PERMIT 282443 PROJECT 150703 COPY OF RECORD

PBR New Registration

Site Information (Regulated Entity)

What is the name of the site to be authorized?

MUNSON 1201 SWD

Does the site have a physical address?

No

Because there is no physical address, describe how to locate this site:

FROM THE INTERSECTION OF HWY 67 AND 163, TRAVEL EAST ON HWY 67 FOR 6.3 MILES. TURN LEFT, GO 0.6 MILES, AND TURN RIGHT. CONTINUE FOR 1.2 MILES, TURN LEFT AND GO STRAIGHT FOR 1.5 MILES. TURN LEFT AND TRAVEL 0.1 MILES TO FACILITY.

City

BARNHART

State

ТΧ

ZIP

76940

County

IRION

Latitude (N) (##.######)

31.19837

Longitude (W) (-###.######)

-101.05996

Primary SIC Code

1311

Secondary SIC Code

Primary NAICS Code

211120

Secondary NAICS Code

Regulated Entity Site Information

What is the Regulated Entity's Number (RN)? RN110197134 What is the name of the Regulated Entity (RE)? MUNSON 1201 SWD Does the RE site have a physical address? No

Because there is no physical address, describe how to locate this site:

FROM THE INTERSECTION OF HWY 67 AND 163, TRAVEL EAST ON HWY 67 FOR 6.3 MILES. TURN LEFT, GO 0.6 MILES, AND TURN RIGHT. CONTINUE FOR 1.2 MILES, TURN LEFT AND GO STRAIGHT FOR 1.5 MILES. TURN LEFT AND TRAVEL 0.1 MILES TO FACILITY.

City

BARNHART

State

ТΧ

ZIP

76940

County

IRION

Latitude (N) (##.#####)

31.19837

Longitude (W) (-###.######)

-101.05996

What is the primary business of this entity?

Customer (Applicant) Information

How is this applicant associated with this site?

Owner Operator

What is the applicant's Customer Number (CN)?

CN605190081

Type of Customer

Corporation

Full legal name of the applicant:

Legal Name Sequitur Permian, LLC Texas SOS Filing Number 801882847 Federal Tax ID

State Franchise Tax ID 32052464842 DUNS Number

Number of Employees

0-20

Independently Owned and Operated?

Yes

I certify that the full legal name of the entity applying for this permit has been provided and is legally authorized to do business in Texas.

Yes

Responsible Authority Contact

Organization Name

Sequitur Permian, LLC

Prefix

First

Russ

Middle

R.

Last

Perry

Suffix

Title

Health Safety & Environmental Manager Responsible Authority Mailing Address

Enter new address or copy one from list:

Address Type

Domestic

Mailing Address (include Suite or Bldg. here, if applicable)

2050 W SAM HOUSTON PKWY S STE 1850

Routing (such as Mail Code, Dept., or Attn:)

City

HOUSTON

State

ТΧ

ΖIΡ

77042 Phone (###-####) 7133953014

Extension

Alternate Phone (###-####-#####)

Fax (###-######)

E-mail

rperry@sequiturenergy.com Responsible Official Contact Person TCEQ should contact for questions about this application:

Same as another contact?

CN605190081, Sequitur Permian, LLC

Organization Name

Sequitur Permian, LLC

Prefix

MR

First

Russ

Middle

R.

Last

Perry

Suffix

Title

Health Safety & Environmental Manager Enter new address or copy one from list:

Mailing Address

Address Type Domestic Mailing Address (include Suite or Bldg. here, if applicable) 2050 W SAM HOUSTON PKWY S STE 1850 Routing (such as Mail Code, Dept., or Attn:)

City

HOUSTON

- State
 - ТΧ

ZIP

77042 Phone (###-###-####) 7133953014

Extension

Alternate Phone (###-####)

Fax (###-###-####)

E-mail

rperry@sequiturenergy.com Technical Contact Person TCEQ should contact for questions about this application:

Same as another contact?

Organization Name Ramboll Prefix MR First Eric Middle Last Hodek Suffix

Title

Principal

Enter new address or copy one from list:

Mailing Address

Address Type Domestic Mailing Address (include Suite or Bldg. here, if applicable) 1560 BROADWAY STE 1905 Routing (such as Mail Code, Dept., or Attn:)

City

DENVER

State

CO

ZIP

80202 Phone (###-###-####) 3033825467

Extension

Alternate Phone (###-####+)

Fax (###-######)

E-mail

ehodek@ramboll.com

PBR General Information - New Sites

1) To determine fee amount does this business qualify as a small business, non-profit organization, or small government entity?

Yes

2) Are there any other registered air authorizations at this site?

No

3) Is this project located at a major site?

No

4) Does this registration require certification or is certification being submitted voluntarily?

No

5) Is the facility in compliance with all PBRs claimed?

Yes

6) Is the facility in compliance with all other applicable state/federal rules and regulations?

Yes

7) Is the facility in compliance with all applicable distance requirements?

Yes

8) Will there be any confidential information submitted with this application?

No

Section 1 Rule Selection

Select the type of unit that is being registered.

ENGINES AND TURBINES

Select the rule(s) associated to the unit specified.

106.512

Section 1 106.512 Engines and Turbines

Please provide the horsepower (hp) of the engine(s) / turbine(s).

254

Please provide the horsepower (hp) of the engine(s) / turbine(s).

254

106.512(2) Rule Compliance

1) Is gas fuel limited to: sweet natural gas or liquid petroleum gas, fuel gas containing no more than ten grains total sulfur per 100 dry standard cubic feet, or field gas?

Yes

2) Has formaldehyde been included in the VOC short-term and annual emissions totals?

