA's interim 1-hr NO_2 De Minimis level is based on the assumptions underlying EPA's development of the 1-hr NO_2 De Minimis level. As explained in EPA guidance memoranda[1], EPA believes it is reasonable as an interim approach to use a De Minimis level that represents 4% of the 1-hr NO_2 NAAQS.

The $PM_{2.5}$ and ozone De Minimis levels are EPA recommended De Minimis levels. The use of EPA recommended De Minimis levels is sufficient to conclude that a proposed source will not cause or contribute to a violation of an ozone and $PM_{2.5}$ NAAQS or $PM_{2.5}$ Prevention of Significant Deterioration (PSD) increments based on the analyses documented in EPA guidance and policy memoranda[2].

While the De Minimis levels for both the NAAQS and increment are identical for $PM_{2.5}$ in the table below, the procedures to determine significance (that is, predicted concentrations to compare to the De Minimis levels) are different. This difference occurs because the NAAQS for $PM_{2.5}$ are statistically-based, but the corresponding increments are exceedance-based.

Table 1. Modeling Results for PSD De Minimis Analysis in Micrograms Per Cubic Meter (µg/m³)

Pollutant	Averaging Time	GLCmax[3] (µg/m³)	De Minimis (µg/m³)
PM_{10}	24-hr	1.83	5

[1] www.tceq.texas.gov/assets/public/permitting/air/memos/guidance_1hr_no2naaqs.pdf
[2] www.tceq.texas.gov/permitting/air/modeling/epa-mod-guidance.html
[3] Ground level maximum concentration

Pollutant	Averaging Time	GLCmax[3] (µg/m^3)	De Minimis (µg/m^3)
PM_{10}	Annual	0.36	1
$PM_{2.5}$ (NAAQS)	24-hr	1.35	1.2
$PM_{2.5}$ (NAAQS)	Annual	0.34	0.13
$PM_{2.5}$ (Increment)	24-hr	1.83	1.2
$PM_{2.5}$ (Increment)	Annual	0.36	0.13
NO_2	1-hr	35	7.5
NO_2	Annual	0.58	1
CO	1-hr	181	2000
CO	8-hr	19	500

The 24-hr and annual $PM_{2.5}$ (NAAQS) and 1-hr NO_2 GLCmax are based on the highest five-year averages of the maximum predicted concentrations determined for each receptor. The GLCmax for all other pollutants and averaging times represent the maximum predicted concentrations over five years of meteorological data.

EPA intermittent guidance was relied on for the 1-hr NO_2 PSD De Minimis and NAAQS analyses. Refer to the Modeling Emissions Inventory section for details.

To evaluate secondary $PM_{2.5}$ impacts, the applicant provided an analysis based on a Tier 1 demonstration approach consistent with EPA's Guideline on Air Quality Models (GAQM). Specifically, the applicant used a Tier 1 demonstration tool developed by EPA referred to as Modeled Emission Rates for Precursors (MERPs). The basic idea behind the MERPs is to use technically credible air quality modeling to relate precursor emissions and peak secondary pollutants impacts from a source. Using data associated with the 500 tpy Parker County source, the applicant estimated 24-hr and annual secondary $PM_{2.5}$ concentrations of 0.25 µg/m^3 and 0.005 µg/m^3, respectively. Since the combined direct and secondary 24-hr and annual $PM_{2.5}$ impacts are above the De minimis levels, a full impacts analysis is required.

Table 2. Modeling Results for Ozone PSD De Minimis Analysis in Parts per Billion (ppb)

Pollutant	Averaging Time	GLCmax (ppb)	De Minimis (ppb)
O_3	8-hr	0.989	1

The applicant performed an O_3 analysis as part of the PSD AQA. The applicant evaluated project emissions of O_3 precursor emissions (NO_X and VOC). For the project NO_X and VOC emissions, the applicant provided an analysis based on a Tier 1 demonstration approach consistent with EPA's GAQM. Specifically, the applicant used a Tier 1 demonstration tool developed by the EPA referred to as MERPs. Using data associated with the 500 tpy Parker County source, the applicant estimated an 8-hr O_3 concentration of 0.989 ppb. When the estimates of ozone concentrations from the project emissions are added together, the results are less than the De Minimis level.

B. Air Quality Monitoring

The De Minimis analysis modeling results indicate that 24-hr PM_{10}, annual NO_2, and 8-hr CO are below their respective monitoring significance level.

Table 3. Modeling Results for PSD Monitoring Significance Levels

Pollutant	Averaging Time	GLCmax (µg/m^3)	Significance (µg/m^3)
PM_{10}	24-hr	1.83	10
NO_2	Annual	0.58	14
CO	8-hr	19	575

The GLCmax represent the maximum predicted concentrations over five years of meteorological data.

The applicant evaluated ambient $PM_{2.5}$ monitoring data to satisfy the requirements for the pre-application air quality analysis.

Background concentrations for $PM_{2.5}$ were obtained from the EPA AIRS monitor 481390016 located at 2725 Old Fort Worth Rd., Midlothian, Ellis County. The three-year average (2019-2021) of the 98th percentile of the annual distribution of the 24-hr concentrations was used for the 24-hr value (17.51 ug/m^3). The three-year average (2019-2021) of the annual concentrations was used for the annual value (7.78 ug/m^3). The use of this monitor is reasonable based on a comparison of county-wide emissions, population, and a quantitative review of emissions sources in the surrounding area of the monitor site relative to the project site. Please note that the selected monitor was discontinued April 2022. Although the data relied on is older, the applicant noted that data from this representative monitoring station located within the same airshed offers background concentrations estimates that are more representative to the site location than selecting alternative data from a monitor outside the airshed or state. These background concentrations were also used as part of the NAAQS analysis.

Since the project has a net emissions increase of 100 tpy or more of VOC or NO_X, the applicant evaluated ambient O_3 monitoring data to satisfy the requirements for the pre-application air quality analysis.

Background concentrations for ozone were obtained from EPA AIRS monitor 482210001 located at 200 N Gordon St., Granbury, Hood County. The applicant used the three-year average (2021-2023) of the annual fourth highest daily maximum 8-hr concentrations in the analysis (76 ppb). This monitor is reasonable based on the applicant's quantitative review of emissions sources in the surrounding area of the monitor site relative to the project site and proximity of the monitor to the project site (approximately 12.5 kilometers (km) northwest). The proposed project is located in an attainment area for ozone and is required to obtain a PSD permit[4]. The PSD permitting program requires that proposed new major stationary sources and major modifications must demonstrate that the emissions from the proposed source or modification will not cause or contribute to a violation of any NAAQS[5]. The predicted concentrations in Table 2 demonstrate the proposed project would not cause or contribute to a violation of the NAAQS.

C. National Ambient Air Quality Standard (NAAQS) Analysis

[4] October 26, 2015 *Federal Register* (80 FR 65292)
[5] 40 Code of Federal Regulations (CFR) 52.21(k)

The De Minimis analysis modeling results indicate that 24-hr and annual $PM_{2.5}$ and 1-hr NO_2 exceed the respective de minimis concentration and require a full impacts analysis. The full NAAQS modeling results indicate the total predicted concentrations will not result in an exceedance of the NAAQS.

