Construction Permit
Source Analysis & Technical Review

Company	**Entergy Texas, Inc.**	Permit Numbers	**177473 and N316**
City	**Cleveland**	Project Number	**379498**
County	**Liberty**	Regulated Entity Number	**RN112041959**
Project Type	**Initial**	Customer Reference Number	**CN603282054**
Project Reviewer	**Christopher Loughran, P.E.**	Received Date	**September 9, 2024**
Site Name	**Lone Star Power Station**		

Project Overview

Entergy Texas, Inc. (ETI) submitted an expedited initial air permit application to authorize the construction and operation of a natural gas-fired simple cycle power plant to be located in the town of Cleveland, Liberty County. The new power plant will operate under the name “Lone Star Power Station” or “LSPS”. The project will consist of the construction of a Mitsubishi model MHI 501JAC simple cycle peaking combustion turbine generator (CTG) that will be fired exclusively with pipeline quality natural gas. The project net baseload generation capacity of the new simple cycle turbine will be approximately 460 MW at the International Organization for Standardization (ISO) 3977 ambient conditions of 59°F and 60% relative humidity. In addition to the CTG, the project will include a natural gas fired dewpoint heater, a diesel fired emergency generator engine, a diesel fired emergency firewater pump engine, two diesel storage tanks, two condensate storage tanks, the CTG lube oil system vent, and equipment leak fugitives. Liberty County is designated as a severe nonattainment area for ozone, and the project will be a major source under the Nonattainment New Source Review (NNSR) rules for the ozone precursors of NOx and VOC, and therefore NNSR applies to NOx and VOC. The project will be a minor source under the Prevention of Significant Deterioration (PSD) rules and therefore PSD review is not triggered for any pollutants. Maintenance, startup, and shutdown (MSS) activities are being authorized in this permit.

Emission Summary

Air Contaminant	Current Allowable Emission Rates (tpy)	Proposed Allowable Emission Rates (tpy)	Change in Allowable Emission Rates (tpy)
PM	0	26.62	26.62
PM_{10}	0	26.62	26.62
$PM_{2.5}$	0	26.62	26.62
VOC	0	111.57	111.57
NO_X	0	74.34	74.34
CO	0	249.88	249.88
SO_2	0	7.15	7.15
H_2SO_4	0	10.88	10.88
Formaldehyde (H_2CO)	0	1.22	1.22
HAPs	0	2.85	2.86
NH_3	0	74.63	74.63

Compliance History Evaluation - 30 TAC Chapter 60 Rules

A compliance history report was reviewed on:	September 23, 2024
Site rating & classification:	Unclassified (new greenfield site, and there are no other active permit registrations for the subject RN number; also confirmed site rating with BOE compliance history report run on 9/23/2024 and confirmed by APD Compliance History Coordinator on 12/23/2024)
Company rating & classification:	0.52 / Satisfactory
Has the permit changed on the basis of the compliance history or rating?	No
Did the Regional Office have any comments? If so, explain.	Yes - TCEQ Region 12 provided a site review summary which indicated no concerns and recommended that the permit review proceed based on the compliance history

Public Notice Information

Requirement	**Date**
Legislator letters mailed	**9/20/2024**
Date 1st notice published	**10/17/2024**
Publication Name: **The Vindicator**	
Pollutants: **Carbon monoxide, sulfuric acid, hazardous air pollutants, nitrogen oxides, organic compounds, particulate matter including particulate matter with diameters of 10 microns or less and 2.5 microns or less, and sulfur dioxide**	
Date 1st notice Alternate Language published	**10/17/2024**
Publication Name (Alternate Language): **El Perico Spanish Newspaper**	
1st public notice tearsheet(s) received	**10/23/2024**
1st public notice affidavit(s) received	**10/23/2024**
1st public notice certification of sign posting/application availability received	**11/19/2024**
SB709 Notification mailed	**10/8/2024**
Date 2nd notice published	**1/23/2025**
Publication Name: **The Vindicator**	
Pollutants: **Nitrogen oxides and volatile organic compounds (significant enough to require a nonattainment review); carbon monoxide, hazardous air pollutants, particulate matter including particulate matter with diameters of 10 microns or less and 2.5 microns or less, sulfur dioxide, and sulfuric acid mist**	
Date 2nd notice published (Alternate Language)	**1/23/2025**
Publication Name (Alternate Language): **El Perico Spanish Newspaper**	
2nd public notice tearsheet(s) received	**1/29/2025**
2nd public notice affidavit(s) received	**1/29/2025**
2nd public notice certification of sign posting/application availability received	**2/28/2025**

Public Interest

Number of comments received	**0**
Number of meeting requests received	**0**
Number of hearing requests received	**0**
Date meeting held	**N/A**
Date response to comments filed with OCC	**N/A**
Date of SOAH hearing	**N/A**

Federal Rules Applicability

Requirement	
Subject to NSPS?	**Yes**
Subparts **A, IIII, KKKK, & TTTTa**	
Subject to NESHAP?	**No**
Subparts **N/A**	
Subject to NESHAP (MACT) for source categories?	**Yes**
Subparts **A & ZZZZ**	

Nonattainment review applicability:

The site is located in Liberty County, which is currently designated as severe nonattainment for ozone under the 2008 eight-hour standard and serious nonattainment for ozone under the 2015 eight-hour standard for the Houston-Galveston-Brazoria (HGB) area. Therefore, the project is evaluated against the more stringent severe ozone nonattainment designation. Also, for NNSR applicability purposes, NOx and VOC, precursors of ozone, are evaluated separately. As a new "greenfield" site with no existing emissions, the site is an existing minor NNSR source. Project emission increases were calculated using the proposed allowable emission rate minus the baseline actual emission rate of 0 tpy for each pollutant, and also includes allowable MSS emission rates. As shown in the table below, the "Step 1" project emission increase for both NOx and VOC exceed the new major source threshold for a severe ozone nonattainment area, and, therefore, NNSR is triggered for both NOx and VOC. Note that the rules do not allow contemporaneous netting at existing minor sources, and netting would therefore not be applicable for a greenfield site.

Pollutant	"Step 1" Project Emissions Increase[a] (tpy)	New Major Source Threshold[b] (tpy)	New Major Source Threshold Exceeded?	Netting Threshold[b] (tpy)	Netting triggered?	Significant Level[b] (tpy)	NNSR Triggered?
NOx	74.34	25	Yes	5	N/A[c]	25	Yes
VOC	111.57	25	Yes	5	N/A[c]	25	Yes

[a] The "step 1" project emission increases are calculated as the allowable potential-to-emit (PTE) minus the baseline actual emission rate, which is 0 tpy for a new greenfield site.
[b] New major source threshold, netting threshold, and significant level applicable to severe ozone nonattainment areas.
[c] The rules do not allow contemporaneous netting at existing minor sources, and netting is therefore not applicable at a greenfield site.

Since the NNSR is triggered for NOx and VOC, offsets must be obtained in accordance with the federal Clean Air Act, Section §173 / 42 U.S. Code §7503(c), 30 TAC 116.150(d)(3), 30 TAC 116.12(23), and Table I of 30 TAC §116.12(20)(A). Specifically, the proposed allowable emissions minus the baseline actual emissions (0 tpy) must be offset by a ratio of 1.30 to 1 as specified in Table I of 30 TAC §116.12(20)(A) for a severe ozone nonattainment area.

Therefore, the offsets for the project are calculated as summarized in the table below. As shown in the table, the applicant is required to offset 74.34 tpy of NOx and 111.57 tpy VOC at a ratio of 1.30 to 1 applicable for the HGB severe ozone nonattainment designation with emission credit reduction credits (ERCs) of 96.7 tpy for NOx and 145.1 for VOC.

Pollutant	Baseline Actual Emission Rate (tpy)	Proposed Allowable Emission Rate, PTE (tpy)	Proposed PTE – Baseline Actual Emission Rate (tpy)	Offset Ratio for Severe Ozone NA Classification	Offset Emissions Required (tpy)
NOx	0	74.34	74.34	1.30 to 1	96.7
VOC	0	111.57	111.57	1.30 to 1	145.1

PSD review applicability:

As a new "greenfield" site with no existing emissions, the site is an existing PSD minor source. Project emission increases were calculated using the proposed allowable emission rate minus the baseline actual emission rate of 0 tpy for each pollutant, and also includes allowable MSS emission rates. The project emission increases are summarized in the table below. As an unnamed source, the "step 1" project emission increase for each pollutant is compared to the PSD unnamed source new major source threshold of 250 tpy for each pollutant except for VOC since PSD does not apply to VOC because it is an ozone precursor and therefore is evaluated separately under the NNSR applicability discussed above. As shown in the table, CO, NOx, PM, PM_{10}, $PM_{2.5}$, SO_2, and H_2SO_4 are all less than the 250-tpy new major source threshold, and, therefore, PSD does not apply to the project. Since PSD is not triggered for any pollutants, PSD for greenhouse gas (GHG) emissions also does not apply since the site is not a PSD "anyway source".

Pollutant	"Step 1" Project Emissions Increase[a] (tpy)	New Major Source Threshold (tpy)	New Major Source Threshold Exceeded?	Significant Emission Rate (tpy)	Significant Emission Rate Exceeded?	PSD Triggered?
CO	249.88	250	No	100	N/A[b]	No
NOx[c]	74.34	250	No	40	N/A[b]	No
PM	26.62	250	No	25	N/A[b]	No
PM_{10}	26.62	250	No	15	N/A[b]	No
$PM_{2.5}$	26.62	250	No	10	N/A[b]	No
SO_2[c]	7.15	250	No	40	N/A[b]	No
VOC	111.57	N/A – See NNSR discussion above	N/A	N/A – See NNSR discussion above	N/A	No
H_2SO_4	10.88	250	No	7	N/A[b]	No
GHGs, CO_2e	N/A – not a PSD "anyway source"	N/A	N/A	75,000	N/A[b]	No

[a] The "step 1" project emission increases are calculated as the allowable potential-to-emit (PTE) minus the baseline actual emission rate, which is 0 tpy for a new greenfield site.
[b] Since the "step 1" project emission increase is less than the PSD new major threshold of 250 tpy for an unnamed source, the project emission increase is not compared to the significant emission rate. Also note that the rules do not allow contemporaneous netting at existing minor sources.
[c] $PM_{2.5}$ precursor. Not used to trigger $PM_{2.5}$ BACT/LAER or impacts analysis at this time.

Title V Applicability - 30 TAC Chapter 122 Rules

Requirement

Title V applicability:

As a new greenfield site, the site does not currently have a Title V permit. However, since the project exceeds the Title V major source threshold as defined in 30 TAC 122.10, a Title V permit will be required.

Periodic Monitoring (PM) applicability:

This site will be a major Title V source and is subject to PM under 30 TAC Chapter 122.602. The permit requires PM as follows:

Emission Source	SC No.	PM Condition Summary
Simple Cycle Unit 1A (EPN LSPS-1A)	6.A, 30, 39.C	Records of dates, times, and durations of MSS events for the combustion turbine generator.
Simple Cycle Unit 1A (EPN LSPS-1A)	7, 39.D	Totalizing fuel flow meter to measure and record the natural gas fuel usage for the combustion turbine generator. This condition also specifies QA/QC including the fuel flow meter calibrations.
Emergency Standby Generator (EPN LSPS-EMGEN) Emergency Fire Water Pump (EPN LSPS-FWP)	9, 39.E	Non-resettable run time meter to measure and record the engine operational hours and diesel fuel delivery records indicating the date and quantity of fuel delivered.
Natural Gas Dewpoint Heater (EPN LSPS-NGDPHTR),	13, 39.G	Totalizing fuel flow meter to measure and record the natural gas fuel usage for the Natural Gas Dewpoint Heater. This condition also specifies QA/QC including the fuel flow meter calibrations.
Simple Cycle Unit 1A (EPN LSPS-1A) Natural Gas Dewpoint Heater (EPN LSPS-NGDPHTR),	14, 15, 39.H	Natural gas fuel specification (1.0 grain total sulfur per 100 dscf on an hourly basis and 0.5 grains/100 dscf on a 12-month rolling basis) and sampling every 6 months to determine total sulfur and net heating value (test results from the fuel supplier may be used to satisfy this requirement).
Emergency Standby Generator (EPN LSPS-EMGEN) Emergency Fire Water Pump (EPN LSPS-FWP)	16, 39.I	Diesel fuel specification of no more than 15 ppmw sulfur, which may be satisfied by ultra-low sulfur diesel (ULSD) designated on the fuel delivery receipt.
All combustion sources authorized in the permit	17, 39.J	Opacity of emissions from the combustion sources authorized by the permit limited to 5 percent averaged over a six-minute period and 15 percent averaged over a six-minute period during periods of MSS operation. Quarterly visible emission observations and records during each calendar quarter while the facilities are in operation, unless the emission unit is not operating for the entire calendar quarter.
Emergency Generator Diesel Tank (EPN LSPS-TK1) Emergency Firewater Pump Diesel Tank (EPN LSPS-TK2) Natural Gas Condensate Tank (EPN LSPS-TK3) Natural Gas Condensate Tank(EPN LSPS-TK4)	18, 20.B, 39.K	Monthly tank service and liquid throughput records according to Special Condition (SC) No. 22.B for comparison to the specifications provided in SC No. 20.
Natural Gas Fugitive Emissions	22, 39.L	28LAER leak detection and repair (LDAR) program for equipment

(EPN LSPS-NGFUG) Diesel Fugitive Emissions (EPN LSPS-DSLFUG)		leak fugitives.
Ammonia Fugitive Emissions (EPN LSPS-AMMFUG)	23, 39.M	28AVO leak detection and repair (LDAR) program for equipment leak fugitives in ammonia service.
Simple Cycle Unit 1A (EPN LSPS-1A)	24, 38.C, 38.D	Initial stack testing and recurring stack testing when requested by the TCEQ.
Maintenance Activities (EPN LSPS-MSSFUG) Simple Cycle Unit 1A (EPN LSPS-1A)	27-23, 39.N, 39.O, 39.P	MSS monitoring and recordkeeping.

