Trinity Consultants
555 N Carancahua St, Ste 820, Corpus Christi, TX 78401 / P 361.883.1668 / F 361.883.1620 / **trinityconsultants.com**

July 10th, 2024

Texas Commission on Environmental Quality
Rule Registrations Section, Air Permits Division (APD) - MC163
12100 Park 35 Circle, Building F, First Floor
Austin, TX, 78753

Submitted electronically via STEERS

Re: **EGU Standard Permit**
Kerrville Public Utility Board
Rock Island Generating Power Plant
Colorado County, Texas
Customer Reference Number: CN600733943
Regulated Entity Number: TBD

Dear Mr. Bowers:

On behalf of Kerrville Public Utility Board (KPUB), Trinity Consultants (Trinity) is hereby submitting the enclosed registration for an Air Quality Standard Permit for Electric Generating Units for the Rock Island Generating Power Plant in Colorado County, Texas.

A completed PI-1S Form is enclosed. The registration fee of $900 will be paid online and the application is submitted electronically through the TCEQ's STEERS e-permit system.

If you have any questions or require additional information, please feel free to contact me at 512-965-5556.

Sincerely,
Trinity Consultants

Connor McNally

Connor McNally
Senior Consultant

Attachments

cc: Ms. Joseph Doby, Air Section Manager, TCEQ Region 12, Houston, TX
Mr. Randy Bird, Chief Operating Officer, Sky Global Partners, Houston, TX

REGISTRATION FOR TCEQ AIR QUALITY

Standard Permit for Electric Generating Units

Kerrville Public Utility Board
Rock Island Generating Power Plant
Colorado County, Texas

TRINITY CONSULTANTS
555 N Carancahua Street
Suite 820
Corpus Christi, TX 78401

July 2024

Trinity Consultants

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1. PROJECT DESCRIPTION

1.1 Introduction

Kerrville Public Utility Board (KPUB) plans to construct and operate an Electrical Generating Power Plant in Colorado County, Texas (Rock Island Generating Power Plant). KPUB is submitting this Air Quality Standard Permit for Electric Generating Units (AQSEGU) permit registration, to authorize the construction of the proposed electrical generating facility. KPUB has been assigned Texas Commission on Environmental Quality (TCEQ) Customer Number (CN) 600733943. The Rock Island Generating Power Plant is not currently assigned a TCEQ Regulated Entity Number (RN). A Core Data Form is included in Section 2.

1.2 Project Description

The Rock Island Generating Power Plant will consist of six natural gas fired MAN 18V51/60G spark ignition reciprocating internal combustion engines (Emission Points [EPNs] ENG-1 through ENG-6). Each engine will have a nominal generating capacity of 20.7 MW, with a combined plant wide total generating capacity of 124 MW. The facility will be used to meet peak electricity demand requirements. Facilities and emissions authorized with this permit registration consist of routine combustion emissions from engines, and fugitive equipment emissions. Additional ancillary emissions sources anticipated may also include black start emergency generators, dew point heaters, waste oil and wastewater separation and transfer facilities, diesel, aqueous or urea storage tanks and maintenance startup and shutdown. The ancillary equipment and emissions sources listed qualify for authorization via 30 TAC §106.183, §106.263, §106.472, §106.476, §106.511 and §106.532, and will be authorized separate of this permit registration.

Table 1-1 at the end of this section, presents a summary of the project emissions compared to Prevention of Significant Deterioration (PSD) applicability thresholds. As outlined in Table 1-1 the project emissions are below the major source thresholds for all pollutants; therefore, PSD permitting requirements do not apply.

1.3 Registration Organization

This registration is organized into the following sections:

- **Section 1** presents the registration objectives and organization.
- **Section 2** contains the TCEQ Form PI-1S and Core Data Form.
- **Section 3** provides a description of the site location and area map.
- **Section 4** contains a process description and process flow diagram.
- **Section 5** contains a completed Table 1(a) and describes the calculation methods that were used to estimate emissions.
- **Section 6** addresses applicability of the federal Nonattainment New Source Review (NNSR) and Prevention of Significant Deterioration Permitting Requirements.
- **Section 7** presents the standard permit applicability analysis and outlines general requirements listed in 30 TAC §116.610 and §116.615.
- **Appendix A** contains detailed routine emission calculations.
- **Appendix B** contains a copy of the TCEQ Air Quality Standard Permit for Electric Generating Units.
- **Appendix C** contains vendor performance data.

Table 1-1
NNSR/PSD Applicability Analysis Summary
Kerrville Public Utility Board

EPN	Facility Description	Federal NSR Classification	Project Emissions Increase Basis	Authorization	Table(1)	VOC			NO_x			CO			SO_2		
						Baseline	Proposed	Project Increase	Baseline	Proposed	Project Increase	Baseline	Proposed	Project Increase	Baseline	Proposed	Project Increase
						tpy	tpy	tpy	tpy	tpy	tpy	tpy	tpy	tpy	tpy	tpy	tpy
ENG-1	Engine No. 1	New	PTE	EGU Non-rule standard permit	A-1	-	10.52	10.52	-	12.69	12.69	-	23.99	23.99	-	12.20	12.20
ENG-2	Engine No. 2	New	PTE	EGU Non-rule standard permit	A-1	-	10.52	10.52	-	12.69	12.69	-	23.99	23.99	-	12.20	12.20
ENG-3	Engine No. 3	New	PTE	EGU Non-rule standard permit	A-1	-	10.52	10.52	-	12.69	12.69	-	23.99	23.99	-	12.20	12.20
ENG-4	Engine No. 4	New	PTE	EGU Non-rule standard permit	A-1	-	10.52	10.52	-	12.69	12.69	-	23.99	23.99	-	12.20	12.20
ENG-5	Engine No. 5	New	PTE	EGU Non-rule standard permit	A-1	-	10.52	10.52	-	12.69	12.69	-	23.99	23.99	-	12.20	12.20
ENG-6	Engine No. 6	New	PTE	EGU Non-rule standard permit	A-1	-	10.52	10.52	-	12.69	12.69	-	23.99	23.99	-	12.20	12.20
FUG	Fugitive Piping Components	New	PTE	EGU Non-rule standard permit	A-2	-	6.06	6.06	-	-	-	-	-	-	-	-	-
Project Increase (tpy)								***69.20***			***76.16***			***143.91***			***73.20***
Major Source Threshold (tpy)								*250*			*250*			*250*			*250*
Site Existing Major Source (Yes/No)								*No*			*No*			*No*			*No*
Federal Review Required (Yes/No)								*No*			*No*			*No*			*No*

Table 1-1
NNSR/PSD Applicability Analysis Summary
Kerrville Public Utility Board

EPN	Facility Description	Federal NSR Classification	Project Emissions Increase Basis	Authorization	Table(1)	PM			PM_{10}			$PM_{2.5}$		
						Baseline	Proposed	Project Increase	Baseline	Proposed	Project Increase	Baseline	Proposed	Project Increase
						tpy	tpy	tpy	tpy	tpy	tpy	tpy	tpy	tpy
ENG-1	Engine No. 1	New	PTE	EGU Non-rule standard permit	A-1	-	19.99	19.99	-	19.99	19.99	-	19.99	19.99
ENG-2	Engine No. 2	New	PTE	EGU Non-rule standard permit	A-1	-	19.99	19.99	-	19.99	19.99	-	19.99	19.99
ENG-3	Engine No. 3	New	PTE	EGU Non-rule standard permit	A-1	-	19.99	19.99	-	19.99	19.99	-	19.99	19.99
ENG-4	Engine No. 4	New	PTE	EGU Non-rule standard permit	A-1	-	19.99	19.99	-	19.99	19.99	-	19.99	19.99
ENG-5	Engine No. 5	New	PTE	EGU Non-rule standard permit	A-1	-	19.99	19.99	-	19.99	19.99	-	19.99	19.99
ENG-6	Engine No. 6	New	PTE	EGU Non-rule standard permit	A-1	-	19.99	19.99	-	19.99	19.99	-	19.99	19.99
FUG	Fugitive Piping Components	New	PTE	EGU Non-rule standard permit	A-2	-	-	-	-	-	-	-	-	-
Project Increase (tpy)								*119.93*			*119.93*			*119.93*
Major Source Threshold (tpy)								*250*			*250*			*250*
Site Existing Major Source (Yes/No)								*No*			*No*			*No*
Federal Review Required (Yes/No)								*No*			*No*			*No*

2. ADMINISTRATIVE FORMS AND CHECKLISTS

This section contains the following forms and information:

- Form PI-1S
- Core Data Form

Form PI-1S
Registrations for Air Standard Permit
(Page 1)
Texas Commission on Environmental Quality

I. Registrant Information
A. Company or Other Legal Customer Name:
Kerrville Public Utility Board
B. Company Official Contact Information (☒ Mr. ☐ Mrs. ☐ Ms. ☐ Other:)_____
Name: Randall A. Bird
Title: Chief Operating Officer
Mailing Address: 1302 Waugh Drive #896
City: Houston
State: Texas
ZIP Code: 77019
Telephone No.: 859-200-4752
Fax No.:
Email Address: rbird@skyglobalpartners.com
All permit correspondence will be sent via email.
C. Technical Contact Information (☒ Mr. ☐ Mrs. ☐ Ms. ☐ Other:)_____
Name: Connor McNally
Title: Senior Consultant
Company Name: Trinity Consultants
Mailing Address: 555 N Carancahua St, Ste 820
City: Corpus Christi
State: Texas
ZIP Code: 78401
Telephone No.: 512-965-5556
Fax No.:
Email Address: Connor.McNally@trinityconsultants.com
II. Facility and Site Information
A. Name and Type of Facility
Facility Name: Rock Island Generating
Type of Facility: ☒ Permanent ☐ Temporary