Table 4. Total Concentrations for PSD NAAQS (Concentrations > De Minimis)

Pollutant	Averaging Time	GLCmax (µg/m^3)	Background (µg/m^3)	Total Conc. = [Background + GLCmax] (µg/m^3)	Standard (µg/m^3)
$PM_{2.5}$	24-hr	4.03	17.51	21.54	35
$PM_{2.5}$	Annual	0.66	7.78	8.44	9
NO_2	1-hr	164.33	See background discussion below	164.33	188

The 24-hr $PM_{2.5}$ GLCmax is the highest five-year average of the 98th percentile of the annual distribution of predicted 24-hr concentrations determined for each receptor. The annual $PM_{2.5}$ GLCmax is the maximum five-year average of the annual concentrations determined for each receptor. The 1-hr NO_2 GLCmax is the highest five-year average of the 98th percentile of the annual distribution of predicted daily maximum 1-hr concentrations determined for each receptor.

Background concentrations for NO_2 were obtained from the EPA AIRS monitor 483491051 at Corsicana Airport, Corsicana, Navarro County. For the 1-hr NO_2 NAAQS analysis, the applicant conducted the evaluation by combining NO_2 background concentrations with the predicted concentrations on a seasonal-hour of day basis for each modeled receptor. The applicant followed EPA guidance when developing seasonal-hour of day background concentrations. The seasonal-hour of day background concentrations were based on the three-year average (2020-2022) of the 98th percentile of the annual distribution of the maximum daily 1-hr concentrations for each season and hour of day. These background values were then used in the model (as background scalars) to be combined with model predictions giving a total predicted concentration. Monitoring data for 2023 are available but less than 50% complete for the second quarter and could not be validated since it does not meet the EPA's requirement for completeness to use the substitution test; however, ADMT reviewed the available monitoring data and verified that the background concentrations used are comparable to the recent data and relying on complete data is reasonable. The use of this monitor is reasonable based on a comparison of county-wide emissions, population, and a quantitative review of emissions sources in the surrounding area of the monitor site relative to the project site.

As stated above, to evaluate secondary $PM_{2.5}$ impacts, the applicant provided an analysis based on a Tier 1 demonstration approach consistent with EPA's GAQM. Specifically, the applicant used a Tier 1 demonstration tool developed by EPA referred to as MERPs. Using data associated with the 500 tpy Parker County source, the applicant estimated 24-hr and annual secondary $PM_{2.5}$ concentrations of 0.25 µg/m^3 and 0.005 µg/m^3, respectively. When these estimates are added to the GLCmax listed in Table 4 above, the results are less than the NAAQS.

D. Increment Analysis

The De Minimis analysis modeling results indicate that 24-hr and annual $PM_{2.5}$ exceed the respective de minimis concentrations and require a PSD increment analysis.

Table 5. Results for PSD Increment Analysis

Pollutant	Averaging Time	GLCmax (µg/m^3)	Increment (µg/m^3)
$PM_{2.5}$	24-hr	6.63	9
$PM_{2.5}$	Annual	0.71	4

The GLCmax for 24-hr $PM_{2.5}$ is the maximum high, second high (H2H) predicted concentration across five years of meteorological data. For annual $PM_{2.5}$, the GLCmax represents the maximum predicted concentration over five years of meteorological data.

The GLCmax for 24-hr and annual $PM_{2.5}$ reported in the table above represent the total predicted concentrations associated with modeling the direct $PM_{2.5}$ emissions and the contributions associated with secondary $PM_{2.5}$ formation (discussed above in the NAAQS Analysis section).

E. Additional Impacts Analysis

The applicant performed an Additional Impacts Analysis as part of the PSD AQA. The applicant conducted a growth analysis and determined that population will not significantly increase as a result of the proposed project. The applicant conducted a soils and vegetation analysis and determined that all evaluated criteria pollutant concentrations are below their respective secondary NAAQS. The applicant meets the Class II visibility analysis requirement by complying with the opacity requirements of 30 Texas Administrative Code Chapter 111. The Additional Impacts Analyses are reasonable and possible adverse impacts from this project are not expected.

The ADMT evaluated predicted concentrations from the proposed project to determine if emissions could adversely affect a Class I area. The nearest Class I area, Wichita Mountains Wildlife Refuge, is located approximately 277 km from the proposed site.

The H_2SO_4 24-hr maximum predicted concentration of 0.04 µg/m^3 occurred within the noncontiguous property to the north of Mitchel Bend Highway (approximately 365 meters to the north of the project boundary). The H_2SO_4 24-hr maximum predicted concentration occurring at the edge of the receptor grid, 30 km from the proposed sources, in the direction of the Wichita Mountains Wildlife Refuge Class I area is 0.004 µg/m^3. The Wichita Mountains Wildlife Refuge Class I area is an additional 247 km from the edge of the receptor grid. Therefore, emissions of H_2SO_4 from the proposed project are not expected to adversely affect the Wichita Mountains Wildlife Refuge Class I area.

The predicted concentrations of 24-hr and annual PM_{10}, 24-hr and annual $PM_{2.5}$, annual NO_2, and 1-hr and 3-hr SO_2 are all less than de minimis levels at a distance of one km from the proposed sources in the direction the Wichita Mountains Wildlife Refuge Class I area. The predicted concentrations of 1-hr NO_2 are greater than de minimis levels at a distance of 50 km from the proposed sources to the west of the project site; however, this will not adversely affect the Class I area since the concentrations decrease with distance, and the Class I area is an additional 227 km to the north. In addition, the NO_2 1-hr maximum predicted concentration occurring at the edge of the receptor grid, 50 km from the proposed sources, in the direction of the Wichita Mountains Wildlife Refuge Class I area is 3.39 µg/m^3, which is de minimis. As noted, the Wichita Mountains Wildlife Refuge Class I area is an additional 227 km from the edge of the receptor grid. Therefore, emissions from the proposed project are not expected to adversely affect the Wichita Mountains Wildlife Refuge Class I area.

F. Minor Source NSR and Air Toxics Analysis

Table 6. Project-Related Modeling Results for State Property Line

Pollutant	Averaging Time	GLCmax (µg/m^3)	De Minimis (µg/m^3)
SO_2	1-hr	1.87	20.42
H_2SO_4	1-hr	0.23	1
H_2SO_4	24-hr	0.04	0.3

Table 7. Modeling Results for Minor NSR De Minimis

Pollutant	Averaging Time	GLCmax (µg/m^3)	De Minimis (µg/m^3)
SO_2	1-hr	1.87	7.8
SO_2	3-hr	1.06	25

The GLCmax are the maximum predicted concentrations associated with one year of meteorological data.

EPA intermittent guidance was relied on for the 1-hr SO_2 De Minimis analysis. Refer to the Modeling Emissions Inventory section for details.

The justification for selecting EPA's interim 1-hr SO_2 De Minimis level was based on the assumptions underlying EPA's development of the 1-hr SO_2 De Minimis level. As explained in EPA guidance memoranda[6] , EPA believes it is reasonable as an interim approach to use a De Minimis level that represents 4% of the 1-hr SO_2 NAAQS.