Compliance Assurance Monitoring (CAM) applicability:

The site will be subject to 30 TAC Chapter 122 CAM requirements. The permit covers the following control devices which will be used to comply with applicable requirements of the permit, and which control source of emissions with a pre-control emission rate in excess of the major source threshold as specified in 30 TAC 122.604(b)(3) and 30 TAC 122.10(13).

The simple cycle combustion turbine generating unit is potentially subject to CAM since it will use selective catalytic reduction (SCR) to reduce NOx emissions and an oxidation catalyst to reduce CO and VOC emissions, and these emissions may have pre-control emission rates that exceed the 25-tpy major source threshold applicable to NOx and VOC that apply in severe ozone nonattainment areas and the 100-tpy major source threshold for CO, which are specified in 30 TAC 122.604(b) and 30 TAC 122.10(13). The proposed maximum post-control CTG annual emission rates excluding MSS activities are 44.58 tpy for NOx, 21.71 tpy for CO, and 6.22 tpy for VOC. While NOx is above the 25-tpy pre-control Title V major source threshold, it is unclear whether CO exceeds the pre-control Title V major source threshold of 100 tpy and whether VOC exceeds the pre-control Title V major source threshold of 25 tpy, but conservatively they will be assumed to exceed these thresholds for CAM applicability purposes. However, 30 TAC 122.604(c)(6) states that CAM does not apply if an applicable requirement specifies a continuous compliance determination method, which one could consider as applying in the case of the CEMS. Regardless of whether CAM applies or if the exemption in 30 TAC 122.604(c)(6) applies, NOx and CO CEMS will nevertheless ensure compliance assurance for the SCR and oxidation catalyst control systems used to control NOx and CO, respectively. CEMS for CO is assumed to be a surrogate indicator of compliance assurance for VOC since proper control of CO by the oxidation catalyst should ensure proper control of VOC since proper control of CO indicates that proper combustion of VOC to CO_2 is occurring.

Emission Source	SC No.	CAM Condition Summary
Simple Cycle Unit 1A (EPN LSPS-1A)	25, 26	SC No. 25 includes the Continuous Emission Monitoring Systems (CEMS) that will measure and record the in-stack and exhaust concentrations of NO_x, CO, and O_2 from combustion turbine generator and require calculation of the mass emission rates which therefore assures compliance with the concentration limits and emission rate limits in the permit special conditions and MAERT. Note that CEMS for CO is considered to be a surrogate for CAM for VOC, and therefore CEMS for VOC is not included in the permit. SC No. 26 includes the following options to continuous monitor ammonia (NH_3):

		continuous compliance with NH_3 CEMS, 2) a second NO_x CEMS probe located between the turbine exhaust and the SCR, upstream of the stack NOx CEMS, which may be used in association with the SCR efficiency and NH_3 injection rate to estimate NH_3 slip, 3) a dual stream system of NOx CEMS at the exit of the SCR to calculate the NH_3 slip concentrations, or 4) other NH_3 slip measurement methods with approval by the TCEQ Midland Regional Office.

Process Description

Combustion Turbine Generator
The project will consist of the construction of a Mitsubishi model MHI 501JAC simple cycle peaking combustion turbine generator (CTG) that will be fired exclusively with pipeline quality natural gas. The project net baseload generation capacity of the new simple cycle turbine will be approximately 460 MW at the ISO 3977 ambient conditions of 59°F and 60% relative humidity.

The main components of the CTG consist of a compressor, combustor, turbine, and generator. Filtered ambient air is drawn into the compressor section of the CTG. During periods of warm to hot ambient temperatures, the temperature of the inlet air to the CTG may be lowered using evaporative cooling to increase the mass air flow through the turbine and achieve maximum turbine power output. Natural gas is mixed with the compressed inlet air and combusted in the combustor section of the CTG. Lean premix combustors are used to reduce the NOx emissions generated in the combustion process. Hot exhaust gases then enter the expansion turbine where the gases expand across the turbine, which generates torque that causes rotation of the turbine shaft. The shaft drives the compressor section of the unit and spins a dedicated electric generator, producing electricity.

A conventional selective catalytic reduction (SCR) system, using a 29 weight % solution of aqueous ammonia as the reagent, will be used to control NOx emissions from the proposed combustion turbine. The system will be comprised of aqueous ammonia storage and handling equipment, ammonia injection grid, and catalyst bed. The ammonia injection grid and the SCR catalyst bed will be installed downstream of the turbine at a location where the flue gas temperature will allow for SCR NOx reduction reactions. Since the proposed combustion turbine will be operated In a simple cycle configuration, exhaust from the combustion turbine will be cooled with ambient air to maintain the desired temperature as it passes through a transition section containing the oxidation catalyst and the SCR.

The CTG will be equipped with an oxidation catalyst (OC) system to minimize CO and VOC emissions. The oxidation catalyst system will be comprised of catalyst bed modules and will be installed at the location where exhaust temperatures will optimize CO and VOC reduction reactions. The exhaust stream is then released to the atmosphere through the unit's stack (EPN LSPS-1A).

Planned startup (SU) and shutdown (SD) of the proposed simple cycle turbine will be part of the routine operations at the facility. A planned SU is defined as the period beginning when the combustion turbine receives a "turbine start" signal and an initial flame detection signal is recorded in the plant's control system and ends when the combustion turbine output achieves steady operation in the low NOx operating mode and the SCR and OC have achieved steady state operation, thereby achieving emissions compliance. A planned SD period will begin when the combustion turbine receives a shutdown command and the combustion turbine operating level drops below its minimum sustainable load. A combustion turbine's planned shutdown will end when a flame detection signal is no longer recorded in the plant's control system.

Combustion Lube Oil Recirculation Systems
The combustion turbine will be equipped with lube oil recirculation systems to lubricate the moving parts. Emissions of condensed lube oil droplets from the lube oil systems will be exhausted through vapor extraction vents (EPN LSPS-LOVCT) serving the proposed unit, and these emissions will be controlled with mist eliminators. Lube oil will be delivered to the site in 55-gallon drums and stored in a designated area. The drums will remain closed when transfer of lube oil is not occurring. There will not be a lube oil storage tank at the LSPS. The lube oil reservoir will be refilled using a manually activated pump to pump lube oil from a 55-gallon drum to the lube oil reservoir. The emissions from filling the reservoir will be negligible.

Natural Gas System
Natural gas will be delivered to the site via pipeline, metered, and piped to the combustion turbine. Fugitive emissions from the natural gas piping components include emissions of VOC, methane (CH_4), and carbon dioxide (CO_2), which are identified under EPN LSPS-NGFUG). There will be two natural gas condensate tanks located on-site to store condensate collected from the natural gas system (EPNs LSPS-TK3 and LSPS-TK4).

Ammonia System
Aqueous ammonia at a concentration of 29 weight % will be stored in a pressurized tank that will be designed to maintain sufficient pressure to prevent a loss of ammonia to the atmosphere during normal operations. The system may be equipped with pressure relief valves for safety reasons to prevent an over-pressure condition. Aqueous ammonia will be delivered by tanker truck to the pressurized tank. During filling of the tank, ammonia vapors will be returned to the tanker truck as the storage tank is filled. Piping and fittings associated with the tank and other components of the system delivering ammonia to the SCR system will be sources of fugitive emissions, identified under EPN LSPS-AMMFUG.

Diesel Fugitives
Diesel fuel for the emergency generator and emergency firewater pump will be delivered to the site by tanker truck and stored in the diesel fuel tanks. Fugitive emissions from the diesel fuel piping components include emissions of VOC which are identified under EPN LSPS-DSLFUG.

Natural Gas Fired Gas Dewpoint Heater
One natural gas-fired auxiliary fuel gas dewpoint heater, rated at 5.01 MMBtu/hr, will be operated to heat the incoming natural gas fuel to prevent freezing of the gas regulating valves under certain gas operating conditions and to ensure moisture does not form in the inlet gas lines. The heater will fire natural gas and use ultra-low NOx burners to control NOx emissions. Emissions from the fuel gas dewpoint heater will be exhausted through the stack, EPN: LSPS-NGDPHTR.

Emergency Engines
One diesel fired emergency generator engine rated at 2180 kW (2923 hp) will be installed to provide electric power during emergencies. The engine will operate up to 100 hours per year for non-emergency testing and maintenance. Emissions from the emergency engine will be exhausted through a stack (EPN LSPS-EMGEN). A 4,150-gallon diesel storage tank is included within the emergency generator housing. Emissions from this diesel storage tank will be exhausted through a vent (EPN LSPSTK1).

One diesel fired firewater pump engine rated at 211 kW (282 hp) will be installed to provide fire protection for the power plant. The engine will operate up to 100 hours per year for non-emergency testing and maintenance. Emissions from the emergency engine will be exhausted through a stack (EPN LSPS-FWP). A 500-gallon diesel storage tank will be used to store fuel for the firewater pump engine. Emissions from this diesel storage tank will be exhausted through vent EPN: LSPSTK2.

Maintenance Activities
Planned maintenance activities on the turbine that may generate emissions include the following:

- Air intake filter change-outs;
- Inspection, repair, replacement, adjusting, testing, and calibration of analytical equipment and process instrumentation including site glasses, meters, gauges;
- Continuous emission monitoring system (CEMS) calibrations;
- Management of sludge;
- Small equipment maintenance – low vapor pressure VOC;
- Small equipment maintenance – ammonia; and
- Gaseous fuel venting during turbine shutdown/maintenance and small equipment and fugitive component repair/replacement.

Emissions from the planned maintenance activities associated with proposed equipment are identified under EPN LSPS-MSSFUG.

Project Scope

This initial air permit will authorize the construction and operation of a natural gas-fired simple cycle power plant that will consist of a Mitsubishi model MHI 501JAC simple cycle peaking combustion turbine generator that will be fired exclusively with pipeline quality natural gas. The project will include the following emitting equipment:

- Natural gas fired Mitsubishi model MHI 501JAC combustion turbine generator with a net baseload generation capacity of approximately 460 MW at the ISO 3977 ambient conditions of 59°F and 60% relative humidity (EPN LSPS-1A);
- Natural gas fired dewpoint heater rated at 5.01 MMBtu/hr (EPN LSPS-NGDPHTR);
- Diesel fired emergency generator engine rated 2923 hp or 2180 kW (EPN LSPS-EMGEN);
- Diesel fired emergency firewater pump engine rated at 282 hp or 211 kW (EPN LSPS-FWP);
- Diesel storage tank for the emergency generator (EPN LSPS-TK1);
- Diesel storage tank for the firewater pump (EPN LSPS-TK2);
- Two condensate storage tanks (EPNs LSPS-TK3 and LSPS-TK4);
- CTG lube oil system vent (EPN LSPS-LOVCT);
- Natural gas service equipment leak fugitives (EPN LSPS-NGFUG);
- Ammonia service equipment leak fugitives (EPN LSPS-AMMFUG);
- Diesel service equipment leak fugitives (EPN LSPS-DSLFUG);
- Maintenance activities (EPN LSPS-MSSFUG).

Since the ammonia to be used for the SCR system will be in aqueous form, a disaster review is not triggered since the ammonia used is not in anhydrous form that would trigger a disaster review as specified in the TCEQ guidance "Disaster Review Fact Sheet" linked from the PI-1 form. However, since the proposed quantity and concentration of the aqueous ammonia to be stored at the site will subject to EPA's Risk Management Program (RMP) specified in 40 CFR 68, the site will be required to have a Risk Management Plan as specified in the EPA RMP rules. The RMP threshold quantity for ammonia is 20,000 pounds for solutions with 20% or greater ammonia in the aqueous solution according to 40 CFR 68.130(b).