Form PI-1S
Registrations for Air Standard Permit
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II. Facility and Site Information *(continued)*
For portable units, please provide the serial number of the equipment being authorized below.
Serial No(s):
B. Facility Location Information
Street Address: 3214 Highway 90A
If there is no street address, provide written driving directions to the site and provide the closest city or town, county, and ZIP code for the site (attach description if additional space is needed).
City: Altair
County: Colorado
ZIP Code: 77412
C. Core Data Form (**required** for Standard Permits 6006, 6007, and 6013).
Is the Core Data Form (TCEQ Form 10400) attached? ☒ Yes ☐ No
Customer Reference Number (CN): CN600733943
Regulated Entity Number (RN): TBD
D. TCEQ Account Identification Number (if known):
E. Type of Action
☒ Initial Application ☐ Change to Registration ☐ Renewal ☐ Renewal Certification
For Change to Registration, Renewal, or Renewal Certification actions provide the following:
Registration Number:
Expiration Date:
F. Standard Permit Claimed: 6005
G. Previous Standard Exemption or PBR Registration Number:
Is this authorization for a change to an existing facility previously authorized under a standard exemption or PBR? ☐ Yes ☒ No
If "Yes," enter previous standard exemption number(s) and PBR registration number(s) and associated effective date in the spaces provided below.

Form PI-1S
Registrations for Air Standard Permit
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II. Facility and Site Information *(continued)*
H. Other Facilities at this Site Authorized by Standard Exemption, PBR, or Standard Permit
Are there any other facilities at this site that are authorized by an Air Standard Exemption, PBR, or Standard Permit? ☐ Yes ☒ No
If "Yes," enter standard exemption number(s), PBR registration number(s), and Standard Permit registration number(s), and associated effective date in the spaces provided below.
Standard Exemption, PBR Registration, and Standard Permit Registration Number(s) and Effective Date(s)
I. Other Air Preconstruction Permits
Are there any other air preconstruction permits at this site? ☐ Yes ☒ No
If "Yes," enter permit number(s) in the spaces provided below.
J. Affected Air Preconstruction Permits
Does the standard permit directly affect any permitted facility? ☐ Yes ☒ No
If "Yes," enter permit number(s) in the spaces provided below.
K. Federal Operating Permit (FOP) Requirements
Is this facility located at a site that is required to obtain a FOP pursuant to 30 TAC Chapter 122? ☒ Yes ☐ No ☐ To Be Determined
Check the requirements of 30 TAC Chapter 122 that will be triggered if this standard permit is approved (*check all that apply).*
☒ Initial Application for a FOP ☐ Significant Revision for a SOP ☐ Minor Revision for a SOP
☐ Operational Flexibility/Off Permit Notification for a SOP ☐ Revision for a GOP
☐ To be Determined ☐ None
Identify the type(s) of FOP issued and/or FOP application(s) submitted/pending for the site. *(check all that apply)*
☐ SOP ☐ GOP ☐ GOP application/revision (submitted or under APD review) ☒ N/A
☐ SOP application/revision (submitted or under APD review)

Form PI-1S
Registrations for Air Standard Permit
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Texas Commission on Environmental Quality

III. Fee Information *(go to www.tceq.texas.gov/epay to pay online)*	
A. Fee Amount: $900	
B. Voucher number from ePay: STEERS	
IV. Public Notice *(if applicable)*	
A. Responsible Person (☐ Mr. ☐ Mrs. ☐ Ms. ☐ Other:)_____	
Name:	
Title:	
Company:	
Mailing Address:	
City:	
State:	
ZIP Code:	
Telephone No.:	
Fax No.:	
Email Address:	
B. Technical Contact (☐ Mr. ☐ Mrs. ☐ Ms. ☐ Other):_____	
Name:	
Title:	
Company:	
Mailing Address:	
City:	
State:	
ZIP Code:	
Telephone No.:	
Fax No.:	
Email Address:	
C. Bilingual Notice	
Is a bilingual program required by the Texas Education Code in the School District?	☐ Yes ☐ No
Are the children who attend either the elementary school or the middle school closest to your facility eligible to be enrolled in a bilingual program provided by the district?	☐ Yes ☐ No

IV.	**Public Notice *(continued)*** *(if applicable) (continued)*	
If "Yes," list which language(s) are required by the bilingual program below?		
D.	Small Business Classification and Alternate Public Notice	
Does this company (including parent companies and subsidiary companies) have fewer than 100 employees or less than $6 million in annual gross receipts?		☐ Yes ☐ No
Is the site a major source under 30 TAC Chapter 122, Federal Operating Permit Program?		☐ Yes ☐ No
Are the site emissions of any individual regulated air contaminant equal to or greater than 50 tpy?		☐ Yes ☐ No
Are the site emissions of all regulated air contaminant combined equal to or greater than 75 tpy?		☐ Yes ☐ No
V.	**Renewal Certification Option**	
A.	Does the permitted facility emit an air contaminant on the Air Pollutant Watch List, and is the permitted facility located in an area on the watch list?	☐ Yes ☐ No
B.	For facilities participating in the Houston/Galveston/Brazoria area (HGB) cap and trade program for highly reactive VOCs (HRVOCs), do the HRVOCs need to be speciated on the maximum allowable emission rates table (MAERT)?	☐ Yes ☐ No
C.	Does the company and/or site have an unsatisfactory compliance history?	☐ Yes ☐ No
D.	Are there any applications currently under review for this standard permit registration?	☐ Yes ☐ No
E.	Are scheduled maintenance, startup, or shutdown emissions required to be included in the standard permit registration at this time?	☐ Yes ☐ No
F.	Are any of the following actions being requested at the time of renewal:	☐ Yes ☐ No
1.	Are there any facilities that have been permanently shutdown that are proposed to be removed from the standard permit registration?	☐ Yes ☐ No
2.	Do changes need to be made to the standard permit registration in order to remain in compliance?	☐ Yes ☐ No
3.	Are sources or facilities that have always been present and represented, but never identified in the standard permit registration, proposed to be included with this renewal?	☐ Yes ☐ No
4.	Are there any changes to the current emission rates table being proposed?	☐ Yes ☐ No
*Note: If answers to all of the questions in Section V. Renewal Certification Option are "No," use the certification option and skip to Section VII. of this form. If the answers to any of the questions in Section V. Renewal Certification Option are "Yes," the certification option **cannot** be used.*		
*If notice is applicable and comments are received in response to the public notice, the application does not qualify for the renewal certification option.		

Form PI-1S
Registrations for Air Standard Permit
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VI. Technical Information Including State and Federal Regulatory Requirements		
Place a check next to the appropriate box to indicate what you have included in your submittal. *Note: Any technical or essential information needed to confirm that facilities are meeting the requirements of the standard permit must be provided. Not providing key information could result in an automatic deficiency and voiding of the project*.		
A. Standard Permit requirements (Checklists are optional; however, your review will go faster if you provide applicable checklists.)		
Did you demonstrate that the general requirements in 30 TAC Sections 116.610 and 116.615 are met?	☒ Yes	☐ No
Did you demonstrate that the individual requirements of the specific standard permit are met?	☒ Yes	☐ No
B. Confidential Information (All pages properly marked "CONFIDENTIAL").	☐ Yes	☒ No
C. Process Flow Diagram.	☒ Yes	☐ No
D. Process Description.	☒ Yes	☐ No
E. Maximum Emissions Data and Calculations.	☒ Yes	☐ No
F. Plot Plan.	☒ Yes	☐ No
G. Projected Start Of Construction Date, Start Of Operation Date, and Length of Time at Site:	☒ Yes	☐ No
Projected Start of Construction (provide date): 11/01/2024		
Projected Start of Operation (provide date): 12/15/2026		
Length of Time at the Site:		
VII. Delinquent Fees and Penalties		
This form **will not be processed** until all delinquent fees and/or penalties owed to the TCEQ or the Office of the Attorney General on behalf of the TCEQ are paid in accordance with the Delinquent Fee and Penalty Protocol. For more information regarding Delinquent Fees and Penalties, go to the TCEQ website at: www.tceq.texas.gov/agency/financial/fees/delin/index.html.		

VIII. Signature Requirements
The signature below confirms that I have knowledge of the facts included in this application and that these facts are true and correct to the best of my knowledge and belief. I further state that to the best of my knowledge and belief, the project for which application is made will not in any way violate any provision of the Texas Water Code (TWC), Chapter 7; the Texas Health and Safety Code, Chapter 382, the Texas Clean Air Act (TCAA) the air quality rules of the Texas Commission on Environmental Quality; or any local governmental ordinance or resolution enacted pursuant to the TCAA. I further state that I understand my signature indicates that this application meets all applicable nonattainment, prevention of significant deterioration, or major source of hazardous air pollutant permitting requirements. The signature further signifies awareness that intentionally or knowingly making or causing to be made false material statements or representations in the application is a criminal offense subject to criminal penalties.
Name (printed): Randall A. Bird
Signature (original signature required):
Date:
IX. Copies of the Registration
The PI-1S application must be submitted through ePermits. No additional copies need to be sent to the Regional Office or local Air Pollution Control Program(s). The link to ePermits can be found here: www3.tceq.texas.gov/steers/.