Table 8. Generic Modeling Results

Source ID	1-hr GLCmax (µg/m^3 per lb/hr)	Annual GLCmax (µg/m^3 per lb/hr)
SCT07100	0.16	0.004
SCT08100	0.16	0.004
SCT09100	0.16	0.004
SCT10100	0.16	0.004
SCT11100	0.16	0.004
SCT12100	0.17	0.004
SCT13100	0.17	0.004
SCT14100	0.17	0.004
SCT07075	0.20	0.005
SCT08075	0.20	0.005

[6] www.epa.gov/sites/production/files/2015-07/documents/appwso2.pdf

Source ID	1-hr GLCmax (µg/m^3 per lb/hr)	Annual GLCmax (µg/m^3 per lb/hr)
SCT09075	0.20	0.005
SCT10075	0.20	0.005
SCT11075	0.20	0.005
SCT12075	0.20	0.005
SCT13075	0.20	0.005
SCT14075	0.20	0.005
SCT07050	0.23	0.006
SCT08050	0.23	0.006
SCT09050	0.23	0.006
SCT10050	0.23	0.006
SCT11050	0.23	0.006
SCT12050	0.23	0.006
SCT13050	0.23	0.006
SCT14050	0.23	0.006
E_GEN3	19.21	0.24
E_GEN4	21.43	0.24
E_GEN5	20.09	0.23
E_NGFUG3	2667	20.14
MSS_FVNT	5336.84	37.11

Table 9. Minor NSR Project (Increases Only) Modeling Results for Health Effects

Pollutant & CAS#[7]	Averaging Time	GLCmax (µg/m^3)	10% ESL[8] (µg/m^3)
formaldehyde 50-00-0	1-hr	0.73	1.5
n-hexane 110-54-3	1-hr	0.23	560

[7] Chemical Abstract Service Number
[8] Effects Screening Level

Pollutant & CAS#[7]	Averaging Time	GLCmax (µg/m^3)	10% ESL[8] (µg/m^3)
n-hexane 110-54-3	Annual	<0.01	20

Table 10. Minor NSR Site-Wide Modeling Results for Health Effects

Pollutant	CAS#	Averaging Time	GLCmax (µg/m^3)	GLCmax Location	ESL (µg/m^3)
fuel oil No. 2	68476-30-2	1-hr	557	W Property Line	1000

The GLCmax location is listed in Table 10 above.

MERA Summary
The applicant provided a health effects review as specified in the TCEQ's Modelling and Effects Review Applicability (MERA) guidance (APDG 5874 dated March 2018) for project emission increases of non-criteria pollutants. The project emissions of non-criteria pollutants listed below satisfy the MERA and are protective of human health and the environment.

Health Effects Review - Minor NSR Project-Related Results

Pollutant & CAS#	Averaging Time	GLC$_{max}$ (µg/m^3)	ESL (µg/m^3)	Modelling and Effects Review Applicability (MERA) Step in Which Pollutant Screened Out
Propane 74-98-6	1-hr	N/A	N/A	Step 0 – simple asphyxiate
	Annual	N/A	N/A	
Propylene 115-07-1	1-hr	N/A	N/A	Step 0 – simple asphyxiate
	Annual	N/A	N/A	
n-Butane 106-97-8	1-hr	N/A	66,000	Step 2 – long-term ESL ≥ 10% of short-term ESL, short-term ESL is greater than 3,500 µg/m^3 and production emissions increase ≤ 0.4 lb/hr
	Annual	N/A	7100	Step 0 – long-term ESL ≥ 10% of short-term ESL
n-Pentane 109-66-0	1-hr	N/A	59,000	Step 2 – long-term ESL ≥ 10% of short-term ESL, short-term ESL is greater than 3,500 µg/m^3 and production emissions increase ≤ 0.4 lb/hr
	Annual	N/A	7100	Step 0 – long-term ESL ≥ 10% of short-term ESL
n-hexane 110-54-3	1-hr	0.23	5600	Step 3 – GLCmax < 10% ESL
	Annual	<0.00	200	
Formaldehyde 50-00-0	1-hr	0.73	15	Step 3 – GLCmax < 10% ESL
	Annual	N/A	3.3	Step 0 - Long-term ESL ≥ 10% of short-term ESL
Fuel oil No. 2 68476-30-2	1-hr	556.53	1000	Step 7 – Sitewide modeling deemed acceptable by ADMT
	Annual	0.06	100	

A. Greenhouse Gases

EPA has stated that unlike the criteria pollutants for which EPA has historically issued PSD permits, there is no National Ambient Air Quality Standard (NAAQS) for GHGs, including no PSD increment. The global climate-change inducing effects of GHG emissions, according to the "Endangerment and Cause or Contribute Finding", are far-reaching and multi-dimensional (75 FR 66497). Climate change modeling and evaluations of risks and impacts are typically conducted for changes in emissions that are orders of magnitude larger than the emissions from individual projects that might be analyzed in PSD permit reviews. Quantifying the exact impacts attributable to a specific GHG source obtaining a permit in specific places and points would not be possible [EPA's PSD and Title V Permitting Guidance for GHGs at 48]. Thus, EPA has concluded in other GHG PSD permitting actions it would not be meaningful to evaluate impacts of GHG emissions on a local community in the context of a single permit.

The TCEQ has determined that an air quality analysis would provide no meaningful data and has not required the applicant to perform one. As stated in the preamble to TCEQ's adoption of the GHG PSD program, the impacts review for individual air contaminants will continue to be addressed, as applicable, in the state's traditional minor and major NSR permits program per 30 TAC Chapter 116.

VIII. Conclusion

Wolf Hollow has demonstrated that this project meets all applicable rules, regulations and requirements of the Texas and Federal Clean Air Acts. The proposed facilities and controls represent BACT. The modeling analysis indicates that the proposed project will not violate the NAAQS, cause an exceedance of the increment, or have any adverse impacts on soils, vegetation, or Class I Areas. In addition, the modeling predicted no exceedance of ESLs at all receptors for non-criteria contaminants evaluated.

The Executive Director of the TCEQ proposes a preliminary determination of issuance of this permit for Wolf Hollow to construct the electric power generating facilities and the associated support facilities, as proposed.

TCEQ Interoffice Memorandum

To: Jason La
Energy Section

Thru: Chad Dumas, Team Leader
Air Dispersion Modeling Team (ADMT)

From: Matthew Kovar
ADMT

Date: July 23, 2024

Subject: Second Air Quality Analysis Audit - Wolf Hollow II Power, LLC (RN108779729)

1. Project Identification Information

Permit Application Number: 175173
New Source Review (NSR) Project Number: 369521
ADMT Project Number: 9320
County: Hood

Air Quality Analysis: Submitted by POWER Engineers, Inc., July 2024, on behalf of Wolf Hollow II Power, LLC.

This is the second modeling audit for this NSR project number, and the second audit is conducted due to the inclusion of additional fugitive sources in the modeling. This memo represents a complete summary and supersedes the previous audit memo dated May 30, 2024 (WebCenter Content ID 7097591).

2. Report Summary

The air quality analysis (AQA) is acceptable for all review types and pollutants. The results are summarized below.

A. De Minimis Analysis

A De Minimis analysis was initially conducted to determine if a full impacts analysis would be required. The De Minimis analysis modeling results indicate that 1-hr NO_2 and 24-hr and annual $PM_{2.5}$ (NAAQS [National Ambient Air Quality Standards] and Increment) exceed the respective de minimis concentrations and require a full impacts analysis. The De Minimis analysis modeling results for annual NO_2, 1-hr and 8-hr CO and 24-hr and annual PM_{10} indicate that the project is below the respective de minimis concentrations and no further analysis is required.