Though not subject to greenhouse gas PSD permitting as noted above in the PSD discussion, the combustion turbine will be subject to 40 CFR 60 Subpart TTTTa for Standards of Performance for Greenhouse Gas Emissions for Modified Coal-Fired Steam Electric Generating Units and New Construction and Reconstruction Stationary Combustion Turbine Electric Generating Units (NSPS Subpart TTTTa). The application represented that the combustion turbine will operate as an intermediate load unit, i.e., the annual capacity factor will be between 20% and 40% as defined in the rule, specifically 40 CFR 60.5590a. Note that the emission calculations were based on normal routine operations of 2190 hours/year and startup/shutdown operations of 273 hours/year, which equates to roughly 28% of the year when dividing by 8760 hours/year. Therefore, the gross-power output-based GHG emission limitation for the CTG is 1170 lb CO_2/MWh of gross energy output on a 12-month operating month average, as specified in 40 CFR 60.5580(a) and Table 1 of Subpart TTTTa. The applicant will comply with NSPS Subpart TTTTa as applicable.

Special Conditions and MAERT

The permit special conditions (SCs) and MAERT for this initial permit are summarized below.

New SC No.	Description
1	Standard TCEQ boilerplate permit language for the scope of the permit that specifies that the permit only authorizes the sources listed in the MAERT.
2	Standard TCEQ boilerplate permit language related to unauthorized non-fugitive emissions from relief valves, safety valves, or rupture discs of gases containing volatile organic

	compounds (VOC) at a concentration of greater than 1 percent.
3	Standard TCEQ boilerplate permit language related to federal applicability that includes 40 CFR 60 Subparts A, IIII, KKKK, and TTTTa.
4	Standard TCEQ boilerplate permit language related to federal applicability that includes 40 CFR 63 Subparts A and ZZZZ. Note that Subpart YYYY, the National Emission Standards for Hazardous Air Pollutants for Stationary Combustion Turbines, does not apply because the site will not be a major source of HAP emissions.
5	This condition states the manufacturer and model for the simple cycle combustion turbine generator unit known as "Simple Cycle Unit 1A", EPN LSPS-1A, and the heat input and rated power capacity, which are an average heat input of 4,112 MMBtu/hr (higher heating value basis) at full load at the ISO 3977 ambient conditions of 59°F and 60% relative humidity and a rated nominal capacity at full load of 460 gross MW at ISO 3977 conditions. The condition also specifies that the CTG shall utilize SCR and oxidation catalyst control systems This condition is based on other recently issued turbine permits (for example, NRG Permit Nos. 160538 and 171485).
6	NOx, CO, and NH_3 concentration limits at 15% O_2 of 2.5 ppmvd (1-hour average basis), 2.0 ppmvd (3-hour rolling average basis), and 10.0 ppmvd (3-hour rolling average basis), respectively, for "Simple Cycle Unit 1A" combustion turbine generator (EPN LSPS-1A). For clarity, a paragraph below the concentration limits table specifies that the CEMS data and NH_3 continuous compliance data as specified in Special Condition Nos. 25 and 26 must be used to demonstrate compliance with the NOx, CO, and NH_3 emission limits in this special condition and the MAERT hourly and annual emission rate limits. Paragraph A includes the definitions and maximum durations for the authorized startups and shutdowns when the routine NOx, CO, and NH_3 concentration limits do not apply based on the application representations. Paragraph B states that the emissions from the maintenance activities listed in Attachment B are excluded from the concentration limits in the first paragraph. This condition was developed based on other recently issued turbine permits (for example, Entergy Permit No. 166032 and NRG Permit Nos. 160538 and 171485).
7	Combustion turbine fuel flow meter requirements based on the boilers/heaters standard TCEQ boilerplate permit language (there is not a specific Air Permit Division, APD, turbine boilerplate permit language). The condition also specifies the rolling 12-month firing rate limit for the turbine on a higher heating value basis (i.e., MMBtu per rolling 12-month period on a gross or higher heating value basis) of 10,127,856 MMBtu/year that is calculated based on the represented normal routine operations of 2190 hours/year and startup/shutdown operations of 273 hours/year represented in the application, which equates to approximately 28% of the year when dividing by 8760 hours/year.
8	This condition requires the combustion turbine lube oil vents, EPN LSPS-LOVCT, to have mist eliminators to minimize the VOC and $PM/PM_{10}/PM_{2.5}$ emissions according to the application LAER and BACT representations, respectively.
9	The diesel fired Emergency Standby Generator (EPN LSPS-EMGEN) and diesel fired Emergency Fire Water Pump (EPN LSPS-FWP) support the provide support to the plant during emergencies. This condition requires a non-resettable run time meter on the generator engine and the fire water pump engine and limits the generator engine and the firewater pump engine to a maximum of 100 hours of non-emergency operation per year on a rolling 12-month period per unit. This condition was developed based on the BACT representation and PowerSecure Inc. Permit No. 168222 that authorized a diesel fired emergency generator in Houston.
10	This condition limits the operation of the Emergency Standby Generator (EPN LSPS-EMGEN) and diesel fired Emergency Fire Water Pump (EPN LSPS-FWP) or testing or maintenance between 6:00 am and noon except as specified in paragraphs A through B. This condition is based on complying with applicable 30 TAC 117.310(f) and is consistent with PowerSecure Inc.

	Permit No. 168222 that authorized a diesel fired emergency generator in Houston.
11	NOx and CO concentration limits for the Natural Gas Dewpoint Heater (EPN LSPS-NGDPHTR), which fires natural gas, are specified in this condition and are based on the BACT representation for the unit. The concentration limits include MSS activities. The condition also specifies that compliance with the NOx and CO limits is based on maintaining vendor documentation of the emissions basis at the site, and no additional initial or continuous compliance is required to demonstrate compliance. CEMS is not required since the Natural Gas Dewpoint Heater is a small unit, with a maximum firing rate of 5.01 MMBtu/hr (HHV), as CEMS is typically only required for units greater than 100 MMBtu/hr according to TCEQ APD policy. Initial and recurring stack tests for the Natural Gas Dewpoint Heater is also not being required due to its small size, as stack testing is typically only required for boilers and heaters greater than 40 MMBtu/hr according to TCEQ APD policy.
12	Maximum hourly and maximum annual 12-month rolling firing rate limits for the natural gas fired Natural Gas Dewpoint Heater (EPN LSPS-NGDPHTR) based on the application representations and using the language from other recently issued permits (for example, NRG Permit No. 160538).
13	Requirement to have a totalizing fuel flow meter to measure the natural gas fuel usage for the Natural Gas Dewpoint Heater (EPN LSPS-NGDPHTR) based on TCEQ boilerplate permit language for boilers and heaters.
14	Natural gas fuel limits of 1.0 grain total sulfur per 100 dry standard cubic feet (dscf) on an hourly basis and 0.5 grains/100 dscf on a 12-month rolling basis based on the BACT representations and the TCEQ boilerplate permit language for boilers and heaters.
15	Natural gas sampling of once every 6 months to determine total sulfur and net heating value, which case be satisfied using test results from the fuel supplier. This condition is based on TCEQ boilerplate permit language for boilers and heaters.
16	Diesel fuel limit of no more than 15 parts per million by weight (ppmw) sulfur based on other recently issued turbine permits (for example, Entergy Permit No. 166032 and NRG Permit Nos. 160538 and 171485). This condition also specifies that if the diesel fuel is designated ultra-low sulfur diesel (ULSD) on the fuel delivery receipt, then this is acceptable as showing compliance with sulfur limitations of this condition or otherwise keep records of the sulfur content of the fuel based on receipts or chemical analyses (this language was taken from PowerSecure Inc. Permit No. 168222).
17	Visible emissions requirements including a maximum limit of 5 percent averaged over a six-minute period and quarterly (calendar) visible emission observation requirements. This condition is based on other recently issued turbine permits (for example, NRG Permit Nos. 160538 and 171485).
18-20	Standard TCEQ boilerplate permit language related to emission standards and operating specifications for storage tanks.
21	Ammonia system requirements to maintain prevention and protection measures for the ammonia storage system based on other recently issued turbine permits (for example, NRG Permit Nos.160538 and 171485). Since the proposed quantity and concentration of the aqueous ammonia to be stored at the site will subject to EPA's Risk Management Program (RMP) specified in 40 CFR 68, this condition also requires the applicant to follow the EPA regulations on Chemical Accident Prevention Provisions promulgated in 40 CFR Part 68, including an RMP, which must submitted to the TCEQ Air Permits Division office prior to the date this site first exceeds a threshold quantity of ammonia. The RMP language is the same as used in other permits (for example, Formosa Plastics Permit No. 107518, Exfluor Research Corporation Permit No. 84719, and Amogy Permit No. 172892).
22	Standard TCEQ boilerplate permit language related to emission standards and operating specifications for the 28LAER LDAR program for equipment leak fugitives, EPNs LSPS-NGFUG and LSPS-DSLFUG for natural gas and diesel service fugitives, respectively.
23	Standard TCEQ boilerplate permit language related to emission standards and operating

	specifications for the 28AVO LDAR program for equipment leak fugitives in ammonia service associated with the SCR system, EPN LSPS-AMMFUG. The standard boilerplate language requires audio, olfactory, and visual checks to be conducted every four hours, but this language is being changed to once every 12 hours to match the represented BACT, which is discussed in more detail in the BACT summary table below.
24	Standard TCEQ boilerplate permit language related to initial compliance via stack testing (and subsequent stack testing when requested by the TCEQ Executive Director). The stack testing applies to "Simple Cycle Unit 1A" combustion turbine generator, EPN LSPS-1A, for the following pollutants: NOx, CO, PM_{10}, SO_2, VOC, NH_3, formaldehyde, and O_2. Language was added to paragraph B to state that fuel sampling according to 40 CFR 60.4415 may be conducted in lieu of stack sampling for SO_2 or it may be exempted from SO_2 fuel monitoring according to 40 CFR 60.4365. This language was taken from Entergy Permit No. 166032 and is also consistent with NRG Permit No. 160538. Paragraph D regarding when stack retesting is required has been used in other permits (for example, SC No. 9.D of Permit No. 22690 for Chevron Phillips Chemical Company). Paragraph D requires stack testing to be conducted at the maximum turbine firing rate that can be reasonably achieved during the stack test, with retesting required if the firing rate is greater than that recorded during the test. However, paragraph D also states that if each individual stack test result from the last successful stack test demonstrated that the actual emissions are less than 80% of the MAERT emission limits, then subsequent operations may include up to a 5% increase in the firing rate for the unit without requiring stack sampling at the new operating conditions unless required by the regional office. Note that stack testing is not being required for the natural gas fired Natural Gas Dewpoint Heater (EPN LSPS-NGDPHTR) based on the small maximum firing rate capacity of 5.01 MMBtu/hr (HHV), as stack testing is typically only required for boilers and heaters greater than 40 MMBtu/hr according to TCEQ APD policy. Stack testing is also not being required for the diesel fired Emergency Standby Generator (EPN LSPS-EMGEN) and diesel fired Emergency Fire Water Pump (EPN LSPS-FWP) due to the limited use of no more than 100 hours/year per unit being authorized in the permit.
25	Standard TCEQ boilerplate permit language related to continuous compliance for continuous emission monitoring system (CEMS) that applies to NOx, CO, and O_2 from the "Simple Cycle Unit 1A" combustion turbine generator, EPN LSPS-1A. Note that CEMS is not being required for the natural gas fired Natural Gas Dewpoint Heater (EPN LSPS-NGDPHTR) based on the small maximum firing rate capacity of 5.01 MMBtu/hr (HHV), as CEMS is typically only required for boilers and heaters greater than 100 MMBtu/hr according to TCEQ APD policy.
26	Continuous compliance for the measurement or calculations of the ammonia slip from the "Simple Cycle Unit 1A" combustion turbine generator (EPN LSPS-1A) using ammonia CEMS, NOx CEMS and a mass balance approach, dual stream system of NOx CEMS, or an approach approved by the TCEQ Midland Regional Office. This condition is based on other recently issued turbine permits (for example, NRG Permit No. 171485).
27	This special condition specifies that planned MSS activities are restricted as listed in Attachment A, Attachment B, and the table entitled "Emission Sources - Maximum Allowable Emission Rates" attached to this permit. This condition is not in the standard TCEQ boilerplate permit language, but rather is used to reference the attachments and MAERT for planned MSS activities.
28	This condition refers to SC No. 6.A for the event durations for startup and shutdown activities for the combustion turbine generator (EPN LSPS-1A).
29	This condition refers to Attachment A for the inherently low emitting (ILE) MSS activities that are authorized by the permit, states that these ILE MSS activities are considered to be equal to the potential to emit as represented in the permit application, and the estimated emissions from

