

This document is
NO LONGER CONSIDERED CONFIDENTIAL
by the company. The **CONFIDENTIAL** stamp was
left in because that was in the
historical submission.

From: Maggie Guilfoyle <mguilfoyle@ramboll.com>

Sent: Wednesday, July 1, 2026 3:30 PM

To: Collin Lawrence <Collin.Lawrence@tceq.texas.gov>; Environmental@meta.com

Cc: Elizabeth Black <Elizabeth.Black@tceq.texas.gov>; Elizabeth Cater
<Elizabeth.Cater@tceq.texas.gov>

Subject: RE: TCEQ PIR No. 26-115198

Hi Collin,

Worldwide is withdrawing their claim of confidentiality at this time.

Thanks,

Maggie Guilfoyle

Managing Consultant, Air and Climate

Environment and Health

D +1 703-516-2413

You don't often get email from collin.lawrence@tceq.texas.gov. Learn why this is important
mguilfoyle@ramboll.com

From: [Abigail Flores](#)
To: [Nancy Birdsong](#)
Cc: [Leigh Flores](#); [AirPIR](#)
Subject: RE: TCEQ PIR No. 26-115198
Date: Monday, July 13, 2026 3:18:00 PM
Attachments: [image001.png](#)

It's content ID 8267036.

Thank you,
Abigail

From: Nancy Birdsong <nancy.birdsong@tceq.texas.gov>
Sent: Monday, July 13, 2026 2:06 PM
To: Abigail Flores <Abigail.Flores@tceq.texas.gov>
Cc: Leigh Flores <Leigh.Flores@Tceq.Texas.Gov>; AirPIR <AirPir@tceq.texas.gov>
Subject: RE: TCEQ PIR No. 26-115198

Do you know what the Content ID# is in WCC so that I can request a change in WCC?

Nancy Birdsong

APIRT Team Leader
Air Permits Division, TCEQ
512-239-5221



From: Abigail Flores <Abigail.Flores@tceq.texas.gov>
Sent: Monday, July 13, 2026 12:24 PM
To: Nancy Birdsong <nancy.birdsong@tceq.texas.gov>
Cc: Leigh Flores <Leigh.Flores@Tceq.Texas.Gov>; AirPIR <AirPir@tceq.texas.gov>
Subject: FW: TCEQ PIR No. 26-115198

Good afternoon,

Please see the email below for the attached PBR in regards to it no longer being considered a confidential document.

Thank you,
Abigail

From: Elizabeth Cater <Elizabeth.Cater@tceq.texas.gov>
Sent: Monday, July 13, 2026 11:45 AM
To: Abigail Flores <Abigail.Flores@tceq.texas.gov>
Cc: Collin Lawrence <Collin.Lawrence@tceq.texas.gov>
Subject: FW: TCEQ PIR No. 26-115198

Hello! I wanted to notify OA that Worldwide is no longer claiming confidentiality over the attached PBR registration. OLS is going to withdraw it's request for an OAG ruling and release the document to the requestor.

Can you please recode this as public in your records? The attached version incorporates the confidentiality claim withdrawal email; I recommend saving this version in the file so that we have documentation of the waiver. And then for the "official" record copy, so that it is obvious for future PIRs that confidentiality was waived, you can use adobe to remove the "CONFIDENTIAL" stamp that is on the top of every page. You might want to get your records liaison involved in this, in case they have a certain practice they want you to follow.

Thanks!

**Elizabeth Cater | Public Information Attorney | General Law Division
Texas Commission on Environmental Quality**

12100 Park 35 Circle, Bldg. A | Austin, Texas 78753 | Mail: MC-173, P.O. Box 13087, Austin TX 78711-3087

(512) 239-0019 | Elizabeth.Cater@tceq.texas.gov

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From: Maggie Guilfoyle <mguilfoyle@ramboll.com>

Sent: Wednesday, July 1, 2026 3:30 PM

To: Collin Lawrence <Collin.Lawrence@tceq.texas.gov>; Environmental@meta.com

Cc: Elizabeth Black <Elizabeth.Black@tceq.texas.gov>; Elizabeth Cater <Elizabeth.Cater@tceq.texas.gov>

Subject: RE: TCEQ PIR No. 26-115198

Hi Collin,

Worldwide is withdrawing their claim of confidentiality at this time.

Thanks,

Maggie Guilfoyle

Managing Consultant, Air and Climate
Environment and Health

D +1 703-516-2413

mguilfoyle@ramboll.com

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4245 North Fairfax Drive
Suite 700
Arlington, VA 22203
USA
<https://ramboll.com>

Classification: Confidential

From: Collin Lawrence <Collin.Lawrence@tceq.texas.gov>
Sent: Tuesday, June 30, 2026 1:01 PM
To: Environmental@meta.com; Maggie Guilfoyle <mguilfoyle@ramboll.com>
Cc: Elizabeth Black <Elizabeth.Black@tceq.texas.gov>; Elizabeth Cater <Elizabeth.Cater@tceq.texas.gov>
Subject: TCEQ PIR No. 26-115198
Importance: High

You don't often get email from collin.lawrence@tceq.texas.gov. [Learn why this is important](#)

Good Afternoon,

TCEQ has received a formal request under the Public Information Act to inspect or copy some of our files. The requested files include records we received from your company. Please see the attached letter for additional information regarding this request.

Best,

Collin Lawrence

Legal Assistant | Texas Commission on Environmental Quality
Office of Legal Services | General Law Division
Collin.Lawrence@tceq.texas.gov | He/They

From: [Maggie Guilfoyle](#)
To: [Collin Lawrence](#); [Environmental@meta.com](#)
Cc: [Elizabeth Black](#); [Elizabeth Cater](#)
Subject: RE: TCEQ PIR No. 26-115198
Date: Wednesday, July 1, 2026 3:30:37 PM

Hi Collin,

Worldwide is withdrawing their claim of confidentiality at this time.

Thanks,

Maggie Guilfoyle

Managing Consultant, Air and Climate
Environment and Health

D +1 703-516-2413
mguilfoyle@ramboll.com

Ramboll
4245 North Fairfax Drive
Suite 700
Arlington, VA 22203
USA
<https://ramboll.com>

Classification: Confidential

From: Collin Lawrence <Collin.Lawrence@tceq.texas.gov>
Sent: Tuesday, June 30, 2026 1:01 PM
To: [Environmental@meta.com](#); Maggie Guilfoyle <mguilfoyle@ramboll.com>
Cc: Elizabeth Black <Elizabeth.Black@tceq.texas.gov>; Elizabeth Cater <Elizabeth.Cater@tceq.texas.gov>
Subject: TCEQ PIR No. 26-115198
Importance: High

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Best,

Collin Lawrence

Legal Assistant | Texas Commission on Environmental Quality
Office of Legal Services | General Law Division

Intended for
Texas Commission on Environmental Quality

Date
January 2026

AIR PERMIT BY RULE REGISTRATION

WORLDWIDE LLC

CN TBA
RN TBA

**This Document Contains Information that
is Deemed by Worldwide LLC to be
Confidential. Do Not Copy or Distribute.**

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FIGURES

Figure 1

Process Flow Diagram for Group 1 Engines

Figure 2

Process Flow Diagram for Diesel Fire Pump

TABLES

Table 1

Generator IDs

Table 2

Total Potential Annual Emissions from All Generators

Table 3

Facility-Wide Potential Emissions

APPENDICES

Appendix 1

Potential Emissions Calculations

Appendix 2

Table 29 and Manufacturer Specification Sheets and Emissions Data

Appendix 3

Renewable Liquid Fuels FAQ

Appendix 4

Aggregation Concurrence Determination

1. INTRODUCTION

Worldwide LLC (“the applicant”) is submitting this air Permit-By-Rule (PBR) registration to Texas Commission on Environmental Quality (TCEQ) for the construction and operation of a planned data center in El Paso, El Paso County, Texas. The proposed facility will include four (4) diesel-fired emergency generators that will provide electricity to the facility in the event of any emergency, as well as a diesel fire pump to provide power to pump water for fire suppression. The generators, fire pump, and their emissions associated with this PBR registration are authorized under 30 Texas Administrative Code (TAC) §106.511, which reads:

Internal combustion engine and gas turbine driven compressors, electric generator sets, and water pumps, used only for portable, emergency, and/or standby services are permitted by rule, provided that the maximum annual operating hours shall not exceed 10% of the normal annual operating schedule of the primary equipment; and all electric motors.

The use of §106.511 does not require registration; however, the applicant is submitting this application to establish a federally enforceable limit for nitrogen oxides (NO_x) related to the operation of the generators and fire pump. The registration format corresponds to the TCEQ Form PI-7 CERT (Certification and Registration for Permits by Rule) and demonstrates how the general and specific PBR requirements are met. Since this is for a new Registration, the Core Data Form is also being submitted with this registration.

The proposed data center site location is nearby an existing power generating facility owned and operated by third party entities (specifically, Enchanted Rock (ER) and El Paso Electric (EPE)). The prime power generation facility will initially provide bridge power to the data center directly (i.e., “behind the meter”) and eventually tie into the electric grid. The prime power generation facility will be located on land wholly owned by EPE. Worldwide LLC and Enchanted Rock will have no control over or ability to influence the other’s operations. Additionally, there will be contract language between the two stating that neither party has the ability to influence the other’s compliance with any applicable environmental laws. Therefore, based on the guidance provided in the United States Environmental Protection Agency’s (USEPA) 2018 Meadowbrook Memo¹, these two facilities are separate sources for the purpose of air permitting and compliance. This determination was discussed with TCEQ during a pre-application meeting on November 21, 2025, with Kim Strong, Michael Partee and Dara Winsted, and confirmed in an email from Dianne Anderson dated January 16, 2026.

¹ https://www.epa.gov/sites/default/files/2018-05/documents/meadowbrook_2018.pdf

2. TCEQ CORE DATA FORM AND FORM PI-7-CERT



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		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)				
<i>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).</i>				
6. Customer Legal Name (If an individual, print last name first: eg: Doe, John)			If new Customer, enter previous Customer below:	
Worldwide LLC				
7. TX SOS/CPA Filing Number	8. TX State Tax ID (11 digits)	9. Federal Tax ID (9 digits)	10. DUNS Number (if applicable)	
	TBD	88-0719519		
11. Type of Customer:	☒ Corporation	☐ Individual	Partnership: ☐ General ☐ Limited	
Government: ☐ City ☐ County ☐ Federal ☐ Local ☐ State ☐ Other	☐ Sole Proprietorship	☐ Other:		
12. Number of Employees		13. Independently Owned and Operated?		
☐ 0-20 ☒ 21-100 ☐ 101-250 ☐ 251-500 ☐ 501 and higher		☒ 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 ☐ Other: ☐ Occupational Licensee ☐ Responsible Party ☐ VCP/BSA Applicant				
15. Mailing Address:	4245 North Fairfax Drive			
	Suite 700, Attn: Maggie Guilfoyle			
	City	Arlington	State	VA
	ZIP	22203	ZIP + 4	
16. Country Mailing Information (if outside USA)			17. E-Mail Address (if applicable)	
			environmental@meta.com	

18. Telephone Number	19. Extension or Code	20. Fax Number (if applicable)
(471) 699-6551		() -

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								
<i>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).</i>								
22. Regulated Entity Name (Enter name of the site where the regulated action is taking place.)								
Worldwide LLC								
23. Street Address of the Regulated Entity: (No PO Boxes)	7001 Stan Roberts Sr. Ave							
	City	El Paso	State	TX	ZIP	79934	ZIP + 4	
24. County	El Paso							

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

25. Description to Physical Location:									
26. Nearest City					State				Nearest ZIP Code
<i>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).</i>									
27. Latitude (N) In Decimal:		31.994303			28. Longitude (W) In Decimal:		106.359314		
Degrees	Minutes	Seconds		Degrees	Minutes	Seconds			
31	59	39.49		106	21	33.53			
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)			
7374				518210					
33. What is the Primary Business of this entity? (Do not repeat the SIC or NAICS description.)									
Data Center									
34. Mailing Address:	1 Meta Way								
	City	Menlo Park	State	CA	ZIP	94025	ZIP + 4		
35. E-Mail Address:		environmental@meta.com							
36. Telephone Number			37. Extension or Code			38. Fax Number (if applicable)			
(471) 699 - 6551						() -			

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:	Maggie Guilfoyle	41. Title:	Sr. Lead Consultant (Ramboll)
42. Telephone Number	43. Ext./Code	44. Fax Number	45. E-Mail Address
(703) 516-2413		() -	mguilfoyle@ramboll.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:	Worldwide LLC	Job Title:	Environmental Team Manager
Name (In Print):	Linda Peters	Phone:	(415) 699 - 6551
Signature:		Date:	

Certification and Registration for Permits by Rule
Form PI-7-CERT
Page 1
Texas Commission on Environmental Quality

I. Registrant Information
A. Company or Other Legal Customer Name: <i>Worldwide, LLC</i>
Company Official Contact Information (☐ Mr. ☐ Mrs. ☒ Ms. ☐ Other _____)
Name: <i>Linda Peters</i>
Title: <i>Environmental Team Manager</i>
Mailing Address: <i>1 Meta Way</i>
City: <i>Menlo Park</i>
State: <i>CA</i>
ZIP Code: <i>94025</i>
Phone: <i>(415) 699-6551</i>
Fax:
Email Address: <i>environmental@meta.com</i>
<i>All PBR registration responses will be sent via email.</i>
A. Technical Contact Information (☐ Mr. ☒ Mrs. ☐ Ms. ☐ Other _____)
Name: <i>Maggie Guilfoyle</i>
Title: <i>Senior Lead Consultant</i>
Company Name: <i>Ramboll Americas Engineering Solutions, Inc.</i>
Mailing Address: <i>4245 North Fairfax Drive, Suite 700</i>
City: <i>Arlington</i>
State: <i>Virginia</i>
ZIP Code: <i>22203</i>
Phone Number: <i>(703) 516-2413</i>
Fax Number:
Email Address: <i>mguilfoyle@ramboll.com</i>

Certification and Registration for Permits by Rule
Form PI-7-CERT
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II. Facility and Site Information
A. Name and Type of Facility
Facility Name: <i>Worldwide LLC</i>
Facility Type: ☒ Permanent ☐ Temporary
For portable units, please provide the serial number of the equipment being authorized below.
Serial No(s):
B. Facility Location Information
Street Address: <i>7001 Stan Roberts Sr. Ave, El Paso, TX 79934</i>
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:
County:
ZIP Code:
C. TCEQ Core Data Form
Is the Core Data Form (TCEQ Form Number 10400) attached? ☒ YES ☐ NO
If "NO," provide customer reference number (CN) and regulated entity number (RN) below.
Customer Reference Number (CN):
Regulated Entity Number (RN):
D. TCEQ Account Identification Number (if known):
E. Type of Action
☒ Initial Application ☐ Change to Registration
For Change to Registration provide the Registration Number:
F. PBR number(s) claimed under 30 TAC Chapter 106
(List all the individual rule number(s) that are being claimed.)
106. <i>511</i>
106.
106.
106.

**Certification and Registration for Permits by Rule
Form PI-7-CERT
Page 3
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II. Facility and Site Information <i>(continued)</i>
G. Historical Standard Exemption or PBR
Are you claiming a historical standard exemption or PBR? ☐ YES ☒ NO
If "YES," enter rule number(s) and associated effective date in the spaces provided below.
Rule Number: Effective Date:
Rule Number: Effective Date:
H. 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 dates in the spaces provided below.
Standard Exemption and PBR Registration Number:
Effective Date:
I. 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):
Effective Date:
Standard Exemption, PBR Registration, and Standard Permit Registration Number(s):
Effective Date:
Standard Exemption, PBR Registration, and Standard Permit Registration Number(s):
Effective Date:
J. 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.
K. Affected Air Preconstruction Permits
Does the PBR being claimed directly affect any permitted facility? ☐ YES ☒ NO

Certification and Registration for Permits by Rule
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II. Facility and Site Information <i>(continued)</i>
If "YES," enter the permit number(s) in the spaces provided below.
L. Federal Operating Permit (FOP) Requirements (30 TAC Chapter 122 Applicability)
1. Is this facility located at a site that is required to obtain an FOP pursuant to 30 TAC Chapter 122? ☐ YES ☒ NO ☐ To Be Determined
If the site currently has an existing FOP, enter the permit number:
Check the requirements of 30 TAC Chapter 122 that will be triggered if this certification is accepted. <i>(check all that apply)</i>
☐ Initial Application for a FOP ☐ Significant Revision for an SOP ☐ Minor Revision for an SOP
☐ Operational Flexibility/Off Permit Notification for an SOP ☐ Revision for a GOP
☐ To be Determined ☒ None
2. Identify the type(s) of FOP issued and/or FOP application(s) submitted/pending for the site. <i>(check all that apply)</i>
☐ SOP ☐ GOP ☐ GOP application/revision (submitted or under APD review)
☒ N/A ☐ SOP application/revision (submitted or under APD review)
III. Fee Information (See Section VII. for address to send fee or go to www.tceq.texas.gov/epay to pay online.)
A. Fee Requirements
Is a fee required per Title 30 TAC § 106.50? ☒ YES ☐ NO
If "NO," specify the exception. There are three exceptions to paying a PBR fee. <i>(check all that apply)</i>
1. Registration is solely to establish a federally enforceable emission limit. ☐
2. Registration is within six months of an initial PBR review, and it is addressing deficiencies, administrative changes, or other allowed changes. ☐
3. Registration is for a remediation project (30 TAC § 106.533). ☐
B. Fee Amount
1. A \$100 fee is required if <i>any</i> of the answers in III.B.1 are "YES."
This business has less than 100 employees. ☐ YES ☒ NO
This business has less than \$6 million dollars in annual gross receipts. ☐ YES ☒ NO
This registration is submitted by a governmental entity with a population of less than 10,000. ☐ YES ☒ NO
This registration is submitted by a non-profit organization. ☐ YES ☒ NO