The justification for selecting EPA's interim 1-hr NO_2 De Minimis level is based on the assumptions underlying EPA's development of the 1-hr NO_2 De Minimis level. As explained in EPA guidance memoranda[1], EPA believes it is reasonable as an interim approach to use a De Minimis level that represents 4% of the 1-hr NO_2 NAAQS.

[1] www.tceq.texas.gov/assets/public/permitting/air/memos/guidance_1hr_no2naaqs.pdf

The $PM_{2.5}$ and ozone De Minimis levels are EPA recommended De Minimis levels. The use of EPA recommended De Minimis levels is sufficient to conclude that a proposed source will not cause or contribute to a violation of an ozone and $PM_{2.5}$ NAAQS or $PM_{2.5}$ Prevention of Significant Deterioration (PSD) increments based on the analyses documented in EPA guidance and policy memoranda[2].

While the De Minimis levels for both the NAAQS and increment are identical for $PM_{2.5}$ in the table below, the procedures to determine significance (that is, predicted concentrations to compare to the De Minimis levels) are different. This difference occurs because the NAAQS for $PM_{2.5}$ are statistically-based, but the corresponding increments are exceedance-based.

Table 1. Modeling Results for PSD De Minimis Analysis in Micrograms Per Cubic Meter (µg/m³)

Pollutant	Averaging Time	GLCmax[3] (µg/m³)	De Minimis (µg/m³)
PM_{10}	24-hr	1.83	5
PM_{10}	Annual	0.36	1
$PM_{2.5}$ (NAAQS)	24-hr	1.35	1.2
$PM_{2.5}$ (NAAQS)	Annual	0.34	0.13
$PM_{2.5}$ (Increment)	24-hr	1.83	1.2
$PM_{2.5}$ (Increment)	Annual	0.36	0.13
NO_2	1-hr	35	7.5
NO_2	Annual	0.58	1
CO	1-hr	181	2000
CO	8-hr	19	500

The 24-hr and annual $PM_{2.5}$ (NAAQS) and 1-hr NO_2 GLCmax are based on the highest five-year averages of the maximum predicted concentrations determined for each receptor. The GLCmax for all other pollutants and averaging times represent the maximum predicted concentrations over five years of meteorological data.

EPA intermittent guidance was relied on for the 1-hr NO_2 PSD De Minimis and NAAQS analyses. Refer to the Modeling Emissions Inventory section for details.

[2] www.tceq.texas.gov/permitting/air/modeling/epa-mod-guidance.html
[3] Ground level maximum concentration

To evaluate secondary $PM_{2.5}$ impacts, the applicant provided an analysis based on a Tier 1 demonstration approach consistent with EPA's Guideline on Air Quality Models (GAQM). Specifically, the applicant used a Tier 1 demonstration tool developed by EPA referred to as Modeled Emission Rates for Precursors (MERPs). The basic idea behind the MERPs is to use technically credible air quality modeling to relate precursor emissions and peak secondary pollutants impacts from a source. Using data associated with the 500 tpy Parker County source, the applicant estimated 24-hr and annual secondary $PM_{2.5}$ concentrations of 0.25 $\mu g/m^3$ and 0.005 $\mu g/m^3$, respectively. Since the combined direct and secondary 24-hr and annual $PM_{2.5}$ impacts are above the De minimis levels, a full impacts analysis is required.

Table 2. Modeling Results for Ozone PSD De Minimis Analysis in Parts per Billion (ppb)

Pollutant	Averaging Time	GLCmax (ppb)	De Minimis (ppb)
O_3	8-hr	0.989	1

The applicant performed an O_3 analysis as part of the PSD AQA. The applicant evaluated project emissions of O_3 precursor emissions (NO_X and VOC). For the project NO_X and VOC emissions, the applicant provided an analysis based on a Tier 1 demonstration approach consistent with EPA's GAQM. Specifically, the applicant used a Tier 1 demonstration tool developed by the EPA referred to as MERPs. Using data associated with the 500 tpy Parker County source, the applicant estimated an 8-hr O_3 concentration of 0.989 ppb. When the estimates of ozone concentrations from the project emissions are added together, the results are less than the De Minimis level.

B. Air Quality Monitoring

The De Minimis analysis modeling results indicate that 24-hr PM_{10}, annual NO_2, and 8-hr CO are below their respective monitoring significance level.

Table 3. Modeling Results for PSD Monitoring Significance Levels

Pollutant	Averaging Time	GLCmax ($\mu g/m^3$)	Significance ($\mu g/m^3$)
PM_{10}	24-hr	1.83	10
NO_2	Annual	0.58	14
CO	8-hr	19	575

The GLCmax represent the maximum predicted concentrations over five years of meteorological data.

The applicant evaluated ambient $PM_{2.5}$ monitoring data to satisfy the requirements for the pre-application air quality analysis.

Background concentrations for $PM_{2.5}$ were obtained from the EPA AIRS monitor 481390016 located at 2725 Old Fort Worth Rd., Midlothian, Ellis County. The three-year average (2019-2021) of the 98th percentile of the annual distribution of the 24-hr concentrations was used for the 24-hr value (17.51 ug/m^3). The three-year average (2019-2021) of the annual concentrations was used for the annual value (7.78 ug/m^3). The use of this monitor is reasonable based on a comparison of county-wide emissions, population, and a quantitative review of emissions sources in the surrounding area of the monitor site relative to the project site. Please note that the selected monitor was discontinued April 2022. Although the data relied on is older, the applicant noted that data from this representative monitoring station located within the same airshed offers background concentrations estimates that are more representative to the site location than selecting alternative data from a monitor outside the airshed or state. These background concentrations were also used as part of the NAAQS analysis.

Since the project has a net emissions increase of 100 tpy or more of VOC or NO_X, the applicant evaluated ambient O_3 monitoring data to satisfy the requirements for the pre-application air quality analysis.

Background concentrations for ozone were obtained from EPA AIRS monitor 482210001 located at 200 N Gordon St., Granbury, Hood County. The applicant used the three-year average (2021-2023) of the annual fourth highest daily maximum 8-hr concentrations in the analysis (76 ppb). This monitor is reasonable based on the applicant's quantitative review of emissions sources in the surrounding area of the monitor site relative to the project site and proximity of the monitor to the project site (approximately 12.5 kilometers (km) northwest). The proposed project is located in an attainment area for ozone and is required to obtain a PSD permit[4]. The PSD permitting program requires that proposed new major stationary sources and major modifications must demonstrate that the emissions from the proposed source or modification will not cause or contribute to a violation of any NAAQS[5]. The predicted concentrations in Table 2 demonstrate the proposed project would not cause or contribute to a violation of the NAAQS.

C. National Ambient Air Quality Standard (NAAQS) Analysis

The De Minimis analysis modeling results indicate that 24-hr and annual $PM_{2.5}$ and 1-hr NO_2 exceed the respective de minimis concentration and require a full impacts analysis. The full NAAQS modeling results indicate the total predicted concentrations will not result in an exceedance of the NAAQS.