Yes

3) Will the engine(s) / turbine(s) meet any applicable NOx limits as stated in the rule?

Yes

4) Will the hourly and annual emissions meet any applicable NAAQs?

Yes

5) Will the engine(s) / turbine(s) be used to generate electricity?

Yes

5.1. Are the engine(s) / turbine(s) being used to generate electricity because it is not feasible to connect to the grid?

Yes

6) Please select any/all State or Federal Standards that apply to this site:

MACT ZZZZ | NSPS JJJJ

7) Is this facility being authorized at an oil and gas site that has previously used 106.352 (I) to claim, register, or certify their operation?

No

106.4 Rule Compliance

1) What are the annual VOC emissions in tons per year (tpy) for this registration?

3.82

2) What are the total annual SO2 emissions in tpy for this registration?

0.08

- 3) What are the total annual NOx emissions in tpy for this registration?4.91
- 4) What are the total annual CO emissions in tpy for this registration?9.81
- 5) What are the total annual PM10 emissions in tpy for this registration?0.37
- 6) What are the total annual PM2.5 emissions in tpy for this registration? 0.37
- 7) What are the total annual H2S emissions in tpy for this registration?0.01
- 8) What are the total annual HAP emissions in tpy for this registration?0.61

file_section

Please attach one PDF with all required documents to complete the project.

file_name

Munson #1201 SWD_PBR_DRAFT.pdf file hash

119154B6A5F994D627CD3BA1C0D472D613E1DD38D71D2BBDC814C62C54C4B1B5

mime-type

application/pdf

Please attach any other necessary information needed to complete the registration.

Signature

Signing Party: I am Russ R Perry, the owner of the STEERS account ER050808.

Authority Confirmation: I have the authority to sign this data on behalf of the applicant named above.

Information Accuracy: I have personally examined the foregoing and am familiar with its content and the content of any attachments, and based upon my personal knowledge and/or inquiry of any individual responsible for information contained herein, that this information is true, accurate, and complete.

Password Confirmation: I further certify that I have not violated any term in my TCEQ STEERS participation agreement and that I have no reason to believe that the confidentiality or use of my password has been compromised at any time.

Signing Action: I understand that use of my password constitutes an electronic signature legally equivalent to my written signature.

Attest Fact: I also understand that the attestations of fact contained herein pertain to the implementation, oversight and enforcement of a state and/or federal environmental program and must be true and complete to the best of my knowledge.

False Information: I am aware that criminal penalties may be imposed for statements or omissions that I know or have reason to believe are untrue or misleading.

Signing Intentionally: I am knowingly and intentionally signing PBR New Registration.

Information Agreement: My signature indicates that I am in agreement with the information on this form, and authorize its submittal to the TCEQ.

Customer Number: CN605190081 Legal Name: Seguitur Permian, LLC Signature: OWNER OPERATOR Signature: Russ R Perry OWNER OPERATOR Account Number: ER050808 Signature Ip Address: 76.247.104.104 Signature Date: 2018-03-01 Signature Hash: 44B459EB8C548F017A79EA62561F407417C9311A9911AC4BD43C6EAC8AD8508F Form Hash: 9DF9DBCE35414C8C0A39A15D43BB04B9E5203739CAB44DF3A1B5A676B31D79DE Transaction By: The application fee payment transaction was made by ER050808/Russ R Perry Paid By: The application fee was paid by RUSSELL PERRY Fee Amount: \$100.00 Paid Date: The application fee was paid on 2018-03-01 Transaction Number: The transaction number is 582EA000291062 and the voucher number is 357528 Reference Number: The application reference number is 220046 Submitted By: The application was submitted by ER050808/Russ R Perry Submitted Timestamp: The application was submitted on 2018-03-01 at 13:15:54 CST Submitted From: The application was submitted from IP address 76.247.104.104 Confirmation Number: The confirmation number is 197095 Steers Version: The STEERS version is 6.15 Form Hash: 9DF9DBCE35414C8C0A39A15D43BB04B9E5203739CAB44DF3A1B5A676B31D79DE Application Creator: This account was created by To-Nhu Nguyen



Texas Commission on Environmental Quality (TCEQ) Air Permits Initial Review Team (APIRT) P.O. Box 13087 Austin, Texas 78711-3087

PERMIT BY RULE REGISTRATION SEQUITUR PERMIAN, LLC (CN605190081) MUNSON #1201 SALT WATER DISPOSAL FACILITY (RN110197134) IRION COUNTY, TEXAS

Dear APIRT:

On behalf of Sequitur Permian, LLC (SEM), Ramboll Environ is submitting this Permit By Rule (PBR) registration. This is a new facility. This application is being submitted to register the facility with the TCEQ for the installation and operation of the following equipment via Title 30 of the Texas Administrative Code (30 TAC) 30 TAC §106.512 – *Stationary Engines and Turbines.*

Enclosed with this letter are the process description, process flow diagram, emission calculations, PI-7, Core Data Form, Table 1a, and other documentation supporting the PBR registration. The Form PI-7 was submitted through STEERS on February 21, 2018. If you have any questions regarding this submittal, please feel free to contact me at ehodek@ramboll.com or (303) 382-5467. February 28, 2018

Ramboll Environ 1560 Broadway Suite 1905 Denver, CO 80202 USA

T +1 303 382 5460 F +1 303 382 5499 www.ramboll-environ.com

Sincerely,

2 A Hody /

Eric S. Hodek Principal – Air Services D 303 382 5467 M 281 896 3648 EHodek@Ramboll.com

Cc: Russ Perry, PG – Sequitur Energy TCEQ Region 8 – San Angelo

(Page 1)