Certification and Registration for Permits by Rule
Form PI-7-CERT
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Texas Commission on Environmental Quality

III. Fee Information (See Section VII. for address to send fee or go to www.tceq.texas.gov/epay to pay online.) (continued)
2. A \$450 fee is required for all other registrations
A. Payment Information
Check/money order/transaction or voucher number: <i>N/A</i>
Individual or company name on check: <i>N/A</i>
Fee Amount: \$ <i>450</i>
Was the fee paid online? ☒ YES ☐ NO
IV. Technical Information Including State and Federal Regulatory Requirements Check the appropriate box to indicate what is included in your submittal. NOTE: Any technical or essential information needed to confirm that facilities are meeting the requirements of the PBR must be provided. Not providing key information could result in a deficiency of the project.
A. PBR 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 § 106.4 are met? ☒ YES ☐ NO
Did you demonstrate that the individual requirements of the specific PBR are met? ☒ YES ☐ NO
B. Confidential Information Included (If confidential information is submitted with this registration, all confidential pages must be properly marked "CONFIDENTIAL.") ☒ YES ☐ NO
C. Process Flow Diagram: ☒ YES ☐ NO
D. Process Description: ☒ YES ☐ NO
E. Maximum Emissions Data and Calculations: ☒ YES ☐ NO
Note: If the facilities listed in this registration are subject to the Mass Emissions Cap & Trade program under 30 TAC Chapter 101, Subchapter H, Division 3 , the owner/operator of these facilities must possess NO _x allowances equivalent to the actual NO _x emissions from these facilities.
F. Is this certification being submitted to certify the emissions for the entire site? ☒ YES ☐ NO
If "NO," include a summary of the specific facilities and emissions being certified.
G. Table 1(a) (Form 10153) Emission Point Summary: ☒ YES ☐ NO
H. Distances from Property Line and Nearest Off-Property Structure
Distance from this facility's emission release point to the nearest property line: <i>350</i> feet
Distance from this facility's emission release point to the nearest off-property structure: <i>1,750</i> feet

Certification and Registration for Permits by Rule
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IV. Technical Information Including State and Federal Regulatory Requirements Check the appropriate box to indicate what is included in your submittal. NOTE: Any technical or essential information needed to confirm that facilities are meeting the requirements of the PBR must be provided. Not providing key information could result in a deficiency of the project.
I. Project Status Has the company implemented the project or waiting on a response from TCEQ? ☐ Implemented ☒ Waiting
J. Projected Start of Construction and Projected Start of Operation Dates: Projected Start of Construction (provide date): <i>August 2025 (allowable preconstruction activities)</i> Projected Start of Operation (provide date): <i>2026</i>
V. Delinquent Fees
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 is 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 .
VI. Signature For Registration and Certification
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 this 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): <i>Linda Peters</i>
Signature (original signature required)
Date:

**Certification and Registration for Permits by Rule
Form PI-7-CERT
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VII. Submitting Copies of the Certification and Registration

Copies must be sent as listed below.

Processing delays may occur if copies are not sent as noted.

Who	Where	What
Air Permits Initial Review Team (APIRT)	Regular, Certified, Priority Mail MC 161, P.O. Box 13087 Austin, Texas 78711-3087 Hand Delivery, Overnight Mail MC 161, 12100 Park 35 Circle, Building C, Third Floor Austin, Texas 78753	Originals Form PI-7-CERT, Core Data Form, and all attachments. Not required if using ePermits ¹ .
Revenue Section, TCEQ	Regular, Certified, Priority Mail MC 214, P.O. Box 13088 Austin, Texas 78711-3088 Hand Delivery, Overnight Mail MC 214, 12100 Park 35 Circle, Building A, Third Floor Austin, Texas 78753	Original Money Order or Check, Copy of Form PI-7-CERT, and Core Data Form. Not required if fee was paid using ePay ² .
Appropriate TCEQ Regional Office	To find your Regional Office address, go to the TCEQ website at www.tceq.texas.gov/agency/directory/region , or call (512) 239-1250.	Copy of Form PI-7-CERT, Core Data Form, and all attachments. Not required if using ePermits ¹
Appropriate Local Air Pollution Control Program(s)	To Find your local or Regional Air Pollution Control Programs go to the TCEQ, APD website at www.tceq.texas.gov/permitting/air/local_programs.html , or call (512)-239-1250	Copy of Form PI-7-CERT, Core Data Form, and all attachments.

¹ ePermits located at www3.tceq.texas.gov/steers/

² ePay located at www.tceq.texas.gov/epay

3. FORM PI-7 SECTION V: TECHNICAL INFORMATION

This section contains the process description, process flow diagram, emission estimation methodology, TCEQ Table 1(a), and applicable TCEQ checklists.

Appendix 1 of this registration contains detailed emission calculations.

3.1 Process Description

The applicant is proposing to construct and operate a data center in El Paso, El Paso County, Texas. The facility will include four (4) diesel-fired emergency generators that will provide electricity to the facility in the event of an emergency or loss of power from the utility provider, as well as a diesel fire pump to provide power to pump water for fire suppression. The units will also be operated periodically to perform maintenance and readiness testing checks and to meet the federal New Source Performance Standards (NSPS) Subpart IIII requirements.

The four (4) emergency generators are all of the same make and model. A list of emission point numbers (EPNs) is provided in **Table 1**, and the manufacturer's specification sheets are provided in **Appendix 2**. Process flow diagrams for the operation of the facility's generators and fire pump are presented in **Figures 1** and **2**.

The emergency generators and fire pump will be fueled by ultra-low sulfur diesel (ULSD) and/or renewable diesel fuel conforming to EN15940 and ASTM D975 specifications for petroleum (including hydrotreated vegetable oil [HVO]); the ISO8178 D2 test cycle emission rates are the same for both ULSD and HVO. For simplicity and conservative purposes, the site will conservatively default to the ULSD load-specific emission factors.

Table 1. Generator IDs

Engine Type	Number of Engines	Emission Point Numbers
Group 1	4	GEN-01, GEN-02, GEN-03, GEN-04
Diesel Fire Pump	1	DFP-01

By submitting this PBR registration, the applicant is requesting to establish a site-wide federally enforceable limit of 99.9 tons per year (tpy) of NO_x on an aggregate, 12-month rolling basis for the emergency generators and fire pump in both emergency and non-emergency situations. With the proposed NO_x limitation, emissions of carbon monoxide (CO), volatile organic compounds (VOC), sulfur dioxide (SO₂), PM, PM less than 10 microns in aerodynamic diameter (PM₁₀), PM less than 2.5 microns in aerodynamic diameter (PM_{2.5}), and hazardous air pollutants (HAPs) will inherently be limited to below PBR and Major Source thresholds.

The applicant will maintain on-site records of the monthly and 12-month rolling total of NO_x emissions from each generator. Additionally, no generator will operate, for more than 10% of the

normal annual operating schedule for the data center, or 876 hours annually, as required by the PBR in §106.511.

There are no stationary combustion sources at the site other than the emergency backup generators and the fire pump. The only other stationary sources of VOC emissions will be the facility's diesel belly tanks. Internal documentation on these sources will be kept on file at the facility.

3.2 Process Flow Diagram

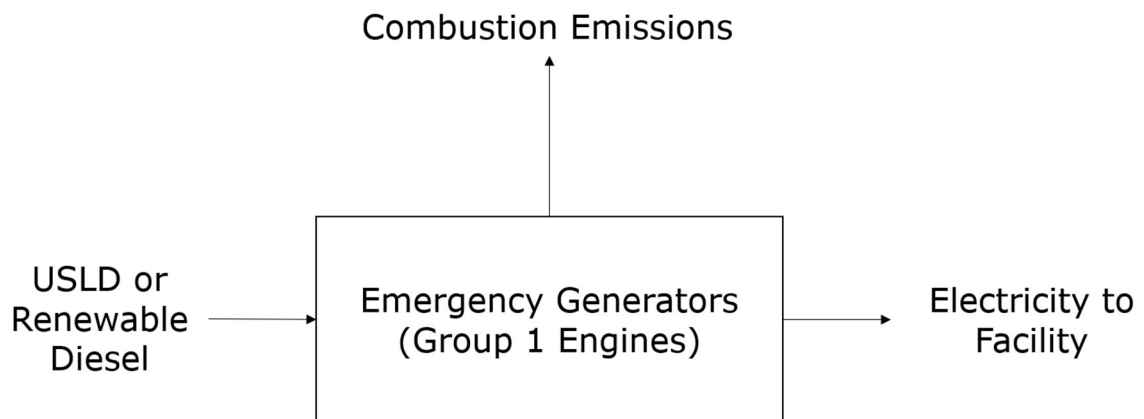


Figure 1. Process Flow Diagram for Group 1 Engines

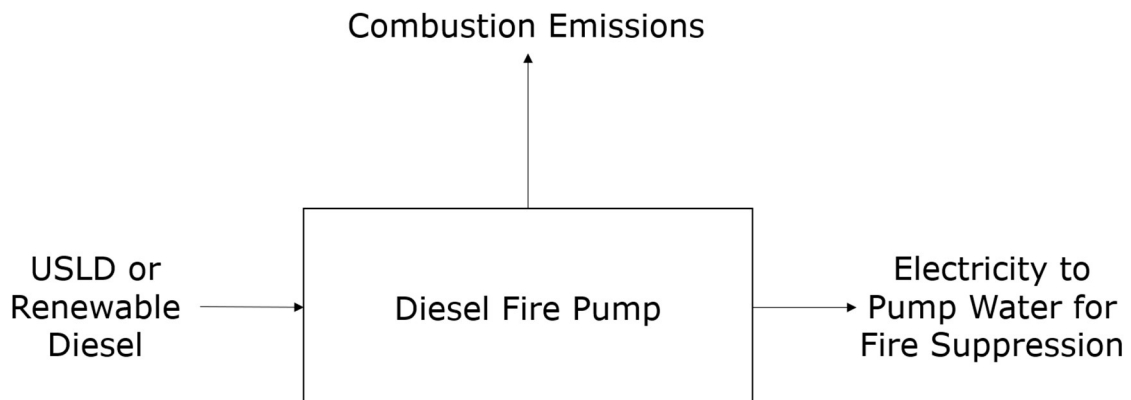


Figure 2. Process Flow Diagram for Diesel Fire Pump

3.3 Emissions Data and Calculations

The following describes the assumptions and calculation methodology used to estimate emissions from the generators and fire pump. Inputs and emission calculations are found in **Appendix 1**. Pollutants emitted from the four (4) generators and fire pump include NO_x; CO; VOCs; PM, including PM₁₀ and PM_{2.5}; HAPs; and Greenhouse Gases as CO₂ equivalents (GHG as CO₂e). These

calculations are provided in **Appendix 1** of this registration, along with the manufacturer's specification sheets in **Appendix 2**.

3.3.1 Diesel-Fired Emergency Standby Generators

Operation of the diesel-fired emergency generator engines will result in emissions of products of combustion.

3.3.1.1 *Derivation of Potential Hourly Emissions*

The following emission factors were used to estimate the potential hourly emissions from the emergency generators:

- The manufacturer's performance data, maximum rated site potential (i.e., "not-to-exceed") engine load-specific emission factors for NO_x, VOC (hydrocarbons), CO, and filterable PM were used to estimate the emissions of those pollutants at each generator load level. It was conservatively assumed that all filterable particulate matter in the engine exhaust is PM_{2.5}. The site-wide potential annual emissions were based on the maximum emission factor, in units of pounds of emissions per hour of operation.
- Emissions of SO₂, condensable PM, and HAPs were estimated based on the diesel fuel emissions factors in the USEPA's AP-42, Section 3.4, *Large Stationary Diesel and All Stationary Dual-fuel Engines* (April 2025). The emission factor for SO₂ (for engines greater than 600 bhp) was calculated based on the maximum allowable diesel fuel sulfur content of 0.0015% by weight, per 40 CFR 60 Subpart IIII.
- Emissions of CO₂e from diesel fuel combustion were estimated based on the GHG emission factors and global warming potentials provided in 40 CFR 98.

3.3.1.2 *Derivation of Potential Annual Emissions*

With this application, the applicant is requesting a federally enforceable site-wide NO_x limitation of 99.9 tpy on an aggregate, 12-month rolling basis. NO_x is the criteria pollutant with the highest hourly emissions at each load. As such, limiting the total NO_x emissions from all generators inherently limits the potential emissions of all other pollutants.

The applicant estimated the ratio of pollutant emissions to NO_x emissions (pounds [lb] pollutant emitted/lb NO_x emitted) for each pollutant at each load using the emission factors described above. For each pollutant, the potential annual emissions from the generators were based on the lower of either (1) the maximum ratio of pollutant emissions to NO_x emissions at any load multiplied by the requested NO_x emission limitation of 99.9 tpy; or (2) the sum of the emissions from each individual generator operating at its maximum hourly pollutant emission rate up to 876 hours annually (i.e., up to 10% of the annual facility operating time). These values are shown in **Table 2**, with further details in **Appendix 1**.

Table 2. Total Potential Annual Emissions from All Generators

Pollutant	Group 1 Generators		Total Potential Annual Emissions from All Generators ^a (tpy)
	Max. Ratio of Pollutant Emissions to NO _x Emissions for Any Load (lb pollutant emitted/ lb NO _x emitted)	Max. Potential Hourly Emissions per Generator (lb/hr/gen)	
NO _x	1.00	70.04	96.51
CO	0.52	7.45	13.06
VOC	0.11	0.84	1.48
Filterable PM	0.04	0.39	0.68
PM ₁₀ /PM _{2.5}	0.05	0.61	1.07
SO ₂	2.00×10^{-3}	0.04	0.08
Maximum Individual HAP (Benzene)	1.03×10^{-3}	0.02	0.04
Total HAP	1.97×10^{-3}	0.04	0.08
CO ₂ e	216.48	4,723	8,275

Notes:

^a NO_x emissions for the generators were developed by taking the site-wide limit of 99.9 tpy and subtracting emissions from the fire pump.

3.3.2 Diesel-Fired Fire Pump

Operation of the diesel-fired fire water pump will result in emissions of products of combustion.

3.3.2.1 *Derivation of Potential Hourly Emissions*

The following emission factors were used to estimate the potential hourly emissions from the emergency generators:

- Diesel fuel emission factors for all pollutants except CO₂, CH₄, and N₂O were obtained from the USEPA's AP-42, Section 3.3, *Gasoline and Diesel Industrial Engines* (April 2025).
- Emissions of CO₂e from diesel fuel combustion were estimated based on the GHG emission factors and global warming potentials provided in 40 CFR 98.

3.3.2.2 *Derivation of Potential Annual Emissions*

Potential annual emissions from the diesel-fired fire water pump were estimated assuming 876 hours per year of operation (*i.e.*, up to 10% of the annual facility operating time). These values are shown in **Table 3**, with further details in **Appendix 1**.

3.3.3 Potential Emissions

A summary of the potential emissions for the proposed facility are provided in **Table 3** and indicate that the facility will be a synthetic minor source and will meet the general PBR requirements in 30 TAC §106.4(a).

Table 3. Facility-Wide Potential Emissions

Pollutant	Potential Annual Emissions (tpy) ^a			Facility-Wide Potential Emissions (tpy)	Lowest Applicable Threshold or Limit ^c (tpy)	Above Threshold?
	Emergency Generators	Diesel Fire Pump	Belly Tanks ^b			
NO _x	96.51	3.39	--	< 99.9	100	No
CO	13.06	0.73	--	13.79	100	No
VOC	1.48	0.28	0.02	1.77	25	No
Filterable PM	0.68	--	--	0.68	100	No
PM ₁₀	1.07	0.24	--	1.31	15	No
PM _{2.5}	1.07	0.24	--	1.31	10	No
SO ₂	0.08	0.22	--	0.30	25	No
Max. Facility Individual HAP (Benzene)	0.04	6.89 × 10 ⁻⁴	--	0.04	10	No
Total HAP	0.08	2.86 × 10 ⁻³	--	0.08	25	No
CO ₂ e	8,275	121	--	8,396	N/A	N/A

Notes:

a) The applicant is requesting a site-wide NO_x emission limit of 99.9 tpy.

b) Emissions of VOCs from the facility's diesel belly tanks are authorized through a PBR under 30 TAC §106.478. Potential emissions of VOCs from the facility's diesel belly tanks will not affect the facility's ability to continue to qualify for coverage under the current certified PBR registration. In addition, any emissions of HAPs from the diesel belly tanks are assumed to be *de minimis*.

c) The number in this column is the lowest of the following for each pollutant: (i) Federal NSR major source threshold, (ii) Title V major source threshold, or (iii) the limit in 30 TAC §106.4(a)(1).

3.3.4 Maintenance, Startup, and Shutdown (MSS) Activities

The emissions associated with scheduled routine maintenance of the generators and fire pump are included in the emissions calculations detailed in the previous sections and will be authorized by PBR §106.511. Further, NO_x emissions from the MSS events are included in the requested site-wide NO_x emission limitation. There will be no routine excess startup or shutdown emissions associated with the use of generators or fire pump at the facility.

3.3.5 Table 1(a) Emission Point Summary

Attached is the Table 1(a) Emission Point Summary, Page 1 only.

Date:	January 2026
Permit No.:	TBA
Regulated Entity No.:	TBA
Area Name:	Worldwide LLC
Customer Reference No.:	TBA

Review of application and issuance of permits will be expedited by supplying all necessary information requested on the Table

AIR CONTAMINANT DATA					
EPN	FIN	Name	Component or Air Contaminant Name	Air Contaminant Emission Rate lb/hr	Air Contaminant Emission Rate TPY
GEN-01, GEN-02, GEN-03, GEN-04, DFP-01	GEN-01, GEN-02, GEN-03, GEN-04, DFP-01	All Emergency Generators and Diesel Fire Pump at Site	NO _x		99.90
			CO		13.79
			VOC		1.77
			PM/PM ₁₀ /PM _{2.5}		1.31
			SO ₂		0.30
			HAP		0.08

EPN = Emission Point Number

FIN = Facility Identification Number

3.4 General and Specific PBR Requirements and Checklists

This section contains the following TCEQ PBR Checklists:

- 30 TAC §106.4 – Permit By Rule Applicability Checklist

Note that there is no checklist for 30 TAC §106.511 – Portable and Emergency Engines and Turbines, however, the applicant will maintain compliance with all requirements of the Rule.