Table 4. Total Concentrations for PSD NAAQS (Concentrations > De Minimis)

Pollutant	Averaging Time	GLCmax (µg/m^3)	Background (µg/m^3)	Total Conc. = [Background + GLCmax] (µg/m^3)	Standard (µg/m^3)
$PM_{2.5}$	24-hr	4.03	17.51	21.54	35

[4] October 26, 2015 *Federal Register* (80 FR 65292)
[5] 40 Code of Federal Regulations (CFR) 52.21(k)

Pollutant	Averaging Time	GLCmax (µg/m^3)	Background (µg/m^3)	Total Conc. = [Background + GLCmax] (µg/m^3)	Standard (µg/m^3)
$PM_{2.5}$	Annual	0.66	7.78	8.44	9
NO_2	1-hr	164.33	See background discussion below	164.33	188

The 24-hr $PM_{2.5}$ GLCmax is the highest five-year average of the 98th percentile of the annual distribution of predicted 24-hr concentrations determined for each receptor. The annual $PM_{2.5}$ GLCmax is the maximum five-year average of the annual concentrations determined for each receptor. The 1-hr NO_2 GLCmax is the highest five-year average of the 98th percentile of the annual distribution of predicted daily maximum 1-hr concentrations determined for each receptor.

Background concentrations for NO_2 were obtained from the EPA AIRS monitor 483491051 at Corsicana Airport, Corsicana, Navarro County. For the 1-hr NO_2 NAAQS analysis, the applicant conducted the evaluation by combining NO_2 background concentrations with the predicted concentrations on a seasonal-hour of day basis for each modeled receptor. The applicant followed EPA guidance when developing seasonal-hour of day background concentrations. The seasonal-hour of day background concentrations were based on the three-year average (2020-2022) of the 98th percentile of the annual distribution of the maximum daily 1-hr concentrations for each season and hour of day. These background values were then used in the model (as background scalars) to be combined with model predictions giving a total predicted concentration. Monitoring data for 2023 are available but less than 50% complete for the second quarter and could not be validated since it does not meet the EPA's requirement for completeness to use the substitution test; however, ADMT reviewed the available monitoring data and verified that the background concentrations used are comparable to the recent data and relying on complete data is reasonable. The use of this monitor is reasonable based on a comparison of county-wide emissions, population, and a quantitative review of emissions sources in the surrounding area of the monitor site relative to the project site.

As stated above, to evaluate secondary $PM_{2.5}$ impacts, the applicant provided an analysis based on a Tier 1 demonstration approach consistent with EPA's GAQM. Specifically, the applicant used a Tier 1 demonstration tool developed by EPA referred to as MERPs. Using data associated with the 500 tpy Parker County source, the applicant estimated 24-hr and annual secondary $PM_{2.5}$ concentrations of 0.25 µg/m^3 and 0.005 µg/m^3, respectively. When these estimates are added to the GLCmax listed in Table 4 above, the results are less than the NAAQS.

D. Increment Analysis

The De Minimis analysis modeling results indicate that 24-hr and annual $PM_{2.5}$ exceed the respective de minimis concentrations and require a PSD increment analysis.

Table 5. Results for PSD Increment Analysis

Pollutant	Averaging Time	GLCmax (µg/m^3)	Increment (µg/m^3)
$PM_{2.5}$	24-hr	6.63	9
$PM_{2.5}$	Annual	0.71	4

The GLCmax for 24-hr $PM_{2.5}$ is the maximum high, second high (H2H) predicted concentration across five years of meteorological data. For annual $PM_{2.5}$, the GLCmax represents the maximum predicted concentration over five years of meteorological data.

The GLCmax for 24-hr and annual $PM_{2.5}$ reported in the table above represent the total predicted concentrations associated with modeling the direct $PM_{2.5}$ emissions and the contributions associated with secondary $PM_{2.5}$ formation (discussed above in the NAAQS Analysis section).

E. Additional Impacts Analysis

The applicant performed an Additional Impacts Analysis as part of the PSD AQA. The applicant conducted a growth analysis and determined that population will not significantly increase as a result of the proposed project. The applicant conducted a soils and vegetation analysis and determined that all evaluated criteria pollutant concentrations are below their respective secondary NAAQS. The applicant meets the Class II visibility analysis requirement by complying with the opacity requirements of 30 Texas Administrative Code Chapter 111. The Additional Impacts Analyses are reasonable and possible adverse impacts from this project are not expected.

The ADMT evaluated predicted concentrations from the proposed project to determine if emissions could adversely affect a Class I area. The nearest Class I area, Wichita Mountains Wildlife Refuge, is located approximately 277 km from the proposed site.

The H_2SO_4 24-hr maximum predicted concentration of 0.04 µg/m^3 occurred within the noncontiguous property to the north of Mitchel Bend Highway (approximately 365 meters to the north of the project boundary). The H_2SO_4 24-hr maximum predicted concentration occurring at the edge of the receptor grid, 30 km from the proposed sources, in the direction of the Wichita Mountains Wildlife Refuge Class I area is 0.004 µg/m^3. The Wichita Mountains Wildlife Refuge Class I area is an additional 247 km from the edge of the receptor grid. Therefore, emissions of H_2SO_4 from the proposed project are not expected to adversely affect the Wichita Mountains Wildlife Refuge Class I area.

The predicted concentrations of 24-hr and annual PM_{10}, 24-hr and annual $PM_{2.5}$, annual NO_2, and 1-hr and 3-hr SO_2 are all less than de minimis levels at a distance of one km from the proposed sources in the direction the Wichita Mountains

Wildlife Refuge Class I area. The predicted concentrations of 1-hr NO_2 are greater than de minimis levels at a distance of 50 km from the proposed sources to the west of the project site; however, this will not adversely affect the Class I area since the concentrations decrease with distance, and the Class I area is an additional 227 km to the north. In addition, the NO_2 1-hr maximum predicted concentration occurring at the edge of the receptor grid, 50 km from the proposed sources, in the direction of the Wichita Mountains Wildlife Refuge Class I area is 3.39 µg/m^3, which is de minimis. As noted, the Wichita Mountains Wildlife Refuge Class I area is an additional 227 km from the edge of the receptor grid. Therefore, emissions from the proposed project are not expected to adversely affect the Wichita Mountains Wildlife Refuge Class I area.

F. Minor Source NSR and Air Toxics Analysis

Table 6. Project-Related Modeling Results for State Property Line

Pollutant	Averaging Time	GLCmax (µg/m^3)	De Minimis (µg/m^3)
SO_2	1-hr	1.87	20.42
H_2SO_4	1-hr	0.23	1
H_2SO_4	24-hr	0.04	0.3

Table 7. Modeling Results for Minor NSR De Minimis

Pollutant	Averaging Time	GLCmax (µg/m^3)	De Minimis (µg/m^3)
SO_2	1-hr	1.87	7.8
SO_2	3-hr	1.06	25

The GLCmax are the maximum predicted concentrations associated with one year of meteorological data.

EPA intermittent guidance was relied on for the 1-hr SO_2 De Minimis analysis. Refer to the Modeling Emissions Inventory section for details.

The justification for selecting EPA's interim 1-hr SO_2 De Minimis level was based on the assumptions underlying EPA's development of the 1-hr SO_2 De Minimis level. As explained in EPA guidance memoranda[6] , EPA believes it is reasonable as an interim approach to use a De Minimis level that represents 4% of the 1-hr SO_2 NAAQS.