	the Attachment A activities must be revalidated annually. This condition is based on other recently issued turbine permits (for example, Entergy Permit No. 166032).
30	This condition specifies the compliance of the planned non-ILE MSS activities specified in Attachment B including the use of CEMS data for combustion turbine generator that will have a CEMS installed. This condition specifies the recordkeeping for the planned MSS activities including comparing the hourly and rolling 12-month emission totals to the MAERT limits. This condition is based on other recently issued turbine permits (for example, Entergy Permit No. 166032).
31	This condition applies to vacuum trucks that are used to remove liquids from the tanks and is based on standard TCEQ boilerplate language for MSS activities that was pared down to reflect that the vacuum trucks do not result in air emissions from the vacuum loading operation. The applicant represented that vacuum trucks will be used to remove liquids from the condensate tanks, which involve a pump that will be used to draw a vacuum on the vacuum truck's tank. The pump will then be turned off and liquid will be drawn into the tank using the vacuum in the tank. The tank is emptied prior to drawing another vacuum. In this mode of operation, the applicant represented that no emissions would be generated during the vacuuming operation in accordance with Air Permits Technical Guidance for New Source Review Loading Operations, APD-ID 3v1, dated February 2021, page 4 of 17. The applicant's unloading procedure will also require that the vacuum be pulled on the loading hose and that the line be cleared prior to disconnect. As such, a paragraph is being added to the standard boilerplate to state that vacuum loading operations must be conducted such that they do not result in VOC emissions.
32	MSS condition for the fixed roof tanks based on standard TCEQ boilerplate language for MSS activities.
33	Concentration measurements referenced in the previous special condition for tank MSS activities based on standard TCEQ boilerplate language for MSS activities.
34	Since the project is triggering nonattainment new source review for NOx and VOC, offsets must be obtained according to offset special conditions (numbers 34-37) taken from the TCEQ standard TCEQ boilerplate permit language. Melissa Ruano of the TCEQ Emissions Banking and Trading team reviewed the draft offset conditions (numbers 34-37) on November 8, 2024, and her comments were incorporated. SC No. 34 states that the NOx and VOC offsets must be obtained through participation in the TCEQ Emissions Banking and Trading (EBT) Program in accordance with the rules in 30 TAC Chapter 101, Subchapter H.
35	This special condition states that the permit holder must use 145.1 tpy of VOC credits and 96.7 tpy of NOx credits to offset the 111.57 tpy VOC and 74.34 tpy NOx project emission increases at a ratio of 1.3 to 1.0 that applies in the HGB severe ozone nonattainment area based on standard TCEQ boilerplate language for offsets.
36	Since the site is located in the HGB area, this special condition states that the permit holder may use up to 94.8 tpy of Mass Emission Cap and Trade (MECT) allowances to offset the 72.96 tpy NO_x project emission increase for the MECT facilities authorized by the permit at a ratio of 1.3 to 1.0; these applicable facilities listed in this special condition are the Simple Cycle Unit 1A turbine combustion generator (EPN LSPS-1A) and Natural Gas Dewpoint Heater (EPN LSPS-NGDPHTR). Note that the Emergency Standby Generator (EPN LSPS-EMGEN) and Diesel Emergency Fire Water Pump (EPN LSPS-FWP) are not subject to the mass emissions cap and trade program according to the exemption specified in 30 TAC 117.303(a)(11). This special condition is based on standard TCEQ boilerplate language for offsets.
37	Since the specific offset credit certificate numbers are not available at the time of permit issuance, this special condition taken from the standard TCEQ boilerplate language for offsets states that the permit holder must obtain approval from the TCEQ EBT Program for the credits being used prior to the start of operation and then submit a permit alteration or amendment request to the TCEQ Air Permits Division.
38	Recordkeeping requirement that includes the records to be kept for the life of the permit including a copy of the permit, the permit application and subsequent updates, and initial and

	subsequent stack test reports. This condition was developed based on other recently issued turbine permits (for example, Entergy Permit No. 166032 and NRG Permit Nos. 160538 and 171485).
39	Recordkeeping requirements that include the records specified in each special condition that are required to be kept for at least five years and are required to be made available upon request to representatives of the TCEQ, the EPA, or any local air pollution control program having jurisdiction. This condition was developed based on other recently issued turbine permits (for example, Entergy Permit No. 166032 and NRG Permit Nos. 160538 and 171485).
Att. A	Attachment A referenced in the special conditions above for inherently low emitting (ILE) MSS activities as represented in the application. This attachment was developed based on other recently issued turbine permits (for example, Entergy Permit No. 166032 and NRG Permit Nos. 160538 and 171485).
Att. B	Attachment B referenced in the special conditions above for non-inherently low emitting activities as represented in the application. This attachment was developed based on other recently issued turbine permits (for example, Entergy Permit No. 166032 and NRG Permit Nos. 160538 and 171485).
MAERT	New MAERT for the initial permit that specifies the maximum hourly and annual emission rate limits for each EPN authorized by the permit. Note that footnote number 6 to the MAERT states that planned maintenance, startup and shutdown (MSS) for all pollutants are authorized even if not specifically identified as MSS and that during any clock hour that includes one or more minutes of planned MSS events, that pollutant's maximum hourly emission rate shall apply during that clock hour. This footnote is typically included in other MAERTs for turbine power projects, including Entergy Permit No. 166032 and NRG Permit Nos. 160538 and 171485.

Best Available Control Technology (BACT) and Lowest Achievable Emission Rate (LAER)

BACT and LAER for the proposed project are summarized in the table below for each emitting source. The applicant submitted RACT/BACT/LAER Clearinghouse **(**RBLC) database search summaries for the pollutants that triggered LAER review (NOx and VOC) as well as the other pollutants that did not trigger LAER**,** and these RBLC search summary results are included in the table below. In addition to reviewing the RBLC, the applicant also reviewed the TCEQ Tier I BACT guidelines for combustion sources dated June 4, 2019 and the TCEQ gas turbine permit list dated July 2023. Additionally, as specified in 30 TAC 116.12(17)(A), the definition for LAER states that LAER must reflect "…the most stringent emission limitation that is contained in the rules and regulations of any approved state implementation plan for a specific class or category of facility, unless the owner or operator of the proposed facility demonstrates that such limitations are not achievable…". To demonstrate that this requirement for LAER is met, the applicant performed a search of state implementation plan (SIP) rule requirements by reviewing regulations for states that they stated typically have the most stringent requirements, which were the following: the California South Coast Air Quality Management District (SCAQMD), California Bay Area Air Quality Management District (BAAQMD), Illinois, and New York.

Source Name	**EPN**	**BACT and LAER Description**
Simple Cycle Unit 1A	LSPS-1A	The project includes one simple cycle Mitsubishi model MHI 501JAC combustion turbine generator with a net baseload generation capacity of approximately 460 MW at the ISO 3977 ambient conditions of 59°F and 60% relative humidity that is fired with pipeline quality natural gas. Routine (non-SU/SD) emissions were calculated using the maximum of the various operating scenarios provided by the manufacturer (e.g., various ambient operating conditions). Emission rates were primarily based on data supplied by the manufacturer, Mitsubishi. The SO_2, H_2SO_4, and ammonium sulfate, $(NH_4)_2SO_4$,

		emission rates were estimated using a mass balance approach while the HAP emissions were estimated using emission factors from Table 3.1-3 of AP-42, except for formaldehyde, which is based on an outlet stack concentration of 91 ppbv at 15% O_2 provided by the manufacturer. Maximum annual emission rates for routine normal operations, excluding startup and shutdown periods, were calculated assuming 2190 hours/year at the maximum hourly emission rates. Startup and shutdown operations were represented at a maximum of 213 hours/year and 60 hours/year, respectively, for a total of 273 hours/year for SUs and SDs combined (see more details below where MSS activities are discussed). BACT and LAER for each pollutant are discussed below. LAER NOx: 2.5 ppmvd at 15% O_2, 1-hour average basis using dry-low NOx (DLN) combustors and an aqueous ammonia-based SCR system. Use of DLN method of NOx minimizes combustion temperatures by providing a lean pre-mixed air-fuel mixture, where air and fuel are combined before entering the combustor, which minimizes fuel-rich pockets and allows the excess air to act as a heat sink, thus lowering the combustion zone temperatures to minimize thermal NOx formation. The applicant searched the RBLC, which returned 54 projects for which natural gas-fired simple cycle units were permitted between 2014 and 2024. There were two listed projects in this time period that underwent LAER reviews. The RBLC search shows that LAER determinations for NOx are limits of 2.5 ppmvd at 15% O_2 for two projects. One of the LAER determinations was based on a three-hour block average, excluding SU/SD periods and one of the LAER determinations was based on a three-hour rolling average. A third project, which was not identified in the applicant's RBLC search, is a simple cycle turbine permitted in 2023 for NRG Greens Bayou 6 LLC, located in Harris County, Texas (Permit Nos. 171485, PSDTX1616, GHGPSDTX230, and N308; TCEQ Project No. 352417 issued on September 15, 2023). This turbine underwent a LAER review and was permitted with a NOx emission limit of 2.5 ppmvd at 15% O_2, on a one-hour average basis, excluding SU/SD operations. As a point of reference, though BACT does not apply due to triggering a LAER analysis, the TCEQ Tier I BACT guidelines for simple cycle natural gas fired turbines for NOx is 5.0 to 9.0 ppmvd at 15% O_2, typically achieved with dry low NOx burners, water/steam injection, limiting fuel consumption, or SCR. Additionally, as specified in 30 TAC 116.12(17)(A), the definition for LAER states that LAER must reflect "…the most stringent emission limitation that is contained in the rules and regulations of any approved state implementation plan for a specific class or category of facility, unless the owner or operator of the proposed facility demonstrates that such limitations are not achievable…". To demonstrate that this requirement for LAER is met, the applicant performed a search of state implementation plan (SIP) requirements

		by reviewing regulations for states that they stated typically have the most stringent requirements, which were the following: the California, South Coast Air Quality Management District (SCAQMD), California Bay Area Air Quality Management District (BAAQMD), Illinois, and New York. The lowest NOx SIP limit for a simple cycle combustion turbine is in California SCAQMD rule 1134(d)(3), Table I, which has a limit of 2.5 ppmvd NOx at 15% O_2, 60-minute rolling average basis. This is the same emissions limit that the applicant is proposing for the turbine NOx emissions. Therefore, the applicant proposed to satisfy LAER for NOx emissions for the proposed simple cycle configuration using DLN combustors and an aqueous ammonia based high temperature SCR system at a maximum NOx concentration of 2.5 ppmvd at 15% O_2, one-hour average basis, excluding periods of MSS. This proposed limit is equivalent to the lowest LAER-based emission rate permitted for recent simple cycle projects both inside and outside Texas and is no less stringent than any limit in any state SIP rules, and, therefore, the proposed NOx emission rate satisfies LAER. The applicant will demonstrate that LAER for NOx is achieved through the initial stack testing of the turbine and NOx CEMS. Refer to the discussion below under BACT for NOx MSS events. VOC: 1.0 ppmvd at 15% O_2, 3-hour rolling average basis, using an oxidation catalyst and good combustion practices. The applicant's RBLC searches showed VOC emission limits for natural gas-fired simple cycle units ranging from 1.4 ppmvd to 2.5 ppmvd at 15% O_2, with the majority of limits set at 2 ppmvd at 15% O_2. All of these determinations were for BACT, as no LAER determinations were listed in the RBLC for simple cycle turbine units. However, the applicant performed an RBLC search VOC LAER determinations for natural gas-fired combined cycle turbines as the closest matching search for comparison purposes. This RBLC search showed VOC LAER determinations for natural gas fired combined cycle units ranging from 0.7 ppmvd at 15% O_2 to 2.4 ppmvd at 15% O_2. The only VOC LAER determination below 1 ppmvd at 15% O_2 was for West Deptford Energy Station combined cycle combustion turbine without duct burners (RBLC ID NJ-0082), which the applicant investigated and determined was actually permitted at ≤ 1 ppmvd at 15% O_2, and, therefore, the range for combined cycle units is in fact 1 ppmvd at 15% O_2 to 2.4 ppmvd at 15% O_2. The applicant searched for SIP requirements in other states, but no SIP requirements were identified for VOC limits applicable to simple cycle natural gas-fired combustion turbines. Good combustion practices and an oxidation catalyst were the controls identified in the applicant's RBLC searches. In addition, for comparison purposes, the TCEQ's Tier I BACT guideline for VOC emissions from gas-fired simple cycle turbines is 2 ppmvd at 15% O_2 (note that LAER rather than BACT applies, so this is just for comparison purposes). Based on the findings in the RBLC, the