١.	Registrant Information							
А.	Company or Other Legal Customer Name:							
В.	Company Official Contact Information (Mr. Mrs. Mrs. Other:)							
Nam	le:							
Title								
Maili	ng Address:							
City:		State:		ZIP Code:				
Phor	าย:		Fax:					
E-m	ail Address:							
All F com	BR registration responses will be pany official must initial here if ha	sent via e-mail u ard copy is reques	Inless a hard cop	by is specifically requested. The				
C .	Technical Contact Information (Mr Mrs] Ms. 🗌 Other:)					
Nam								
Title								
Com	pany Name:							
Maili	ng Address:							
City:		State:		ZIP Code:				
Phor	16:		Fax:	L				
E-ma	ail:							
П.	Facility and Site Information							
Α.	A. Name and Type of Facility							
Faci	Facility Name:							
Type of Facility:								
For p	oortable units, please provide the	serial number of	the equipment b	being authorized below.				
Seria	Serial No: Serial No:							

(Page 2)

II.	Facility and Site Information	(continued)							
В.	Facility Location Information								
Stre	Street Address:								
If the cour	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 th	e Core Data Form (TCEQ Form	Number 10400) atta	ached?						
lf "N	O," provide customer reference	number (CN) and re	egulated entity num	nber (RN) belo	ow.				
Cust	omer Reference Number (CN):								
Reg	ulated Entity Number (RN):								
D.	TCEQ Account Identification N	lumber (if known):							
Ε.	E. Type of Action								
🗌 Ir	nitial Application 🗌 Change to F	Registration							
For (Change to Registration provide	the Registration Nur	mber:						
F.	PBR number(s) claimed under	30 TAC Chapter 10)6						
(List	all the individual rule number(s)) that are being clain	ned.)						
106.			106.						
106.			106.						
106.			106.						
G.	Historical Standard Exemption	or PBR							
Are	you claiming a historical standa	rd exemption or PBF	R?						
lf "Y	ES," enter rule number(s) and a	ssociated effective of	date in the spaces	provided belo	w.				
	Rule Number(s)		Effective Da	ate					

(Page 3)

II. Facility and Site Information (continued)						
H. Previous Standard Exemption or PBR Registration Number						
Is this authorization for a change to an existing facility standard exemption or PBR?	s this authorization for a change to an existing facility previously authorized under a YES NO vitandard exemption or PBR?					
If "YES," enter previous standard exemption number(s) effective date in the spaces provided below.) and PBR registrat	ion number(s), ar	nd associated			
Standard Exemption and PBR Registration N	umber(s)	Effect	ive Date			
I. Other Facilities at this Site Authorized by Standa	rd Exemption, PBR	, or Standard Per	mit			
Are there any other facilities at this site that are author PBR, or Standard Permit?	ized by an Air Stan	dard Exemption,	YES 🗌 NO			
If "YES," enter standard exemption number(s), PBR re number(s), and associated effective date in the spaces	gistration number(s provided below.	s), and Standard F	Permit registration			
Standard Exemption, PBR Registration, and Standard Registration Number(s)	Permit	Effective Date				
J. Other Air Preconstruction Permits						
Are there any other air preconstruction permits at this s	site?		🗌 YES 🗌 NO			
If "YES," enter permit number(s) in the spaces provide	d below.					
K. Affected Air Preconstruction Permits						
Does the PBR being claimed directly affect any permitted facility?						
If "YES," enter the permit number(s) in the spaces prov	vided below.					

(Page 4)

II. Facility and Site Information (continued)								
Federal Operating Permit (FOP) Requirements (30 TAC Chapter 122 Applicability)								
is this facility located at a site that is required to obtain an FOP YES NO To Be Determined pursuant to 30 TAC Chapter 122?								
If the site currently has an existing FOP, enter the permit number:								
1. Check the requirements of 30 TAC Chapter 122 that will be triggered if this claim is accepted (check all that apply).								
Initial Application for an 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								
 Identify the type(s) of FOP issued and/or FOP application(s) submitted/pending for the site. (check all that apply) 								
SOP GOP GOP application/revision (submitted or under APD review)								
□ N/A □ SOP application/revision (submitted or under APD review)								
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 30 TAC § 106.50?								
If "NO," specify the exception. There are three exceptions to paying a PBR fee. (check all that apply)								
1. Registration is solely to establish a federally enforceable emission limit.								
 Registration is within six months of an initial PBR review, and 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.								
This business has less than 6 million dollars in annual gross receipts.								
This registration is submitted by a governmental entity with a population of less than YES NO 10,000.								
This registration is submitted by a non-profit organization.								
2. A \$450 fee is required for all other registrations.								

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I. Fee Information (see Section VII. for address to send fee or go to www.tceq.texas.gov/epay to pay online) (continued)								
C. Payment Information								
Check/money order/transaction or	voucher number:							
Individual or company name on cl	eck:							
Fee Amount: \$								
Was fee paid online?			YES NO					
IV. Selected Facility Reviews	and Voluntary Registrations Only							
Note: If registering any of the PB section, then skip to Section VI. b	Note: If registering any of the PBRs listed in IV.B., or if voluntarily registering any other PBR(s), complete this section, then skip to Section VI. below:							
A. List any PBRs that are being	A. List any PBRs that are being voluntarily registered.							
106. 106. 106.								
106. 106. 106.								
B. PBR Checklists	-							
If you are registering any of the following PBRs, did you attach the applicable PBR checklists that shows your facility meets all general and specific requirements? • Animal Feeding Operations § 106.161, Livestock Auction Facilities § 106.162, Saw Mills § 106.223, Grain Handling, Storage and Drying § 106.283, Auto Body Refinishing Facilities § 106.436, or Air Curtain Incinerator § 106.496								
(If "NO" then you <i>must</i> provide <i>all</i> technical information outlined in Section V.)								
C. Distances to Property Line a	C. Distances to Property Line and Nearest Off-Property Structure							
Distance from this facility's emission release point to the nearest property line: feet								
Distance from this facility's emissi	on release point to the nearest off-prop	erty structure:	feet					