TCEQ Use Only

TCEQ Core Data Form

For detailed instructions on completing this form, please read the Core Data Form Instructions or call 512-239-5175.

SECTION I: General Information

1. Reason for Submission (*If other is checked please describe in space provided.*)

☒ New Permit, Registration or Authorization (*Core Data Form should be submitted with the program application.*)

☐ Renewal *(Core Data Form should be submitted with the renewal form)* ☐ Other

2. Customer Reference Number *(if issued)*	Follow this link to search for CN or RN numbers in Central Registry**	**3. Regulated Entity Reference Number** *(if issued)*
CN 600733943		**RN**

SECTION II: Customer Information

4. General Customer Information | **5. Effective Date for Customer Information Updates** (mm/dd/yyyy)

☐ New Customer ☐ Update to Customer Information ☐ Change in Regulated Entity Ownership
☐ Change in Legal Name (Verifiable with the Texas Secretary of State or Texas Comptroller of Public Accounts)

The Customer Name submitted here may be updated automatically based on what is current and active with the Texas Secretary of State (SOS) or Texas Comptroller of Public Accounts (CPA).

6. Customer Legal Name *(If an individual, print last name first: eg: Doe, John)* | *If new Customer, enter previous Customer below:*

7. TX SOS/CPA Filing Number	**8. TX State Tax ID** (11 digits)	**9. Federal Tax ID** (9 digits)	**10. DUNS Number** *(if applicable)*

11. Type of Customer: ☐ Corporation ☐ Individual Partnership: ☐ General ☐ Limited
Government: ☐ City ☐ County ☐ Federal ☐ Local ☐ State ☐ Other ☐ Sole Proprietorship ☐ Other:

12. Number of Employees
☐ 0-20 ☐ 21-100 ☐ 101-250 ☐ 251-500 ☐ 501 and higher

13. Independently Owned and Operated?
☐ **Yes** ☐ **No**

14. Customer Role (Proposed or Actual) – *as it relates to the Regulated Entity listed on this form. Please check one of the following*

☐ Owner ☐ Operator ☐ Owner & Operator
☐ Occupational Licensee ☐ Responsible Party ☐ VCP/BSA Applicant ☐ Other:

15. Mailing Address:							
	City		**State**		**ZIP**		**ZIP + 4**	

16. Country Mailing Information *(if outside USA)*	**17. E-Mail Address** *(if applicable)*

18. Telephone Number	**19. Extension or Code**	**20. Fax Number** *(if applicable)*

( ) -		( ) -

SECTION III: Regulated Entity Information

21. General Regulated Entity Information *(If 'New Regulated Entity" is selected, a new permit application is also required.)*

☒ New Regulated Entity ☐ Update to Regulated Entity Name ☐ Update to Regulated Entity Information

The Regulated Entity Name submitted may be updated, in order to meet TCEQ Core Data Standards (removal of organizational endings such as Inc, LP, or LLC).

22. Regulated Entity Name *(Enter name of the site where the regulated action is taking place.)*

Rock Island Generating Plant

23. Street Address of the Regulated Entity: ***(No PO Boxes)***	3214 Highway 90A							
	City	Altair	**State**	TX	**ZIP**	77412	**ZIP + 4**	
24. County								

If no Street Address is provided, fields 25-28 are required.

25. Description to Physical Location:					
26. Nearest City			**State**		**Nearest ZIP Code**

Latitude/Longitude are required and may be added/updated to meet TCEQ Core Data Standards. (Geocoding of the Physical Address may be used to supply coordinates where none have been provided or to gain accuracy).

27. Latitude (N) In Decimal:			**28. Longitude (W) In Decimal:**		
Degrees	Minutes	Seconds	Degrees	Minutes	Seconds

29. Primary SIC Code (4 digits)	**30. Secondary SIC Code** (4 digits)	**31. Primary NAICS Code** (5 or 6 digits)	**32. Secondary NAICS Code** (5 or 6 digits)
4911		221112	

33. What is the Primary Business of this entity? *(Do not repeat the SIC or NAICS description.)*

Power Generation

34. Mailing Address:	**2250 Memorial Blvd**							
	City	**Kerrville**	**State**	**TX**	**ZIP**	**78028**	**ZIP + 4**	
35. E-Mail Address:	**rbird@skyglobalpartners.com**							

36. Telephone Number	**37. Extension or Code**	**38. Fax Number** *(if applicable)*
(859) 200-4752		( ) -

39. TCEQ Programs and ID Numbers Check all Programs and write in the permits/registration numbers that will be affected by the updates submitted on this form. See the Core Data Form instructions for additional guidance.

☐ Dam Safety	☐ Districts	☐ Edwards Aquifer	☐ Emissions Inventory Air	☐ Industrial Hazardous Waste
☐ Municipal Solid Waste	☒ New Source Review Air	☐ OSSF	☐ Petroleum Storage Tank	☐ PWS
☐ Sludge	☐ Storm Water	☐ Title V Air	☐ Tires	☐ Used Oil
☐ Voluntary Cleanup	☐ Wastewater	☐ Wastewater Agriculture	☐ Water Rights	☐ Other:

SECTION IV: Preparer Information

40. Name:	Connor McNally	**41. Title:**	Senior Consultant

42. Telephone Number	**43. Ext./Code**	**44. Fax Number**	**45. E-Mail Address**
(512 **)** 965-5556		**( )** -	connor.mcnally@trinityconsultants.com

SECTION V: Authorized Signature

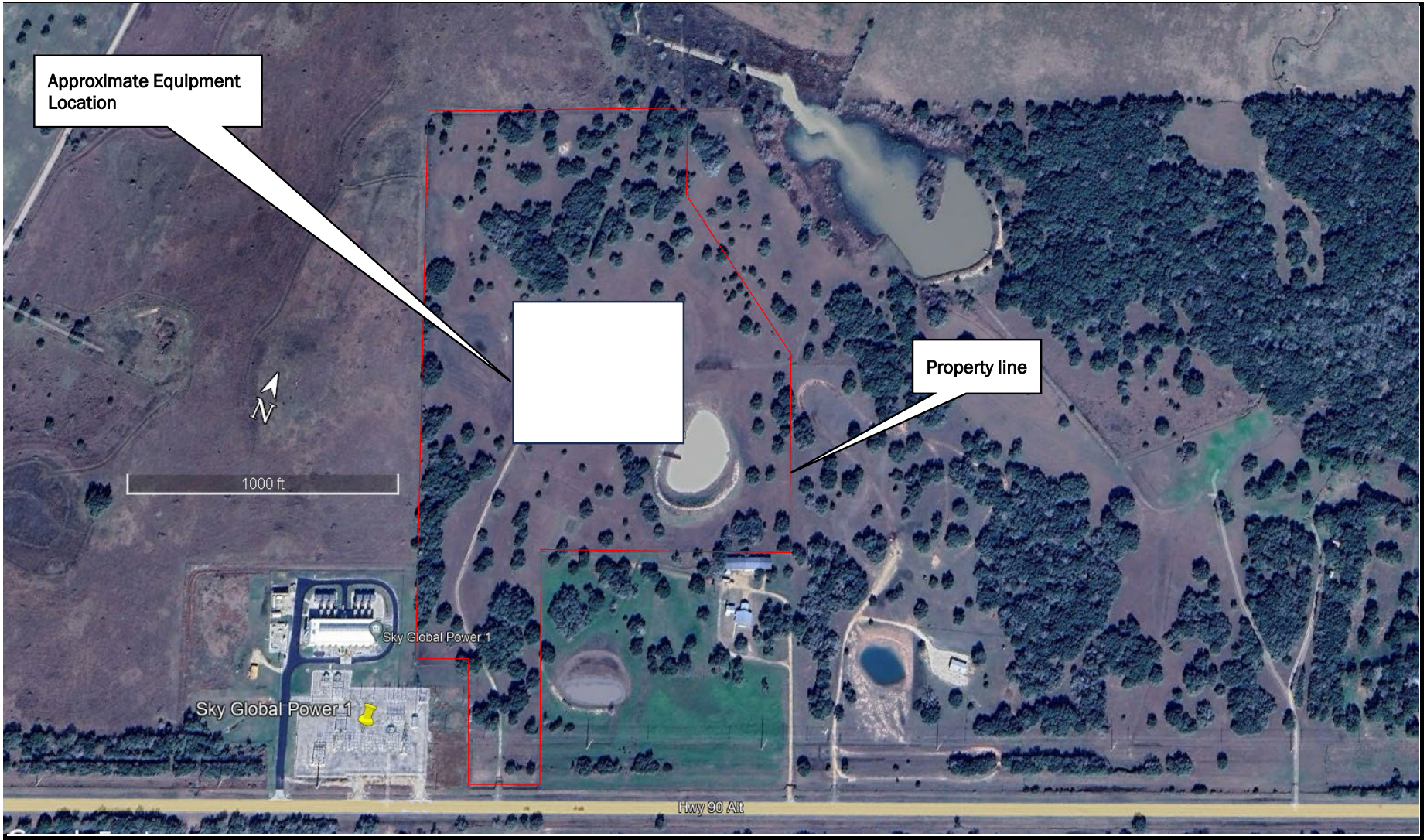
46. By my signature below, I certify, to the best of my knowledge, that the information provided in this form is true and complete, and that I have signature authority to submit this form on behalf of the entity specified in Section II, Field 6 and/or as required for the updates to the ID numbers identified in field 39.