**Texas Commission on Environmental Quality
Permit by Rule Applicability Checklist
Title 30 Texas Administrative Code § 106.4**

The following checklist was developed by the Texas Commission on Environmental Quality (TCEQ), **Air Permits Division**, to assist applicants in determining whether or not a facility meets all of the applicable requirements. Before claiming a specific Permit by Rule (PBR), a facility must first meet all of the requirements of **Title 30 Texas Administrative Code § 106.4** (30 TAC § 106.4), "Requirements for Permitting by Rule." Only then can the applicant proceed with addressing requirements of the specific Permit by Rule being claimed.

The use of this checklist is not mandatory; however, it is the responsibility of each applicant to show how a facility being claimed under a PBR meets the general requirements of 30 TAC § 106.4 and also the specific requirements of the PBR being claimed. If all PBR requirements cannot be met, a facility will not be allowed to operate under the PBR and an application for a construction permit may be required under 30 TAC § 116.110(a).

Registration of a facility under a PBR can be performed by completing **Form PI-7** (Registration for Permits by Rule) or **Form PI-7-CERT** (Certification and Registration for Permits by Rule). The appropriate checklist should accompany the registration form. Check the most appropriate answer and include any additional information in the spaces provided. If additional space is needed, please include an extra page and reference the question number. The PBR forms, tables, checklists, and guidance documents are available from the TCEQ, Air Permits Division website at: www.tceq.texas.gov/permitting/air/nav/air_pbr.html.

1. 30 TAC § 106.4(a)(1) and (4): Emission Limits	Answer
List emissions in tpy for each facility (add additional pages or table if needed):	
Are the SO ₂ , PM ₁₀ , VOC, or other air contaminant emissions claimed for each facility in this PBR submittal less than 25 tpy?	☒ YES ☐ NO
Are the NO _x and CO emissions claimed for each facility in this PBR submittal less than 250 tpy?	☒ YES ☐ NO
<i>If the answer to both is "Yes," continue to the question below. If the answer to either question is "No," a PBR cannot be claimed.</i>	
Has any facility at the property had public notice and opportunity for comment under 30 TAC Section 116 for a regular permit or permit renewal? (This does not include public notice for voluntary emission reduction permits, grandfathered existing facility permits, or federal operating permits.)	☐ YES ☒ NO
<i>If "Yes," skip to Section 2. If "No," continue to the questions below.</i>	
If the site has had no public notice, please answer the following:	
Are the SO ₂ , PM ₁₀ , VOC, or other emissions claimed for all facilities in this PBR submittal less than 25 tpy?	☒ YES ☐ NO
Are the NO _x and CO emissions claimed for all facilities in this PBR submittal less than 250 tpy?	☒ YES ☐ NO
<i>If the answer to both questions is "Yes," continue to Section 2.</i>	
<i>If the answer to either question is "No," a PBR cannot be claimed. A permit will be required under Chapter 116.</i>	

Texas Commission on Environmental Quality
Permit by Rule Applicability Checklist
Title 30 Texas Administrative Code § 106.4

2. 30 TAC § 106.4(a)(2): Nonattainment Check	Answer
Are the facilities to be claimed under this PBR located in a designated ozone nonattainment county?	☐ YES ☒ NO
<i>If "Yes," please indicate which county by checking the appropriate box to the right.</i>	
(Moderate) - Brazoria, Chambers, Fort Bend, Galveston, Harris, Liberty, Montgomery, and Waller counties:	☐ HGB
(Moderate) - Collin, Dallas, Denton, Ellis, Johnson, Kaufman, Parker, Rockwall, Tarrant, and Wise counties:	☐ DFW
<i>If "Yes," to any of the above, continue to the next question. If "No," continue to Section 3.</i>	
Does this project trigger a nonattainment review?	☐ YES ☐ NO
Is the project's potential to emit (PTE) for emissions of VOC or NO _x increasing by 100 tpy or more?	☐ YES ☐ NO
<i>PTE is the maximum capacity of a stationary source to emit any air pollutant under its worst-case physical and operational design unless limited by a permit, rules, or made federally enforceable by a certification.</i>	
Is the site an existing major nonattainment site and are the emissions of VOC or NO _x increasing by 40 tpy or more?	☐ YES ☐ NO
<i>If needed, attach contemporaneous netting calculations per nonattainment guidance.</i>	
Additional information can be found at: www.tceq.texas.gov/permitting/air/forms/newsourcereview/tables/nsr_table8.html and www.tceq.texas.gov/permitting/air/nav/air_docs_newsourcereview.html	
<i>If "Yes," to any of the above, the project is a major source or a major modification and a PBR may not be used. A Nonattainment Permit review must be completed to authorize this project. If "No," continue to Section 3.</i>	
3. 30 TAC § 106.4(a)(3): Prevention of Significant Deterioration (PSD) check	
Does this project trigger a review under PSD rules?	
To determine the answer, review the information below:	
Are emissions of any regulated criteria pollutant increasing by 100 tpy of any criteria pollutant at a named source?	☐ YES ☒ NO
Are emissions of any criteria pollutant increasing by 250 tpy of any criteria pollutant at an unnamed source?	☐ YES ☒ NO
Are emissions increasing above significance levels at an existing major site?	☐ YES ☒ NO
PSD information can be found at: www.tceq.texas.gov/assets/public/permitting/air/Forms/NewSourceReview/Tables/10173tbl.pdf and www.tceq.texas.gov/permitting/air/nav/air_docs_newsourcereview.html	
<i>If "Yes," to any of the above, a PBR may not be used. A PSD Permit review must be completed to authorize the project.</i>	
<i>If "No," continue to Section 4.</i>	

**Texas Commission on Environmental Quality
Permit by Rule Applicability Checklist
Title 30 Texas Administrative Code § 106.4**

4. 30 TAC § 106.4(a)(6): Federal Requirements	Answer
Will all facilities under this PBR meet applicable requirements of Title 40 Code of Federal Regulations (40 CFR) Part 60, New Source Performance Standards (NSPS)?	☒ YES ☐ NO ☐ NA
If "Yes," which Subparts are applicable? (<i>answer below.</i>)	
<i>Subpart IIII – Stationary CI ICE, Subpart A – General Requirements</i>	
Will all facilities under this PBR meet applicable requirements of 40 CFR Part 63, Hazardous Air Pollutants Maximum Achievable Control Technology (MACT) standards?	☒ YES ☐ NO ☐ NA
If "Yes," which Subparts are applicable? (<i>answer below.</i>)	
<i>Subpart ZZZZ – Stationary Reciprocating ICE, Subpart A – General Requirements</i>	
Will all facilities under this PBR meet applicable requirements of 40 CFR Part 61, National Emissions Standards for Hazardous Air Pollutants (NESHAPs)?	☐ YES ☐ NO ☒ NA
If "Yes," which Subparts are applicable? (<i>answer below.</i>)	
<i>If "Yes" to any of the above, please attach a discussion of how the facilities will meet any applicable standards.</i>	
5. 30 TAC § 106.4(a)(7): PBR prohibition check	
Are there any air permits at the site containing conditions which prohibit or restrict the use of PBRs?	☐ YES ☒ NO
<i>If "Yes," PBRs may not be used or their use must meet the restrictions of the permit. A new permit or permit amendment may be required.</i>	
<i>List permit number(s):</i>	
6. 30 TAC § 106.4(a)(8): NO_x Cap and Trade	
Is the facility located in Harris, Brazoria, Chambers, Fort Bend, Galveston, Liberty, Montgomery, or Waller County?	☐ YES ☒ NO
<i>If "Yes," answer the question below.</i>	
<i>If "No," continue to Section 7.</i>	
Will the proposed facility or group of facilities obtain required allowances for NO _x if they are subject to 30 TAC Chapter 101, Subchapter H, Division 3 (relating to the Mass Emissions Cap and Trade Program)?	☐ YES ☐ NO

**Texas Commission on Environmental Quality
Permit by Rule Applicability Checklist
Title 30 Texas Administrative Code § 106.4**

7. Highly Reactive Volatile Organic Compounds (HRVOC) check		
Is the facility located in Harris County?	☐ YES ☒ NO	
<i>If "Yes," answer the next question. If "No," skip to the box below.</i>		
Will the project be constructed after June 1, 2006?	☐ YES ☐ NO	
<i>If "Yes," answer the next question.</i>		
<i>If "No," skip to the box below.</i>		
Will one or more of the following HRVOC be emitted as a part of this project?	☐ YES ☐ NO	
<i>If "Yes," complete the information below:</i>		
Information	lb/hr	tpy
▶ 1,3-butadiene		
▶ all isomers of butene (e.g., isobutene [2-methylpropene or isobutylene])		
▶ alpha-butylene (ethylethylene)		
▶ beta-butylene (dimethylethylene, including both cis- and trans-isomers)		
▶ ethylene		
▶ propylene		
Is the facility located in Brazoria, Chambers, Fort Bend, Galveston, Liberty, Montgomery, or Waller County?	☐ YES ☒ NO	
<i>If "Yes," answer the next question. If "No," the checklist is complete.</i>		
Will the project be constructed after June 1, 2006?	☐ YES ☐ NO	
<i>If "Yes," answer the next question. If "No," the checklist is complete.</i>		
Will one or more of the following HRVOC be emitted as a part of this project?	☐ YES ☐ NO	
<i>If "Yes," complete the information below:</i>		
Information	lb/hr	tpy
▶ ethylene		
▶ propylene		

APPENDIX 1
POTENTIAL EMISSIONS CALCULATIONS

**THIS APPENDIX CONTAINS INFORMATION THAT IS DEEMED BY
WORLDWIDE LLC TO BE CONFIDENTIAL. DO NOT COPY OR
DISTRIBUTE.**

**Detailed Emissions Calculations
Facility-Wide Summary**

CONFIDENTIAL

Facility-Wide Potential Emissions

Pollutant	Potential Annual Emissions (tpy)			Facility-Wide Potential Emissions (tpy)	Title V Threshold (tpy)	Above Threshold?	Permit-By Rule Threshold (tpy)	Above Threshold?
	Emergency Generators	Diesel Fire Pump	Belly Tanks					
NO _x ¹	96.51	3.39	--	< 99.9	100	No	250	No
CO	13.06	0.73	--	13.79	100	No	250	No
VOC	1.48	0.28	0.02	1.77	100	No	25	No
Filterable PM	0.68	--	--	0.68	100	No	N/A	N/A
PM ₁₀	1.07	0.24	--	1.31	100	No	15	No
PM _{2.5}	1.07	0.24	--	1.31	100	No	10	No
SO ₂	0.08	0.22	--	0.30	100	No	25	No
Max. Facility Individual HAP (Benzene)	0.04	6.89E-04	--	0.04	10	No	N/A	N/A
Total HAP	0.08	2.86E-03	--	0.08	25	No	N/A	N/A
CO ₂ e	8,275	120.77	--	8,396	N/A	N/A	N/A	N/A

1. The applicant is requesting a site-wide NO_x emissions limitation of 99.9 tpy.

**Detailed Emissions Calculations
Generator Engines**

CONFIDENTIAL

Number of Generator Engines

Group 1 Generators	4
--------------------	---

Power Output by Load

Source Type	Power Output (bhp/engine) ¹				
	100% Load	75% Load	50% Load	25% Load	10% Load
Group 1 Generators	4,376	3,282	2,188	1,094	438

Notes:

1. Per the manufacturer specification sheet.

Fuel Usage by Load

Source Type	Diesel Fuel Consumption (gal/hr/engine) ¹					Heat Input (MMBtu/hr/engine) ²				
	100% Load	75% Load	50% Load	25% Load	10% Load	100% Load	75% Load	50% Load	25% Load	10% Load
Group 1 Generators	210.7	159.8	125.1	75.0	37.4	28.87	21.90	17.14	10.28	5.12

Notes:

1. Per the manufacturer specification sheet.

2. Diesel fuel consumption was converted to heat input based on the diesel high heating value from the USEPA's AP-42, Section 3.4, *Large Stationary Diesel and All Stationary Dual-fuel Engines*, Table 3.4-1, footnote a (April 2025):

Diesel HHV = 0.137 MMBtu/gal

Manufacturer-Provided Emission Factors by Load

Pollutant	Emission Factors (g/hp-hr) ^{1,2}				
	100% Load	75% Load	50% Load	25% Load	10% Load
NO _x	7.26	6.28	3.85	3.22	8.18
CO	0.63	1.03	0.78	1.66	4.17
VOC ³	0.05	0.06	0.17	0.35	0.75
Filterable PM ⁴	0.04	0.05	0.06	0.12	0.29

Notes:

1. Per the manufacturer emissions data and specification sheet, conservatively using the manufacturer's potential site variation emissions data.

2. All generators will be fueled by ultra-low sulfur diesel fuel and/or renewable diesel fuel conforming to EN15940 and ASTM D975 specification for petroleum [including hydrotreated vegetable oil (HVO)]; the ISO8178 D2 test cycle emission rates are the same for both diesel fuel and HVO. For simplicity and conservative purposes, the applicant has calculated total potential emissions from all generators based on the diesel fuel load-specific emission factors.

3. It is conservatively assumed that all hydrocarbons (HC) are VOC.

4. It is conservatively assumed that all PM is less than 2.5 microns in diameter.

AP-42 Emission Factors

Pollutant	Emission Factor ¹ (lb/MMBtu)
Condensable PM	7.70E-03
SO ₂ ²	1.52E-03
Benzene	7.76E-04
Toluene	2.81E-04
Xylenes	1.93E-04
Formaldehyde	7.89E-05
Acetaldehyde	2.52E-05
Acrolein	7.88E-06
Naphthalene	1.30E-04
Other PAH ³	8.20E-05
Total HAPs	1.49E-03

Notes:

- Emission factors are based on the USEPA's AP-42, Section 3.4, *Large Stationary Diesel and All Stationary Dual-fuel Engines*, Tables 3.4-1, 3.4-2, 3.4-3, and 3.4-4 (April 2025).
- The SO₂ emission factor was calculated based on the maximum allowable diesel fuel sulfur content under NSPS Subpart IIII:

$$\text{Diesel \%S Content} = 0.0015 \text{ wt\% sulfur}$$

It is conservatively assumed that all SO_x is SO₂.
- PAH = Polycyclic Aromatic Hydrocarbons

Greenhouse Gases (GHG) Emission Factors

Pollutant	Emission Factor ¹ (lb/MMBtu)
CO ₂	163.05
CH ₄	6.61E-03
N ₂ O	1.32E-03
CO ₂ e ²	163.59

Notes:

- Per 40 CFR 98, Subpart C, Tables C-1 and C-2 for No. 2 fuel oil combustion. The emission factors were converted from kg/MMBtu to lb/MMBtu.
- The CO₂e emission factor is calculated as the sum of each GHG pollutant multiplied by its global warming potential, per 40 CFR 98, Subpart A, Table A-1:

$$\begin{array}{ll} \text{CO}_2: & 1 \\ \text{CH}_4: & 28 \\ \text{N}_2\text{O}: & 265 \end{array}$$

Hourly Emissions per Engine by Load

Pollutant	Hourly Emissions (lb/hr/gen) ^{1, 2}					
	100% Load	75% Load	50% Load	25% Load	10% Load	Maximum
Criteria Pollutants						
NO _x	70.04	45.44	18.57	7.77	7.90	70.04
CO	6.08	7.45	3.76	4.00	4.03	7.45
VOC	0.48	0.43	0.82	0.84	0.72	0.84
Filterable PM	0.39	0.36	0.29	0.29	0.28	0.39
PM ₁₀ /PM _{2.5} ³	0.61	0.53	0.42	0.37	0.32	0.61
SO ₂	0.04	0.03	0.03	0.02	7.76E-03	0.04
Hazardous Air Pollutants						
Benzene	0.02	0.02	0.01	7.98E-03	3.98E-03	0.02
Toluene	8.11E-03	6.15E-03	4.82E-03	2.89E-03	1.44E-03	8.11E-03
Xylenes	5.57E-03	4.23E-03	3.31E-03	1.98E-03	9.89E-04	5.57E-03
Formaldehyde	2.28E-03	1.73E-03	1.35E-03	8.11E-04	4.04E-04	2.28E-03
Acetaldehyde	7.28E-04	5.52E-04	4.32E-04	2.59E-04	1.29E-04	7.28E-04
Acrolein	2.28E-04	1.73E-04	1.35E-04	8.10E-05	4.04E-05	2.28E-04
Naphthalene	3.75E-03	2.85E-03	2.23E-03	1.34E-03	6.66E-04	3.75E-03
Other PAH	2.37E-03	1.80E-03	1.41E-03	8.43E-04	4.20E-04	2.37E-03
Total HAPs	0.04	0.03	0.03	0.02	7.65E-03	0.04
Greenhouse Gases						
CO ₂	4,708	3,570	2,795	1,676	835.64	4,708
CH ₄	0.19	0.14	0.11	0.07	0.03	0.19
N ₂ O	0.04	0.03	0.02	0.01	6.78E-03	0.04
CO ₂ e	4,723	3,582	2,804	1,681	838.38	4,723

Notes:

1. For manufacturer-provided emission factors: Hourly Emissions at X% Load (lb/hr/engine) = Emission Factor at X% Load (g/hp-hr) × Engine Power Output at X% Load (bhp/engine) / (453.6 g/lb)
2. For AP-42 & GHG emission factors: Hourly Emissions at X% Load (lb/hr/engine) = Emission Factor (lb/MMBtu) × Heat Input at X% Load (MMBtu/hr)
3. Total PM₁₀/PM_{2.5} is the sum of filterable PM₁₀/PM_{2.5} and condensable PM.