(Page 6)

V.	V. Technical Information Including State and Federal Regulatory Requirements							
Check the appropriate box to indicate what is included in your submittal.								
NO of th void	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 an automatic deficiency and voiding of the project.							
Α.	A. PBR requirements (Checklists are optional; however, your review will go faster if you provide applicable checklists.)							
Did y	you demonstrate that the general requirements in 30 TAC § 106.4 are met?	🗌 YES 🗌 NO						
Did y	you demonstrate that the individual requirements of the specific PBR are met?	🗌 YES 🗌 NO						
В.	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.	F. Distance from Property Line and Nearest Off-Property Structure							
Dista	ance from this facility's emission release point to the nearest property line:	feet						
Dista	ance from this facility's emission release point to the nearest off-property structure:	feet						
G.	Project Status							
Has TCE	the company implemented the project or waiting on a response from Q?	nted 🗌 Waiting						
Н.	Projected Start of Construction and Projected Start of Operation Dates:							
Proje	ected Start of Construction (provide date):							
Proje	Project Start of Operation (provide date):							
VI.	VI. Delinquent Fees and Penalties							
This form will not be processed until all delinquent fees and/or penalties owed to the TCEQ or the Office of the Attorney General on behalf of the TCEQ 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/delin/index.html.								

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VII. Copies of the Re	egistration								
Processing delays may occur if copies are not sent as noted. Copies must be sent as listed below:									
Who	Who Where								
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 of Form PI-7, 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, 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/publications/gi/gi-002.html or call (512) 239-1250.	Copy of Form PI-7, 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, Core Data Form, and all attachments							

¹ ePermits located at www3.tceq.texas.gov/steers/ ² ePay located at www.tceq.texas.gov/epay/

Directions to Facility

From Barnhart, TX, travel northeast on HWY 67 for 6.4 miles, turn left on lease road and continue 0.6 miles. Turn right and continue straight for 1.2 miles. Turn left and go 1.5 miles. Turn left and go 0.1 miles to facility.

Prepared for: Sequitur Permian, LLC

Submitted to: Texas Commission on Environmental Quality (TCEQ) Air Permits Division

Prepared by: Ramboll Environ US Corporation

Date: February 2018

Project Number: 31-38160A

PERMIT BY RULE REGISTRATION

MUNSON #1201 SALT WATER DISPOSAL FACILITY

RN110197134

Ramboll Environ 1560 Broadway Suite 1905 Denver, CO 80202 USA T +1 303 382 5460 F +1 303 382 5459 www.ramboll-environ.com



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2.	PROCESS DESCRIPTION AND PROCESS FLOW DIAGRAM	4
3.	EMISSIONS SUMMARY	6
3.1	Emissions Calculations	6
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TABLES

Table 2-1.	Summary of Equipment	
T-1-1- 0 1	Duran and Manimum Air Dall start Fusia is a	

- Table 3-1. Proposed Maximum Air Pollutant Emission Rates
- Table 5-1. Permit By Rule Compliance Summary
- Table 5-2. Federal Standard Applicability

FIGURES

Figure 2-1. Process Flow Diagram

APPENDICES

- Appendix A Emission Calculations Appendix B - TCEQ Forms Appendix C - Area Map
- Appendix D Manufacturer Specifications