Company:	Kerville Public Utility Board	**Job Title:**	Chief Operating Officer		
Name *(In Print):*	Randall A. Bird			**Phone:**	**(** 859 **)** 200- **4752**
Signature:				**Date:**	

3. LOCATION INFORMATION

The Site is located in Colorado County, Texas. An Area Map and Plot Plan is provided as Figure 3-1.

Approximate locations of emission sources referenced in figure 3-1 may change based on final project planning details and are not to be considered enforceable representations.



Approximate locations of emissions sources represented in this registration application may change based on final project planning details and should not be considered enforceable representations.	Kerrville Public Utility Board Colorado County	Figure 3-1 Area Map	Trinity Consultants

4. PROCESS DESCRIPTION

The Rock Island Generating Power Plant will consist of six natural gas fired MAN 18V51/60G spark ignition reciprocating internal combustion engines used to supply electrical power to the grid. A summary of general configuration and operations of the engines included in this permit registration is provided below. A simplified process flow diagram (PFD) outlining general equipment and configuration of each engine is provided in Figure 4-1.

4.1 Reciprocating Internal Combustion Engines

Each 20.7 MW engine is mounted on a steel frame which serves as a lubricating oil service tank. The engines will include automated control equipment, pressurized oil systems, engine cooling packages and gas inlet lines. Each engine will employ dedicated electric driven radiators used to dissipate heat from the high temperature and low temperature cooling circuits. To achieve the required air to fuel ratio, intake air is controlled, filtered, and mixed with natural gas prior to entering the combustion chamber. By ensuring complete combustion, combustion byproduct emissions will be minimized.

4.2 Selective Catalytic Reduction

Each engine will be equipped with Selective Catalytic Reduction (SCR) to control emissions of NO_x. The SCR will be placed downstream of the engine exhaust gas outlet to achieve optimal temperature range for the catalyst. Aqueous ammonia solution or urea will be the reducing agent used in each SCR. Reducing agents will be stored onsite, vaporized, and injected in controlled amounts to the front of the catalyst layers housed in each SCR reactor. NO_x in the flue gas reacts with ammonia in the catalyst pores to produce nitrogen and water vapor. The reduction reaction can be summarized by the following chemical reaction:

$NOx + NH_3 + O_2 = N2 + H_2O$

The SCR system will be used further to reduce NOx emissions to meet the EGU standard permit emission limit of 0.14 lbs of NOx per megawatt-hour.

4.3 Oxidation Catalyst

Each engine will be equipped with oxidation catalyst to reduce emissions of VOC, CO and HAPs. The oxidation catalyst will be housed in a reactor up stream of the exhaust stack for each engine. The catalytic oxidation reaction is exothermic and converts CO or hydrocarbon to CO_2. The reaction can be summarized by the following reaction:

[Hydrocarbons $+O_2 = CO_2 + H_2O$]

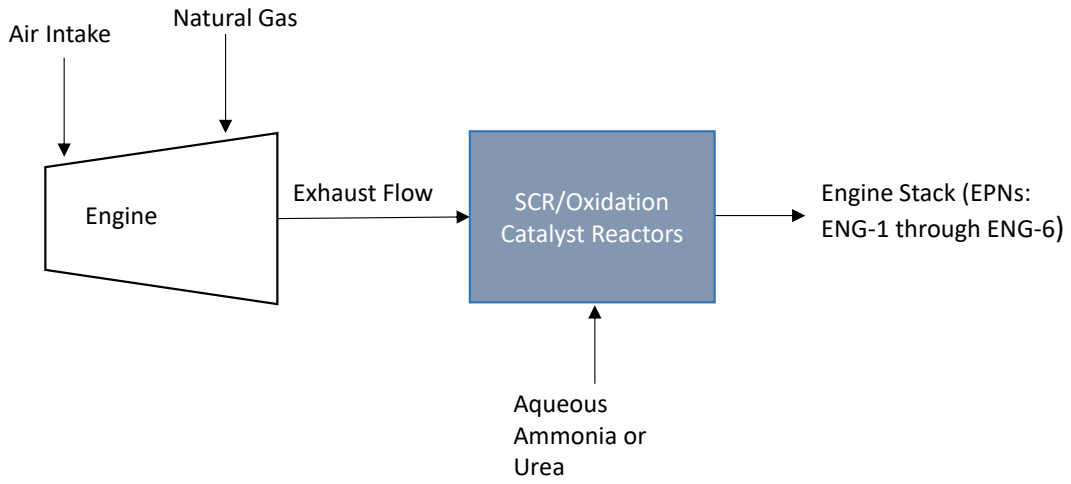
4.4 Ancillary Equipment

Ancillary equipment and emission sources at the site may include diesel fired black start generator, dew point heaters, diesel fuel storage tanks. Waste oil will be periodically collected and disposed offsite using frac tanks and vacuum trucks. Other maintenance activities may include engine startup, water washing, intake filter maintenance and disposal, SCR catalyst handling, and fugitive piping equipment maintenance and replacement. Emissions from miscellaneous ancillary equipment and low emitting maintenance activities

identified in this section will be authorized separate of this registration via PBR Nos. 30 TAC §106.183 §106.263, §106.472, §106.511 and §106.532.

Figure 4-1 Process Flow Diagram

One Unit Shown-
Typical All Units



Kerrville Public Utility Board **Colorado County, Texas**	Trinity Consultants

5. EMISSION CALCULATIONS

The following describes the calculations used to determine the emission rates associated with each emission source category included in this permit registration. A summary of the proposed emissions is included in Table 1(a) at the end of this section. Detailed emission calculations are presented in Appendix A of this registration.

5.1 Reciprocating Internal Combustion Engines

Routine emissions hourly emissions from engines are derived based on vendor provided design and pollutant estimates at representative operating conditions.

5.1.1 Nitrogen Oxide

Nitrogen oxide (NOx) emissions from gas-fired combustion sources result when elemental nitrogen and oxygen combine at high temperatures in the combustion chamber (thermal NOx), or the oxidation of organically bound nitrogen contained in fuel (fuel NOx). Pipeline quality natural gas containing negligible amounts of organic nitrogen will be used as fuel for each engine to limit formation of fuel NOx and SCR will be used to limit thermal NOx from the combustion process. Routine emissions of nitrogen oxide included in this registration are estimated based applicable EGU standard permit limitation of 0.14 lb/MW-hr.

5.1.2 Carbon Monoxide and Volatile Organic Compounds

Carbon monoxide (CO) and volatile organic compound (VOC) emissions occur from incomplete combustion. Each engine will be equipped with an oxidation catalyst to further limit the concentration of CO and VOC compounds emitted. Emissions of CO are calculated based on vendor provided estimate of 0.12 grams per kilowatt (g/kWh). Total VOC emissions are calculated based on a worst-case emission factor of 0.053 g/kWh, derived from vendor provided estimates and a conservative margin added for off-design conditions.

5.1.3 Particulate Matter

Particulate matter (PM) emissions from engines primarily occur from inert solids contained in the fuel, combustion air, and unburned hydrocarbons which agglomerate to form particles in the exhaust. Emissions of particulate are conservatively estimated based on a maximum emission factor of 0.1 g/kWh. All particulate matter is conservatively assumed to be less than 2.5 microns in diameter such that total PM emissions are equal to both PM_{10} and $PM_{2.5}$.

5.1.4 Sulfur Dioxide

Sulfur dioxide (SO_2) emissions result from oxidation of trace sulfur species in natural gas. SO_2 emissions are estimated based on an assumed worst-case sulfur content of 5 grains per 100 standard cubic feet.

5.1.5 Ammonia Emissions

Ammonia (NH_3) emissions occur due to slip of excess ammonia from the SCR systems. NH_3 emissions are estimated based on a maximum slip concentration of 10 ppmvd @ 15% O_2.

5.1.6 Maintenance, Startup and Shutdown

Maintenance, Startup and Shutdown (MSS) will occur as part of regularly scheduled operations. The model engines are preferred due to their fast-start capabilities and ability to respond to ever-changing grid needs. As such, a typical startup will last less than 10 minutes and will not exceed 30 minutes. In accordance with TCEQ policy, MSS emissions from engines will be authorized separate of this registration under 30 TAC §106.263.

Detailed routine engine emissions calculations are included in Appendix A as Table A-1.

5.2 Piping Equipment Fugitives

The fugitive emissions from piping components and ancillary equipment are estimated using methods outlined in the TCEQ's *Air Permit Technical Guidance for Chemical Sources: Fugitive Guidance,* June 2018, which are based on US EPA's *Protocol for Equipment Leak Emission Estimates,* November 1995. Total emission rates are obtained by multiplying the number of fugitive components of a particular type by the appropriate emission factor.

Detailed piping fugitive calculations are included in Appendix A as Table A-2.