Ratio of Pollutant Emissions to NO_x Emissions by Load

Pollutant	Maximum Ratio of Pollutant Emissions to NO _x Emissions for Any Engine Load (Pounds of Pollutant Emissions) / (Pounds of NO _x Emissions) ¹					
	100% Load	75% Load	50% Load	25% Load	10% Load	Maximum
Criteria Pollutants						
NO _x	--					
CO	0.09	0.16	0.20	0.52	0.51	0.52
VOC	0.01	0.01	0.04	0.11	0.09	0.11
Filterable PM	0.01	0.01	0.02	0.04	0.04	0.04
PM ₁₀ /PM _{2.5}	0.01	0.01	0.02	0.05	0.04	0.05
SO ₂	6.25E-04	7.30E-04	1.40E-03	2.00E-03	9.83E-04	2.00E-03
Hazardous Air Pollutants						
Benzene	3.20E-04	3.74E-04	7.16E-04	1.03E-03	5.03E-04	1.03E-03
Toluene	1.16E-04	1.35E-04	2.59E-04	3.72E-04	1.82E-04	3.72E-04
Xylenes	7.96E-05	9.30E-05	1.78E-04	2.55E-04	1.25E-04	2.55E-04
Formaldehyde	3.25E-05	3.80E-05	7.28E-05	1.04E-04	5.12E-05	1.04E-04
Acetaldehyde	1.04E-05	1.21E-05	2.33E-05	3.33E-05	1.64E-05	3.33E-05
Acrolein	3.25E-06	3.80E-06	7.27E-06	1.04E-05	5.11E-06	1.04E-05
Naphthalene	5.36E-05	6.26E-05	1.20E-04	1.72E-04	8.43E-05	1.72E-04
Other PAH	3.38E-05	3.95E-05	7.57E-05	1.09E-04	5.32E-05	1.09E-04
Total HAP	6.15E-04	7.19E-04	1.38E-03	1.97E-03	9.68E-04	1.97E-03
Greenhouse Gases						
CO ₂	67.21	78.58	150.51	215.77	105.79	215.77
CH ₄	2.73E-03	3.19E-03	6.11E-03	8.75E-03	4.29E-03	8.75E-03
N ₂ O	5.45E-04	6.37E-04	1.22E-03	1.75E-03	8.58E-04	1.75E-03
CO ₂ e	67.44	78.83	151.00	216.48	106.14	216.48

Notes:

1. Ratio for Load X = Hourly Emissions of Pollutant at Load X (lb/hr/gen) / Hourly Emissions of NO_x at Load X (lb/hr/gen)

Potential Annual Emissions from All Generators

Pollutant	Total Potential Annual Emissions for All Generators ^{1,2} (tpy)
<i>Criteria Pollutants</i>	
NO _x	96.51
CO	13.06
VOC	1.48
Filterable PM	0.68
PM ₁₀ /PM _{2.5}	1.07
SO ₂	0.08
<i>Hazardous Air Pollutants</i>	
Benzene	3.93E-02
Toluene	1.42E-02
Xylenes	9.76E-03
Formaldehyde	3.99E-03
Acetaldehyde	1.27E-03
Acrolein	3.99E-04
Naphthalene	6.58E-03
Other PAH	4.15E-03
Total HAP	7.55E-02
<i>Greenhouse Gases</i>	
CO ₂	8,248
CH ₄	3.35E-01
N ₂ O	6.69E-02
CO ₂ e	8,275

Notes:

1. The applicant is requesting a site-wide NO_x emissions limitation of 99.9 tpy.

2. For all pollutants other than NO_x, the total potential annual emissions from all generators were based on the lower of the emissions calculated from the following two equations:
Total Potential Annual Pollutant Emissions from All Generators (tpy) =
[(99.9 tpy NO_x) - (tpy NO_x from diesel fire pump)] × [Maximum Ratio of Pollutant Emissions to NO_x Emissions (lb pollutant/lb NO_x)]

OR

Total Potential Annual Pollutant Emissions from All Generators (tpy) =
[Max Hourly Pollutant Emissions per **Group 1** Generators (lb/hr/gen) × Number of **Group 1** Generators × Potential Annual Hours of Operation (876 hours/yr/gen) / (2,000 lb/ton)]

**Detailed Emissions Calculations
Diesel Fire Pump**

CONFIDENTIAL

Emergency Firewater Pump Characteristics

Power Rating	250	bhp
Max fuel consumption rate	12.3	gal/hr
Max heat input ¹	1.7	MMBtu/hr

Emergency Firewater Pump Potential Emissions

Pollutant	Emission Factor ²		Potential Emissions ³			
Criteria Pollutants						
NO _x	0.031	lb/hp-hr	7.75	lb/hr	3.39	tpy
SO _x	2.05E-03		0.51		0.22	
CO	6.68E-03		1.67		0.73	
PM ₁₀	2.20E-03		0.55		0.24	
PM _{2.5} ⁴	2.20E-03		0.55		0.24	
VOC ⁵	2.51E-03		0.63		0.28	
Hazardous Air Pollutants						
Benzene	9.33E-04	lb/MMBtu	1.6E-03	lb/hr	6.9E-04	tpy
Toluene	4.09E-04		6.9E-04		3.0E-04	
Xylenes	2.85E-04		4.8E-04		2.1E-04	
1,3-Butadiene	3.91E-05		6.6E-05		2.9E-05	
Formaldehyde	1.18E-03		2.0E-03		8.7E-04	
Acetaldehyde	7.67E-04		1.3E-03		5.7E-04	
Acrolein	9.25E-05		1.6E-04		6.8E-05	
Total PAH ⁶	1.68E-04		2.8E-04		1.2E-04	
Max Individual HAP	--	--	2.0E-03		8.7E-04	
Total HAPS	--	--	6.5E-03		2.9E-03	
Greenhouse Gases						
CO ₂	163.05	lb/MMBtu	274.82	lb/hr	120.37	tpy
CH ₄	6.61E-03		1.1E-02		4.88E-03	
N ₂ O	1.32E-03		2.2E-03		9.77E-04	
CO ₂ e ⁷	163.59		275.73		120.77	

Notes

1. Diesel fuel consumption was converted to heat input based on the diesel high heating value from the USEPA's AP-42, Section 3.4, Large Stationary Diesel and All Stationary Dual-fuel Engines, Table 3.4-1, footnote a (April 2025):

$$\text{Diesel HHV} = 0.137 \text{ MMBtu/gal}$$

2. Emission factors for all pollutants except CO₂, CH₄ and N₂O were obtained from AP-42, Section 3.3, *Gasoline And Diesel Industrial Engines*, Tables 3.3-1 and 3.3-2 for diesel engines up to 600 hp.

Emission factors of CO₂, N₂O, and CH₄ from 40 CFR 98, Subpart C, Tables C-1 and C-2 for No. 2 fuel oil combustion. The emission factors were converted from kg/MMBtu to lb/MMBtu.

3. Short-term PTE (lb/hr) was calculated by multiplying the emission factor (lb/hp-hr or lb/MMBtu) by the power or heat input rating of the engine (bhp or MMBtu/hr).

Annual PTE (tpy) was calculated by multiplying the short-term PTE (lb/hr) by the maximum hours of operation per year (876 hr/yr) and then converting from pounds to tons.

4. PM_{2.5} emission factor conservatively assumed equal to PM₁₀ emission factor.

5. VOC emission factor conservatively assumed equal to the sum of TOC emission factors from exhaust, evaporative, crankcase, and refueling.

6. PAH = Polycyclic Aromatic Hydrocarbons

7. The CO₂e emission factor is calculated as the sum of the emission factor for GHG pollutant multiplied by its global warming potential, per 40 CFR 98, Subpart A, Table A-1:

CO ₂ :	1
CH ₄ :	28
N ₂ O:	265

APPENDIX 2
TABLE 29 AND MANUFACTURER SPECIFICATION SHEETS AND
EMISSIONS DATA

**THIS APPENDIX CONTAINS INFORMATION THAT IS DEEMED BY
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Appendix 2.A: Table 29 and Manufacturer Specification Sheet and Emissions Data for Group 1 Engines

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Texas Commission on Environmental Quality
Table 29 Reciprocating Engines

I. Engine Data											
Manufacturer: CAT		Model No. C175-16		Serial No. TBD		Manufacture Date: TBD (2025+)					
Rebuilds Date:		No. of Cylinders: 16		Compression Ratio: 15.3		EPN: All Group 1 Engines					
Application: ☐ Gas Compression ☐ Electric Generation ☐ Refrigeration ☒ Emergency/Stand by ☒ 4 Stroke Cycle ☐ 2 Stroke Cycle ☐ Carbureted ☐ Spark Ignited ☐ Dual Fuel ☐ Fuel Injected ☒ Diesel ☐ Naturally Aspirated ☐ Blower /Pump Scavenged ☒ Turbo Charged and I.C. ☐ Turbo Charged ☐ Intercooled ☐ I.C. Water Temperature ☐ Lean Burn ☐ Rich Burn											
Ignition/Injection Timing: Fixed: _____ Variable: _____											
Manufacture Horsepower Rating: 4376						Proposed Horsepower Rating:					
Discharge Parameters											
Stack Height (Feet)		Stack Diameter (Feet)		Stack Temperature (°F)		Exit Velocity (FPS)					
30		2.33		1204.7		94.7					
II. Fuel Data											
Type of Fuel: ☐ Field Gas ☐ Landfill Gas ☐ LP Gas ☐ Natural Gas ☐ Digester Gas ☒ Diesel											
Fuel Consumption (BTU/bhp-hr): 6600				Heating Value: 0.137				Lower Heating Value:			
Sulfur Content (grains/100 scf - weight %): 0.0015											
III. Emission Factors (Before Control)											
NO _x		CO		SO ₂		VOC		Formaldehyde		PM ₁₀	
g/hp-hr	ppmv	g/hp-hr	ppmv	g/hp-hr	ppmv	g/hp-hr	ppmv	g/hp-hr	ppmv	g/hp-hr	ppmv
See Appendix 1											
Source of Emission Factors: ☒ Manufacturer Data ☒ AP-42 ☐ Other (specify): _____											
IV. Emission Factors (Post Control)											
NO _x		CO		SO ₂		VOC		Formaldehyde		PM ₁₀	
g/hp-hr	ppmv	g/hp-hr	ppmv	g/hp-hr	ppmv	g/hp-hr	ppmv	g/hp-hr	ppmv	g/hp-hr	ppmv
Method of Emission Control: ☐ NSCR Catalyst ☐ Lean Operation ☐ Parameter Adjustment ☐ Stratified Charge ☐ JLCC Catalyst ☐ Other (Specify): _____											
Note: Must submit a copy of any manufacturer control information that demonstrates control efficiency.											
Is Formaldehyde included in the VOCs?										☐ Yes ☒ No	
V. Federal and State Standards (Check all that apply)											
☐ NSPS JJJJ ☒ MACT ZZZZ ☒ NSPS IIII ☐ Title 30 Chapter 117 - List County: _____											
VI. Additional Information											
1. Submit a copy of the engine manufacturer's site rating or general rating specification data. 2. Submit a typical fuel gas analysis, including sulfur content and heating value. For gaseous fuels, provide mole percent of constituents. 3. Submit description of air/fuel ratio control system (manufacturer information is acceptable).											

Reset Form

Print Form

Cat® C175-16

Diesel Generator Sets



Image shown may not reflect actual configuration

Bore – mm (in)	175 (6.89)
Stroke – mm (in)	220 (8.66)
Displacement – L (in ³)	84.7 (6456.31)
Compression Ratio	16.7:1
Aspiration	TA
Fuel System	Common Rail
Governor Type	ADEM™ A4

Standby 60 Hz kW (kVA)	Mission Critical 60 Hz kW (kVA)	Prime 60 Hz kW (kVA)	Continuous 60 Hz kW (kVA)	Emissions Performance
3100 (3875)	3100 (3875)	2825 (3531)	2600 (3250)	U.S. EPA Stationary Emergency Use Only. (Tier 2)

Standard Features

Cat® Diesel Engine

- Meets U.S. EPA Stationary Emergency Use Only (Tier 2) emission standards
- Reliable performance proven in thousands of applications worldwide

Generator Set Package

- Accepts 100% block load in one step and meets other NFPA 110 loading requirements
- Conforms to ISO 8528-5 G3 load acceptance requirements
- Reliability verified through torsional vibration, fuel consumption, oil consumption, transient performance, and endurance testing

Alternators

- Superior motor starting capability minimizes need for oversizing generator
- Designed to match performance and output characteristics of Cat diesel engines

EMCP 4 Control Panels

- User-friendly interface and navigation
- Scalable system to meet a wide range of installation requirements
- Expansion modules and site specific programming for specific customer requirements

Warranty

- 24 months/1000-hour warranty for standby and mission critical ratings
- 12 months/unlimited hour warranty for prime and continuous ratings
- Extended service protection is available to provide extended coverage options

Worldwide Product Support

- Cat dealers have over 1,800 dealer branch stores operating in 200 countries
- Your local Cat dealer provides extensive post-sale support, including maintenance and repair agreements

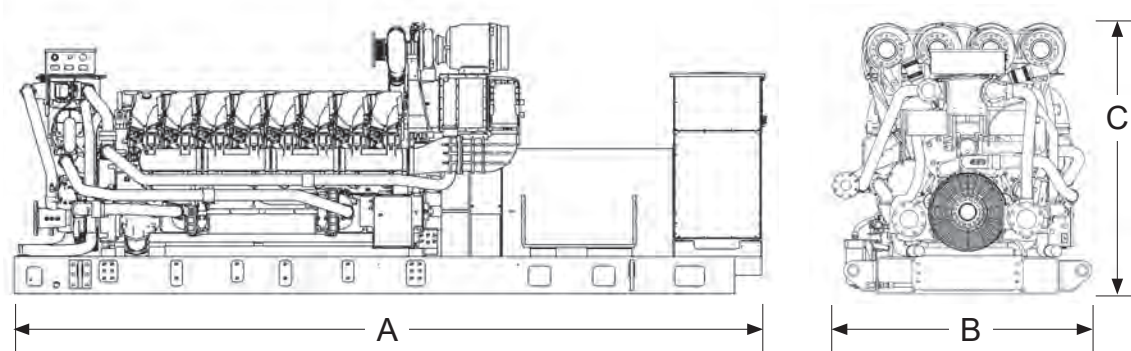
Financing

- Caterpillar offers an array of financial products to help you succeed through financial service excellence
- Options include loans, finance lease, operating lease, working capital, and revolving line of credit
- Contact your local Cat dealer for availability in your region

Package Performance

Performance	Standby		Mission Critical		Prime		Continuous	
Frequency	60 Hz		60 Hz		60 Hz		60 Hz	
Gen set power rating without fan	3100 eKW		3100 eKW		2825 eKW		2600 eKW	
Gen set power rating without fan @ 0.8 power factor	3875 kVA		3875 kVA		3531 kVA		3250 kVA	
Emissions	EPA ESE (Tier 2)		EPA ESE (Tier 2)		EPA ESE (Tier 2)		EPA ESE (Tier 2)	
Performance number	DM8455-08		Not Available		DM8706-06		DM8707-04	
Fuel Consumption								
100% load without fan – L/hr (gal/hr)	772	(204)	772	(204)	692.3	(182.9)	633.3	(167.3)
75% load without fan – L/hr (gal/hr)	585.8	(154.7)	585.8	(154.7)	543.6	(143.6)	500.3	(132.1)
50% load without fan – L/hr (gal/hr)	458.4	(121.1)	458.4	(121.1)	431.6	(114)	406	(107.3)
25% load without fan – L/hr (gal/hr)	274.6	(72.6)	274.6	(72.6)	255.8	(67.6)	239	(63.1)
Cooling System								
Engine coolant capacity – L (gal)	303.5	(80.2)	303.5	(80.2)	303.5	(80.2)	303.5	(80.2)
Inlet Air								
Combustion air inlet flow rate – m³/min (cfm)	262.6	(9273.3)	262.6	(9273.3)	247.0	(8722.7)	230.9	(8153.2)
Exhaust System								
Exhaust stack gas temperature – °C (°F)	478.1	(892.7)	478.1	(892.7)	460.0	(860.0)	443.9	(831.0)
Exhaust gas flow rate – m³/min (cfm)	688.1	(24296.2)	688.1	(24296.2)	627.6	(22162.0)	572.6	(20217.9)
Exhaust system backpressure (maximum allowable) – kPa (in. water)	6.7	(27.0)	6.7	(27.0)	6.7	(27.0)	6.7	(27.0)
Heat Rejection								
Heat rejection to jacket water – kW (Btu/min)	1355	(77079)	1355	(77079)	1233	(70109)	1146	(65175)
Heat rejection to exhaust (total) – kW (Btu/min)	3086	(175510)	3086	(175510)	2692	(153112)	2464	(140107)
Heat rejection to aftercooler – kW (Btu/min)	481	(27356)	481	(27356)	384	(21817)	343	(19490)
Heat rejection to atmosphere from engine – kW (Btu/min)	181	(10265)	181	(10265)	169	(9592)	164	(9349)
Heat rejection from alternator – kW (Btu/min)	119	(6773)	119	(6773)	109	(6170)	94	(5363)
Emissions (Nominal)								
NOx mg/Nm³ (g/hp-h)	3107.8	(6.05)	3107.8	(6.05)	3292.8	(6.32)	3246.1	(6.07)
CO mg/Nm³ (g/hp-h)	157.9	(0.35)	157.9	(0.35)	191.2	(0.42)	232.3	(0.50)
HC mg/Nm³ (g/hp-h)	15.2	(0.04)	15.2	(0.04)	16.5	(0.04)	16.1	(0.04)
PM mg/Nm³ (g/hp-h)	10.3	(0.03)	10.3	(0.03)	15.2	(0.04)	15.5	(0.04)
Emissions (Potential Site Variation)								
NOx mg/Nm³ (g/hp-h)	3729.4	(7.26)	3729.4	(7.26)	3951.3	(7.58)	3895.4	(7.29)
CO mg/Nm³ (g/hp-h)	284.3	(0.63)	284.3	(0.63)	344.2	(0.75)	418.8	(0.90)
HC mg/Nm³ (g/hp-h)	20.3	(0.05)	20.3	(0.05)	21.9	(0.06)	21.4	(0.06)
PM mg/Nm³ (g/hp-h)	14.4	(0.04)	14.4	(0.04)	21.3	(0.05)	21.7	(0.05)

Weights and Dimensions



Dim "A" mm (in)	Dim "B" mm (in)	Dim "C" mm (in)	Dry Weight kg (lb)
6137 (241.6)	2110 (83.1)	2211 (87.0)	19 391 (42,750)

Note: For reference only. Do not use for installation design. Contact your local Cat dealer for precise weights and dimensions.