ACRONYMS AND ABBREVIATIONS

40 CFR Title 40 of the United States Code of Federal Regulations AOS Alternate Operating Scenario AP-42 EPA's AP-42, Compilation of Air Pollutant Emission Factors, Fifth Edition API American Petroleum Institute bbl Barrel BOPD Barrels of Oil per Day BRE Bryan Research & Engineering C1 VOCs with Three Carbons C3 VOCs with Three Carbons C0 Carbon Monoxide CFR Code of Federal Regulations DRE Destruction and Removal Efficiency EPA United States Environmental Protection Agency EPN Emission Point Number FCAA Federal Clean Air Act FIN Facility Identification Number H2S Hydrogen Sulfide HAP Hazardous Air Pollutant hp Horsepower HHS Horizontal Heated Separator ICE Internal Combustion Engine lb Pound lb-mol Pound-Mole LDAR Leak Detection and Repair MACT Maxinum Achievable Control Technology <	30 TAC	Title 30 of the Texas Administrative Code
AOSAlternate Operating ScenarioAP-42EPA's AP-42, Compilation of Air Pollutant Emission Factors, Fifth EditionAPIAmerican Petroleum InstitutebblBarrelBOPDBarrels of Oil per DayBREBryan Research & EngineeringC1VOCs with One CarbonC3VOCs with Four or More CarbonsC4+VOCs with There CarbonsC4+VOCs with There CarbonsC6Carbon MonoxideC7RCode of Federal RegulationsDREDestruction and Removal EfficiencyEPAUnited States Environmental Protection AgencyEPAUnited States Environmental Protection AgencyEPNEmission Point NumberFCAAFederal Clean Air ActFINFacility Identification NumberH ₂ SHydrogen SulfideHAPHazardous Air PollutanthpHorsepowerHHSHorizontal Heated SeparatorICEInternal Combustion EnginelbPoundIb-molPound-MoleLDARLeak Detection and RepairMACTMaximum Achievable Control TechnologyMgal1,000 gallonsMMBTU/hrMillion Standard Cubic Feet per YearMSSMaintenance, Startup, and ShutdownNAAQSNational Ambient Air Quality StandardsNOxNitrogen DixideNSPSNew Source Performance StandardsNSPSNew Source Performance StandardsNSPSNew Source ReviewNppmvPerts per Millino by Volume </td <td>40 CFR</td> <td>Title 40 of the United States Code of Federal Regulations</td>	40 CFR	Title 40 of the United States Code of Federal Regulations
AP-42EPA's AP-42, Compilation of Air Pollutant Emission Factors, Fifth EditionAPIAmerican Petroleum InstitutebblBarrelBOPDBarrels of Oil per DayBREBryan Research & EngineeringC1VOCs with One CarbonsC3VOCs with Three CarbonsC0Carbon MonoxideC7RCode of Federal RegulationsDREDestruction and Removal EfficiencyEPAEntited States Environmental Protection AgencyEPNEmission Point NumberFCAAFederal Clean Air ActFINFacility Identification NumberHAPHazondus Ar PollutanthpHorsepowerHHSHorizontal Heated SeparatorICEInternal Combustion EnginelbPoundIb-Pound-MoleLDARLake Detection and RepairMACTMaximum Achievable Control TechnologyMgal1,000 galionsMMSTU/hrMillion Standard Cubic Feet per YearMSSMaintenance, Startup, and ShutdownNAAQSNational Ambient Air Quality StandardsNOxNitrogen DixideNSRNew Source ReviewPpmPrevention of Significant DeteriorationppaiPounds per Square Inch (absolute)RAutional Emission StandardsNSRNew Source ReviewPpmvPressure ReviewPpmvPressure ReviewPpmvPressure ReviewPpmvPresser RaskineRICEReciprocating Internal Combustion Engine	AOS	Alternate Operating Scenario
APIAmerican Petroleum InstitutebblBarrelbVDBarrels of Oil per DayBREBryan Research & EngineeringC1VOCs with One CarbonC3VOCs with Four or More CarbonsC4+VOCs with Four or More CarbonsC0Carbon MonoxideCFRCode of Federal RegulationsDREDestruction and Removal EfficiencyEPAUnited States Environmental Protection AgencyEPNEmission Point NumberFCAAFederal Clean Air ActFINFacility Identification NumberH ₂ SHydrogen SulfideHAPHazardous Air PollutanthpHorsepowerHHSHorizontal Heated SeparatorICEInternal Combustion EngineIbPoundIbPoundIbPound-MoleLDARLeak Detection and RepairMMSTU/HMillion Standard Cubic Feet per YearMSSMaintenance, Startup, and ShutdownNAAQSNational Ambient Air Quality StandardsNSSNainenance, Startup, and ShutdownNAAQSNational Ambient Air Quality StandardsNSPSNew Source Performance StandardsNSRNew Source Performance StandardsNSRNew Source ReviewppmvParts per Million by VolumePSDPrevention of Significant DeteriorationpsiaPounds per Square Inch (absolute)RDegrees RankineRICEReciprocating Internal Combustion EngineRVPReid Vapor Pr	AP-42	EPA's AP-42, Compilation of Air Pollutant Emission Factors, Fifth Edition
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RICEReciprocating Internal Combustion EngineRVPReid Vapor Pressurescf/hrStandard Cubic Feet per HourSEMSequitur Permian, LLCSO2Sulfur DioxideTCAATexas Clean Air Act	R	Degrees Rankine
RVP Reid Vapor Pressure scf/hr Standard Cubic Feet per Hour SEM Sequitur Permian, LLC SO2 Sulfur Dioxide TCAA Texas Clean Air Act	RICE	Reciprocating Internal Combustion Engine
scf/hr Standard Cubic Feet per Hour SEM Sequitur Permian, LLC SO2 Sulfur Dioxide TCAA Texas Clean Air Act	RVP	Reid Vanor Pressure
SEM Sequitur Permian, LLC SO2 Sulfur Dioxide TCAA Texas Clean Air Act	scf/hr	Standard Cubic Feet per Hour
SO ₂ Sulfur Dioxide TCAA Texas Clean Air Act	SEM	Sequitur Permian 11C
TCA Texas Clean Air Act	SO ₂	Sulfur Dioxide
	TCAA	Texas Clean Air Act
ICEO Texas Commission on Environmental Quality	TCEO	Texas Commission on Environmental Quality
thy Tons ner Year	tnv	Tons per Year
VOC Volatile Organic Compound	VOC	Volatile Organic Compound

Permit by Rule Registration Munson #1201 Salt Water Disposal Facility

1. INTRODUCTION

Sequitur Permian, LLC (SEM) owns and operates the Munson #1201 Salt Water Disposal Facility in Irion County, Texas. The facility does not require registration under 30 TAC §106.6; however, the site operates two generator engines of 240 horsepower or greater. Therefore, SEM has included the referenced PI-7 to register the facility for operation of the following equipment via Title 30 of the Texas Administrative code (30 TAC) §106.512 – *Stationary Engines and Turbines.*

The site includes two generator engines. The facility is a minor source with respect to both Prevention of Significant Deterioration (PSD) review (under 30 TAC §116.110) as well as the Federal Operating Permits Program (Title V) (under 30 TAC §122). Irion County is in attainment for all criteria air pollutants.

Enclosed are the required application materials consisting of the following: a process description, process flow diagram, emission calculations, PI-7, Core Data Form, Table 1a, and other documentation supporting the PBR claim.

2. PROCESS DESCRIPTION AND PROCESS FLOW DIAGRAM

The Munson #1201 Salt Water Disposal Facility is salt water disposal facility handling aqueous liquid wastes from oil and gas production operations. Two natural gas generators are located at the facility to provide electricity for facility operations, as the electric grid is not readily available at this site. A summary of the equipment at the facility is presented in Table 2-1, and a process flow diagram is presented as Figure 2-1.