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Table 1(a) Emission Point Summary

Date: July 2024	Permit No.: TBD	Regulated Entity No.: TBD
Area Name: Rock Island Generating Power Plant		Customer Reference No.: CN600733943

Review of applications and issuance of permits will be expedited by supplying all necessary information requested on this Table.

AIR CONTAMINANT DATA					
1. Emission Point			2. Component or Air Contaminant Name	3. Air Contaminant Emission Rate	
(A) EPN	(B) FIN	(C) NAME		(A) POUND	(B) TPY
ENG-1	ENG-1	Engine No. 1	VOC	2.40	10.52
			NO_x	2.90	12.69
			CO	5.48	23.99
			PM	4.56	19.99
			PM_{10}	4.56	19.99
			$PM_{2.5}$	4.56	19.99
			SO_2	2.79	12.20
			CH_2O	0.80	3.51
			NH_3	2.80	12.28
ENG-2	ENG-2	Engine No. 2	VOC	2.40	10.52
			NO_x	2.90	12.69
			CO	5.48	23.99
			PM	4.56	19.99
			PM_{10}	4.56	19.99
			$PM_{2.5}$	4.56	19.99
			SO_2	2.79	12.20
			CH_2O	0.80	3.51
			NH_3	2.80	12.28
ENG-3	ENG-3	Engine No. 3	VOC	2.40	10.52
			NO_x	2.90	12.69
			CO	5.48	23.99
			PM	4.56	19.99
			PM_{10}	4.56	19.99
			$PM_{2.5}$	4.56	19.99
			SO_2	2.79	12.20
			CH_2O	0.80	3.51
			NH_3	2.80	12.28
ENG-4	ENG-4	Engine No. 4	VOC	2.40	10.52
			NO_x	2.90	12.69
			CO	5.48	23.99
			PM	4.56	19.99
			PM_{10}	4.56	19.99
			$PM_{2.5}$	4.56	19.99
			SO_2	2.79	12.20
			CH_2O	0.80	3.51
			NH_3	2.80	12.28
ENG-5	ENG-5	Engine No. 5	VOC	2.40	10.52
			NO_x	2.90	12.69
			CO	5.48	23.99
			PM	4.56	19.99
			PM_{10}	4.56	19.99
			$PM_{2.5}$	4.56	19.99
			SO_2	2.79	12.20
			CH_2O	0.80	3.51
			NH_3	2.80	12.28
ENG-6	ENG-6	Engine No. 6	VOC	2.40	10.52
			NO_x	2.90	12.69
			CO	5.48	23.99
			PM	4.56	19.99
			PM_{10}	4.56	19.99
			$PM_{2.5}$	4.56	19.99
			SO_2	2.79	12.20
			CH_2O	0.80	3.51
			NH_3	2.80	12.28
FUG	FUG	Fugitive Emissions	VOC	1.38	6.06
			NH_3	0.53	2.31

EPN = Emission Point Number
FIN = Facility Identification Number

6. FEDERAL NEW SOURCE REVIEW

Federal Prevention of Significant Deterioration (PSD) and/or Nonattainment New Source Review (NNSR) permitting requirements apply to construction of a new major stationary source or modification of an existing major source that results in a significant net increase in emissions of a regulated air pollutant. The Rock Island Generating Power Plant is a new source located in Colorado County, which is designated as attainment or unclassifiable for all criteria pollutants (i.e., principal pollutants with a National Ambient Air Quality Standard (NAAQS)). Therefore, NNSR permitting requirements are not applicable to the proposed project.

For PSD applicability purposes, the threshold for a "named" stationary source to be considered "major" is the potential to emit 100 tons per year (tpy) of any regulated NSR criteria pollutant. The threshold for an "unnamed" stationary source to be considered "major" is the potential to emit 250 tpy of any regulated NSR criteria pollutant. The Rock Island Generating Power Plant is classified as an unnamed source under current PSD regulations and the potential to emit is less than 250 tpy for all regulated pollutants.

Table 1-1 provides a summary of the total proposed project emissions. As shown in Table 1-1, the total new project emissions of each regulated NSR pollutant do not exceed the 250 tpy applicability thresholds. Therefore, this project does not trigger Federal New Source Review permitting requirements. A completed Table 1F for each pollutant is also provided at the end of this section.

TABLE 1F
AIR QUALITY APPLICATION SUPPLEMENT

Permit No.: **TBD**	Application Submittal Date: **July 2024**
Company: **Kerrville Public Utility Board**	
RN: **TBD**	Facility Location: **3214 Highway 90A**
City: **Altair, TX**	County: **Colorado County**
Permit Unit I.D.: **TBD**	Permit Name: **Rock Island Generating Power Plant**
Permit Activity: X New Source Modification	
Project or Process Description: **Electric Power Generation**	

Complete for all Pollutants with a Project Emission Increase.	POLLUTANTS							
	Ozone		CO	PM	PM_{10}	$PM_{2.5}$	NO_x	SO_2
	VOC	NO_x						
Nonattainment?	No	No	No	No	No	No	No	No
PSD?	No	No	No	No	No	No	No	No
Existing site PTE (tpy)?	NA	NA	NA	NA	NA	NA	NA	NA
Proposed project emission increases (tpy from 2F)[2]	69.20	76.16	143.91	119.93	119.93	119.93	76.16	73.20
Is the existing site a major source?	No	No	No	No	No	No	No	No
If not, is the project a major source by itself?	No	No	No	No	No	No	No	No
If site is major, is project increase significant?	NA	NA	NA	NA	NA	NA	NA	NA
If netting required, estimated start of construction?	N/A							
Five years prior to start of construction	N/A						contemporaneous	
Estimated start of operation	N/A						period	
Net contemporaneous change, including proposed project, from Table 3F. (tpy)	NA	NA	NA	NA	NA	NA	NA	NA
Major NSR Applicable?	No	No	No	No	No	No	No	No

1 Other PSD pollutants. [Pb, H2S, TRS, H2SO4, Fluoride excluding HF, etc.]

2 Sum of proposed emissions minus baseline emissions, increases only.

The representations made above and on the accompanying tables are true and correct to the best of my knowledge.

Signature Title

7. RULE APPLICABILITY ANALYSIS

This section addresses general standard permit applicability and general requirements listed in 30 TAC §116.610 and §116.615.

7.1 Applicability — 30 TAC §116.610

This project will comply with all applicable requirements of 30 TAC §116.610 as follows:

§116.610(a)

Under the Texas Clean Air Act, §382.051, a project that meets the requirements for a standard permit listed in this subchapter or issued by the commission is hereby entitled to the standard permit, provided the following conditions listed in this section are met. For the purposes of this subchapter, project means the construction or modification of a facility, or a group of facilities submitted under the same registration.

(1) Any project that results in a net increase in emissions of air contaminants from the project other than carbon dioxide, water, nitrogen, methane, ethane, hydrogen, oxygen, or those for which a national ambient air quality standard has been established must meet the emission limitations of §106.261 of this title (relating to Facilities (Emission Limitations), unless otherwise specified by a particular standard permit.

The AQSPEGU (3)(A) states that "units which meet the conditions of this standard permit do not have to meet 30 TAC §116.610(a)(1), Applicability". This project will meet all the conditions of the AQSPEGU; therefore, a compliance demonstration with 30 TAC §106.261 is not required or included as part of this registration.

(2) Construction or operation of the project must be commenced prior to the effective date of a revision to this subchapter under which the project would no longer meet the requirements for a standard permit.

Construction and operation of the project will begin prior to the effective date of any revisions to this subchapter.

(3) The proposed project must comply with the applicable provisions of the Federal Clean Air Act (FCAA), §111 (concerning New Source Performance Standards) as listed under 40 Code of Federal Regulations (CFR) Part 60, promulgated by the United States Environmental Protection Agency (EPA).

The proposed project will be operated in compliance with applicable New Source Performance Standards including 40 CFR 60 Subparts A – General Provision and Subpart JJJJ – Standard of Performance for Stationary Spark Ignition Internal Engines. The engines are certified to comply with applicable table 1 emission limits summarized below.

- *CO (g/HP-hr): 2.0*

- *NOx (g/HP-hr): 1.0*
- *VOC (g/HP-hr): 0.7*

KPUB will operate and maintain the certified engines and control devices in accordance with the manufacturer's instructions. Records of engine certification or equivalent documentation and records of maintenance conducted on the engines will be maintained onsite.

(4) The proposed project must comply with the applicable provisions of FCAA, §112 (concerning hazardous air pollutants) as listed under 40 CFR Part 61, promulgated by the EPA.

Part 61 National Emissions Standards for Hazardous Air Pollutants are not applicable facilities included in this registration.

(5) The proposed project must comply with the applicable maximum achievable control technology standards as listed under 40 CFR Part 63, promulgated by the EPA under FCAA, §112 or as listed under Chapter 113, Subchapter C of this title (relating to National Emissions Standards for Hazardous Air Pollutants for Source Categories (FCAA, §112, 40 CFR Part 63)).