Ratings Definitions

Standby

Output available with varying load for the duration of the interruption of the normal source power. Average power output is 70% of the standby power rating. Typical operation is 200 hours per year, with maximum expected usage of 500 hours per year.

Mission Critical

Output available with varying load for the duration of the interruption of the normal source power. Average power output is 85% of the mission critical power rating. Typical peak demand up to 100% of rated power for up to 5% of the operating time. Typical operation is 200 hours per year, with maximum expected usage of 500 hours per year.

Prime

Output available with varying load for an unlimited time. Average power output is 70% of the prime power rating. Typical peak demand is 100% of prime rated kW with 10% overload capability for emergency use for a maximum of 1 hour in 12. Overload operation cannot exceed 25 hours per year.

Continuous

Output available with non-varying load for an unlimited time. Average power output is 70-100% of the continuous power rating. Typical peak demand is 100% of continuous rated kW for 100% of the operating hours.

Applicable Codes and Standards

AS1359, CSA C22.2 No100-04, UL142, UL489, UL869, UL2200, NFPA37, NFPA70, NFPA99, NFPA110, IBC, IEC60034-1, ISO3046, ISO8528, NEMA MG1-22, NEMA MG1-33, 2014/35/EU, 2006/42/EC, 2014/30/EU.

Note: Codes may not be available in all model configurations. Please consult your local Cat dealer for availability.

Data Center Applications

Tier III/Tier IV compliant per Uptime Institute requirements. ANSI/TIA-942 compliant for Rated-1 through Rated-4 data centers.

Fuel Rates

Fuel Consumption reported in accordance with ISO 3046-1.

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Materials and specifications are subject to change without notice.
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PERFORMANCE DATA[DM8455]

Performance Number: DM8455

Change Level: 08

SALES MODEL: C175-16
BRAND: CAT
ENGINE POWER (BHP): 4,376
GEN POWER W/O FAN (EKW): 3,100.0
COMPRESSION RATIO: 15.3
RATING LEVEL: STANDBY
PUMP QUANTITY: 2
FUEL TYPE: DIESEL
MANIFOLD TYPE: DRY
GOVERNOR TYPE: ADEM4
ELECTRONICS TYPE: ADEM4
CAMSHAFT TYPE: STANDARD
IGNITION TYPE: CI
INJECTOR TYPE: CR
FUEL INJECTOR: 4439455
REF EXH STACK DIAMETER (IN): 14

COMBUSTION: DI
ENGINE SPEED (RPM): 1,800
HERTZ: 60
ASPIRATION: TA
AFTERCOOLER TYPE: SCAC
AFTERCOOLER CIRCUIT TYPE: JW+OC+1AC, 2AC
AFTERCOOLER TEMP (F): 115
JACKET WATER TEMP (F): 210.2
TURBO CONFIGURATION: PARALLEL
TURBO QUANTITY: 4
TURBOCHARGER MODEL: GTB6251BN-48T-1.38
CERTIFICATION YEAR: 2008
CRANKCASE BLOWBY RATE (FT3/HR): 2,436.4
FUEL RATE (RATED RPM) NO LOAD (GAL/HR): 25.1
PISTON SPD @ RATED ENG SPD (FT/MIN): 2,598.4

INDUSTRY	SUBINDUSTRY	APPLICATION
ELECTRIC POWER	STANDARD	GENERATOR SET

General Performance Data

GENSET POWER WITHOUT FAN	PERCENT LOAD	ENGINE POWER	BRAKE MEAN EFF PRES (BMEP)	BRAKE SPEC FUEL CONSUMPTN (BSFC)	VOL FUEL CONSUMPTN (VFC)	INLET MFLD PRES	INLET MFLD TEMP	EXH MFLD TEMP	EXH MFLD PRES	ENGINE OUTLET TEMP
EKW	%	BHP	PSI	LB/BHP-HR	GAL/HR	IN-HG	DEG F	DEG F	IN-HG	DEG F
3,100.0	100	4,376	373	0.337	210.7	90.7	121.5	1,204.7	62.1	892.7
2,790.0	90	3,938	335	0.334	188.1	80.7	121.3	1,155.4	53.8	873.9
2,480.0	80	3,501	298	0.337	168.4	72.6	121.1	1,116.8	47.3	859.2
2,325.0	75	3,282	279	0.341	159.8	69.4	121.1	1,102.6	44.8	853.8
2,170.0	70	3,063	261	0.349	152.7	67.4	121.2	1,093.5	43.3	850.2
1,860.0	60	2,626	224	0.371	139.3	63.4	121.4	1,079.0	40.8	844.7
1,550.0	50	2,188	186	0.400	125.1	57.9	121.5	1,063.1	37.5	839.3
1,240.0	40	1,750	149	0.427	106.9	46.6	121.1	1,034.3	30.4	830.3
930.0	30	1,313	112	0.460	86.2	34.5	120.7	998.5	23.2	819.5
775.0	25	1,094	93	0.480	75.0	28.2	120.7	974.1	19.6	810.6
620.0	20	875	75	0.504	63.1	21.9	120.8	902.3	15.9	766.3
310.0	10	438	37	0.599	37.4	8.9	121.4	706.0	8.7	640.0

GENSET POWER WITHOUT FAN	PERCENT LOAD	ENGINE POWER	COMPRESSOR OUTLET PRES	COMPRESSOR OUTLET TEMP	WET INLET AIR VOL FLOW RATE	ENGINE OUTLET WET EXH GAS VOL FLOW RATE	WET INLET AIR MASS FLOW RATE	WET EXH GAS MASS FLOW RATE	WET EXH VOL FLOW RATE (32 DEG F AND 29.98 IN HG)	DRY EXH VOL FLOW RATE (32 DEG F AND 29.98 IN HG)
EKW	%	BHP	IN-HG	DEG F	CFM	CFM	LB/HR	LB/HR	FT3/MIN	FT3/MIN
3,100.0	100	4,376	90	445.6	9,273.3	24,296.2	40,791.3	42,266.1	8,833.4	8,053.0
2,790.0	90	3,938	80	408.8	8,581.1	22,048.1	37,500.0	38,818.1	8,129.1	7,426.2
2,480.0	80	3,501	72	379.4	8,017.1	20,236.9	34,828.9	36,008.9	7,544.3	6,908.9
2,325.0	75	3,282	69	368.5	7,806.4	19,559.6	33,830.6	34,950.7	7,322.0	6,714.9
2,170.0	70	3,063	67	362.0	7,678.5	19,133.1	33,216.8	34,286.4	7,182.0	6,597.4
1,860.0	60	2,626	63	350.0	7,429.0	18,357.1	32,048.0	33,022.1	6,919.7	6,378.1
1,550.0	50	2,188	58	332.5	7,035.8	17,288.9	30,262.9	31,137.8	6,543.9	6,049.9
1,240.0	40	1,750	47	296.6	6,180.3	15,170.1	26,388.4	27,142.7	5,782.1	5,350.6
930.0	30	1,313	35	251.1	5,230.5	12,595.9	22,202.2	22,809.7	4,841.3	4,490.0
775.0	25	1,094	28	224.9	4,722.5	11,143.7	20,000.1	20,524.8	4,313.3	4,008.9
620.0	20	875	22	197.1	4,216.9	9,643.8	17,813.6	18,255.1	3,867.8	3,607.2
310.0	10	438	9	135.1	3,161.9	6,371.4	13,304.1	13,565.9	2,848.7	2,681.3

Heat Rejection Data

PUMP POWER IS INCLUDED IN HEAT REJECTION BALANCE, BUT IS NOT SHOWN.

GENSET POWER	PERCENT LOAD	ENGINE POWER	REJECTION TO JACKET	REJECTION TO	REJECTION TO EXH	EXHAUST RECOVERY	FROM OIL COOLER	FROM 2ND STAGE	WORK ENERGY	LOW HEAT VALUE	HIGH HEAT VALUE
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PERFORMANCE DATA[DM8455]

WITHOUT FAN			WATER	ATMOSPHERE		TO 350F		AFTERCOOLER		ENERGY	ENERGY
EKW	%	BHP	BTU/MIN	BTU/MIN	BTU/MIN	BTU/MIN	BTU/MIN	BTU/MIN	BTU/MIN	BTU/MIN	BTU/MIN
3,100.0	100	4,376	77,079	10,265	175,510	97,180	24,081	27,356	185,573	452,113	481,614
2,790.0	90	3,938	68,674	9,652	155,505	85,959	21,506	22,077	167,015	403,771	430,117
2,480.0	80	3,501	61,729	9,188	139,739	77,324	19,247	18,045	148,458	361,362	384,941
2,325.0	75	3,282	58,955	9,026	133,914	74,165	18,272	16,609	139,179	343,060	365,445
2,170.0	70	3,063	56,876	8,928	130,176	72,152	17,456	15,731	129,901	327,733	349,118
1,860.0	60	2,626	53,227	8,797	124,059	68,578	15,919	14,476	111,343	298,886	318,389
1,550.0	50	2,188	49,411	8,680	117,110	63,840	14,300	13,183	92,786	268,478	285,997
1,240.0	40	1,750	44,005	8,463	104,802	54,521	12,215	10,300	74,229	229,338	244,303
930.0	30	1,313	37,225	8,151	88,182	44,714	9,854	7,429	55,672	184,999	197,070
775.0	25	1,094	33,267	7,945	78,149	39,422	8,568	6,178	46,393	160,871	171,368
620.0	20	875	28,325	7,533	65,780	31,522	7,209	5,244	37,114	135,351	144,182
310.0	10	438	16,748	6,451	36,503	16,106	4,278	3,828	18,557	80,318	85,559

Sound Data

SOUND DATA REPRESENTATIVE OF NOISE PRODUCED BY THE "ENGINE ONLY"

EXHAUST: Sound Power (1/3 Octave Frequencies)

GENSET POWER WITHOUT FAN	PERCENT LOAD	ENGINE POWER	OVERALL SOUND	100 HZ	125 HZ	160 HZ	200 HZ	250 HZ	315 HZ	400 HZ	500 HZ	630 HZ
EKW	%	BHP	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)
3,100.0	100	4,376	134.4	109.7	115.8	113.6	115.4	115.8	118.8	119.7	121.4	120.2
2,790.0	90	3,938	133.1	110.4	116.2	112.4	114.1	114.3	117.1	118.2	119.8	118.1
2,480.0	80	3,501	131.8	111.9	116.7	110.7	112.5	112.8	115.3	116.7	118.2	116.2
2,325.0	75	3,282	131.1	112.7	116.9	109.8	111.6	112.0	114.5	115.9	117.3	115.3
2,170.0	70	3,063	130.5	113.5	117.2	108.9	110.7	111.3	113.6	115.2	116.4	114.4
1,860.0	60	2,626	129.2	115.1	117.7	107.1	109.0	109.8	111.9	113.7	114.7	112.6
1,550.0	50	2,188	127.9	116.8	118.2	105.3	107.3	108.4	110.2	112.3	113.0	110.7
1,240.0	40	1,750	126.6	118.4	118.7	103.5	105.6	106.9	108.4	110.8	111.3	108.9
930.0	30	1,313	125.3	120.0	119.2	101.7	103.9	105.4	106.7	109.3	109.5	107.1
775.0	25	1,094	124.6	120.8	119.5	100.8	103.0	104.7	105.8	108.6	108.7	106.2
620.0	20	875	124.0	121.6	119.7	99.9	102.1	103.9	105.0	107.8	107.8	105.3
310.0	10	438	122.7	123.2	120.3	98.1	100.4	102.5	103.2	106.4	106.1	103.4

EXHAUST: Sound Power (1/3 Octave Frequencies)

GENSET POWER WITHOUT FAN	PERCENT LOAD	ENGINE POWER	1000 HZ	1250 HZ	1600 HZ	2000 HZ	2500 HZ	3150 HZ	4000 HZ	5000 HZ	6300 HZ	8000 HZ
EKW	%	BHP	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)
3,100.0	100	4,376	122.0	122.4	123.4	124.7	124.5	122.9	122.2	121.4	119.9	118.8
2,790.0	90	3,938	120.5	120.8	122.0	123.4	123.0	121.3	120.6	119.8	118.6	117.7
2,480.0	80	3,501	119.2	119.5	120.6	122.3	121.7	120.2	119.7	118.9	117.5	117.0
2,325.0	75	3,282	118.5	118.9	119.8	121.8	121.0	119.7	119.2	118.4	117.0	116.7
2,170.0	70	3,063	117.9	118.3	119.1	121.2	120.4	119.1	118.8	118.0	116.4	116.4
1,860.0	60	2,626	116.5	117.1	117.6	120.2	119.0	118.1	117.9	117.1	115.4	115.8
1,550.0	50	2,188	115.2	115.8	116.2	119.1	117.7	117.0	117.0	116.2	114.3	115.1
1,240.0	40	1,750	113.9	114.6	114.7	118.1	116.4	116.0	116.1	115.3	113.3	114.5
930.0	30	1,313	112.6	113.4	113.2	117.0	115.1	114.9	115.2	114.4	112.2	113.9
775.0	25	1,094	112.0	112.8	112.5	116.5	114.5	114.4	114.8	114.0	111.7	113.6
620.0	20	875	111.3	112.2	111.8	116.0	113.8	113.9	114.4	113.6	111.2	113.3
310.0	10	438	110.0	110.9	110.3	115.0	112.5	112.8	113.5	112.7	110.2	112.6

Sound Data (Continued)**MECHANICAL: Sound Power (1/3 Octave Frequencies)**

GENSET POWER WITHOUT FAN	PERCENT LOAD	ENGINE POWER	OVERALL SOUND	100 HZ	125 HZ	160 HZ	200 HZ	250 HZ	315 HZ	400 HZ	500 HZ	630 HZ
EKW	%	BHP	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)
3,100.0	100	4,376	125.9	89.8	105.6	98.3	100.7	104.3	108.4	111.5	113.2	112.5
2,790.0	90	3,938	125.8	89.3	105.5	97.9	100.9	103.2	108.7	111.1	112.6	112.2

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2,480.0	80	3,501	126.0	88.9	104.9	97.8	99.6	102.3	107.8	111.0	111.6	111.8
2,325.0	75	3,282	126.1	88.7	104.5	97.8	98.8	101.9	107.3	111.0	111.1	111.7
2,170.0	70	3,063	126.3	88.5	104.2	97.8	98.0	101.5	106.8	111.0	110.6	111.5
1,860.0	60	2,626	126.5	88.0	103.5	97.8	96.5	100.7	105.8	111.0	109.5	111.1
1,550.0	50	2,188	126.8	87.6	102.8	97.8	95.0	99.9	104.8	111.0	108.5	110.8
1,240.0	40	1,750	127.0	87.2	102.2	97.7	93.5	99.2	103.8	110.9	107.5	110.5
930.0	30	1,313	127.3	86.7	101.5	97.7	92.0	98.4	102.8	110.9	106.5	110.1
775.0	25	1,094	127.4	86.5	101.1	97.7	91.2	98.0	102.3	110.9	105.9	109.9
620.0	20	875	127.5	86.3	100.8	97.7	90.5	97.6	101.8	110.9	105.4	109.8
310.0	10	438	127.8	85.9	100.1	97.7	89.0	96.8	100.8	110.9	104.4	109.4

MECHANICAL: Sound Power (1/3 Octave Frequencies)

GENSET POWER WITHOUT FAN	PERCENT LOAD	ENGINE POWER	1000 HZ	1250 HZ	1600 HZ	2000 HZ	2500 HZ	3150 HZ	4000 HZ	5000 HZ	6300 HZ	8000 HZ
EKW	%	BHP	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)
3,100.0	100	4,376	112.7	113.9	114.6	115.3	114.9	112.7	110.8	111.8	114.2	113.3
2,790.0	90	3,938	112.5	113.7	114.4	114.9	114.4	112.2	110.3	111.0	113.6	112.8
2,480.0	80	3,501	112.1	113.1	113.7	114.3	114.2	111.8	109.9	110.6	113.1	112.6
2,325.0	75	3,282	111.9	112.8	113.3	113.9	114.1	111.6	109.8	110.4	112.9	112.5
2,170.0	70	3,063	111.7	112.5	112.8	113.6	114.0	111.4	109.6	110.3	112.6	112.4
1,860.0	60	2,626	111.2	111.9	112.0	112.9	113.8	110.9	109.2	109.9	112.2	112.2
1,550.0	50	2,188	110.8	111.3	111.1	112.2	113.7	110.5	108.9	109.6	111.8	112.1
1,240.0	40	1,750	110.4	110.7	110.3	111.5	113.5	110.1	108.5	109.2	111.3	111.9
930.0	30	1,313	110.0	110.1	109.4	110.8	113.3	109.6	108.2	108.8	110.9	111.7
775.0	25	1,094	109.7	109.8	109.0	110.5	113.2	109.4	108.0	108.7	110.7	111.6
620.0	20	875	109.5	109.5	108.6	110.2	113.1	109.2	107.8	108.5	110.5	111.5
310.0	10	438	109.1	108.9	107.8	109.5	112.9	108.8	107.5	108.1	110.0	111.3