Table 2-1. Summary of Equipment						
FIN	Equipment Description					
GEN-1	GEN-1	Generator 1				
GEN-2	GEN-2	Generator 2				





Permit by Rule Registration Munson #1201 Salt Water Disposal Facility

3. EMISSIONS SUMMARY

The maximum air pollutant emission rates proposed for the facility are presented in Table 3-1. Detailed emission calculations for the proposed equipment and operations are presented in Appendix A.

3.1 Emissions Calculations

3.1.1 Internal Combustion Units

Emissions from the generator engines (EPNs GEN-1 and GEN-2) of nitrogen oxides (NO_X), carbon monoxide (CO), and VOCs, including formaldehyde were estimated using NSPS JJJJ limits. All other emission factors were taken from AP-42 Section 3.2 for the appropriate engine type (AP-42, Section 3.2, July 2000). Total VOC emissions include formaldehyde emissions.

Table 3-1. Proposed Maximum Air Pollutant Emission Rates										
EPN/Emission Source	VOC		NOx		СО		PM ₁₀		PM _{2.5}	
	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
GEN-1/Generator	0.44	1.91	0.56	2.45	1.12	4.91	0.04	0.18	0.04	0.18
GEN-2/Generator	0.44	1.91	0.56	2.45	1.12	4.91	0.04	0.18	0.04	0.18
TOTAL EMISSIONS:	0.87	3.82	1.12	4.91	2.24	9.81	0.08	0.37	0.08	0.37

Table 3-1. Proposed Maximum Air Pollutant Emission Rates (cont'd)										
EPN/Emission Source	SO ₂		H ₂ S		Benzene		Formaldehyde		НАР	
	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
GEN-1/Generator	0.01	0.04	9.50E-05	4.16E-04	3.41E-03	0.01	0.04	0.19	0.07	0.31
GEN-2/Generator	0.01	0.04	9.50E-05	4.16E-04	3.41E-03	0.01	0.04	0.19	0.07	0.31
TOTAL EMISSIONS:	0.02	0.08	<0.01	<0.01	0.01	0.03	0.09	0.39	0.14	0.61

4. COMPLIANCE WITH FEDERAL AND STANDARD PERMIT REQUIREMENTS

A summary of compliance with applicable state and federal requirements is provided in Appendix B and Tables 5-1 and 5-2. Appendix B contains TCEQ checklists demonstrating compliance with 30 TAC §106.4 and §106.512. Table 5-1 demonstrates compliance with the PBR requirements of 30 TAC §106.4 and §106.512. Table 5-2 outlines federal requirements including applicable NSPS and Maximum Achievable Control Technology (MACT) regulations.

Table 5-1 - P	Table 5-1 - PERMIT BY RULE COMPLIANCE SUMMARY							
Citation	Summary of Requirement	Demonstration of Compliance						
§106.4(a)(1)	Total actual emissions authorized under permit by rule from the facility shall not exceed 250 tons per year (tpy) of carbon monoxide (CO) or nitrogen oxides (NOx); or 25 tpy of volatile organic compounds (VOC) or sulfur dioxide (SO2) or inhalable particulate matter (PM); or 15 tpy of particulate matter with diameters of 10 microns or less (PM10); or 10 tpy of particulate matter with diameters of 2.5 microns or less (PM2.5); or 25 tpy of any other air contaminant except carbon dioxide, water, nitrogen, methane, ethane, hydrogen, and oxygen.	All emissions from the facilities authorized under 30 TAC §106 will not exceed the listed limits. Please see Appendix A for emissions calculations.						
§106.4(a)(2)	Any facility or group of facilities, which constitutes a new major stationary source, as defined in §116.12 of this title (relating to Nonattainment and Prevention of Significant Deterioration Review Definitions), or any modification which constitutes a major modification, as defined in §116.12 of this title, under the new source review requirements of the Federal Clean Air Act (FCAA), Part D (Nonattainment) as amended by the FCAA Amendments of 1990, and regulations promulgated thereunder, must meet the permitting requirements of Chapter 116, Subchapter B of this title (relating to New Source Review Permits) and cannot qualify for a permit by rule under this chapter. Persons claiming a permit by rule under this chapter should see the requirements of §116.150 of this title (relating to New Major Source or Major Modification in Ozone Nonattainment Areas) to ensure that any applicable netting requirements have been satisfied."	The proposed project does not constitute a new major stationary source or a major modification as defined under TAC §116.12.						
§106.4(a)(3)	Any facility or group of facilities, which constitutes a new major stationary source, as defined in 40 Code of Federal Regulations (CFR) §52.21, or any change which constitutes a major modification, as defined in 40 CFR §52.21, under the new source review requirements of the FCAA, Part C (Prevention of Significant Deterioration) as amended by the FCAA Amendments of 1990, and regulations promulgated thereunder, must meet the permitting requirements of Chapter 116, Subchapter B of this title and cannot qualify for a permit by rule under this chapter.	The proposed project does not constitute a new major stationary source or a major modification as defined in 40 CFR §52.21.						