Engines will be operated in compliance with applicable National Emissions Standards for Hazardous Air Pollutants including 40 CFR 63 Subpart A –General Provisions and Subpart ZZZZ – National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines. Standard No. 2 for 4 stroke lean burn engines in Table 2a of this subpart applies. This standard may be met by reducing CO emissions by 93% or by limiting the concentration of formaldehyde to 14 ppmvd or less at 15% O2. Emission standards for each pollutant outlined under standard No. 2 will be met with the use of oxidation catalyst. KPUB will comply with standard 2b by maintaining catalyst to ensure that the pressure drop does not change by more than 2 inches of water from the pressure drop measured during the initial performance test. The exhaust temperature for the engines will be maintained within 450F and 1350F at the inlet of the catalyst bed. Temperature and pressure drop will be monitored in accordance with the parameter monitoring requirements of this subpart. KPUB will maintain records of maintenance and malfunctions of operations or air pollution control equipment.

(6) The If subject to Chapter 101, Subchapter H, Division 3 of this title (relating to Mass Emissions Cap and Trade Program) the proposed facility, group of facilities, or account must obtain allocations to operate.

The site is located in Colorado County and is therefore not regulated under the Mass Emissions Cap and Trade Program.

§116.610(b)

Any project that constitutes a new major stationary source or major modification as defined in §116.12 of this title (relating to Nonattainment and Prevention of Significant Deterioration Review Definitions) is subject to the requirements of §116.110 of this title (relating to Applicability) rather than this subchapter.

As documented in Table 1-1 and Section 6, the proposed project in and of itself does not constitute a new major source.

§116.610(c)

Persons may not circumvent by artificial limitations the requirements of §116.110 of this title.

KPUB will not use artificial limitations to circumvent the requirements of 30 TAC §116.610.

§116.610(d)

Any project involving a proposed affected source (as defined in §116.15(1) of this title (relating to Section 112(g) Definitions)) shall comply with all applicable requirements under Subchapter E of this chapter (relating to Hazardous Air Pollutants: Regulations Governing Constructed or Reconstructed Major Sources (FCAA, §112(g), 40 CFR Part 63)). Affected sources subject to Subchapter E of this chapter may use a standard permit under this subchapter only if the terms and conditions of the specific standard permit meet the requirements of Subchapter E of this chapter.

This project is not subject to the requirements specified under Subchapter E because it does not include unloading of organic compounds in any of the specified ozone non—attainment areas.

7.2 General Conditions – 30 TAC §116.615

The project will comply with all applicable general conditions of 30 TAC §116.615 to include compliance with all applicable rules and regulations of the commission adopted under Texas Health and Safety Code, Chapter 382, and with the intent of the Texas Clean Air Act (TCAA), including:

- Protection of public health and welfare
- Standard permit representations
- Construction progress
- Start-up notification
- Sampling requirements
- Equivalency of methods
- Recordkeeping
- Maintenance of emissions control
- Compliance with rules
- Distance limitations

7.3 EGU Standard Permit Conditions

The project will comply with all applicable conditions of the Electric Generating Unit Standard Permit as summarized below:

(1) Applicability.

(A) This standard permit may be used to authorize electric generating units installed or modified after the effective date of this Standard Permit and that meet the requirements of this standard permit.

Submittal of this registration, including a completed Form PI-1S satisfies the registration requirements of 30 TAC §116.611.

(B) This standard permit may not be used to authorize boilers. Boilers may be authorized under the Air Quality Standard Permit for Boilers; 30 TAC Section 106.183, Boilers, Heaters and Other Combustion Devices; or a permit issued under the requirements of 30 TAC Chapter 116.

No boilers are proposed at the site or being registered.

(2) Definitions (no applicable requirements)

(3) Administrative Requirements (no response required)

(A) Electric generating units shall be registered in accordance with 30 TAC Section 116.611, Registration to Use a Standard Permit, using a current Form PI-1S. Units which meet the conditions of this standard permit do not have to meet 30 TAC Section 116.610(a)(1), Applicability.

Submittal of this registration, including a completed Form PI-1S satisfies the registration requirements of 30 TAC §116.611.

(B) Registration applications shall comply with 30 TAC §116.614, Standard Permit Fees, for any single or multiple units at a site with a total generating capacity of 1 megawatt (MW) or greater. The fee for units or multiple units with a total generating capacity of less than 1 MW at a site shall be $100. The fee shall be waived for units or multiple units with a total generating capacity of less than 1 MW at a site that has certified nitrogen oxides (NOx) emissions that are less than 10 percent of the standards required by this standard permit.

The Standard Permit Fee of $900 is being paid electronically with this registration.

(C) No owner or operator of an electric generating unit shall begin construction and/or operation without first obtaining written approval from the executive director.

Construction will not commence prior to KPUB receiving written approval from the executive director.

(D) Records shall be maintained and provided to the TCEQ for the following: hours of operation, maintenance records and testing reports as required in (4)(G) below, and records of compliance with the fuel sulfur limits in (4)(C).

KPUB will maintain the records required by this condition.

(E) Electric generators powered by gas turbines must meet the applicable conditions, including testing and performance standards, of Title 40 Code of Federal Regulations (CFR) Part 60,

Subpart GG, Standards of Performance for Stationary Gas Turbines, and Applicable requirements of 40 CFR Part 60 Subpart KKKK, Standards of Performance for Stationary Combustion Turbines.

No gas turbines are proposed with this registration.

(F) Compliance with this standard permit does not exempt the owner or operator from complying with any applicable requirements of 30 TAC Chapter 117, Control of Air Pollution from Nitrogen Compounds, or 30 TAC Chapter 114, Control of Air Pollution from Motor Vehicles.

Facilities included in this permit registration are not regulated under 30 TAC Chapters 117. All vehicles used at the site will comply with applicable requirements of 30 TAC 114.

(4) General Requirements

(A) Emissions of NOx from the electric generating unit shall be certified by the manufacturer or by the owner or operator in pounds of pollutant per megawatt hour (lb/MWH). This certification must be displayed on the name plate of the unit or on a label attached to the unit. Test results from U.S. Environmental Protection Agency (EPA) reference methods, California Air Resources Board methods, or equivalent alternative testing methods approved by the executive director used to verify this certification shall be provided upon request to the TCEQ. The unit must operate on the same fuel for which the unit was certified.

KPUB will certify NOx emissions in lb/MWh. The certification will be displayed on the name plate or label attached to each engine.

(B) Electric generating units that use combined heat and power (CHP) may take credit for the heat recovered from the exhaust of the combustion unit to meet the emission standards in subsections (4)(D), (4)(E), and (4)(F). Credit shall be at the rate of one MWh for each 3.4 million British Thermal Units of heat recovered. The following requirements must be met to take credit for CHP for units not sold and certified as an integrated package by the manufacturer:

Combined heat and power units are not included in this registration; therefore, this requirement is not applicable.

(C) Fuels combusted in these electric generating units are limited to:

(i) Natural gas containing no more than ten grains total sulfur per 100 dry standard cubic feet;
(ii) Landfill gas, digester gas, stranded oilfield gas, or gaseous renewable fuel containing no more than 30 grains total sulfur per 100 dry standard cubic feet; or
(iii) Liquid fuels (including liquid renewable fuel) not containing waste oils or solvents and containing less than 0.05 percent by weight sulfur.

Fuel will be limited to natural gas that contains no more than ten grains of total sulfur per 100 dry standard cubic feet.

(D) Except as provided in subsections (4)(F) and (4)(H), NOx emissions for units 10 MW or less shall meet the following limitations based upon the date the unit is installed and the region in which it operates:

East Texas Region:

(i) Units installed prior to January 1, 2005 and
(a) operating more than 300 hours per year - 0.47 lb/MWh;
(b) operating 300 hours or less per year - 1.65 lb/MWh;
(ii) Units installed on or after January 1, 2005 and
(a) operating more than 300 hours per year, with a capacity greater than 250 kilowatts (kW) - 0.14 lb/MWh;
(b) operating 300 hours or less per year - 0.47 lb/MWh; or
(c) any unit with a capacity of 250 kW or less - 0.47 lb/MWh.

West Texas Region:

(i) Units operating more than 300 hours per year - 3.11 lb/MWh;
(ii) Units operating 300 hours or less per year - 21 lb/MWh. Units certified to comply with applicable Tier 1, 2, or 3 emission standards in 40 CFR Part 89, Control of Emissions from New and In-Use Nonroad Compression-Ignition Engines, are deemed to satisfy this emission limit.

(E) Except as provided in subsections (4)(F) and (4)(H), NOx emissions for units greater than 10 MW shall meet the following limitations:

(i) Units operating more than 300 hours per year - 0.14 lb/MWh;
(ii) Units operating 300 hours or less per year - 0.38 lb/MWh.

Engines included in this permit registration are greater than 10 MW and will operate more than 300 hours per year. Therefore, the NOx emission standard of 0.14 lb/MWh in Condition(4)(E)(i) applies. SCR will be employed on each engine to meet the applicable NOx limitation referenced in this section.

(F) Electric generating units firing any gaseous or liquid fuel that is at least 75 percent landfill gas, digester gas, stranded oil field gas, or renewable fuel content by volume, shall meet a NOx emission limit of 1.90 lb/MWh. Units in West Texas with a capacity of 10 MW or less that fire at least 75 percent landfill gas, digester gas, stranded oilfield gases, or gaseous or liquid renewable fuel by volume, must comply with the applicable West Texas NOx limit in subsection (4)(D).

The proposed units will not fire gaseous or liquid fuel containing landfill gas, digester gas, stranded oil field gas, or renewable fuel; therefore, this provision is not applicable.