		applicant is proposing the use of an oxidation catalyst and good combustion practices as LAER for VOC emissions at a VOC concentration not to exceed 1.0 ppmvd VOC at 15% O_2 (3-hour rolling average basis basis). The proposed emission limit is consistent with the limits stipulated for other similar projects, as shown in the RBLC, and meets the TCEQ Tier I BACT guidelines for VOC emissions from natural gas-fired simple cycle combustion turbines. The applicant will demonstrate that LAER for VOC is achieved through the initial stack testing and CO CEMS, which is an indicator for proper destruction of VOC in the oxidation catalyst. The 3-hour rolling averaging period for the VOC emission limit representation is being deemed acceptable since NRG Greens Bayou 6 LLC, located in Harris County (Permit Nos. 171485, PSDTX1616, GHGPSDTX230, and N308; TCEQ Project No. 352417 issued on September 15, 2023) also has a 3-hour average basis specified for the VOC limit of 2.0 ppmvd at 15% O_2 for a simple cycle turbine as listed in the TCEQ Source Analysis & Technical Review summary. Refer to the discussion below under BACT for VOC MSS events. <u>BACT</u> CO: 2.0 ppmvd at 15% O_2, 3-hour rolling average basis using an oxidation catalyst and good operating procedures. The TCEQ Tier I BACT guidelines for simple cycle natural gas fired turbines is 9 to 25 ppmvd at 15% O_2, typically achieved with good combustion practices and/or oxidation catalyst, with a detailed analysis required if greater than 9 ppmvd is proposed. The applicant's RBLC searches show CO emission limits ranging from 4 to 36 ppmvd at 15% O_2, with the majority of limits set at 9 ppmvd at 15% O_2, on a 3-hour average basis. Good combustion practices and an oxidation catalyst to control CO were the controls identified in the RBLC searches. Therefore, catalytic oxidation with a maximum CO concentration of 2.0 ppmvd at 15% O_2, 3-hour rolling average basis, was proposed as BACT. The applicant also reviewed the TCEQ gas turbine permit list, which showed that there are no pending permit applications and no recently issued permits for natural gas-fired simple cycle projects in Texas with a proposed CO emission rate or stipulated emission limit lower than 2 ppmvd @ 15% O_2. This finding is consistent with the TCEQ's current Tier I BACT. The 3-hour rolling averaging period for the CO emission limit is being deemed acceptable since NRG Greens Bayou 6 LLC, located in Harris County (Permit Nos. 171485, PSDTX1616, GHGPSDTX230, and N308; TCEQ Project No. 352417 issued on September 15, 2023) also has a 3-hour average specified for the CO limit of 3.5 ppmvd at 15% O_2 for a simple cycle turbine in SC No. 5 of that

		permit. $PM/PM_{10}/PM_{2.5}$: Use of pipeline-quality natural gas and the application of good combustion practices, which is the same as the TCEQ Tier I BACT guidelines for simple cycle natural gas fired turbines. The applicant noted that no add-on control technologies are listed in the TCEQ guidelines or EPA RBLC database to meet BACT for particulate matter emissions from natural gas combustion turbines. Therefore, the proposed use of pipeline-quality natural gas and the application of good combustion practices meets BACT for $PM/PM_{10}/PM_{2.5}$. The applicant will demonstrate that BACT for $PM/PM_{10}/PM_{2.5}$ is achieved through the initial stack testing and proper operation of the combustion turbine. SO_2: The sulfur content of the pipeline quality natural gas fuel used will not exceed 1.0 grain per 100 dry standard cubic feet (grain/100 dscf) on a short-term hourly basis and 0.5 grains/100 dscf on a 12-month rolling basis. The applicant conservatively assumed 100% molar conversion of natural gas sulfur to SO_2 (conservative since SO_2 and H_2SO_4 emissions are double counted). The TCEQ Tier I BACT guidelines for simple cycle natural gas fired turbines is good combustion practices, fuel limited to firing pipeline quality natural gas (low sulfur fuel) with a sulfur content not to exceed 2 to 5 grains/100 dscf on an hourly basis and 0.5 to 1 grains/100 dscf on an annual basis. Therefore, Tier I BACT for SO_2 is satisfied. The applicant's RBLC searches identified low sulfur fuel as the only available SO_2 control method for gas combustion turbines. No add-on control technologies are listed in the TCEQ Tier I guidelines or EPA's RBLC database. The applicant will demonstrate that BACT for SO_2 compounds is achieved through the maintenance of records of contractual limits on sulfur content, such as valid purchase contracts, tariff sheets, or transportation contracts showing the sulfur content of the fuel, or through annual testing of the natural gas. H_2SO_4: The applicant conservatively assumed 100% molar conversion of natural gas sulfur, 1.0 grain/100 dscf on a short-term hourly basis and 0.5 grains/100 dscf on a 12-month rolling basis, to SO_2 and 100% molar conversion of that SO_2 to SO_3 and 100% molar conversion of SO_3 to H_2SO_4 in the combustion turbine and catalyst beds (SCR and oxidation catalyst). The TCEQ Tier I BACT guidelines for simple cycle natural gas fired turbines is good combustion practices, fuel limited to firing pipeline quality natural gas (low sulfur fuel) with a sulfur content not to exceed 5 grains per 100 scf on an hourly basis and 1 grain/100 scf on an annual basis. BACT for SO_2 discussed above also ensures that BACT for H_2SO_4 is satisfied. NH_3: Ammonia slip of 10.0 ppmvd at 15% O_2, on a 3-hour rolling average basis, excluding SU/SD periods. The TCEQ Tier I BACT guidelines for simple cycle natural gas fired turbines is 7 to 10 ppmvd at 15% O_2, achieved by controlling the NH_3 injection system to minimize NH_3 slip. The applicant stated that they will operate their SCR system in a manner that minimizes ammonia slip (i.e., the emission of unreacted

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<td>NH_3 to the atmosphere) while ensuring that the NOx emissions limits are met. Control of the ammonia injection system and operating parameters will be maintained to control ammonia slip in the CTG exhaust stream at a maximum concentration of 10 ppmvd at 15% O_2, on a 3-hour rolling average basis, excluding SU/SD periods. The applicant noted that the NRG Greens Bayou 6 LLC, located in Harris County (Permit Nos. 171485, PSDTX1616, GHGPSDTX230, and N308; TCEQ Project No. 352417 issued on September 15, 2023) was authorized at 10.0 ppmvd at 15% O_2, on a 3-hour average basis for a simple cycle turbine (SC No. 5 of that permit). The proposed NH_3 concentration meets the TCEQ Tier I BACT guideline. The applicant will demonstrate that BACT for NH_3 is achieved through the initial stack testing and through continuous monitoring as specified in the permit special conditions.

HAPs: The HAP emissions include formaldehyde and other HAPs. Formaldehyde emissions are based on formaldehyde an outlet stack concentration of 91 ppbv at 15% O_2 provided by the manufacturer. Control of VOC will also minimize speciated HAPs that are VOC. Refer to the VOC LAER discussion above.

MSS: Minimize the duration and frequency of MSS activities. The applicant stated that periodic startups (SU) and shutdowns (SDs) of the combustion turbine will be part of the routine operations, and the CTG will be started up and shut down in a manner that minimizes the emissions during these events. The applicant stated that LAER and BACT will be achieved by limiting the duration of each SU and SD and engaging the pollution control equipment (e.g., the SCR and oxidation catalyst systems) as soon as practicable, based on vendor recommendations. The SU and SD event durations, annual frequency, and NOx, CO, and VOC emissions per event were represented in the application as summarized in the table below.

<table>
<tr><th>Event Type</th><th>Duration (minutes / event)</th><th>Max. Events / Year</th><th>Pounds NOx / Event</th><th>Pounds CO / Event</th><th>Pounds VOC / Event</th></tr>
<tr><td>SU</td><td>32</td><td>400 (213 hrs/yr)</td><td>104</td><td>845</td><td>425</td></tr>
<tr><td>SD</td><td>9</td><td>400 (60 hrs/yr)</td><td>37</td><td>292</td><td>100</td></tr>
</table>

The TCEQ Tier I BACT guidelines for MSS events from simple cycle natural gas fired turbines is minimizing the duration of MSS activities and operating the facility in accordance with best management practices and good air pollution control practices. BACT is satisfied for turbine SU and SD activities as discussed above.

In summary, the proposed natural gas combustion turbine generator meets LAER for NOx and VOC and BACT for the other pollutants as discussed above.</td>
</tr>
<tr>
<td>Emergency Standby Generator</td>
<td>LSPS-EMGEN</td>
<td>One ultra-low sulfur diesel fired Mitsubishi model S16R-Y2PTAW2-1 emergency generator engine rated at 2180 kW (2923 hp) will be installed to provide electric power during emergencies. The engine</td>
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		will operate up to 100 hours per rolling 12-month period for non-emergency testing and maintenance. The TCEQ Tier I BACT for emergency diesel fired engines is meeting the requirements of 40 CFR Part 60, Subpart IIII, firing ultra-low sulfur diesel fuel (no more than 15 ppmw sulfur), limited to 100 hrs/yr of non-emergency operation, and having a non-resettable runtime meter. Additionally, for particulate matter, Tier I BACT is no visible emissions leaving the property, with visible emissions determined by a standard of no visible emissions exceeding 30 seconds in duration in any six-minute period as determined using EPA Method 22 or equivalent. The emergency generator engine will meet the above listed Tier I BACT guidelines. The emission factors that were represented in the emission calculations to meet NSPS Subpart IIII and therefore BACT is summarized below. LAER for NOx and VOC is also summarized below. The engine will have a displacement of less than 30 liters per cylinder. The NOx, CO, NMHC (non-methane hydrocarbon or approximately equivalent to VOC), and PM emission factors are specified in NSPS Subpart IIII in 40 CFR 60.4205(b), which refers to 40 CFR 60.4202(a)(2), which refers to Table 2 of 40 CFR part 1039, Appendix I for Tier 2 emission factors; the category "kW > 560 kW, starting model year 2008" has the applicable emission factors. <u>LAER</u> NOx: 5.36 g/kW-hr (4.0 g/hp-hr) based on vendor information. The emission factor limit specified in NSPS Subpart IIIII is 6.4 g/kW-hr that is represented as "NOx+NMHC". The combined NOx emission factor (5.36 g/kW-hr) and VOC emission factor (0.56 g/kW-hr) for the emergency generator engine, i.e. 5.92 g/kW-hr, is less than the NOx+NMHC limit in Subpart IIII of 6.4 g/kW-hr. The applicant stated that add-on NOx controls, such as SCR and/or selective non-catalytic reduction (SNCR) systems are not technically feasible for emergency engines. The applicant stated that because these engines operate so infrequently, it is very difficult to line out operation of an add-on NOx control system before the engines cut off again. Total annual NOx emission rate from the emergency generator engine is 1.29 tpy. The applicant's RBLC search for large emergency engines showed nine projects permitted from 2014 to 2024 that underwent a LAER review. The results of the RBLC search indicate that the emergency engines meet the emission specifications for a Tier 2 engine contained in NSPS Subpart IIII, which is 6.4 g/kW-hr for NOx + NMHC. This is the most stringent emission limit in NSPS Subpart IIII for large emergency engines. The applicant's SIP state rule review did not identify any NOx limits that apply to internal combustion engines used in emergency standby service. The proposed NOx LAER for the emergency generator engine is meeting the performance requirements for emergency engines in NSPS Subpart IIII.