Emissions Data**RATED SPEED POTENTIAL SITE VARIATION: 1800 RPM**

GENSET POWER WITHOUT FAN	EKW	3,100.0	2,325.0	1,550.0	775.0	310.0
PERCENT LOAD	%	100	75	50	25	10
ENGINE POWER	BHP	4,376	3,282	2,188	1,094	438
TOTAL NOX (AS NO2)	G/HR	31,683	20,556	8,412	3,523	3,586
TOTAL CO	G/HR	2,743	3,359	1,704	1,822	1,827
TOTAL HC	G/HR	238	195	372	378	330
PART MATTER	G/HR	162.5	167.1	120.5	135.6	125.3
TOTAL NOX (AS NO2)	(CORR 5% O2) MG/NM3	3,729.4	3,245.7	1,732.0	1,314.5	2,738.0
TOTAL CO	(CORR 5% O2) MG/NM3	284.3	453.8	295.6	579.5	1,199.1
TOTAL HC	(CORR 5% O2) MG/NM3	20.3	23.4	57.6	103.9	188.1
PART MATTER	(CORR 5% O2) MG/NM3	14.4	19.7	18.8	38.6	76.0
TOTAL NOX (AS NO2)	(CORR 5% O2) PPM	1,817	1,581	844	640	1,334
TOTAL CO	(CORR 5% O2) PPM	227	363	236	464	959
TOTAL HC	(CORR 5% O2) PPM	38	44	108	194	351
TOTAL NOX (AS NO2)	G/HP-HR	7.26	6.28	3.85	3.22	8.18
TOTAL CO	G/HP-HR	0.63	1.03	0.78	1.66	4.17
TOTAL HC	G/HP-HR	0.05	0.06	0.17	0.35	0.75
PART MATTER	G/HP-HR	0.04	0.05	0.06	0.12	0.29
TOTAL NOX (AS NO2)	LB/HR	69.85	45.32	18.54	7.77	7.91
TOTAL CO	LB/HR	6.05	7.41	3.76	4.02	4.03
TOTAL HC	LB/HR	0.52	0.43	0.82	0.83	0.73
PART MATTER	LB/HR	0.36	0.37	0.27	0.30	0.28

RATED SPEED NOMINAL DATA: 1800 RPM

GENSET POWER WITHOUT FAN	EKW	3,100.0	2,325.0	1,550.0	775.0	310.0
PERCENT LOAD	%	100	75	50	25	10
ENGINE POWER	BHP	4,376	3,282	2,188	1,094	438
TOTAL NOX (AS NO2)	G/HR	26,403	17,130	7,010	2,936	2,988
TOTAL CO	G/HR	1,524	1,866	947	1,012	1,015
TOTAL HC	G/HR	179	147	279	284	248
TOTAL CO2	KG/HR	2,206	1,619	1,240	696	327
PART MATTER	G/HR	116.1	119.3	86.1	96.8	89.5
TOTAL NOX (AS NO2)	(CORR 5% O2) MG/NM3	3,107.8	2,704.7	1,443.3	1,095.5	2,281.7
TOTAL CO	(CORR 5% O2) MG/NM3	157.9	252.1	164.2	321.9	666.1

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TOTAL HC	(CORR 5% O2)	MG/NM3	15,2	17,6	43,3	78,1	141,4
PART MATTER	(CORR 5% O2)	MG/NM3	10,3	14,0	13,4	27,5	54,3
TOTAL NOX (AS NO2)	(CORR 5% O2)	PPM	1,514	1,317	703	534	1,111
TOTAL CO	(CORR 5% O2)	PPM	126	202	131	258	533
TOTAL HC	(CORR 5% O2)	PPM	28	33	81	146	264
TOTAL NOX (AS NO2)		G/HP-HR	6,05	5,23	3,21	2,68	6,82
TOTAL CO		G/HP-HR	0,35	0,57	0,43	0,92	2,32
TOTAL HC		G/HP-HR	0,04	0,04	0,13	0,26	0,57
PART MATTER		G/HP-HR	0,03	0,04	0,04	0,09	0,20
TOTAL NOX (AS NO2)		LB/HR	58,21	37,76	15,45	6,47	6,59
TOTAL CO		LB/HR	3,36	4,11	2,09	2,23	2,24
TOTAL HC		LB/HR	0,39	0,32	0,62	0,63	0,55
TOTAL CO2		LB/HR	4,863	3,570	2,735	1,535	720
PART MATTER		LB/HR	0,26	0,26	0,19	0,21	0,20
OXYGEN IN EXH		%	9,6	10,3	11,7	12,9	15,2
DRY SMOKE OPACITY		%	0,7	0,9	0,3	0,9	2,3
BOSCH SMOKE NUMBER			0,26	0,34	0,12	0,35	0,74

Regulatory Information

EPA TIER 2				2006 - 2010			
Locality	Agency	Regulation	Tier/Stage	Max Limits - G/BKW - HR			
U.S. (INCL CALIF)	EPA	NON-ROAD	TIER 2	CO: 3.5 NOx + HC: 6.4 PM: 0.20			

EPA EMERGENCY STATIONARY				2011 - ----
Locality	Agency	Regulation	Tier/Stage	Max Limits - G/BKW - HR
U.S. (INCL CALIF)	EPA	STATIONARY	EMERGENCY STATIONARY	CO: 3.5 NOx + HC: 6.4 PM: 0.20

Altitude Derate Data

ALTITUDE DERATE DATA IS BASED ON THE ASSUMPTION OF A 20 DEGREES CELSIUS(36 DEGREES FAHRENHEIT) DIFFERENCE BETWEEN AMBIENT OPERATING TEMPERATURE AND ENGINE INLET MANIFOLD TEMPERATURE (IMAT). AMBIENT OPERATING TEMPERATURE IS DEFINED AS THE AIR TEMPERATURE MEASURED AT THE TURBOCHARGER COMPRESSOR INLET.

ALTITUDE CORRECTED POWER CAPABILITY (BHP)

AMBIENT OPERATING TEMP (F)	30	40	50	60	70	80	90	100	110	120	130	140	NORMAL
ALTITUDE (FT)													
0	4,376	4,376	4,376	4,376	4,376	4,376	4,376	4,376	4,376	4,376	4,376	4,376	4,376
1,000	4,376	4,376	4,376	4,376	4,376	4,376	4,376	4,376	4,376	4,376	4,376	4,376	4,376
2,000	4,376	4,376	4,376	4,376	4,376	4,376	4,376	4,376	4,376	4,376	4,376	4,355	4,376
3,000	4,376	4,376	4,376	4,376	4,376	4,376	4,376	4,376	4,376	4,376	4,309	4,216	4,376
4,000	4,345	4,345	4,345	4,345	4,345	4,345	4,344	4,344	4,343	4,280	4,190	4,100	4,345
5,000	4,174	4,174	4,174	4,174	4,174	4,174	4,173	4,172	4,170	4,130	4,073	4,017	4,174
6,000	4,015	4,015	4,015	4,015	4,015	4,015	4,013	4,011	4,008	3,988	3,960	3,933	4,015
7,000	3,868	3,868	3,868	3,868	3,868	3,868	3,866	3,863	3,859	3,853	3,847	3,840	3,868
8,000	3,751	3,751	3,751	3,751	3,751	3,751	3,749	3,745	3,742	3,736	3,729	3,723	3,751
9,000	3,634	3,634	3,634	3,634	3,634	3,634	3,633	3,628	3,624	3,618	3,612	3,606	3,634
10,000	3,523	3,523	3,523	3,523	3,523	3,523	3,521	3,517	3,512	3,506	3,500	3,495	3,523
11,000	3,417	3,417	3,417	3,417	3,417	3,417	3,415	3,411	3,406	3,400	3,394	3,388	3,417
12,000	3,312	3,312	3,312	3,312	3,312	3,312	3,310	3,304	3,299	3,294	3,288	3,282	3,312
13,000	3,206	3,206	3,206	3,206	3,206	3,206	3,204	3,198	3,193	3,188	3,182	3,176	3,206
14,000	3,100	3,100	3,100	3,100	3,100	3,100	3,098	3,093	3,088	3,083	3,079	3,074	3,100
15,000	2,993	2,993	2,993	2,993	2,993	2,993	2,991	2,988	2,984	2,981	2,977	2,974	2,993

Cross Reference

Test Spec	Setting	Engine Arrangement	Engineering Model	Engineering Model Version	Start Effective Serial Number	End Effective Serial Number
OK9167	LL6027	3079788	GS265	-	WYB00620	

Performance Parameter Reference

PERFORMANCE DATA[DM8455]**Parameters Reference:DM9600-10****PERFORMANCE DEFINITIONS****PERFORMANCE DEFINITIONS DM9600****APPLICATION:**

Engine performance tolerance values below are representative of a typical production engine tested in a calibrated dynamometer test cell at SAE J1995 standard reference conditions. Caterpillar maintains ISO9001:2000 certified quality management systems for engine test Facilities to assure accurate calibration of test equipment. Engine test data is corrected in accordance with SAE J1995. Additional reference material SAE J1228, J1349, ISO 8665, 3046-1:2002E, 3046-3:1989, 1585, 2534, 2288, and 9249 may apply in part or are similar to SAE J1995. Special engine rating request (SERR) test data shall be noted.

PERFORMANCE PARAMETER TOLERANCE FACTORS:

Power +/- 3%

Torque +/- 3%

Exhaust stack temperature +/- 8%

Inlet airflow +/- 5%

Intake manifold pressure-gage +/- 10%

Exhaust flow +/- 6%

Specific fuel consumption +/- 3%

Fuel rate +/- 5%

Specific DEF consumption +/- 3%

DEF rate +/- 5%

Heat rejection +/- 5%

Heat rejection exhaust only +/- 10%

Heat rejection CEM only +/- 10%

Heat Rejection values based on using treated water.

Torque is included for truck and industrial applications, do not use for Gen Set or steady state applications.

On C7 - C18 engines, at speeds of 1100 RPM and under these values are provided for reference only, and may not meet the tolerance listed.

These values do not apply to C280/3600. For these models, see the tolerances listed below.

C280/3600 HEAT REJECTION TOLERANCE FACTORS:

Heat rejection +/- 10%

Heat rejection to Atmosphere +/- 50%

Heat rejection to Lube Oil +/- 20%

Heat rejection to Aftercooler +/- 5%

TEST CELL TRANSDUCER TOLERANCE FACTORS:

Torque +/- 0.5%

Speed +/- 0.2%

Fuel flow +/- 1.0%

Temperature +/- 2.0 C degrees

Intake manifold pressure +/- 0.1 kPa

OBSERVED ENGINE PERFORMANCE IS CORRECTED TO SAE J1995 REFERENCE

AIR AND FUEL CONDITIONS.

REFERENCE ATMOSPHERIC INLET AIR

FOR 3500 ENGINES AND SMALLER

SAE J1228 AUG2002 for marine engines, and J1995 JAN2014 for other engines, reference atmospheric pressure is 100 KPA (29.61 in hg), and standard temperature is 25deg C (77 deg F) at 30% relative humidity at the stated aftercooler water temp, or inlet manifold temp.

FOR 3600 ENGINES

Engine rating obtained and presented in accordance with ISO 3046/1 and SAE J1995 JANJAN2014 reference atmospheric pressure is 100 KPA (29.61 in hg), and standard temperature is 25deg C (77 deg F) at 30% relative humidity and 150M altitude at the stated aftercooler water temperature.

MEASUREMENT LOCATION FOR INLET AIR TEMPERATURE

Location for air temperature measurement air cleaner inlet at stabilized operating conditions.

REFERENCE EXHAUST STACK DIAMETER

The Reference Exhaust Stack Diameter published with this dataset is only used for the calculation of Smoke Opacity values displayed in this dataset. This value does not necessarily represent the actual stack diameter of the engine due to the variety of exhaust stack adapter options available. Consult the price list, engine order or general dimension drawings for the actual stack diameter size ordered or options available.

REFERENCE FUEL**DIESEL**

Reference fuel is #2 distillate diesel with a 35API gravity;

A lower heating value is 42,780 KJ/KG (18,390 BTU/LB) when used at 29 deg C (84.2 deg F), where the density is 838.9 G/Liter (7.001 Lbs/Gal).

GAS

Reference natural gas fuel has a lower heating value of 33.74 KJ/L (905 BTU/CU Ft). Low BTU ratings are based on 18,64 KJ/L (500 BTU/CU FT) lower heating value gas. Propane ratings are based on 87.56 KJ/L (2350 BTU/CU Ft) lower heating value gas.

PERFORMANCE DATA[DM8455]

ENGINE POWER (NET) IS THE CORRECTED FLYWHEEL POWER (GROSS) LESS EXTERNAL AUXILIARY LOAD

Engine corrected gross output includes the power required to drive standard equipment; lube oil, scavenge lube oil, fuel transfer, common rail fuel, separate circuit aftercooler and jacket water pumps. Engine net power available for the external (flywheel) load is calculated by subtracting the sum of auxiliary load from the corrected gross flywheel output power. Typical auxiliary loads are radiator cooling fans, hydraulic pumps, air compressors and battery charging alternators. For Tier 4 ratings additional Parasitic losses would also include Intake, and Exhaust Restrictions.

ALTITUDE CAPABILITY

Altitude capability is the maximum altitude above sea level at standard temperature and standard pressure at which the engine could develop full rated output power on the current performance data set.

Standard temperature values versus altitude could be seen on TM2001.

When viewing the altitude capability chart the ambient temperature is the inlet air temp at the compressor inlet.

Engines with ADEM MEUI and HEUI fuel systems operating at conditions above the defined altitude capability derate for atmospheric pressure and temperature conditions outside the values defined, see TM2001.

Mechanical governor controlled unit injector engines require a setting change for operation at conditions above the altitude defined on the engine performance sheet. See your Caterpillar technical representative for non standard ratings.

REGULATIONS AND PRODUCT COMPLIANCE

TMI Emissions information is presented at 'nominal' and 'Potential Site Variation' values for standard ratings. No tolerances are applied to the emissions data. These values are subject to change at any time. The controlling federal and local emission requirements need to be verified by your Caterpillar technical representative.

Customer's may have special emission site requirements that need to be verified by the Caterpillar Product Group engineer.

EMISSIONS DEFINITIONS:

Emissions : DM1176

HEAT REJECTION DEFINITIONS:

Diesel Circuit Type and HHV Balance : DM9500

HIGH DISPLACEMENT (HD) DEFINITIONS:

3500: EM1500

RATING DEFINITIONS:

Agriculture : TM6008

Fire Pump : TM6009

Generator Set : TM6035

Generator (Gas) : TM6041

Industrial Diesel : TM6010

Industrial (Gas) : TM6040

Irrigation : TM5749

Locomotive : TM6037

Marine Auxiliary : TM6036

Marine Prop (Except 3600) : TM5747

Marine Prop (3600 only) : TM5748

MSHA : TM6042

Oil Field (Petroleum) : TM6011

Off-Highway Truck : TM6039

On-Highway Truck : TM6038

SOUND DEFINITIONS:

Sound Power : DM8702

Sound Pressure : TM7080

Date Released : 7/7/15

Appendix 2.B: Table 29 and Manufacturer Specification Sheet and Emissions Data for Diesel Fire Pump

THIS APPENDIX CONTAINS INFORMATION THAT IS DEEMED BY WURLDWIDE LLC TO BE CONFIDENTIAL. DO NOT COPY OR DISTRIBUTE.

Texas Commission on Environmental Quality
Table 29 Reciprocating Engines

I. Engine Data											
Manufacturer: Clarke		Model No. JU6H-UFADR8		Serial No. TBD		Manufacture Date: TBD (2025+)					
Rebuilds Date:		No. of Cylinders: 6		Compression Ratio: 17.0		EPN: Diesel Fire Pump					
Application: ☐ Gas Compression ☐ Electric Generation ☐ Refrigeration ☒ Emergency/Stand by ☒ 4 Stroke Cycle ☐ 2 Stroke Cycle ☐ Carbureted ☐ Spark Ignited ☐ Dual Fuel ☐ Fuel Injected ☒ Diesel ☐ Naturally Aspirated ☐ Blower /Pump Scavenged ☐ Turbo Charged and I.C. ☐ Turbo Charged ☐ Intercooled ☐ I.C. Water Temperature ☐ Lean Burn ☐ Rich Burn											
Ignition/Injection Timing:				Fixed:		Variable:					
Manufacture Horsepower Rating: 250				Proposed Horsepower Rating:							
Discharge Parameters											
Stack Height (Feet)		Stack Diameter (Feet)		Stack Temperature (°F)		Exit Velocity (FPS)					
TBD		0.5		961		119					
II. Fuel Data											
Type of Fuel: ☐ Field Gas ☐ Landfill Gas ☐ LP Gas ☐ Natural Gas ☐ Digester Gas ☒ Diesel											
Fuel Consumption (BTU/bhp-hr): 6740				Heating Value: 0.137				Lower Heating Value:			
Sulfur Content (grains/100 scf - weight %): 0.0015											
III. Emission Factors (Before Control)											
NO _x		CO		SO ₂		VOC		Formaldehyde		PM ₁₀	
g/hp-hr	ppmv	g/hp-hr	ppmv	g/hp-hr	ppmv	g/hp-hr	ppmv	g/hp-hr	ppmv	g/hp-hr	ppmv
See Appendix 1											
Source of Emission Factors: ☐ Manufacturer Data ☒ AP-42 ☐ Other (specify):											
IV. Emission Factors (Post Control)											
NO _x		CO		SO ₂		VOC		Formaldehyde		PM ₁₀	
g/hp-hr	ppmv	g/hp-hr	ppmv	g/hp-hr	ppmv	g/hp-hr	ppmv	g/hp-hr	ppmv	g/hp-hr	ppmv
Method of Emission Control: ☐ NSCR Catalyst ☐ Lean Operation ☐ Parameter Adjustment ☐ Stratified Charge ☐ JLCC Catalyst ☐ Other (Specify):											
Note: Must submit a copy of any manufacturer control information that demonstrates control efficiency.											
Is Formaldehyde included in the VOCs?										☐ Yes ☒ No	
V. Federal and State Standards (Check all that apply)											
☐ NSPS JJJJ ☒ MACT ZZZZ ☒ NSPS IIII ☐ Title 30 Chapter 117 - List County: _____											
VI. Additional Information											
1. Submit a copy of the engine manufacturer's site rating or general rating specification data. 2. Submit a typical fuel gas analysis, including sulfur content and heating value. For gaseous fuels, provide mole percent of constituents. 3. Submit description of air/fuel ratio control system (manufacturer information is acceptable).											