(G) To ensure continuing compliance with the emissions limitations, the owner or operator shall re-certify a unit every 16,000 hours of operation, but no less frequently than every three years. Re-certification may be accomplished by following a maintenance schedule that the manufacturer certifies will ensure continued compliance with the required NOx standard or by third party testing of the unit using appropriate EPA reference methods, California Air Resources Board methods, or equivalent alternative testing methods approved by the executive director to demonstrate that the unit still meets the required emission standards. After re-certification, the unit must operate on the same fuel(s) for which the unit was recertified.

KPUB will follow a maintenance schedule and perform equivalent re-certification 3rd party testing using appropriate EPA reference methods to ensure continued compliance with NOx standards.

(H) The NOx emission limits in subsections (4)(D)-(4)(F) are subject to the following exceptions:

(i) The hourly NOx emission limits do not apply at times when the ambient air temperature at the location of the unit is less than 0 degrees Fahrenheit.

(ii) At times when a unit is operating at less than 80% of rated load, an alternative NOx emission standard for that unit may be determined by multiplying the applicable emission standard in subsections (4)(D)-(4)(F) by the rated load of the EGU (in MW), to produce an allowable hourly mass NOx emission rate. In order to use this alternative standard, an owner or operator must maintain records that demonstrate compliance with the alternative emission standard and make such records available to the TCEQ or any local air pollution control agency with jurisdiction upon request.

If use of this alternate standard is required, records will be maintained to demonstrate the mass emissions limitation referenced in this paragraph will not be exceeded. Any records maintained will be made available to TCEQ upon request.

APPENDIX A. EMISSION CALCULATIONS

Table A-1
Engine Emissions
Kerrville Public Utility Board

Parameter	Value	Unit
Power Rating (Per Engine)	20.70	MW
Power Output	20,700	kW
Power Output	27,759	hp
Heat Rate (LHV)	7,213	Btu/kWh
Heat Rate (LHV) (+ Margin[1])	8,656	Btu/kWh
Heat Rate (HHV) (+ Margin[1])	9,608	Btu/kWh
Max Heat Consumption (HHV) (+ Margin[1])	199	MMBtu
No. of Engines	6.00	#
Total Power Output	124	MW
Total Power Output	124,200	kW
Standard Volume	379	scf/lbmol
F Factor	8,710	dscf/mmbtu
Operating Hours (Per Engine)	8,760	hr/yr

Notes:

1. % margin added for measurement error, off-design conditions and degradation

Pollutant	Emission Factors		Basis
NOx	0.14	lb/MW-hr	EGU standard permit
NOx	0.0635	g/kWh	Vendor Estimate
CO	0.12	g/kWh	Vendor Estimate
NMNEHC	0.0351	g/kWh	Vendor Estimate
CH_2O	0.801	lbs/hr	Vendor Estimate
Total VOC	2.40	lbs/hr	NMNEHC+Formadehyde
NH_3	10.00	ppmv 15% O2	Vendor Estimate
SO_2	5.00	grain/100 scf	Max Fuel Sulfur
$PM/PM_{10}/PM_{2.5}$	0.1	g/kWh	Vendor Estimate

Total (per engine):

Pollutant	Emission Rate Per Engine (lb/hr)	Emission Rate Per Engine (ton/yr)	g/HP-hr	NSPS JJJJ Std (g/HP-hr)*
NOx	2.90	12.69	0.05	1.0
CO	5.48	23.99	0.09	2.0
NMNEHC	1.60	7.02	NA	NA
CH_2O	0.80	3.51	NA	NA
VOC (Total)	2.40	10.52	0.04	0.70
NH_3	2.80	12.28	NA	NA
SO_2	2.79	12.20	NA	NA
$PM/PM_{10}/PM_{2.5}$	4.56	19.99	NA	NA

Notes:

* NSPS Standard from Table 1 to Subpart JJJJ for Non-Emergency Spark-Ignited Lean-Burn

Total (all engines):

Pollutant	Emission Rate (lb/hr)	Emission Rate (ton/yr)
NOx	17.39	76.16
CO	32.86	143.91
NMNEHC	9.61	42.09
CH_2O	4.81	21.05
VOC (Total)	14.42	63.14
NH_3	16.82	73.65
SO_2	16.71	73.20
$PM/PM_{10}/PM_{2.5}$	27.38	119.93

Table A-2
Fugitive Emission Calculations
Kerrville Public Utility Board

Basis

- Component counts are a design estimate used to establish an emission limit.
- TCEQ emission factors for the category "SOCMI without ethylene" were applied.

- Emission Factors based on TCEQ's Air Permit Technical Guidance Package for Chemical Sources: Fugitive Guidance, June 2018.

		EPN >>		FUG	FUG
Value		Stream >>	Fugitives: Lube/Hydraulic Oil	Fugitives: Aqueous Ammonia	Fugitives: Natural Gas
Component Type	Stream Type	Emission Factor SOCMI without Ethylene	Number of Components	Number of Components	Number of Components
Valves	Gas/Vapor	0.0089	0.00	0.00	168.00
	Light Liquid	0.0035	0.00	360.00	0.00
	Heavy Liquid	0.0007	761.60	0.00	0.00
Pumps	Light Liquid	0.0386	0.00	4.00	0.00
	Heavy Liquid	0.0161	24.00	0.00	0.00
Flanges	Gas/Vapor	0.0029	0.00	0.00	420.00
	Light Liquid	0.0005	0.00	900.00	0.00
	Heavy Liquid	0.00007	1,732.00	0.00	0.00
Compressors	Gas/Vapor	0.5027	0.00	0.00	8.00
Relief Valves	Gas/Vapor	0.2293	0.00	4.00	8.00
Open Ends		0.004	0.00	0.00	0.00
Sample Con.		0.033	0.00	0.00	0.00
Other	Gas/Vapor	0	0.00	0.00	0.00
	Light Liquid	0	0.00	0.00	0.00
Process Drains		0.07	0.00	0.00	0.00
		Total Components	2,517.60	1,268.00	604.00
			Hourly Emissions (lb/hr)	Hourly Emissions (lb/hr)	Hourly Emissions (lb/hr)
Valves	Gas/Vapor		0.00	0.00	1.50
	Light Liquid		0.00	1.26	0.00
	Heavy Liquid		0.53	0.00	0.00
Pumps	Light Liquid		0.00	0.15	0.00
	Heavy Liquid		0.39	0.00	0.00
Flanges	Gas/Vapor		0.00	0.00	1.22
	Light Liquid		0.00	0.45	0.00
	Heavy Liquid		0.12	0.00	0.00
Compressors	Gas/Vapor		0.00	0.00	4.02
Relief Valves	Gas/Vapor		0.00	0.92	1.83
Open Ends			0.00	0.00	0.00
Sample Con.			0.00	0.00	0.00
Other	Gas/Vapor		0.00	0.00	0.00
	Lt/Hvy Liquid		0.00	0.00	0.00
Process Drains			0.00	0.00	0.00
			Hours 8,760	Hours 8,760	Hours 8,760
			Annual Emissions (tpy)	Annual Emissions (tpy)	Annual Emissions (tpy)
Valves	Gas/Vapor		0.00	0.00	6.55
	Light Liquid		0.00	5.52	0.00
	Heavy Liquid		2.34	0.00	0.00
Pumps	Light Liquid		0.00	0.68	0.00
	Heavy Liquid		1.69	0.00	0.00
Flanges	Gas/Vapor		0.00	0.00	5.33
	Light Liquid		0.00	1.97	0.00
	Heavy Liquid		0.53	0.00	0.00
Compressors	Gas/Vapor		0.00	0.00	17.61
Relief Valves	Gas/Vapor		0.00	4.02	8.03
Open Ends			0.00	0.00	0.00
Sample Con.			0.00	0.00	0.00
Other	Gas/Vapor		0.00	0.00	0.00
	Lt/Hvy Liquid		0.00	0.00	0.00
Process Drains			0.00	0.00	0.00
		EPN >>	FUG	FUG	FUG
	Totals:	Total loss lb/hr	1.04	2.78	8.57
		Total Loss tpy	4.56	12.18	37.53
		% Ammonia	0.00	0.19	0.00
		Ammonia lb/hr	0.00	0.53	0.00
		Ammonia tpy	0.00	2.31	0.00
		% VOC	1.00	0.00	0.04
		VOC lb/hr	1.04	0.00	0.34
		VOC tpy	4.56	0.00	1.50

APPENDIX B. EGU STANDARD PERMIT

Air Quality Standard Permit for Electric Generating Units

Effective Date May 16, 2007

This standard permit authorizes electric generating units that generate electricity for use by the owner or operator and/or generate electricity to be sold to the electric grid, and that meet all of the conditions listed below.

(1) Applicability

(A) This standard permit may be used to authorize electric generating units installed or modified after the effective date of this standard permit and that meet the requirements of this standard permit.

(B) This standard permit may not be used to authorize boilers. Boilers may be authorized under the Air Quality Standard Permit for Boilers; 30 TAC § 106.183, Boilers, Heaters, and Other Combustion Devices; or a permit issued under the requirements of 30 TAC Chapter 116.

(2) Definitions

(A) East Texas Region - All counties traversed by or east of Interstate Highway 35 or Interstate Highway 37, including Bosque, Coryell, Hood, Parker, Somervell and Wise Counties.