		VOC: 0.56 g/kW-hr (0.42 g/hp-hr) based on vendor information. The emission factor limit specified in NSPS Subpart IIIII is 6.4 g/kW-hr that is represented as "NOx+NMHC". The combined NOx emission factor (5.36 g/kW-hr) and VOC emission factor (0.56 g/kW-hr) for the emergency generator engine, i.e. 5.92 g/kW-hr, is less than the NOx+NMHC limit in Subpart IIII of 6.4 g/kW-hr. The applicant's RBLC search results for large emergency engines support the proposed LAER, as it showed four LAER determinations permitted from 2014 and 2024, none of which showed any add-on controls for VOC. <u>BACT</u> CO: 0.60 g/kW-hr (0.45 g/hp-hr) based on vendor information. The CO emission factor limit specified in NSPS Subpart IIIII is 3.5 g/kW-hr. The applicant's RBLC searches for emergency generator engines showed that the proposed BACT meets the permitted levels in the previous determinations in the RBLC. $PM/PM_{10}/PM_{2.5}$: 0.17 g/kW-hr (0.13 g/hp-hr) based on vendor information for PM. The applicant assumed PM_{10} and $PM_{2.5}$ are equal total PM. The PM emission factor limit specified in NSPS Subpart IIIII is 0.20 g/kW-hr. The applicant's RBLC searches for emergency generator engines showed that the proposed BACT is consistent with the previous determinations in the RBLC. SO_2: Firing ultra-low sulfur diesel with a maximum sulfur content of 15 ppmw sulfur and assuming 100% conversion of fuel sulfur to SO_2. The applicant's RBLC searches for emergency generator engines showed that the proposed BACT is consistent with the previous determinations in the RBLC that also used ultra-low sulfur diesel to meet BACT. HAPs: Meeting LAER for VOC as discussed above will also limit the HAP emissions. HAP emissions were calculated based on Tables 3.4-3 and 3.4-4 of AP-42 (October 1996) for large uncontrolled stationary diesel engines. Total HAP emissions are represented at less than 0.01 tpy from the emergency generator engine. MSS: Separate planned MSS emissions are not being authorized for the emergency generator engine. The applicant represented that they will minimize the duration and frequency of MSS activities. The applicant's RBLC searches showed the proposed LAER for NOx and VOC is consistent with the recent determinations listed in the RBLC. The proposed BACT for the other pollutants meet the TCEQ Tier I guidelines and are also consistent with the applicant's RBLC searches.
Diesel Emergency Fire Water Pump	LSPS-FWP	One ultra-low sulfur diesel fired John Deere model 6068HFC48A firewater pump engine rated at 211 kW (282 hp) will be installed to provide fire protection for the power plant. The engine will operate up to 100 hours per rolling 12-month period for non-emergency testing and

		maintenance. The TCEQ Tier I BACT for emergency diesel fired engines is meeting the requirements of 40 CFR Part 60, Subpart IIII, firing ultra-low sulfur diesel fuel (no more than 15 ppmw sulfur), limited to 100 hrs/yr of non-emergency operation, and having a non-resettable runtime meter. Additionally, for particulate matter, Tier I BACT is no visible emissions leaving the property, with visible emissions determined by a standard of no visible emissions exceeding 30 seconds in duration in any six-minute period as determined using EPA Method 22 or equivalent. The firewater pump engine will meet the above listed Tier I BACT guidelines. The emission factors that were represented in the emission calculations to meet NSPS Subpart IIII and therefore BACT are summarized below. LAER for NOx and VOC are also summarized below. The engine has a displacement of less than 30 liters per cylinder and has a model year after 2009 or later. The NOx, CO, NMHC (non-methane hydrocarbon or approximately equivalent to VOC), and PM emission factors are defined in 40 CFR 60 Subpart IIII in 40 CFR 60.4205(c), which refers to Table 4 of 40 CFR Subpart IIII; the category "130 ≤ KW < 225, model year 2009+" has the applicable emission factors. <u>LAER</u> NOx: 3.31 g/kW-hr (2.47 g/hp-hr) based on vendor information. The emission factor limit specified in NSPS Subpart IIIII is 4.0 g/kW-hr (3.0 g/hp-h) that is represented as "NOx+NMHC". The combined NOx emission factor (3.31 g/kW-hr) and VOC emission factor (0.11 g/kW-hr) for the firewater pump engine, i.e. 3.42 g/kW-hr, is less than the NOx+NMHC limit in Subpart IIII of 4.0 g/kW-hr. The applicant stated that add-on NOx controls, such as SCR and/or SNCR systems are not technically feasible for emergency engines. The applicant stated that because these engines operate so infrequently, it is very difficult to line out operation of an add-on NOx control system before the engines cut off again. Total annual NOx emission rate from the firewater pump engine is 0.09 tpy. The applicant's RBLC search for firewater pump engines showed 11 projects that underwent a LAER review. The results of this search indicate that compliance with NSPS Subpart IIII limit of 4.0 g/kW-hr is LAER. The applicant's SIP state rule review did not identify any NOx limits that apply to internal combustion engines used in emergency standby service or used for fire fighting. The proposed NOx LAER for the firewater pump engine is meeting the performance requirements for fire pump engines in NSPS Subpart IIII. VOC: 0.11 g/kW-hr (0.082 g/hp-hr) based on vendor information. The emission factor limit specified in NSPS Subpart IIIII is 4.0 g/kW-hr (3.0 g/hp-h) that is represented as "NOx+NMHC". The combined NOx emission factor (3.31 g/kW-hr) and VOC emission factor (0.11 g/kW-hr) for the firewater pump engine, i.e. 3.42 g/kW-hr, is less than

		the NOx+NMHC limit in Subpart IIII of 4.0 g/kW-hr. The applicant's RBLC search results for firewater pump engines support the proposed LAER, as it showed four LAER determinations permitted from 2014 and 2024, none of which showed any add-on controls for VOC. <u>BACT</u> CO: 0.60 g/kW-hr (0.45 g/hp-hr) based on vendor information. The CO emission factor limit specified in NSPS Subpart IIIII is 3.5 g/kW-hr (2.6 g/hp-hr). The applicant's RBLC searches for fire water pump engines showed that the proposed BACT meets the permitted levels in the previous determinations in the RBLC. $PM/PM_{10}/PM_{2.5}$: 0.10 g/kW-hr (0.075 g/hp-hr) based on vendor information for PM. The applicant assumed PM_{10} and $PM_{2.5}$ are equal total PM. The PM emission factor limit specified in NSPS Subpart IIIII is 0.20 g/kW-hr (0.15 g/hp-hr). The applicant's RBLC searches for fire water pump engines showed that the proposed BACT is consistent with the previous determinations in the RBLC. SO_2: Firing ultra-low sulfur diesel with a maximum sulfur content of 15 ppmw sulfur and assuming 100% conversion of fuel sulfur to SO_2. The applicant's RBLC searches for fire water pump engines showed that the proposed BACT is consistent with the previous determinations in the RBLC that also used ultra-low sulfur diesel to meet BACT. HAPs: Meeting LAER for VOC as discussed above will also limit the HAP emissions. HAP emissions were calculated based on Table 3.3-2 of AP-42 (October 1996) for uncontrolled diesel engines. Total HAP emissions are represented at less than 0.01 tpy from the emergency firewater pump engine. MSS: Separate planned MSS emissions are not being authorized for the emergency firewater pump engine. The applicant represented that they will minimize the duration and frequency of MSS activities. The applicant's RBLC searches showed the proposed LAER for NOx and VOC is consistent with the recent determinations listed in the RBLC. The proposed BACT for the other pollutants meet the TCEQ Tier I guidelines and are also consistent with the applicant's RBLC searches.
Natural Gas Dewpoint Heater	LSPS-NGDPHTR	A natural gas-fired auxiliary fuel gas heater rated at 5.01 MMBtu/hr (HHV) will be operated to heat the incoming natural gas fuel to prevent freezing of the gas regulating valves under certain gas operating conditions and to ensure moisture does not form in the inlet gas line. The dewpoint heater is being permitted at a maximum of 6,570 hours per year, which is equivalent to 32,916 MMBtu/year (HHV). LAER for NOx and VOC and BACT for the other pollutants are discussed below. <u>LAER</u>

		NOx: Emission factor of 0.011 lb/MMBtu (HHV) using a ultra-low NOx burner based on vendor data and proper operation and maintenance of the heater. Though LAER and not BACT applies, as a point of reference for comparison, the TCEQ Tier I BACT for natural gas fired heaters less than 40 MMBtu/hr is the use of burners with the best NOx performance given the burner configuration and gaseous fuel used and justification if the NOx emission factor is greater than 0.01 lb/MMBtu. The applicant's RBLC searches for heaters identified two NOx LAER determinations, both of which were permitted at a NOx emission factor of 0.011 lb/MMBtu, which is the same as proposed for the Dewpoint Heater. The applicant stated that the proposed NOx limit is equal to the lowest NOx SIP limit for similar process heaters that they were able to identify, which is in California SCAQMD rule 1146.1(c)(1)(E), Table 1146.1–1, that has a limit of 9 ppm NOx or 0.011 lb NOx/MMBtu for heaters sized 2 to 5 MMBtu/hr. However, this analysis was based on the initial application, which represented the heater maximum firing rate as 3.63 MMBtu/hr (HHV). During the permit review the heater rating changed to 5.01 MMBtu/hr (HHV). The California SCAQMD rule, specifically 1146(c)(1)(K), Table 1146-1, specifies a limit of 9 ppm NOx or 0.011 lb NOx/MMBtu for "Group III Units (All Others)", which includes natural gas fired process heaters with a maximum firing rate of 5 MMBtu/hr or greater and less than 20 MMBtu/hr. Therefore, the applicant's proposed LAER for NOx is being deemed acceptable. VOC: Emission factor of 0.005 lb/MMBtu (HHV) based on Table 1.4-2 of AP-42 dated July 1998, firing sweet natural gas, and proper operation and maintenance of the heater. The TCEQ Tier I BACT for natural gas fired heaters less than 40 MMBtu/hr is firing pipeline quality natural gas and good combustion practices. The applicant's RBLC searches showed no VOC LAER determinations for VOC emissions from heaters; however, the BACT entries in the RBLC show 0.005 lb VOC/MMBtu as the primary limit. The applicant's proposed LAER for VOC is being deemed acceptable. <u>BACT</u> CO: Exhaust concentration of 50 ppmvd at 3% O_2, which is equivalent to an emission factor of 0.037 lb/MMBtu (HHV) based on vendor data achieved by proper operation and maintenance of the heater. The TCEQ Tier I BACT for natural gas fired heaters less than 40 MMBtu/hr is 50 ppmv at 3% O_2, which converts to a CO emission factor of approximately 0.037 lb/MMBtu (HHV). The proposed CO emission factor is consistent with the applicant's RBLC searches for heaters. $PM/PM_{10}/PM_{2.5}$: Emission factor of 0.0048 lb/MMBtu (HHV) based on vendor data using good combustion practices, firing sweet natural gas, and proper operation and maintenance of the heater. The opacity will not exceed 5%. The TCEQ Tier I BACT for natural gas fired heaters less than 40 MMBtu/hr is a maximum opacity 5%. The proposed BACT for $PM/PM_{10}/PM_{2.5}$ is consistent with the applicant's

		RBLC searches for heaters. SO_2: The applicant assumed 100% molar conversion of natural gas sulfur to SO_2. BACT was represented as application of good combustion practices and firing pipeline-quality natural gas with a natural gas sulfur content not to exceed 1.0 grain/100 dscf on a short-term hourly basis and 0.5 grains/100 dscf on a 12-month rolling basis, which convert to SO_2 emission factors of 0.0028 lb/MMBtu (HHV) and 0.0014 lb/MMBtu (HHV), respectively. The TCEQ Tier I BACT for natural gas fired heaters less than 40 MMBtu/hr is firing pipeline quality sweet natural gas with 5 grains sulfur/100 dscf. The proposed BACT for SO_2 is consistent with the applicant's RBLC searches for heaters. BACT for SO_2 is satisfied. HAPs: Application of good combustion practices used to meet BACT for VOC as discussed above will also limit the HAP emissions. HAP emissions were calculated based on Tables 1.4-3 and 1.4-4 of AP-42 (July 1998) from natural gas combustion. Total HAP emissions are represented as 0.04 tpy from the Dewpoint Heater. MSS: Separate planned MSS emissions are not being authorized for the fuel heater. The applicant represented that they will minimize the duration and frequency of MSS activities. The proposed BACT for the Dewpoint Heater meets the TCEQ Tier I guidelines and is consistent with the RBLC searches.
Natural Gas Fugitive Emissions	LSPS-NGFUG	Equipment leak fugitives for metering, compression, and piping components in natural gas and diesel service were estimated using the Oil and Gas Production Operation average emission factors. VOC is the only criteria pollutant of concern found in natural gas and diesel; however, due to the relatively low VOC concentration in these streams, the process fugitive emissions will not be a significant source of VOC. To meet LAER, the applicant will use the 28LAER LDAR program. As stated in TCEQ's Fugitive Guidance Document (APDG 6422v2, Revised June 2018), the 28LAER program was developed for fugitive emissions subject to nonattainment new source review permitting and combines the most stringent aspects of all of the available LDAR programs. The applicant also stated that they did not identify any SIP regulations that apply to VOC emissions from piping fugitives located at a power station. The applicant noted that the natural gas distribution piping will be equipped with pressure relief valves that will be vented to the atmosphere as required for safety purposes. The pressure relief valves are only open during emergency situations and will be monitored in accordance with the 28LAER monitoring program. In summary, the 28LAER LDAR program will be used to meet LAER for the natural gas and diesel service equipment leak fugitive components.
Diesel Fugitive Emissions	LSPS-DSLFUG	