Table 5-1 - P	Table 5-1 - PERMIT BY RULE COMPLIANCE SUMMARY									
Citation	Summary of Requirement	Demonstration of Compliance								
§106.4(a)(4)	Unless at least one facility at an account has been subject to public notification and comment as required in Chapter 116, Subchapter B or Subchapter D of this title (relating to New Source Review Permits or Permit Renewals), total actual emissions from all facilities permitted by rule at an account shall not exceed 250 tpy of CO or NOX ; or 25 tpy of VOC or SO2 or PM; or 15 tpy of PM10 ; or 10 tpy of PM2.5 ; or 25 tpy of any other air contaminant except carbon dioxide, water, nitrogen, methane, ethane, hydrogen, and oxygen."	The facility has not been subject public notification as required in 30 TAC §116, Subchapters B or D. Total actual emissions from all facilities permitted by rule at the site are subject to the limits specified by TAC §106.4(a)(4).								
§106.4(a)(5)	Construction or modification of a facility commenced on or after the effective date of a revision of this section or the effective date of a revision to a specific permit by rule in this chapter must meet the revised requirements to qualify for a permit by rule.	Proposed constructions or modifications will meet the requirements in effect as of the date of construction or modification.								
§106.4(a)(6)	A facility shall comply with all applicable provisions of the FCAA, §111 (Federal New Source Performance Standards) and §112 (Hazardous Air Pollutants), and the new source review requirements of the FCAA, Part C and Part D and regulations promulgated thereunder.	The facility will comply with all applicable NSPS, NESHAP, and NSR requirements of FCAA Part C and Part D as described herein.								
§106.4(a)(7)	There are no permits under the same commission account number that contain a condition or conditions precluding the use of a permit by rule under this chapter.	There are no permits under the same commission account number that contain a condition or conditions precluding the use of a permit by rule under this chapter.								
§106.4(a)(8)	The proposed facility or group of facilities shall obtain allowances for NOX if they are subject to Chapter 101, Subchapter H, Division 3 of this title (relating to Mass Emissions Cap and Trade Program).	The facility emits less than 10 tpy of NO _X and is not located in the Houston-Galveston-Brazoria non-attainment area. Therefore, the requirements of the Mass Emissions Cap and Trade Program under 30 TAC §101, Subchapter H, Division 3, do not apply.								
§106.4(b)	No person shall circumvent by artificial limitations the requirements of §116.110 of this title (relating to Applicability).	The requirements of TAC §116.110 will not be circumvented by artificial limitations.								
§106.4(c)	The emissions from the facility shall comply with all rules and regulations of the commission and with the intent of the Texas Clean Air Act (TCAA), including protection of health and property of the public, and all emissions control equipment shall be maintained in good condition and operated properly during operation of the facility.	The emissions from the proposed facilities will comply with all rules and regulations of the commission and with the intent of the Texas Clean Air Act.								

Citation	Summary of Requirement	Demonstration of Compliance
§106.4(d)	Facilities permitted by rule under this chapter are not exempted from any permits or registrations required by local air pollution control agencies. Any such requirements must be in accordance with TCAA, §382.113 and any other applicable law.	The permitted by rule facilities will comply with local air pollution control agency requirements.
§106.512(1)	Each engine or turbine with a manufacturer maximum rated horsepower greater than or equal to 240 hp shall be registered by submitting a Form PI-7, Table 29 for each proposed reciprocating engine with 10 days after construction.	The facility includes two engines with manufacturer maximum rated horsepower greater than or equal to 240 hp. This application meets the requirements for registering the engine(s) within 10 days after construction. Please see Appendix B for Table 29 for each applicable engine.
§106.512(2)(A)	 For any engine rated 500 hp or greater, emissions shall not exceed: (i) 2.0 g/hp-hr for any gas-fired rich burn engine; (ii) 2.0 g/hp-hr at full load; 5.0 g/hp-hr under reduced load (80-100% torque), for any gas-fired lean burn engine, or any compression-ignited dual-fired engine manufactured after June 18, 1992; (iii) 5.0 g/hp-hr for any spark-ignited; gas-fired lean-burn or compression ignited dual-fired engine rated 825 hp or greater manufactured after September 23, 1982, but prior to June 18, 1992; (iv) 5.0 g/hp-hr at full load; 8.0 g/hp-hr under reduced load (80% -100% torque), for any spark-ignited, gas fired, lean burn 4 stroke engine or compression ignition dual-fired unit that: (I) was manufactured prior to June 18, 1992, and is rated less than 825 hp; or (II) was manufactured prior to June 18, 1992, and is rated less than 825 hp; or (II) was manufactured prior to June 18, 1992, and is rated less than 825 hp; or (II) was manufactured prior to June 18, 1992, and is rated less than 825 hp; or (II) was manufactured prior to June 18, 1992, and is rated less than 825 hp; or (II) was manufactured prior to June 18, 1992, and is rated less than 825 hp; or (II) was manufactured prior to June 18, 1992, and is rated less than 825 hp; or 	There are no engines rated 500 hp or greater at the site; therefore, this provision is not applicable.
§106.512(2)(B)	For spark-ignited gas-fired or compression ignition dual-fired engines equipped with an NSCR or the fuel heating value is more exceeds +/- 50 Btu of the design lower heating value of the fuel, the engine shall be equipped with an air-fuel ratio (AFR) controller which maintains the AFR in the required range as specified in §106.512(2)(A).	There are no applicable engines at the facility; therefore, this provision is not applicable.
§106.512(2)(C)	Records shall be maintained by the owner or operator for a period of at least 2 years and made available upon request.	The owner/operator will comply with the recordkeeping provisions of the rule.
§106.512(3)(A)	For any gas turbine rated 500 hp or more, the emissions of NOx shall not exceed 3.0 g/hp-hr for gas-firing.	There are no gas turbines rated 500 hp or more at the facility.