[6] www.epa.gov/sites/production/files/2015-07/documents/appwso2.pdf

Table 8. Generic Modeling Results

Source ID	1-hr GLCmax (µg/m^3 per lb/hr)	Annual GLCmax (µg/m^3 per lb/hr)
SCT07100	0.16	0.004
SCT08100	0.16	0.004
SCT09100	0.16	0.004
SCT10100	0.16	0.004
SCT11100	0.16	0.004
SCT12100	0.17	0.004
SCT13100	0.17	0.004
SCT14100	0.17	0.004
SCT07075	0.20	0.005
SCT08075	0.20	0.005
SCT09075	0.20	0.005
SCT10075	0.20	0.005
SCT11075	0.20	0.005
SCT12075	0.20	0.005
SCT13075	0.20	0.005
SCT14075	0.20	0.005
SCT07050	0.23	0.006
SCT08050	0.23	0.006
SCT09050	0.23	0.006
SCT10050	0.23	0.006
SCT11050	0.23	0.006
SCT12050	0.23	0.006
SCT13050	0.23	0.006

Source ID	1-hr GLCmax (µg/m^3 per lb/hr)	Annual GLCmax (µg/m^3 per lb/hr)
SCT14050	0.23	0.006
E_GEN3	19.21	0.24
E_GEN4	21.43	0.24
E_GEN5	20.09	0.23
E_NGFUG3	2667	20.14
MSS_FVNT	5336.84	37.11

Table 9. Minor NSR Project (Increases Only) Modeling Results for Health Effects

Pollutant & CAS#[7]	Averaging Time	GLCmax (µg/m^3)	10% ESL[8] (µg/m^3)
formaldehyde 50-00-0	1-hr	0.73	1.5
n-hexane 110-54-3	1-hr	0.23	560
n-hexane 110-54-3	Annual	<0.01	20

Table 10. Minor NSR Site-Wide Modeling Results for Health Effects

Pollutant	CAS#	Averaging Time	GLCmax (µg/m^3)	GLCmax Location	ESL (µg/m^3)
fuel oil No. 2	68476-30-2	1-hr	557	W Property Line	1000

The GLCmax location is listed in Table 10 above.

[7] Chemical Abstract Service Number
[8] Effects Screening Level

3. Model Used and Modeling Techniques

AERMOD (Version 23132) was used in a refined screening mode.

The proposed project consists of eight natural gas-fired simple cycle combustion turbines. Three scenarios were evaluated for the eight proposed turbines. The first scenario represents normal operations with Maintenance, Startup, and Shutdown (MSS) operations occurring simultaneously, the second scenario represents testing operations with MSS operations occurring simultaneously, and the third scenario represents startup/shutdown operations with MSS operations occurring simultaneously. Within each scenario for short-term analyses, source groups were used to evaluate the various load operations and associated parameters of the eight new turbines and two existing turbines to determine the worst- case scenario as applicable. The source groups are as follows:

- N100100 represents the eight proposed turbines in normal operations at 100% load and the two existing turbines in normal operations at 100% load plus all other applicable sources.
- N100075 represents the eight proposed turbines in normal operations at 100% load and the two existing turbines in normal operations at 75% load plus all other applicable sources.
- N100045 represents the eight proposed turbines in normal operations at 100% load and the two existing turbines in normal operations at 45% load plus all other applicable sources.
- N075100 represents the eight proposed turbines in normal operations at 75% load and the two existing turbines in normal operations at 100% load plus all other applicable sources.
- N075075 represents the eight proposed turbines in normal operations at 75% load and the two existing turbines in normal operations at 75% load plus all other applicable sources.
- N075045 represents the eight proposed turbines in normal operations at 75% load and the two existing turbines in normal operations at 45% load plus all other applicable sources.
- N050100 represents the eight proposed turbines in normal operations at 50% load and the two existing turbines in normal operations at 100% load plus all other applicable sources.
- N050075 represents the eight proposed turbines in normal operations at 50% load and the two existing turbines in normal operations at 75% load plus all other applicable sources.
- N050045 represents the eight proposed turbines in normal operations at 50% load and the two existing turbines in normal operations at 45% load plus all other applicable sources.

- T100100 represents the eight proposed turbines in normal operations at 100% load, the two existing turbines in normal operations at 100% load, and the testing of all emergency engines plus all other applicable sources.

- T100075 represents the eight proposed turbines in normal operations at 100% load, the two existing turbines in normal operations at 75% load, and the testing of all emergency engines plus all other applicable sources.

- T100045 represents the eight proposed turbines in normal operations at 100% load, the two existing turbines in normal operations at 45% load, and the testing of all emergency engines plus all other applicable sources.

- T075100 represents the eight proposed turbines in normal operations at 75% load, the two existing turbines in normal operations at 100% load, and the testing of all emergency engines plus all other applicable sources.

- T075075 represents the eight proposed turbines in normal operations at 75% load, the two existing turbines in normal operations at 75% load, and the testing of all emergency engines plus all other applicable sources.

- T075045 represents the eight proposed turbines in normal operations at 75% load, the two existing turbines in normal operations at 45% load, and the testing of all emergency engines plus all other applicable sources.

- T050100 represents the eight proposed turbines in normal operations at 50% load, the two existing turbines in normal operations at 100% load, and the testing of all emergency engines plus all other applicable sources.

- T050075 represents the eight proposed turbines in normal operations at 50% load, the two existing turbines in normal operations at 75% load, and the testing of all emergency engines plus all other applicable sources.

- T050045 represents the eight proposed turbines in normal operations at 50% load, the two existing turbines in normal operations at 45% load, and the testing of all emergency engines plus all other applicable sources.

- SU100 represents the eight proposed turbines in startup/shutdown operations and the two existing turbines in normal operations at 100% load plus all other applicable sources.

- SU075 represents the eight proposed turbines in startup/shutdown operations and the two existing turbines in normal operations at 75% load plus all other applicable sources.

- SU045 represents the eight proposed turbines in startup/shutdown operations and the two existing turbines in normal operations at 45% load plus all other applicable sources.

- N100SU represents the eight proposed turbines in normal operations at 100% load and the two existing turbines in startup/shutdown operations plus all other applicable sources.

- N075SU represents the eight proposed turbines in normal operations at 75% load and the two existing turbines in startup/shutdown operations plus all other applicable sources.
- N050SU represents the eight proposed turbines in normal operations at 50% load and the two existing turbines in startup/shutdown operations plus all other applicable sources.
- SUSU represents the eight proposed turbines in startup/shutdown operations and the two existing turbines in startup/shutdown operations plus all other applicable sources.

For the annual analyses, the turbine exhaust parameters were based on the 100% load operations while the emissions included all operational loads. The results presented above represent the results from the worst-case scenario.

For the health effects analysis, a unitized emission rate of 1 lb/hr was used to predict a generic short-term and long-term impact for each source. For the turbines, the worst-case load operation (50% load) was used in the subsequent calculations. The generic impact was multiplied by the proposed pollutant specific emission rates to calculate a maximum predicted concentration for each source. The maximum predicted concentration for each source was summed to get a total predicted concentration for each pollutant. The total predicted concentration was compared to 10 percent of the ESL (step 3 of the Modeling and Effects Review Applicability [MERA] guidance).