Ammonia Fugitive Emissions	LSPS-AMMFUG	Ammonia service equipment leak fugitives were estimated using the SOCMI without ethylene average emission factors. The only pollutant emitted from this fugitive EPN is ammonia. The TCEQ Tier I BACT for ammonia fugitive emissions is audio, visual, and olfactory (AVO) inspections twice per shift and appropriate credit for AVO program. The applicant proposed to implement the 28AVO LDAR program for the ammonia service fugitives including the AVO inspections once every 12 hours. The applicant stated that the pressure relief valves will be installed on the ammonia system for safety purposes and monitored in accordance with the AVO inspection and maintenance program. The relief vales are designed to relieve an overpressure situation, should one occur. The applicant also stated that the ammonia tank will be designed such that the heating of the tank due to sunlight will not be sufficient to raise the pressure of the tank to a level that will actuate the pressure relief valve. The proposed emission NH_3 emission rates from the ammonia service equipment leak fugitives are 0.08 lb/hr and 0.37 tpy. SC No. 13.A of the NRG Greens Bayou 6 LLC Permit Nos. 171485, PSDTX1616, GHGPSDTX230, and N308 (TCEQ Project No. 352417 issued on September 15, 2023) requires daily AVO checks for NH_3 service fugitive components. Given the small NH_3 emission rate and the fact that the applicant is proposing AVO inspections every 12 hours compared to once per day for NRG Greens Bayou 6, the applicant's proposed AVO inspection schedule is being deemed valid. Therefore, the 28AVO LDAR program with AVO inspections every 12 hours is being accepted as BACT. In addition to the NH_3 equipment leak fugitives, EPN LSPS-AMMFUG includes ammonia tank truck loading and unloading emissions associated with the tank filling or emptying loading connections when they are disconnected. These emissions are estimated at maximum NH_3 emission rates of 0.12 lb/hr and 0.003 tpy. These emissions meet BACT by minimizing the duration and frequency of these activities as represented in the application.
Combustion Turbine Lube Oil Vent	LSPS-LOVCT	The combustion turbine will be equipped with lube oil recirculation systems to lubricate the moving parts. Emissions of condensed lube oil droplets from the lube oil systems will be exhausted through vapor extraction vents serving the proposed unit, and these emissions will be controlled with mist eliminators. The applicant's emission calculations for the oil mist eliminators were based on lube oil replacement rates for similar turbines equipped with mist eliminators. The lube oil vent emissions are counted both as VOC and $PM/PM_{10}/PM_{2.5}$. These emissions are small, represented as <0.01 lb/hr and 0.01 tpy of VOC and <0.01 lb/hr and 0.01 tpy of $PM/PM_{10}/PM_{2.5}$. The TCEQ does not provide Tier 1 BACT guidelines for lube oil vent emissions, and there is no process code in the RBLC database associated with lube oil vents. The applicant proposed to control the lube oil vent emissions with oil mist eliminators to satisfy BACT for $PM/PM_{10}/PM_{2.5}$ and LAER for VOC, which is being deemed valid due to the low emission rates noted above. Also, this is consistent with

		the BACT accepted for NRG Greens Bayou 6 LLC Permit Nos. 171485, PSDTX1616, GHGPSDTX230, and N308 (TCEQ Project No. 352417 issued on September 15, 2023), which authorized a simple cycle turbine.
Maintenance Activities	LSPS-MSSFUG	Emissions result from routine maintenance activities undertaken to ensure the proper operability of equipment. These maintenance activities include $PM/PM_{10}/PM_{2.5}$ emissions from air intake filter maintenance, NOx, CO, and NH_3 emissions from CEMS calibrations, VOC emissions from analytical equipment, VOC emissions from sludge maintenance, NH_3 emissions from small equipment maintenance, VOC emissions from low vapor pressure small equipment maintenance, and VOC emissions from gaseous fuel venting. The frequency and duration of the identified maintenance activities will be limited such that the calculated emissions will be low enough to be classified as inherently low emitting (ILE) activities. The applicant stated that emissions associated with these ILE maintenance activities are so low that alternative work practices would not result in meaningful emission reductions. The estimated allowable emission rates from these maintenance activities are <0.01 lb/hr and <0.01 tpy for NOx, <0.01 lb/hr and <0.01 tpy for CO, 0.35 lb/hr and <0.01 tpy for VOC, <0.01 lb/hr and <0.01 tpy for $PM/PM_{10}/PM_{2.5}$, and <0.01 lb/hr and <0.01 tpy for NH_3. The limited duration and frequency of the identified ILE maintenance activities result in low emission rates, which satisfies LAER for NOx and VOC and BACT for the other pollutants.
Emergency Generator Diesel Tank	LSPS-TK1	A horizontal fixed roof tank painted white with a nominal capacity of 4150 gallons is proposed to store diesel fuel with a maximum hourly fill rate of 4150 gallons/hour, a maximum annual throughput of 150,000 gallons/year (3571 bbl/yr), and a maximum VOC vapor pressure of approximately 0.02 psia at 95°F. The tank, which stores ultra-low sulfur diesel for the emergency generator engine, is included within the emergency generator housing. Though subject to LAER rather than BACT, as a point of reference for comparison purposes, the TCEQ's Tier I BACT guidelines for fixed roof storage tanks with a capacity less than 25,000 gal or a true vapor pressure less than 0.50 psia is submerged fill and uninsulated exterior surfaces exposed to the sun that are white or aluminum in color. The applicant's RBLC searches for fixed roof tanks storing materials with a vapor pressure less than 0.5 psia showed 10 LAER determinations, excluding one draft determination, and all of these determinations show that LAER is a fixed roof tank painted white with a submerged fill pipe for tanks storing liquids with a vapor pressure less than 0.5 psia. The applicant stated that there are no NSPS or Chapter 115 requirements that apply to the storage tanks. The applicant's review of SIP rules in other states showed that that there are no required

		emission controls for storage tanks containing materials with a true vapor pressure less than 0.5 psia like the proposed diesel tank. The applicant proposed that LAER is satisfied for the diesel tank with submerged fill pipes and being painted white or aluminum or located such that it is not exposed to the sun. The emergency generator diesel tank is being permitted with maximum VOC emission rates of 0.23 lb/hr and less than 0.01 tpy. Given the low VOC emissions and applicant RBLC searches, the proposed white tank with submerged fill pipes is considered LAER for VOC. MSS: Minimize duration and frequency of MSS activities to satisfy LAER.
Emergency Firewater Pump Diesel Tank	LSPS-TK2	A horizontal fixed roof tank painted white with a nominal capacity of 500 gallons is proposed to store diesel fuel with a maximum hourly fill rate of 500 gallons/hour, a maximum annual throughput of 43,218 gallons/year (1029 bbl/yr), and a maximum VOC vapor pressure of approximately 0.02 psia at 95°F. The tank stores ultra-low sulfur diesel for the firewater pump engine. Though subject to LAER rather than BACT, as a point of reference for comparison purposes, the TCEQ's Tier I BACT guidelines for fixed roof storage tanks with a capacity less than 25,000 gal or a true vapor pressure less than 0.50 psia is submerged fill and uninsulated exterior surfaces exposed to the sun that are white or aluminum in color. The applicant's RBLC searches for fixed roof tanks storing materials with a vapor pressure less than 0.5 psia showed 11 LAER determinations, and all of these determinations show that LAER is a fixed roof tank painted white with a submerged fill pipe for tanks storing liquids with a vapor pressure less than 0.5 psia. The applicant stated that there are no NSPS or Chapter 115 requirements that apply to the storage tanks. The applicant's review of SIP rules in other states showed that that there are no required emission controls for storage tanks containing materials with a true vapor pressure less than 0.5 psia like the proposed diesel tank. The applicant proposed that LAER is satisfied for the diesel tank with submerged fill pipes and being painted white or aluminum or located such that it is not exposed to the sun. The emergency firewater pump diesel tank is being permitted with maximum VOC emission rates of 0.03 lb/hr and less than 0.01 tpy. Given the low VOC emissions and applicant RBLC searches, the proposed white tank with submerged fill pipes is considered LAER for VOC. MSS: Minimize duration and frequency of MSS activities to satisfy LAER.
Natural Gas Condensate Tank	LSPS-TK3	Two identical horizontal fixed roof tanks painted white each with a nominal capacity of 400 gallons are proposed to store condensate with a maximum hourly fill rate of 400 gallons/hour per tank, a maximum annual throughput of 4788 gallons/year (114 bbl/yr) per tank, and a maximum VOC vapor pressure of approximately 5.80 psia at 95°F. The tanks store condensate collected from the natural gas system. The emissions were estimated assuming the physical
Natural Gas Condensate Tank	LSPS-TK4	

		properties of gasoline with an RVP of 6 psi for the condensate. Though subject to LAER rather than BACT, as a point of reference for comparison purposes, the TCEQ's Tier I BACT guidelines for fixed roof storage tanks with a capacity less than 25,000 gal or a true vapor pressure less than 0.50 psia is submerged fill and uninsulated exterior surfaces exposed to the sun that are white or aluminum in color.

Permits Incorporation

Permit by Rule (PBR) / Standard Permit / Permit Nos.	Description (include affected EPNs)	Action (Reference / Consolidate / Void)
N/A	**N/A**	**N/A**

Impacts Evaluation

Was modeling conducted? **Yes** Type of Modeling: **AERMOD version 23132**
Is the site within 3,000 feet of any school? **No**
Additional site/land use information: **Applicant assumed rural dispersion option**

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 modeling memo, ADMT Project No. 9526, dated December 16, 2024. The modeling results are summarized below.

Site-Wide Modeling Results for State Property Line

Pollutant	Averaging Time	GLCmax (µg/m^3)	Standard (µg/m^3)
SO_2	1-hr	0.4	1021
H_2SO_4	1-hr	0.7	50
H_2SO_4	24-hr	0.3	15

Modeling Results for Minor NSR De Minimis

Pollutant	Averaging Time	GLCmax (µg/m^3)	De Minimis (µg/m^3)
SO_2	1-hr	0.4	7.8
SO_2	3-hr	0.4	25
PM_{10}	24-hr	0.5	5
$PM_{2.5}$	24-hr	0.5	1.2
$PM_{2.5}$	Annual	0.03	0.13
NO_2	1-hr	5	7.5
NO_2	Annual	0.1	1
CO	1-hr	38	2000
CO	8-hr	4	500

Minor NSR Site-Wide Modeling Results for Health Effects

Pollutant	CAS#	Averaging Time	GLCmax (µg/m^3)	GLCmax Location	ESL (µg/m^3)
ammonia	7664-41-7	1-hr	85	N Property Line	180

The applicant provided a health effects review as specified in the TCEQ's Modeling 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 as summarized in the table below satisfy the MERA and are protective of human health and the environment.

Pollutant & CAS#	Averaging Time	GLCmax (µg/m^3)	ESL (µg/m^3)	Modeling and Effects Review Applicability (MERA) Step in Which Pollutant Screened Out
Ethane 74-84-0	1-hr	N/A	N/A	Step 0 – simple asphyxiate
	Annual	N/A	N/A	Step 0 – simple asphyxiate
Propane 74-98-6	1-hr	N/A	N/A	Step 0 – simple asphyxiate
	Annual	N/A	N/A	Step 0 – simple asphyxiate
Propylene 115-07-1	1-hr	N/A	N/A	Step 0 – simple asphyxiate
	Annual	N/A	N/A	Step 0 – simple asphyxiate
Ammonia 7664-41-7	1-hr	84.63	180	Step 7 – sitewide modeling deemed acceptable by ADMT
	Annual	0.10	92	Step 7 – sitewide modeling deemed acceptable by ADMT
Lube Oil (as lubricating oils, petroleum, hydrotreated, spent) 64742-58-1	1-hr	N/A	1000	Step 2 – long-term ESL ≥ 10% of short-term ESL, 500 µg/m^3 ≤ short-term ESL < 3500 µg/m^3 and production emission increase ≤ 0.1 lb/hr
	Annual	N/A	100	Step 0 – long-term ESL ≥ 10% of short-term ESL
Diesel (fuel oil No. 2) 68476-30-2	1-hr	14.34	1000	Step 3 - GLCmax ≤ 10% ESL
	Annual	N/A	100	Step 0 – long-term ESL ≥ 10% of short-term ESL
Natural Gas Condensate (as natural gas condensates, sweet) 68919-39-1	1-hr	107.44	3500	Step 3 - GLCmax ≤ 10% ESL
	Annual	N/A	350	Step 0 – long-term ESL ≥ 10% of short-term ESL
1,3-Butadiene 106-99-0	1-hr	0.01	510	Step 3 - GLCmax ≤ 10% ESL
	Annual	8.81E-07	9.9	Step 3 - GLCmax ≤ 10% ESL