Reset Form

Print Form

Basic Engine Description

Engine Manufacturer	John Deere Co.
Ignition Type	Compression (Diesel)
Number of Cylinders	6
Bore and Stroke - in (mm)	4.19 (106) X 5 (127)
Displacement - in ³ (L)	415 (6.8)
Compression Ratio	17.0:1
Valves per cylinder	
Intake	2
Exhaust	2
Combustion System	Direct Injection
Engine Type	In-Line, 4 Stroke Cycle
Fuel Management Control	Electronic, High Pressure Common Rail
Firing Order (CW Rotation)	1-5-3-6-2-4
Aspiration	Turbocharged
Charge Air Cooling Type	Raw Water
Rotation, viewed from front of engine, Clockwise (CW)	Standard
Engine Crankcase Vent System	Open
Installation Drawing	D628
Weight - lb (kg)	1747 (792)

Power Rating

1760

Nameplate Power - HP (kW) ¹	250 (187)
--	-----------

Cooling System

1760

Engine Coolant Heat - Btu/sec (kW)	118 (125)
Engine Radiated Heat - Btu/sec (kW)	17.4 (18.4)
Heat Exchanger (Brazed Non-Removeable Bundle) Minimum Flow - [C051386]	
60°F (15°C) Raw H ₂ O - gal/min (L/min)	28 (106)
100°F (37°C) Raw H ₂ O - gal/min (L/min)	38 (144)
Heat Exchanger (Brazed Non-Removeable Bundle) Maximum Cooling Raw Water - [C051386]	
Inlet Pressure - psi (bar)	60 (4.1)
Flow - gal/min (L/min)	40 (151)
Heat Exchanger (NSR Standard Removable Bundle) Minimum Flow - [C053794]	
60°F (15°C) Raw H ₂ O - gal/min (L/min)	28 (106)
100°F (37°C) Raw H ₂ O - gal/min (L/min)	35 (132)
Heat Exchanger (NSR Standard Removable Bundle) Maximum Cooling Raw Water - [C053794]	
Inlet Pressure - psi (bar)	60 (4.1)
Flow - gal/min (L/min)	60 (227)
Heat Exchanger (NSR Seawater Removable Bundle) Minimum Flow - [C053899]	
60°F (15°C) Raw H ₂ O - gal/min (L/min)	28 (106)
100°F (37°C) Raw H ₂ O - gal/min (L/min)	36 (136)
Heat Exchanger (NSR Seawater Removable Bundle) Maximum Cooling Raw Water - [C053899]	
Inlet Pressure - psi (bar)	60 (4.1)
Flow - gal/min (L/min)	60 (227)
Typical Engine H ₂ O Operating Temp - °F (°C)	180 (82.2) - 195 (90.6)
Thermostat	
Start to Open - °F (°C)	180 (82.2)
Fully Opened - °F (°C)	203 (95)
Engine Coolant Capacity - qt (L)	21.6 (20.4)
Coolant Pressure Cap - lb/in ² (kPa)	15 (103)
Maximum Engine Coolant Temperature - °F (°C)	230 (110)
Minimum Engine Coolant Temperature - °F (°C)	160 (71.1)
High Coolant Temp Alarm Switch - °F (°C)	235 (113) - 241 (116)

Electric System - DC

	<u>Standard</u>		<u>Optional</u>	
System Voltage (Nominal)	12		24	
Battery Capacity for Ambients Above 32°F (0°C)				
Voltage (Nominal)	12	{C07633}	12	{C07633}
Qty. Per Battery Bank	1		2	
SAE size per J537	8D		8D	
CCA @ 0°F (-18°C) per J537	1200		1200	
Reserve Capacity - Minutes per J537	430		430	
Battery Cable Circuit, Max Resistance - ohm	0.0012		0.0012	
Battery Cable Minimum Size				
0-120 in. Circuit Length ²	00		00	
121-160 in. Circuit Length ²	000		000	
161-200 in. Circuit Length ²	0000		0000	
Charging Alternator Maximum Output - Amp,	40	{C071363}	55	{C071365}
Starter Cranking Amps, Rolling - @60°F (15°C)	440	{RE69704/RE70404}	250	{C07819/C07820}

Exhaust System (Single Exhaust Outlet)

	<u>1760</u>
Exhaust Flow - ft. ³ /min (m ³ /min)	1400 (39.6)
Exhaust Temperature - °F (°C) (corrected to 77°F)	961 (516)
Maximum Allowable Back Pressure - in H ₂ O (kPa)	30 (7.5)
Minimum Allowable Back Pressure - in H ₂ O (kPa)	16 (4)
Minimum Exhaust Pipe Dia. - in (mm) ³	6 (152)

Fuel System

	<u>1760</u>
Fuel Consumption - gal/hr (L/hr)	12.3 (46.6)
Fuel Return - gal/hr (L/hr)	21.3 (80.6)
Fuel Supply - gal/hr (L/hr)	33.6 (127)
Fuel Pressure - lb/in ² (kPa)	3 (20.7) - 6 (41.4)
Minimum Line Size - Supply - in.	.50 Schedule 40 Steel Pipe
Pipe Outer Diameter - in (mm)	0.848 (21.5)
Minimum Line Size - Return - in.	.375 Schedule 40 Steel Pipe
Pipe Outer Diameter - in (mm)	0.675 (17.1)
Maximum Allowable Fuel Pump Suction Lift	
with clean Filter - in H ₂ O (mH ₂ O)	80 (2)
Maximum Allowable Fuel Head above Fuel pump, Supply or Return - ft (m)	6.6 (2)
Fuel Filter Micron Size	2 (Secondary)

Heater System

	<u>Standard</u>	<u>Optional</u>
Engine Coolant Heater		
Wattage (Nominal)	1360	1360
Voltage - AC, 1 Phase	115 (+5% -10%)	230 (+5%, -10%)
Part Number	{C123640}	{C123644}

Air System

	<u>1760</u>	
Combustion Air Flow - ft. ³ /min (m ³ /min)	402 (11.4)	
Air Cleaner	<u>Standard</u>	<u>Optional</u>
Part Number	{C03244}	{C03327}
Type	Indoor Service Only, with Shield	Canister, Single-Stage
Cleaning method	Washable	Disposable
Air Intake Restriction Maximum Limit		
Dirty Air Cleaner - in H ₂ O (kPa)	14 (3.5)	14 (3.5)
Clean Air Cleaner - in H ₂ O (kPa)	7 (1.7)	5 (1.2)
Maximum Allowable Temperature (Air To Engine Inlet) - °F (°C)	130 (54.4)	

Lubrication System

Oil Pressure - normal - lb/in ² (kPa)	40 (276) - 60 (414)
Low Oil Pressure Alarm Switch - lb/in ² (kPa) to	30 (207) - 35 (241)
In Pan Oil Temperature - °F (°C)	220 (104) - 245 (118)
Total Oil Capacity with Filter - qt (L)	31.7 (30)



JU6H-UFADR8
INSTALLATION & OPERATION DATA (I&O)

<u>Lube Oil Heater</u>	<u>Optional</u>	<u>Optional</u>
Wattage (Nominal)	150	150
Voltage	120V (+5%, -10%)	240V (+5%, -10%)
Part Number	{C04430}	{C04431}
<u>Performance</u>	<u>1760</u>	
BMEP - lb/in ² (kPa)	271 (1870)	
Piston Speed - ft/min (m/min)	1467 (447)	
Mechanical Noise - dB(A) @ 1m	C133375 - Reference Noise data on Engine Page at www.clarkefire.com	
Power Curve	C132964 - Reference Power Curve on Engine Page at www.clarkefire.com	

NOTE: This engine is intended for indoor installation or in a weatherproof enclosure. ¹ Derate 3% per every 1000 ft. 304.8m above 300 ft. 91.4m and derate 1% for every 10°F 5.55 °C above 77°F 25°C. ² Positive and Negative Cables Combined Length. ³ Minimum Exhaust Pipe Diameter is based on: 15 feet of pipe, one 90° elbow, and one Industrial silencer. A Back-pressure flow analysis must be performed on the actual field installed exhaust system to assure engine maximum allowable back pressure is not exceeded. See Exhaust Sizing Calculator on www.clarkefire.com. { } indicates component reference part number.

Rating Specific Emissions Data

Nameplate Rating Information

Clarke Model	JU6H-UFADR8
Power Rating (BHP/kW)	250/187
Certified Speed (RPM)	1760

Refer to **Rating Data** section on page 2 for emissions output values

Rating Specific Emissions Data - John Deere Power Systems



Rating Data

Rating	6068HFC48A	
Certified Power(kW)	235	
Rated Speed	1760	
Vehicle Model Number	OEM (Clarke Fire Pump-Emergency)	
Units	g/kW-hr	
NO _x	3.61	2.69
HC	0.08	0.06
NO _x + HC	N/A	N/A
Pm	0.07	0.06
CO	0.6	0.4

Certificate Data

Engine Model Year	2025	
EPA Family Name	SJDXL13.5103	
EPA JD Name	650HAA	
EPA Certificate Number	SJDXL13.5103-010	
CARB Executive Order		
Parent of Family	6135HF485A	
Units	g/kW-hr	
NO _x	3.31	
HC	0.11	
NO _x + HC	N/A	
Pm	0.10	
CO	0.6	

* The emission data listed is measured from a laboratory test engine according to the test procedures of 40 CFR 89 or 40 CFR 1039, as applicable. The test engine is intended to represent nominal production hardware, and we do not guarantee that every production engine will have identical test results. The family parent data represents multiple ratings and this data may have been collected at a different engine speed and load. Emission results may vary due to engine manufacturing tolerances, engine operating conditions, fuels used, or other conditions beyond our control.

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Emissions Results by Rating run on Feb-06-2025

APPENDIX 3
RENEWABLE LIQUID FUELS FAQ

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Renewable Liquid Fuels Cat[®] 3500 and C175 Series Generator Sets – Frequently Asked Questions

Scope

This document covers Cat[®] diesel generator sets burning renewable liquid fuels with emphasis on Hydrotreated Vegetable Oil (HVO) and biodiesel. Reference is made to experience gained with 3500 and C175 Series engines operating at 1500 RPM (50 Hz) or 1800 RPM (60 Hz).

General HVO Questions

[COLLAPSE ALL](#)

1. WHAT IS HVO?



- HVO stands for Hydrotreated Vegetable Oil.
- HVO is a drop-in replacement for diesel fuel.
- HVO is sometimes referred to as “renewable diesel.”

2. IS HVO THE SAME AS BIODIESEL?



- No, HVO and biodiesel are chemically different. HVO is more like diesel in chemistry than biodiesel because HVO is made up primarily of paraffinic hydrocarbon (HC) chains, while biodiesel contains fatty acid methyl esters (FAME).
- ***Significant differences between HVO and biodiesel are highlighted in bold and italics in the following responses. Further guidance on biodiesel can be found in Cat publications SEBU6250/6251.***

3. HOW IS HVO MADE?



- HVO is sourced from vegetable oils, fats or used cooking oils, and processed by hydrotreating which removes oxygen from the HC chain. ***This differs from biodiesel in that biodiesel is created through a transesterification process and results in an oxygenated FAME.***

4. IS THERE A STANDARD FOR HVO?



- EN 15940 is the preferred standard for HVO.

5. DOES HVO MEET THE EXISTING DIESEL FUEL STANDARDS?



- ASTM D975? Yes.
- EN 590? Everything except density.

6. WILL SUBSTITUTING HVO FOR DIESEL LOWER MY GREENHOUSE GAS (GHG) EMISSIONS?



- While operating on HVO may not significantly reduce the amount of CO₂ exiting the tailpipe, it can reduce lifecycle CO₂ emissions. Lifecycle emissions are reduced because the source of the carbon is biogenic, meaning carbon emitted from burning the fuel today consists partly of carbon previously captured from the atmosphere by the fuel's plant source. There are many variables that go into quantifying lifecycle CO₂ reductions in HVO, but it is typically in the range of 45% to 85% lower CO₂ than diesel based on the GREET model developed by the U.S. Department of Energy.

7. WHAT IS THE SHELF LIFE OF HVO?



- Compared to diesel fuel, HVO has a similar or longer shelf life (>12 months).
- ***Biodiesel has a much shorter shelf life to either diesel or HVO and is not recommended for electric power (EP) standby applications.***

Using HVO in Cat EP Generator Sets

COLLAPSE ALL

1. CAN I USE HVO IN MY CAT GENERATOR SET?

- Yes, HVO can be used in all Cat generator sets if it meets either EN15940 or ASTM D975 specifications.
- The Cat publication “Renewable and Alternative Fuels For Use in Diesel Engines” ([LEXE20433](#)) provides guidelines on the use of fuels, such as HVO, that can help reduce a generator set operator’s carbon footprint.

2. HAS CATERPILLAR TESTED HVO IN A GENERATOR SET?

- Yes, performance testing of 3516 and C175-20 generator sets have been completed. Cat publications “3,000 kW, 60Hz Generator Set: Diesel & HVO Test” ([LEXE20432](#)) and “4,000 kVA, 50 Hz Generator Set: Diesel & HVO Test” ([LEXE21232](#)) document the testing and results for the 3516 and C175-20, respectively.

3. CAN HVO BE BLENDED WITH REGULAR DIESEL FUEL?

- Yes, the generator set can be used on 100% diesel, 100% HVO or any blend of diesel and HVO. However, the blended fuel must still meet either EN15940 or ASTM D975 specifications.

4. CAN HVO BE BLENDED WITH TRADITIONAL BIODIESEL?

- Biodiesel and HVO can be blended, however it is not recommended that standby generator sets use more than 5% biodiesel due to fuel oxidation stability. See Cat publication SEBU6250

5. HOW WILL THE PERFORMANCE OF MY GENERATOR SET BE AFFECTED BY USING HVO?

- Caterpillar expects that most 3500 Series generator sets in application will experience an approximate 2% power derate with HVO, but it could be as high as a 5% power derate depending on environmental and specific fuel properties. This reduction in power is due to HVO's lower energy content than traditional diesel fuel. Specifics relative to the 3516, 3000 kW rating can be found in Cat publication "3,000 kW, 60Hz Generator Set: Diesel & HVO Test" ([LEXE20432](#)). The frequency droop of the 3500 Series generator set on application of a block load may increase by up to 2% when using 100% HVO. Other 3500 Series engines/ratings are expected to have the same directional performance impact when switching from diesel to HVO. Any performance changes will vary linearly with the HVO% in the fuel blend. Note that adjustments made to an engine in service to compensate for such a power loss may cause a user to violate regulatory requirements (for example, U.S. EPA's anti-tampering provisions).
- Caterpillar expects that most C175 Series operators will not see any power derate with HVO, and no negative impacts to transient response. Specifics relative to the C175-20, 4000 kVA rating can be found in Cat publication "4,000 kVA, 50 Hz Generator Set: Diesel & HVO Test" ([LEXE21232](#)). Other C175 Series engines/ratings are expected to have the same directional performance impact when switching from diesel to HVO.
- Start time, as defined by the time taken from start of cranking until the generator set reaches rated speed, is not expected to be longer when using HVO than when using diesel.

6. CAN CATERPILLAR OR THE DEALER INCREASE THE POWER OF THE ENGINE, SO I GET THE SAME GENERATOR OUTPUT ON HVO?

- No, any adjustment to the engine in service to compensate for such power loss may cause a user to violate regulatory requirements (for example, U.S. EPA's anti-tampering provisions).

7. WILL USING HVO INSTEAD OF DIESEL AFFECT OTHER EXHAUST EMISSIONS FROM MY GENERATOR SET?

- NO_x emissions are not expected to be significantly different from that achieved with diesel fuel above loads of 50%. Filter Smoke Number is expected to be measurably lower with HVO at loads above 30%.
- For the specific case of the 3516 Mission Critical product, details can be found in Cat publication "3,000 kW, 60Hz Generator Set: Diesel & HVO Test" ([LEXE20432](#)). Other 3500 Series engines/ratings are expected to have the same directional emissions change when switching from diesel to HVO. Key observations when considering 100% HVO on a 3500 Series generator set are as follows:
 - NO_x emissions are expected to be lower at load factors below 50% and equivalent to diesel above 50% load.

- Steady state (Filter Smoke Number) is expected to be approximately 60% lower when the load factor is above 30%. Particulate matter (PM) emissions are expected to have a similar reduction.
- For the specific case of C175-20, 50 Hz mission-critical product details can be found in Cat publication “4,000 kVA, 50 Hz Generator Set: Diesel & HVO Test” ([LEXE21232](#)). Other C175 Series engines/ratings are expected to have the same directional emissions change when switching from diesel to HVO. Key observations from the 100% HVO gen set test include:
 - NO_x emissions were measured to be equivalent to diesel at loads above 35% and below 15% percent of rated power. There were small increases in NO_x at loads between 15-35%. There was no significant difference in cycle NO_x emissions when considering an ISO 1878 D2 cycle.
 - Steady state (Filter Smoke Number) has measured approximately 40% lower when the load is above 30% of rated. PM emissions are expected to have a similar reduction.