The applicant conducted the 1-hr and annual NO_2 De minimis analyses using the plume volume molar ratio method (PVMRM) model option to account for conversion of NO_X to NO_2. For all project sources except the emergency engines, the default NO_2/NO_X in-stack ratio of 0.5 was used. For the emergency engines, in-stack ratios of 1 were used to account for the intermittent nature of these sources. An in-stack ratio of 1 effectively turns off the PVMRM algorithms and utilizes the AERMOD algorithms for the specified sources. For the 1-hr NO_2 NAAQS analysis, the default NO_2/NO_X in-stack ratio of 0.5 was used all non-intermittent sources at the site and all non-intermittent off-property sources within 3 km. For all non-intermittent off-property sources beyond 3 km, the default NO_2/NO_X in-stack ratio of 0.2 was used. For all intermittent sources at the site and intermittent off-property sources, in-stack ratios of 1 were used to account for the intermittent nature of these sources. In addition, the default NO_X to NO_2 equilibrium ratio of 0.9 was used with the PVMRM model option.

The monitored ozone concentrations for the Tier 3 analysis were obtained from the EPA AIRS monitor 482210001 located at 200 N Gordon St., Granbury, Hood County. The use of this monitor with the PVMRM model option is reasonable based on the proximity of the monitor relative to the project site (approximately 12.5 km to the northwest of the project site). The seasonal-hourly ozone data were based on the highest daily 1-hr maximums per season for the years 2021-2023. The seasonal-hourly ozone data were pared in time with the modeled hours of meteorological data.

Since a company does not contribute to a condition of air pollution at receptors located within its own property, seven model runs and receptor group combinations were used in 1-hr NO_2 NAAQS analyses to determine source culpability. The first

model run was based on the turbines in normal operations and included all significant receptors except for receptors located over Wolf Hollow I Power LLC (RN100219195), and all sources were modeled. The second model run included only the significant receptors located on Wolf Hollow I Power LLC property, and all sources were modeled except the sources located on Wolf Hollow I Power LLC property. The third model run was based on turbines in startup/shutdown operations and included all significant receptors except for receptors located over Wolf Hollow I Power LLC (RN100219195), Diversified Production LLC (RN106818222), EOG Resources Inc (RN105373104), and Blackbeard Operating LLC (RN106817422), and all sources were modeled. The fourth model run included only the significant receptors located on Wolf Hollow I Power LLC property, and all sources were modeled except the sources located on Wolf Hollow I Power LLC property. The fifth model run included only the significant receptors located on Diversified Production LLC property, and all sources were modeled except the sources located on Diversified Production LLC property. The sixth model run included only the significant receptors located on EOG Resources Inc property, and all sources were modeled except the sources located on EOG Resources Inc property. The seventh model run included only the significant receptors located on Blackbeard Operating LLC property, and all sources were modeled except the sources located on Blackbeard Operating LLC property. The applicant reported the maximum predicted concentration from the seven model runs.

A. Land Use

Low roughness and elevated terrain were used in the modeling analysis. These selections are consistent with the AERSURFACE analysis, topographic map, digital elevation models, and aerial photography. The selection of low roughness is reasonable.

B. Meteorological Data

Surface Station and ID: Mineral Wells, TX (Station #: 93985)
Upper Air Station and ID: Fort Worth, TX (Station #: 3990)
Meteorological Dataset: 2017-2021 for all PSD analyses; 2020 for all other analyses
Profile Base Elevation: 296.3 meters

C. Receptor Grid

The grid modeled was sufficient in density and spatial coverage to capture representative maximum ground-level concentrations.

The receptor design was based on the property fence line instead of the property boundary for all analyses. This is conservative for the non-PSD analyses.

D. Building Wake Effects (Downwash)

Input data to Building Profile Input Program Prime (Version 04274) are consistent with the aerial photography, plot plan, and modeling report.

4. Modeling Emissions Inventory

The modeled emission point source parameters and rates were consistent with the modeling report. The source characterizations used to represent the sources were appropriate.

The modeled temperatures were inconsistent with the reported temperatures for off-property sources 468816, 575916, and FILE0073. These inconsistencies are unlikely to change the overall conclusions since these are off-property sources not near the GLCmax and the discrepancies are small.

The modeled velocities are inconsistent with the reported velocities for off-property sources 574886, FILE0106, and FILE0147. These inconsistencies are unlikely to change the overall conclusions since these are off-property sources not near the GLCmax and the discrepancies are small.

For the 1-hr SO_2 De Minimis and 1-hr NO_2 De Minimis and NAAQS analyses, emissions from the proposed emergency engines (Model IDs E_GEN3 thru E_GEN5) were modeled with an annual average emission rate, consistent with EPA guidance for evaluating intermittent emissions. Emissions from the proposed emergency engines were represented to occur for no more than 100 hours per year each.

For the 1-hr SO_2 state property line, 3-hr SO_2 De Minimis, 8-hr CO De Minimis, 24-hr PM_{10} De Minimis, 24-hr $PM_{2.5}$ De Minimis, NAAQS, and Increment analyses, emissions from the proposed emergency engines (Model IDs E_GEN3 thru E_GEN5) were based on average emission rates. The modeled emission rates were based on 30 minutes of operation in a 1-hr period, 3-hr period, 8-hr period, and 24-hr period, respectively.

For 8-hr CO De Minimis analysis, emissions from the proposed continuous emission monitoring system (CEMS) calibrations (Model ID MSS_CEMS) were based on 8-hr emission rates. The modeled emission rates were based on one hour of operation in an 8-hr period.

For the 1-hr NO_2 NAAQS analysis, emissions from the existing emergency engine and fire water pump (Model IDs E_GEN2 and E_PUMP2) were modeled with an annual average emission rate, consistent with EPA guidance for evaluating intermittent emissions. Emissions from the emergency engines were represented to occur for no more than 100 hours per year each.

For the 24-hr $PM_{2.5}$ NAAQS and Increment analyses, emissions from the existing emergency engine and fire water pump (Model IDs E_GEN2 and E_PUMP2) were based on 24-hr emission rates. The modeled emission rates were based on one hour of operation per day.

For the 24-hr PM_{10} De Minimis and 24-hr $PM_{2.5}$ De Minimis, NAAQS, and Increment analyses, emissions from the proposed MSS activities of online turbine washing and filter changing (Model IDs MSS_WASH and MSS_FILT) were based on 24-hr emission rates. The modeled emission rates for turbine washing were based on 30 minutes of operation per day, and the modeled emission rates for filter changing were based on 12 hours per day.

For the 24-hr $PM_{2.5}$ NAAQS and Increment analyses, emissions from the existing MSS activities of online turbine washing and filter changing (Model IDs MSSWASH4,

MSSWASH5, and MSSFILT) were based on 24-hr emission rates. The modeled emission rates for turbine washing were based on 30 minutes of operation per day, and the modeled emission rates for filter changing were based on 12 hours per day.

According to the applicant, modeling associated with SUSD operations (Model IDs SCT07SU1 thru SCT14SU1 and SCT07SU8 thru SCT14SU8) were conducted using the exhaust parameters corresponding to those expected during the startup operations and those corresponding to 100% load operations. The parameters for modeling the 1-hour averaging period were calculated assuming 15 minutes at the exhaust corresponding to startup operations and the remaining 45 minutes at the exhaust corresponding to 100% load operations. The parameters for modeling the 8-hour period were calculated assuming 15 minutes at the exhaust corresponding to startup operations and the remaining 7 hours, 45 minutes at the exhaust corresponding to 100% load operations.