Acetaldehyde 75-07-0	1-hr	0.11	120	Step 3 - GLCmax ≤ 10% ESL
	Annual	N/A	45	Step 0 – long-term ESL ≥ 10% of short-term ESL
Acrolein 107-02-8	1-hr	N/A	3.2	Step 2 – long-term ESL ≥ 10% of short-term ESL, 2 µg/m^3 ≤ short-term ESL < 500 µg/m^3 and production emission increase ≤ 0.04 lb/hr
	Annual	N/A	0.82	Step 0 – long-term ESL ≥ 10% of short-term ESL
Benzene 71-43-2	1-hr	0.16	170	Step 3 - GLCmax ≤ 10% ESL
	Annual	7.33E-05	4.5	Step 3 - GLCmax ≤ 10% ESL
Ethylbenzene 100-41-4	1-hr	0.01	26,000	Step 3 - GLCmax ≤ 10% ESL
	Annual	1.92E-05	570	Step 3 - GLCmax ≤ 10% ESL
Formaldehyde 50-00-0	1-hr	0.21	15	Step 3 - GLCmax ≤ 10% ESL
	Annual	N/A	3.3	Step 0 – long-term ESL ≥ 10% of short-term ESL
Naphthalene 91-20-3	1-hr	N/A	440	Step 2 – long-term ESL ≥ 10% of short-term ESL, 2 µg/m^3 ≤ short-term ESL < 500 µg/m^3 and production emission increase ≤ 0.04 lb/hr
	Annual	N/A	50	Step 0 – long-term ESL ≥ 10% of short-term ESL
Polycyclic Aromatic Hydrocarbons (PAH) 130498-29-2	1-hr	4.30E-04	0.5	Step 3 - GLCmax ≤ 10% ESL
	Annual	N/A	0.05	Step 0 – long-term ESL ≥ 10% of short-term ESL
Propylene Oxide 75-56-9	1-hr	0.01	70	Step 3 - GLCmax ≤ 10% ESL
	Annual	N/A	7	Step 0 – long-term ESL ≥ 10% of short-term ESL
Toluene 108-88-3	1-hr	0.09	4500	Step 3 - GLCmax ≤ 10% ESL
	Annual	N/A	1200	Step 0 – long-term ESL ≥ 10% of short-term ESL
Xylenes 1330-20-7	1-hr	0.06	2200	Step 3 - GLCmax ≤ 10% ESL
	Annual	5.33E-05	180	Step 3 - GLCmax ≤ 10% ESL
2-Methylnaphthalene 91-57-6	1-hr	N/A	200	Step 2 – long-term ESL ≥ 10% of short-term ESL, 2 µg/m^3 ≤ short-term ESL < 500 µg/m^3 and production emission increase ≤ 0.04 lb/hr

	Annual	N/A	20	Step 0 – long-term ESL ≥ 10% of short-term ESL
3-Methylcholanthrene 56-49-5	1-hr	1.07E-07	0.02	Step 3 - GLCmax ≤ 10% ESL
	Annual	N/A	0.002	Step 0 – long-term ESL ≥ 10% of short-term ESL
7,12-Dimethylbenz(a)anthracene 57-97-6	1-hr	9.50E-07	0.5	Step 3 - GLCmax ≤ 10% ESL
	Annual	N/A	0.05	Step 0 – long-term ESL ≥ 10% of short-term ESL
Acenaphthene 83-32-9	1-hr	N/A	100	Step 2 – long-term ESL ≥ 10% of short-term ESL, 2 µg/m^3 ≤ short-term ESL < 500 µg/m^3 and production emission increase ≤ 0.04 lb/hr
	Annual	N/A	10	Step 0 – long-term ESL ≥ 10% of short-term ESL
Acenaphthylene 208-96-8	1-hr	N/A	100	Step 2 – long-term ESL ≥ 10% of short-term ESL, 2 µg/m^3 ≤ short-term ESL < 500 µg/m^3 and production emission increase ≤ 0.04 lb/hr
	Annual	N/A	10	Step 0 – long-term ESL ≥ 10% of short-term ESL
Anthracene 120-12-7	1-hr	1.43E-07	1	Step 3 - GLCmax ≤ 10% ESL
	Annual	N/A	0.1	Step 0 – long-term ESL ≥ 10% of short-term ESL
Benz(a)anthracene 56-55-3	1-hr	1.07E-07	0.5	Step 3 - GLCmax ≤ 10% ESL
	Annual	N/A	0.05	Step 0 – long-term ESL ≥ 10% of short-term ESL
Benzo(a)pyrene 50-32-8	1-hr	N/A	Not Available	Step 0 – no current ESL listed in the Toxicity Factor Database; LAER is satisfied as discussed in the LAER section above
	Annual	5.56E-09	0.017	Step 3 - GLCmax ≤ 10% ESL
Benzo(b)fluoranthene 205-99-2	1-hr	1.07E-07	0.5	Step 3 - GLCmax ≤ 10% ESL
	Annual	N/A	0.05	Step 0 – long-term ESL ≥ 10% of short-term ESL
Benzo(g,h,i)perylene 191-24-2	1-hr	7.12E-08	0.5	Step 3 - GLCmax ≤ 10% ESL
	Annual	N/A	0.05	Step 0 – long-term ESL ≥ 10% of short-term ESL
benzo[k]fluoranthene 207-08-9	1-hr	1.07E-07	0.5	Step 3 - GLCmax ≤ 10% ESL
	Annual	N/A	0.05	Step 0 – long-term ESL ≥ 10% of short-term ESL

Chrysene 218-01-9	1-hr	1.07E-07	0.5	Step 3 - GLCmax ≤ 10% ESL
	Annual	N/A	0.05	Step 0 – long-term ESL ≥ 10% of short-term ESL
dibenz[a,h]anthracene 53-70-3	1-hr	7.13E-08	0.5	Step 3 - GLCmax ≤ 10% ESL
	Annual	N/A	0.05	Step 0 – long-term ESL ≥ 10% of short-term ESL
Dichlorobenzene (as "Dichlorobenzene, all isomers") 25321-22-6	1-hr	N/A	900	Step 2 – long-term ESL ≥ 10% of short-term ESL, 500 µg/m^3 ≤ short-term ESL < 3500 µg/m^3 and production emission increase ≤ 0.1 lb/hr
	Annual	N/A	160	Step 0 – long-term ESL ≥ 10% of short-term ESL
Fluoranthene 206-44-0	1-hr	1.78E-07	0.5	Step 3 - GLCmax ≤ 10% ESL
	Annual	N/A	0.05	Step 0 – long-term ESL ≥ 10% of short-term ESL
Fluorene 86-73-7	1-hr	N/A	10	Step 2 – long-term ESL ≥ 10% of short-term ESL, 2 µg/m^3 ≤ short-term ESL < 500 µg/m^3 and production emission increase ≤ 0.04 lb/hr
	Annual	N/A	1	Step 0 – long-term ESL ≥ 10% of short-term ESL
Hexane (as n-Hexane) 110-54-3	1-hr	0.14	5600	Step 3 - GLCmax ≤ 10% ESL
	Annual	0.01	200	Step 3 - GLCmax ≤ 10% ESL
Indeno(1,2,3-cd)pyrene 193-39-5	1-hr	1.07E-07	0.5	Step 3 - GLCmax ≤ 10% ESL
	Annual	N/A	0.05	Step 0 – long-term ESL ≥ 10% of short-term ESL
Phenanthrene 85-01-8	1-hr	N/A	8	Step 2 – long-term ESL ≥ 10% of short-term ESL, 2 µg/m^3 ≤ short-term ESL < 500 µg/m^3 and production emission increase ≤ 0.04 lb/hr
	Annual	N/A	0.8	Step 0 – long-term ESL ≥ 10% of short-term ESL
Pyrene 129-00-0	1-hr	2.97E-07	0.5	Step 3 - GLCmax ≤ 10% ESL
	Annual	N/A	0.05	Step 0 – long-term ESL ≥ 10% of short-term ESL
Arsenic 7440-38-2	1-hr	1.19E-05	3	Step 3 - GLCmax ≤ 10% ESL
	Annual	9.27E-07	0.067	Step 3 - GLCmax ≤ 10% ESL
Beryllium 7440-41-7	1-hr	7.13E-07	0.02	Step 3 - GLCmax ≤ 10% ESL

	Annual	N/A	0.002	Step 0 – long-term ESL ≥ 10% of short-term ESL
Cadmium 7440-43-9	1-hr	6.53E-05	5.4	Step 3 - GLCmax ≤ 10% ESL
	Annual	5.10E-06	0.0033	Step 3 - GLCmax ≤ 10% ESL
Chromium (as Chromium, elemental) 7440-47-3	1-hr	8.31E-05	3.6	Step 3 - GLCmax ≤ 10% ESL
	Annual	6.49E-06	0.041	Step 3 - GLCmax ≤ 10% ESL
Cobalt 7440-48-4	1-hr	4.99E-06	0.21	Step 3 - GLCmax ≤ 10% ESL
	Annual	3.89E-07	0.0017	Step 3 - GLCmax ≤ 10% ESL
Manganese 7439-96-5	1-hr	2.26E-05	2.7	Step 3 - GLCmax ≤ 10% ESL
	Annual	1.76E-06	0.25	Step 3 - GLCmax ≤ 10% ESL
Mercury 7439-97-6	1-hr	1.54E-05	0.25	Step 3 - GLCmax ≤ 10% ESL
	Annual	N/A	0.025	Step 0 – long-term ESL ≥ 10% of short-term ESL
Nickel 7440-02-0	1-hr	1.25E-04	0.33	Step 3 - GLCmax ≤ 10% ESL
	Annual	N/A	0.059	Step 0 – long-term ESL ≥ 10% of short-term ESL
Selenium 7782-49-2	1-hr	N/A	2	Step 2 – long-term ESL ≥ 10% of short-term ESL, 2 µg/m^3 ≤ short-term ESL < 500 µg/m^3 and production emission increase ≤ 0.04 lb/hr
	Annual	N/A	0.2	Step 0 – long-term ESL ≥ 10% of short-term ESL
Butane (as n-Butane) 106-97-8	1-hr	N/A	66,000	Step 2 – long-term ESL ≥ 10% of short-term ESL, short-term ESL ≥ 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
Isobutane 75-28-5	1-hr	N/A	23,000	Step 2 – long-term ESL ≥ 10% of short-term ESL, short-term ESL ≥ 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
Pentane (as n-Pentane) 109-66-0	1-hr	N/A	59,000	Step 2 – long-term ESL ≥ 10% of short-term ESL, short-term ESL ≥ 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

Offsets

The proposed project is a new major source of NOx and VOC in the HGB area, which has been designated as severe nonattainment for ozone. The applicant is required to offset 74.34 tpy of NOx and 111.57 tpy VOC at a ratio of 1.3 to 1 applicable for the HGB severe ozone nonattainment designation with emission credit reduction credits (ERCs) of 96.7 tpy for NOx and 145.1 for VOC.

In addition to, or in place of, using credits, the applicant may use up to 94.8 tpy of Mass Emission Cap and Trade (MECT) allowances to offset the 72.96 tpy NOx project emission increase for the following MECT facilities authorized by this permit at a ratio of 1.3 to 1.0: the Simple Cycle Unit 1A turbine combustion generator (EPN LSPS-1A) and Natural Gas Dewpoint Heater (EPN LSPS-NGDPHTR); note that the Emergency Standby Generator (EPN LSPS-EMGEN) and Diesel Emergency Fire Water Pump (EPN LSPS-FWP) are not subject to the mass emissions cap and trade program according to the exemption specified in 30 TAC 117.303(a)(11).

Prior to the start of operation, the permit holder is required to obtain approval from the TCEQ EBT Program for the credits being used and then submit a permit alteration or amendment request to identify approved credits by TCEQ credit certificate number (SC No. 37 of the permit).

Alternative Site Analysis and Compliance Certification

The applicant demonstrated that the benefits of the proposed locations and source configurations significantly outweigh the environmental and social costs of that location. The applicant certified that all sites owned by them are in compliance with or are on a schedule for compliance with all applicable state and federal emission limitations and standards.

Conclusion

In summary, the applicant has demonstrated that the proposed project's emissions will not adversely affect public health and welfare, which includes state-property line review, NAAQS, and air toxics review. The proposed emissions will not cause or contribute to any federal or state exceedances and demonstrate protectiveness for toxics effects screening levels. Therefore, emissions from the facility are not expected to have an adverse impact on public health or the environment. Since the project triggered nonattainment new source review, the applicant is required to offset 74.34 tpy of NOx and 111.57 tpy VOC at a ratio of 1.3 to 1.0 applicable for the HGB severe ozone nonattainment designation with emission credit reduction credits (ERCs) of 96.7 tpy for NOx and 145.1 for VOC. In addition to, or in place of, using credits, the applicant may use up to 94.8 tpy of Mass Emission Cap and Trade (MECT) allowances to offset the 72.06 tpy NOx project emission increase for the following MECT facilities authorized by this permit at a ratio of 1.3 to 1.0: the Simple Cycle Unit 1A turbine combustion generator (EPN LSPS-1A) and Natural Gas Dewpoint Heater (EPN LSPS-NGDPHTR).

Permit Concurrence and Related Authorization Actions

Is the applicant in agreement with special conditions?	**Yes**
Company representative(s):	**Jeremy Halland**
Contacted Via:	**Email**
Date of contact:	**12/17/2024**
Other permit(s) or permits by rule affected by this action:	**N/A**
List permit and/or PBR number(s) and actions required or taken:	**N/A**

Christopher J. Loughran	3/8/2025	Kristyn Campbell	3/11/2025
Project Reviewer Christopher Loughran, P.E.	Date	Section Manager Kristyn Campbell	Date