(B) Installed - a generating unit is installed on the site when it begins generating electricity.

(C) West Texas Region - Includes all of the state not contained in the East Texas Region.

(D) Renewable fuel - fuel produced or derived from animal or plant products, byproducts or wastes, or other renewable biomass sources, excluding fossil fuels. Renewable fuels may include, but are not limited to, ethanol, biodiesel, and biogas fuels.

(3) Administrative Requirements

(A) Electric generating units shall be registered in accordance with 30 TAC § 116.611, Registration to Use a Standard Permit, using a current Form PI-1S. Units that meet the conditions of this standard permit do not have to meet 30 TAC § 116.610(a)(1), Applicability.

(B) Registration applications shall comply with 30 TAC § 116.614, Standard Permit Fees, for any single unit or multiple units at a site with a total generating capacity of 1 megawatt (MW) or greater. The fee for units or multiple units with a total generating capacity of less than 1 MW at a site shall

be $100.00. The fee shall be waived for units or multiple units with a total generating capacity of less than 1 MW at a site that have certified nitrogen oxides (NO_x) emissions that are less than 10 percent of the standards required by this standard permit.

(C) No owner or operator of an electric generating unit shall begin construction and/or operation without first obtaining written approval from the executive director.

(D) Records shall be maintained and provided upon request to the Texas Commission on Environmental Quality (TCEQ) for the following:

(i) Hours of operation of the unit;

(ii) Maintenance records, maintenance schedules, and/or testing reports for the unit to document re-certification of emission rates as required by subsection (4)(G) below; and

(iii) Records to document compliance with the fuel sulfur limits in subsection (4)(C).

(E) Electric generators powered by gas turbines must meet the applicable conditions, including testing and performance standards, of Title 40 Code of Federal Regulations (CFR) Part 60, Subpart GG, Standards of Performance for Stationary Gas Turbines, and applicable requirements of 40 CFR Part 60 Subpart KKKK, Standards of Performance for Stationary Combustion Turbines.

(F) Compliance with this standard permit does not exempt the owner or operator from complying with any applicable requirements of 30 TAC Chapter 117, Control of Air Pollution from Nitrogen Compounds, or 30 TAC Chapter 114, Control of Air Pollution from Motor Vehicles.

(4) General Requirements

(A) Emissions of NO_x from the electric generating unit shall be certified by the manufacturer or by the owner or operator in pounds of pollutant per megawatt hour (lb/MWh). This certification must be displayed on the name plate of the unit or on a label attached to the unit. Test results from U.S. Environmental Protection Agency (EPA) reference methods, California Air Resources Board methods, or equivalent alternative testing methods approved by the executive director used to verify this certification shall be provided upon request to the TCEQ. The unit must operate on the same fuel(s) for which the unit was certified.

(B) Electric generating units that use combined heat and power (CHP) may take

credit for the heat recovered from the exhaust of the combustion unit to meet the emission standards in subsections (4)(D), (4)(E), and (4)(F). Credit shall be at the rate of one MWh for each 3.4 million British Thermal Units of heat recovered. The following requirements must be met to take credit for CHP for units not sold and certified as an integrated package by the manufacturer:

(i) The owner or operator must provide as part of the application documentation of the heat recovered, electric output, efficiency of the generator alone, efficiency of the generator including CHP, and the use for the non-electric output, and

(ii) The heat recovered must equal at least 20 percent of the total energy output of the CHP unit.

(C) Fuels combusted in these electric generating units are limited to:

(i) Natural gas containing no more than ten grains total sulfur per 100 dry standard cubic feet;

(ii) Landfill gas, digester gas, stranded oilfield gas, or gaseous renewable fuel containing no more than 30 grains total sulfur per 100 dry standard cubic feet; or

(iii) Liquid fuels (including liquid renewable fuel) not containing waste oils or solvents and containing less than 0.05 percent by weight sulfur.

(D) Except as provided in subsections (4)(F) and (4)(H), NO_x emissions for units 10 MW or less shall meet the following limitations based upon the date the unit is installed and the region in which it operates:

East Texas Region:

(i) Units installed prior to January 1, 2005 and

(a) operating more than 300 hours per year - 0.47 lb/MWh;

(b) operating 300 hours or less per year - 1.65 lb/MWh;

(ii) Units installed on or after January 1, 2005 and

(a) operating more than 300 hours per year, with a capacity greater than 250 kilowatts (kW) - 0.14 lb/MWh;

(b) operating 300 hours or less per year - 0.47 lb/MWh; or

(c) any unit with a capacity of 250 kW or less - 0.47 lb/MWh.

West Texas Region:

(i) Units operating more than 300 hours per year - 3.11 lb/MWh;

(ii) Units operating 300 hours or less per year - 21 lb/MWh. Units certified to comply with applicable Tier 1, 2, or 3 emission standards in 40 CFR Part 89, Control of Emissions from New and In-Use Nonroad Compression-Ignition Engines, are deemed to satisfy this emission limit.

(E) Except as provided in subsections (4)(F) and (4)(H), NO_x emissions for units greater than 10 MW shall meet the following limitations:

(i) Units operating more than 300 hours per year - 0.14 lb/MWh;

(ii) Units operating 300 hours or less per year - 0.38 lb/MWh.

(F) Electric generating units firing any gaseous or liquid fuel that is at least 75 percent landfill gas, digester gas, stranded oil field gas, or renewable fuel content by volume, shall meet a NO_x emission limit of 1.90 lb/MWh. Units in West Texas with a capacity of 10 MW or less that fire at least 75 percent landfill gas, digester gas, stranded oilfield gases, or gaseous or liquid renewable fuel by volume, must comply with the applicable West Texas NO_x limit in subsection (4)(D).

(G) To ensure continuing compliance with the emissions limitations, the owner or operator shall re-certify a unit every 16,000 hours of operation, but no less frequently than every three years. Re-certification may be accomplished by following a maintenance schedule that the manufacturer certifies will ensure continued compliance with the required NO_x standard or by third party testing of the unit using appropriate EPA reference methods, California Air Resources Board methods, or equivalent alternative testing methods approved by the executive director to demonstrate that the unit still meets the required emission standards. After re-certification, the unit must operate on the same fuel(s) for which the unit was re-certified.

(H) The NO_x emission limits in subsections (4)(D)-(4)(F) are subject to the following exceptions:

(i) The hourly NO_x emission limits do not apply at times when the ambient air temperature at the location of the unit is less than 0 degrees Fahrenheit.

(ii) At times when a unit is operating at less than 80% of rated load, an alternative NO_x emission standard for that unit may be determined by multiplying the applicable emission standard in subsections (4)(D)-(4)(F) by the rated load of the EGU (in MW), to produce an allowable hourly

mass NO_x emission rate. In order to use this alternative standard, an owner or operator must maintain records that demonstrate compliance with the alternative emission standard, and make such records available to the TCEQ or any local air pollution control agency with jurisdiction upon request.

APPENDIX C. VENDOR PERFORMANCE DATA

1.2.2 Specific fuel gas consumption (SFC)

The specific fuel gas consumption at continuous power as per section 1.2.1 and at above defined reference conditions will not exceed the following value:

Specific fuel gas consumption 7610 kJ/kWh$_{el}$ (7213 Btu/kWh$_{el}$)

+ 5 % tolerance.

Remark: The specific fuel gas consumption is valid for fuel gases with a Net Calorific Value (NCV) ≥ 28,000 kJ/m³ (STP) and a methane number[3] = 87. Worse natural gases require further calculation/engine design.
The stated value is based on ISO 3046-1:2002. Corrections due to site conditions differing from the site reference conditions stated above must be executed according to the MAN standard procedure. The value stated above is the average of all generating sets.

1.2.3 Lubricating oil consumption

The lube oil consumption of one generating set at reference conditions as defined above will not exceed the following value:

Lube oil consumption 6.6 kg/h

+ 20 % tolerance.

The value stated above is without any losses due to cleaning of filter or lube oil charge replacement.

The stated value is based on ISO 3046-1:2002. Corrections due to site conditions differing from the site reference conditions stated above must be executed according to the MAN standard procedure. The value stated above is the average of all generating sets.

1.2.4 Exhaust gas emissions

The exhaust gas emissions[6] at continuous power as per section 1.2.1, based on the fuel gas as defined in section 9.1 and at reference conditions as defined above will not exceed the following values:

Nitrogen oxide (NO_x) 0.0635 g/kWh (0.0410 lbs/MMBtu)

at 15% O_2 in dry exhaust gas. Measuring after the SCR.
Calculated as NO2

Carbon monoxide (CO) 0.1200 g/kWh (0.0775 lbs/MMBtu)
at 15% O2 in dry exhaust gas. Measuring after the Oxidation catalyst

Volatile Organic Compounds (VOC) 0.0351 g/kWh (0.0226 lbs/MMBtu)
at 15% O2 in dry exhaust gas. Measuring after the Oxidation catalyst
Calculated as C1 without methane, ethane and formaldehyde
(density C1 = 0.499 kg/m3)

O_2 and NO_x measurements as per ISO 8178.

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3 If the methane number is below the minimum, the engine output has to be reduced and the ignition-/injection have to be adjusted.

6 Reference conditions to a normal cubic meter (Nm³): pressure = 14.69 psi / 1,013 mbar, temperature = 68°F / 20°C.