According to the applicant, testing for the emergency engines will not be conducted during turbine startup/shutdown operations.

Except as noted above, maximum allowable hourly emission rates were used for the short-term averaging time analyses, and annual average emission rates were used for the annual averaging time analyses.

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Compliance History Report

Compliance History Report for CN604679639, RN108779729, Rating Year 2024 which includes Compliance History (CH) components from September 1, 2019, through August 31, 2024.

Customer, Respondent, or Owner/Operator: CN604679639, Wolf Hollow II Power, LLC **Classification:** HIGH **Rating:** 0.00

Regulated Entity: RN108779729, WOLF HOLLOW II **Classification:** HIGH **Rating:** 0.00

Complexity Points: 18 **Repeat Violator:** NO

CH Group: 06 - Electric Power Generation

Location: 8787 WOLF HOLLOW CT GRANBURY, TX 76048-7736, HOOD COUNTY

TCEQ Region: REGION 04 - DFW METROPLEX

ID Number(s):

AIR OPERATING PERMITS PERMIT 3848
AIR NEW SOURCE PERMITS AFS NUM 4822100731
AIR NEW SOURCE PERMITS PERMIT 83638
AIR NEW SOURCE PERMITS PERMIT 175173
WASTEWATER PERMIT WQ0005285000
AIR EMISSIONS INVENTORY ACCOUNT NUMBER HQA037L
TAX RELIEF ID NUMBER 20889
TAX RELIEF ID NUMBER 20878
TAX RELIEF ID NUMBER 20879
TAX RELIEF ID NUMBER 20885
PUBLIC WATER SYSTEM/SUPPLY REGISTRATION 1110130
AIR NEW SOURCE PERMITS EPA PERMIT PSDTX1110
AIR NEW SOURCE PERMITS EPA PERMIT PSDTX1636
AIR NEW SOURCE PERMITS EPA PERMIT GHGPSDTX238
WASTEWATER EPA ID TX0139769
INDUSTRIAL AND HAZARDOUS WASTE OTS REQUEST 41571
TAX RELIEF ID NUMBER 20887
TAX RELIEF ID NUMBER 23769
TAX RELIEF ID NUMBER 20880
TAX RELIEF ID NUMBER 20890

Compliance History Period: September 01, 2019 to August 31, 2024 **Rating Year:** 2024 **Rating Date:** 09/01/2024

Date Compliance History Report Prepared: January 03, 2025

Agency Decision Requiring Compliance History: Enforcement

Component Period Selected: September 01, 2019 to August 31, 2024

TCEQ Staff Member to Contact for Additional Information Regarding This Compliance History.

Name: TCEQ Staff Member **Phone:** (512) 239-1000

Site and Owner/Operator History:

1) Has the site been in existence and/or operation for the full five year compliance period? YES
2) Has there been a (known) change in ownership/operator of the site during the compliance period? NO

Components (Multimedia) for the Site Are Listed in Sections A - J

A. Final Orders, court judgments, and consent decrees:
N/A

B. Criminal convictions:
N/A

C. Chronic excessive emissions events:
N/A

D. The approval dates of investigations (CCEDS Inv. Track. No.):

Item 1	November 25, 2019	(1610214)
Item 2	November 26, 2019	(1597755)

Item 3	December 30, 2019	(1605150)
Item 4	June 23, 2020	(1645582)
Item 5	July 20, 2021	(1738532)
Item 6	September 24, 2021	(1768921)
Item 7	October 11, 2021	(1780090)
Item 8	November 22, 2021	(1786146)
Item 9	December 13, 2021	(1793137)
Item 10	January 18, 2022	(1800956)
Item 11	February 15, 2022	(1808782)
Item 12	February 22, 2022	(1761811)
Item 13	March 15, 2022	(1815887)
Item 14	April 21, 2022	(1822469)
Item 15	April 27, 2022	(1772543)
Item 16	May 14, 2022	(1831318)
Item 17	June 20, 2022	(1837607)
Item 18	June 28, 2022	(1844766)
Item 19	August 12, 2022	(1851299)
Item 20	September 09, 2022	(1858719)
Item 21	October 07, 2022	(1865061)
Item 22	November 18, 2022	(1871948)
Item 23	December 22, 2022	(1877828)
Item 24	January 05, 2023	(1862108)
Item 25	February 14, 2023	(1892431)
Item 26	March 20, 2023	(1901028)
Item 27	April 13, 2023	(1907823)
Item 28	May 02, 2023	(1914958)
Item 29	June 05, 2023	(1921590)
Item 30	July 21, 2023	(1928567)
Item 31	August 18, 2023	(1935484)
Item 32	September 11, 2023	(1941730)
Item 33	October 20, 2023	(1948487)
Item 34	November 09, 2023	(1932317)
Item 35	November 13, 2023	(1954158)
Item 36	December 18, 2023	(1963966)
Item 37	February 19, 2024	(1979611)
Item 38	March 19, 2024	(1986171)
Item 39	April 19, 2024	(1992723)
Item 40	May 13, 2024	(1999155)
Item 41	June 19, 2024	(2006120)
Item 42	August 22, 2024	(2019491)

E. Written notices of violations (NOV) (CCEDS Inv. Track. No.):

A notice of violation represents a written allegation of a violation of a specific regulatory requirement from the commission to a regulated entity. A notice of violation is not a final enforcement action, nor proof that a violation has actually occurred.

N/A

F. Environmental audits:

N/A

G. Type of environmental management systems (EMSs):

N/A

H. Voluntary on-site compliance assessment dates:

N/A

I. Participation in a voluntary pollution reduction program:

N/A

J. Early compliance:

Compliance History Report for CN604679639, RN108779729, Rating Year 2024 which includes Compliance History (CH) components from September 01, 2019, through August 31, 2024.

N/A

Sites Outside of Texas:

N/A

From:	madison.morgan@tceq.texas.gov
To:	EFiling
Subject:	Filing on Permit Number/Docket Number 2024-1918-AIR
Date:	Friday, January 24, 2025 11:12:10 AM
Attachments:	Wolf Hollow II Agenda Backup Memo.pdf

FILING CONFIRMATION NUMBER 760403212025024

REGULATED ENTY NAME WOLF HOLLOW II

RN NUMBER: RN108779729

PERMIT NUMBER: PSDTX1636

DOCKET NUMBER: 2024-1918-AIR

COUNTY: HOOD

PRINCIPAL NAME: WOLF HOLLOW II POWER LLC, CN604679639

FROM

FILED BY:

FILED FOR NAME: Katherine Keithley

E-MAIL: madison.morgan@tceq.texas.gov

PHONE: 512-239-0600

DOCUMENT NAME: Wolf Hollow II Agenda Backup Memo.pdf

Based on 30 TAC Section 1.10(h), the TCEQ General Counsel has waived the filing requirements of Section 1.10(c) to allow the filing of documents using this online system. The General Counsel also has waived the requirements of Section 1.10(e) so that the time of filing your documents is the time this online system receives your filings. Filings are considered timely if received by close of business (usually 5:00 p.m. CST) on the deadline date unless otherwise ordered. If your document is for Commission consideration at an open meeting, General Counsel has also waived the requirement of Section 1.10(d) to file paper copies with the Office of the Chief Clerk.