8. CAN I USE HVO IN MY GENERATOR SET IF I HAVE EXISTING EXHAUST AFTERTREATMENT?

- Yes, using HVO (per EN 15940) in any blend with diesel (up to 100%) should not generally adversely affect emissions levels or the aftertreatment equipment itself. Aftertreatment equipment includes diesel oxidation catalysts, SCR systems, particulate traps, EGR systems or any combination of these technologies.

9. ARE THERE ANY CONCERNS ABOUT USING HVO IN COLD WEATHER?

- No, HVO has similar cold weather properties to #2 diesel. Contact your supplier of HVO if you typically use a winter blend of diesel.
- ***Special attention needs to be given to using traditional biodiesel in cold climates. The fuel thickens at cold temperature, which can plug filters, etc.***

10. WILL THE MAINTENANCE COSTS BE THE SAME AS FOR DIESEL?

- Operation on 100% HVO is expected to result in the same maintenance intervals as operating on 100% diesel.
- ***Operation on 100% Biodiesel may require more frequent oil change intervals.***

11. CAN HVO BE STORED IN NORMAL FUEL TANKS?

- Yes, HVO can be stored in the regular diesel fuel tank.
- ***Storage of Biodiesel needs careful consideration due to aging and water absorption concerns.***

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- Volumetric fuel consumption will increase by approximately 5% with HVO due to the lower energy density. Tank sizing may need to be considered.

12. CAN I USE THE SAME FILTRATION/POLISHING SYSTEM WITH HVO THAT I CURRENTLY USE FOR DIESEL FUEL? ^

- Refer to guidance by the fuel source.
- Cat fuel filters can be used with HVO, and typically HVO can be treated the same as diesel regarding conditioning. HVO does shed water more easily than diesel, so you may need to empty your water separator more frequently depending on the fuel's exposure to moisture.

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RENEWABLE LIQUID FUELS



From biodiesel to hydrogenated vegetable oil (HVO), meet your sustainability goals using low-intensity carbon fuels with your Cat electric power equipment.

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BROCHURES AND TESTIMONIALS

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APPENDIX 4

AGGREGATION CONCURRENCE DETERMINATION

Maggie Guilfoyle

From: Dianne Anderson <dianne.anderson@tceq.texas.gov>
Sent: Friday, January 16, 2026 11:05 AM
To: Maggie Guilfoyle
Cc: Kaitlyn Bencosme; Dara Winsted; Michael Partee; Dianne Anderson
Subject: RE: Aggregation Concurrence Request- Worldwide LLC

Follow Up Flag: Follow up
Flag Status: Flagged

Good morning, Maggie.

Thank you for your patience on this review. I hope you had a wonderful holiday season as well! Based on our review of the information provided for a site determination for Wurldwide LLC, we concur that Wurldwide LLC (SOS Filing No. 805327116) and Enchanted Rock LLC (RN112295597) as well as Wurldwide LLC and El Paso Electric Company (RN100211309), are separate sites.

In order to make sure this is filed appropriately, the next project that is submitted to the TCEQ Air Permits Division should include the documentation provided to make this determination as well as this email showing our concurrence of separate sites. If a project is currently in house, please provide this documentation and email to the assigned permit reviewer to be added to the project record.

Please let me know if you have any questions or concerns.

Thank you,



Dianne Anderson, Special Assistant
Office of Air/Air Permits Division
 Texas Commission on Environmental Quality
Phone: (512) 239-5761 **Cell:** 512-466-1126

How is our customer service?

Fill out our online customer satisfaction survey at www.tceq.texas.gov/goto/customersurvey

From: Maggie Guilfoyle <MGUILFOYLE@ramboll.com>
Sent: Thursday, January 15, 2026 12:41 PM
To: Dianne Anderson <dianne.anderson@tceq.texas.gov>
Cc: Kaitlyn Bencosme <KBENCOSME@ramboll.com>; Dara Winsted <Dara.Winsted@tceq.texas.gov>; Michael Partee <michael.partee@tceq.texas.gov>
Subject: RE: Aggregation Concurrence Request

Hi Dianne,

I hope you had a lovely holiday season! I was wondering if you had an estimated time frame for when we might hear back about the aggregation concurrence request?

Thank you,

Maggie Guilfoyle

Senior Lead Consultant, Air and Climate Management
Environment and Health

D +1 703-516-2413
mguilfoyle@ramboll.com

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4245 North Fairfax Drive
Suite 700
Arlington, VA 22203
USA
<https://ramboll.com>

Classification: Confidential

From: Dianne Anderson <dianne.anderson@tceq.texas.gov>
Sent: Wednesday, December 17, 2025 3:12 PM
To: Maggie Guilfoyle <MGUILFOYLE@ramboll.com>
Cc: Kaitlyn Bencosme <KBENCOSME@ramboll.com>; Dara Winsted <Dara.Winsted@tceq.texas.gov>; Michael Partee <michael.partee@tceq.texas.gov>
Subject: RE: Aggregation Concurrence Request

Thank you, Maggie. I will pass this information along to the review team.

Best regards,



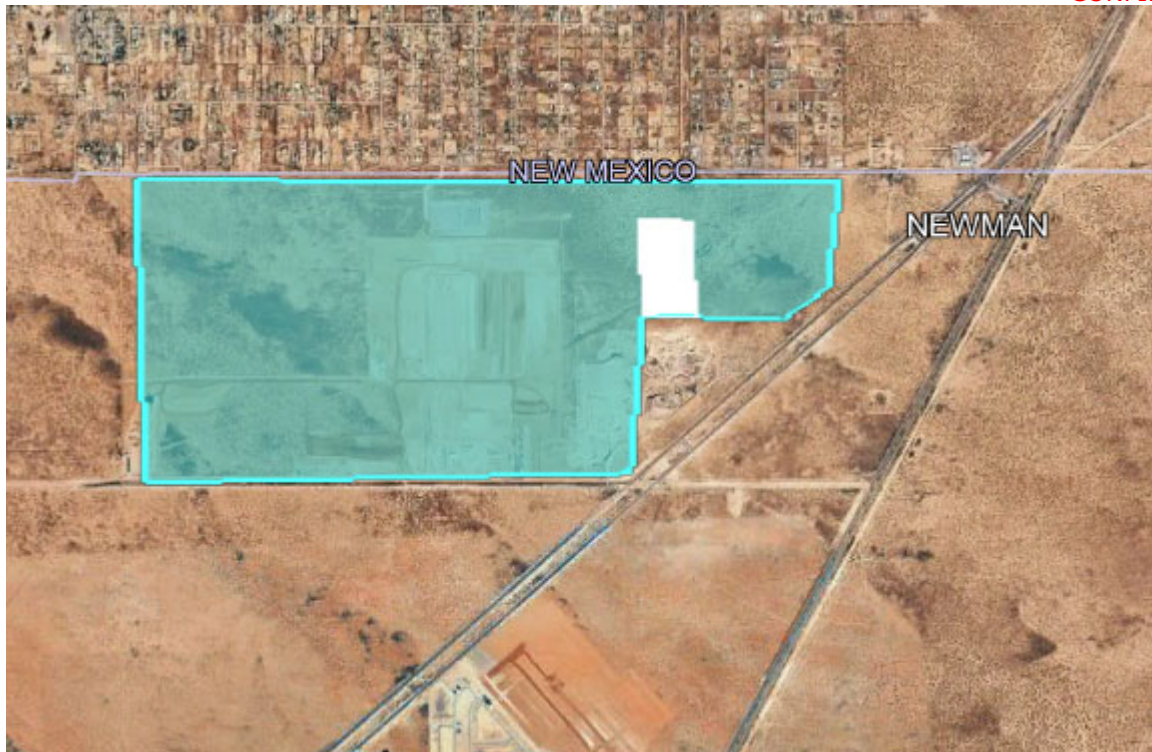
Dianne Anderson, Special Assistant
Office of Air/Air Permits Division
Texas Commission on Environmental Quality
Phone: (512) 239-5761 **Cell:** 512-466-1126

From: Maggie Guilfoyle <MGUILFOYLE@ramboll.com>
Sent: Wednesday, December 17, 2025 1:43 PM
To: Dianne Anderson <dianne.anderson@tceq.texas.gov>
Cc: Kaitlyn Bencosme <KBENCOSME@ramboll.com>; Dara Winsted <Dara.Winsted@tceq.texas.gov>; Michael Partee <michael.partee@tceq.texas.gov>
Subject: RE: Aggregation Concurrence Request

Hi Dianne,

Thanks for the quick response. My answers to your questions are below:

1. Data Center SIC Code: 7374; Enchanted Rock SIC Code: 4911



2.
 - a. Worldwide's boundaries are shown in blue, and El Paso Electric owned land is shown in white.

Thanks!

Maggie Guilfoyle

Senior Lead Consultant, Air and Climate Management
Environment and Health

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mguilfoyle@ramboll.com

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<https://ramboll.com>

Classification: Confidential

From: Dianne Anderson <dianne.anderson@tceq.texas.gov>
Sent: Tuesday, December 16, 2025 4:29 PM
To: Maggie Guilfoyle <MGUILFOYLE@ramboll.com>
Cc: Kaitlyn Bencosme <KBENCOSME@ramboll.com>; Dara Winsted <Dara.Winsted@tceq.texas.gov>; Michael Partee <michael.partee@tceq.texas.gov>; Dianne Anderson <dianne.anderson@tceq.texas.gov>
Subject: RE: Aggregation Concurrence Request

Good afternoon, Maggie.

I have received your request for a site determination and will get the review started on my end. I have just a few follow up items that will be needed though just based on a quick review.

- 1) Can you confirm which SIC codes are being used for the facilities in question?
- 2) Can you provide a map that shows the facilities and their approximate property boundaries?

Thank you,



Dianne Anderson, Special Assistant
Office of Air/Air Permits Division
Texas Commission on Environmental Quality
Phone: (512) 239-5761 **Cell:** 512-466-1126

How is our customer service?

Fill out our online customer satisfaction survey at www.tceq.texas.gov/goto/customersurvey

From: Maggie Guilfoyle <MGUILFOYLE@ramboll.com>

Sent: Tuesday, December 16, 2025 11:52 AM

To: Dianne Anderson <dianne.anderson@tceq.texas.gov>

Cc: Kaitlyn Bencosme <KBENCOSME@ramboll.com>; Dara Winsted <Dara.Winsted@tceq.texas.gov>; Michael Partee <michael.partee@tceq.texas.gov>

Subject: Aggregation Concurrence Request

Good morning,

Please see the attached air permitting aggregation concurrence request on behalf of our client, Worldwide LLC. Please let me know if you have any questions.

Thanks,

Maggie Guilfoyle

Senior Lead Consultant, Air and Climate Management
Environment and Health

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mguilfoyle@ramboll.com

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Classification: Confidential



Dianne Anderson
Special Assistant, Air Permits Division
Texas Commission on Environmental Quality
12100 Park 35 Circle
Austin, Texas 78753

Delivered electronically to Dianne.Anderson@TCEQ.Texas.gov

**RE: Air Source Determination Concurrence
Worldwide LLC
Planned Data Center Facility in El Paso, Texas**

Date December 12, 2025

Dear Ms. Anderson:

Per request, Ramboll Americas Engineering Solutions, Inc. (Ramboll) is submitting this Air Source Determination Concurrence request on behalf of our client, Worldwide LLC (Worldwide). Worldwide respectfully requests TCEQ's concurrence that for purposes of new source review air permitting, its proposed data center facility in El Paso, Texas should be considered a separate source from an adjacent prime power generation facility owned and operated by third party entities (specifically, Enchanted Rock (ER) and El Paso Electric (EPE)). The prime power generation facility will initially provide bridge power to the data center directly (i.e., "behind the meter") and eventually tie into the electric grid. The prime power generation facility will be located on land wholly owned by EPE.

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Based on the criteria described below, we understand that these facilities are separate sources under current Federal and state regulations and interpretations, and request TCEQ's concurrence with this separate source determination.

Under the federal, state and tribal rules governing the air permitting program, two sources must be considered part of the same "source" only if they:

- (i) belong to the same industrial grouping (i.e. SIC code);
- (ii) are located on one or more contiguous or adjacent properties; and
- (iii) are under the control of the same person (or persons under common control).¹

¹ 30 TEX. ADMIN. CODE §122.10(27); 42 U.S.C. §7661(2); 40 C.F.R. §§70.2 and 71.2.



All three criteria must be met in order for aggregation to occur; if any one of these criteria is not met, the sources are separate and thus have separate permitting requirements.

- The proposed data center and ER/EPE prime power generation facility belong to separate industrial groupings (i.e. they have different SIC codes).
- The proposed data center facility is located on a contiguous/adjacent property to ER/EPE's prime power generation facility.
- The facilities are not under common control as the data center and power generation facility have separate owners/operators.

We understand that common control is determined on a case-by-case basis, with the primary inquiry focusing on the power or authority of one entity to dictate decisions of the other that could affect the applicability of, or compliance with, relevant air pollution regulatory requirements.²

The data center will execute a power purchase agreement for prime power with EPE; the agreement emphasizes that EPE will have no power or ability to dictate decisions that could affect applicability of, or compliance with, air regulations applicable to the data center. Similarly, Worldwide will have no power or ability to control the operations of the prime power generation facility. The following language, or similar, will be included in the contracts between Worldwide and EPE:

During the Bridge Service Term, EPE shall be responsible for the operation and maintenance of the Bridge Service Facilities, including, without limitation, the Bridge Service Power Plants. EPE and Customer shall each be responsible for maintaining and repairing any metering and/or telemetry equipment it may own. EPE shall operate and maintain the Bridge Service Facilities in accordance with Prudent Utility Practices. Notwithstanding anything contained herein to the contrary, Customer shall have no power or authority to dictate decisions of EPE that relate to EPE's compliance with Applicable Laws in its operation and maintenance of the Bridge Service Facilities. EPE shall maintain full ownership and control over managing the air emissions from the Bridge Service Facilities, including decisions relating to emission controls and compliance with applicable Permits and regulations (including relevant air pollution regulatory requirements and terms and conditions of any air pollution control Permits for the Bridge Service Facilities).

In addition, as noted above, the prime power generation facility will operate independently of the data center and the data center will continue to operate via limited on-site emergency generation in the event the prime power generation facility cannot supply power. Moreover, the prime power generation facility and data center operators will have distinct management and decision-making processes as well as financial independence, further supporting the finding of separate control. And finally, as noted earlier, the prime power generation facility will be entirely on property owned by EPE. While the power

² Letter from William L. Wehrum, Assistant Administrator, EPA Office of Air and Radiation, EPA, to the Honorable Patrick McDonnell, Secretary, Pennsylvania Department of Environmental Protection (April 30, 2018), available at https://www.epa.gov/sites/default/files/2018-05/documents/meadowbrook_2018.pdf.



plant will initially provide power behind-the-meter to the data center, the power plant will later tie into the larger electric grid system.

The Secretary of State filings for both Enchanted Rock and Wurldwide are attached as **Appendix A**.

Based on the information provided above, we believe that the Wurldwide data center with respect to Enchanted Rock's prime power generation facility does not meet the criteria for aggregation as a single source for air permitting purposes. We respectfully request your concurrence with this determination.

Please contact me at +1 703-516-2413 or by email at mguilfoyle@ramboll.com if you have any questions or need additional information.

Yours sincerely,

A handwritten signature in black ink that reads "Maggie Guilfoyle". The script is cursive and fluid.

Maggie Guilfoyle

Senior Lead Consultant, Air and Climate Management

D +1 703 516 2413
mguilfoyle@ramboll.com

Attachment A – Secretary of State Filings



Office of the Secretary of State

December 11, 2025

A search of our records reveals the following information for the entity record selected.

Entity Name: Wurldwide LLC
Registered in Texas as: Statue LLC
Entity Type: Foreign Limited Liability Company (LLC)
Jurisdiction: DELAWARE, USA
File Number: 805327116
Registered: November 30, 2023 Effective: November 30, 2023

The status of the entity is in existence.

The name and address of the registered agent and office in Texas is:

CORPORATION SERVICE COMPANY D/B/A CSC-LAWYERS INCORPORATING SERVICE
COMPANY
211 E. 7TH STREET, SUITE 620
AUSTIN, TX 78701-3218
USA

The entity recorded the following assumed name(s) with this office:

Statue LLC	January 25, 2024	Active
------------	------------------	--------

The management information from our computer records lists:

PAMELA GREGORSKI CEO	1601 WILLOW ROAD MENLO PARK, CA 94025 USA
CARRIE TILLMAN TREASURER	1601 WILLOW ROAD MENLO PARK, CA 94025 USA



Office of the Secretary of State

December 11, 2025

A search of our records reveals the following information for the entity record selected.

Entity Name: Enchanted Rock, LLC
Entity Type: Domestic Limited Liability Company (LLC)
Jurisdiction: TEXAS, USA
File Number: 803030218
Formation File Date: May 30, 2018 Effective: May 30, 2018

The status of the entity is in existence.

The name and address of the registered agent and office in Texas is:

COGENCY GLOBAL INC.
1601 ELM STREET, SUITE 4360
DALLAS, TX 75201
USA

The entity recorded the following assumed name(s) with this office:

The entity has not recorded any assumed name certificates with this office.

The management information from our computer records lists:

COREY AMTHOR PRESIDENT	1113 VINE STREET SUITE 101 HOUSTON, TX 77002 USA
R IAN BLAKELY CTO	1113 VINE STREET SUITE 101 HOUSTON, TX 77002 USA
ROBAK FATEMIZADEH GENERAL COUNSEL	1113 VINE STREET SUITE 101 HOUSTON, TX 77002 USA