Table 5-1 - PERMIT BY RULE COMPLIANCE SUMMARY								
Citation	Summary of Requirement	Demonstration of Compliance						
§106.512(3)(B)	For any gas turbine rated 500 hp or more, the turbine shall meet all applicable NOx and sulfur dioxide (SO2) (or fuel sulfur) emissions limitations, monitoring requirements, and reporting requirements of EPA New Source Performance Standards Subpart GGStandards of Performance for Stationary Gas Turbines. Turbine hp rating shall be based on turbine base load, fuel lower heating value, and International Standards Organization Standard Day Conditions of 59 degrees Fahrenheit, 1.0 atmosphere and 60% relative humidity.	There are no gas turbines rated 500 hp or more at the facility.						
§106.512(4)	Any engine or turbine rated less than 500 hp or used for temporary replacement purposes shall be exempt from the emission limitations of paragraphs (2) and (3) of this section. Temporary replacement engines or turbines shall be limited to a maximum of 90 days of operation after which they shall be removed or rendered physically inoperable.	Engines or turbines rated less than 500 hp will comply with all applicable parts of this rule.						
§106.512(5)	Gas fuel shall be limited to: sweet natural gas or liquid petroleum gas, fuel gas containing no more than ten grains total sulfur per 100 dry standard cubic feet, or field gas. If field gas contains more than 1.5 grains hydrogen sulfide or 30 grains total sulfur compounds per 100 standard cubic feet (sour gas), the engine owner or operator shall maintain records, including at least quarterly measurements of fuel hydrogen sulfide and total sulfur content, which demonstrate that the annual SO 2 emissions from the facility do not exceed 25 tons per year (tpy). Liquid fuel shall be petroleum distillate oil that is not a blend containing waste oils or solvents and contains less than 0.3% by weight sulfur.	The facility will comply with the gas fuel requirements of §106.512(5) and will maintain records if applicable.						
§106.512(6)	There will be no violations of any National Ambient Air Quality Standard (NAAQS) in the area of the proposed facility.	There are no violations of any NAAQS in the area of the proposed facility. The facility is less than the annual NO_2 emissions per 30 TAC §106.512 (6)(C).						
§106.512(7)	 Upon issuance of a standard permit for electric generating units, registrations under this section for engines or turbines used to generate electricity will no longer be accepted, except for: (A) engines or turbines used to provide power for the operation of facilities registered under the Air Quality Standard Permit for Concrete Batch Plants; (B) engines or turbines satisfying the conditions for facilities permitted by rule under Subchapter E of this title (relating to Aggregate and Pavement); or (C) engines or turbines used exclusively to provide power to electric pumps 	The facility includes two engines used to generate electricity being registered under 30 TAC §106.512. A standard permit for electric generating units has not been issued for this facility; therefore, registration of the engines used to generate electricity at this facility is being requested under 30 TAC §106.512.						

Table 5-2.	Table 5-2. Federal Standard Applicability								
Federal Standard	Name	Applicability							
		New Source Performance Standards							
NSPS IIII	Standards of Performance for Stationary Compression Ignition Internal Combustion Engines	Subpart IIII applies to manufacturers, owners, and operators of compression ignition ICE. The facility does not include compression ignited internal combustion engines; therefore, this subpart does not apply.							
NSPS JJJJ	Standards of Performance for Stationary Spark Ignition Internal Combustion Engines	Subpart JJJJ applies to manufacturers, owners, and operators of spark ignition ICE. The facility will include two spark ignition, field gas-fueled ICE (EPNs GEN-1 and GEN-2) that commenced construction after June 12, 2006. The engines are subject to the requirements of NSPS JJJJ, and will comply with NSPS JJJJ as applicable.							
		Maximum Achievable Control Technology							
MACT ZZZZ	National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines	This subpart applies to all spark and compression ignition ICE. The generator engines are considered new stationary RICE located at an area source and therefore are subject to Subpart ZZZZ. In accordance with §63.6590(c) and (c)(1), the generator engines must comply with the requirements of NSPS JJJJ.							

Permit by Rule Registration Munson #1201 Salt Water Disposal Facility

APPENDIX A EMISSION CALCULATIONS

Table 3-1. Proposed Maximum Air Pollutant Emission Rates																				
EPN/Emission Source	VC	C	N	0 _x	C	0	PM	1 ₁₀	PM	2.5	S	02	H	$_2S$	Benz	ene	Formal	dehyde	HA	٩P
	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
GEN-1/Generator	0.40	1.77	0.56	2.45	1.12	4.91	0.04	0.18	0.04	0.18	0.01	0.04	9.50E-05	4.16E-04	3.41E-03	0.01	0.04	0.19	0.07	0.31
GEN-2/Generator	0.40	1.77	0.56	2.45	1.12	4.91	0.04	0.18	0.04	0.18	0.01	0.04	9.50E-05	4.16E-04	3.41E-03	0.01	0.04	0.19	0.07	0.31
TOTAL EMISSIONS:	0.81	3.53	1.12	4.91	2.24	9.81	0.08	0.37	0.08	0.37	0.02	0.08	< 0.01	<0.01	0.01	0.03	0.09	0.39	0.14	0.61
MAXIMUM OPERATING SCHEDULE:			Hours	s/Day	24		Days/	'Week	7		Weeks	s/Year	52				Hours	s/Year	8760	

Sequitur Permian, LLC Munson #1201 SWD Facility Gas Generator

EPN: GEN-1 FIN: GEN-1

Engine Data	
Name	Generator 1
Manufacturer	PSI
Model Number	Doosan 11.1L
Horsepower:	254
Fuel consumption (Btu/hp-hr):	8,493
Hours of operation per year:	8,760
Engine Type:	4 Stroke, Rich-Burn

Fuel Data	
Fuel Type	field gas
Fuel Consumption (BTU/bhp-hr)	8,493
Heat Value (HHV)	1,020
Heat Value (LHV)	1,020
Sulfur Content (grains/100scf)	1.5727

Method of Emission Control	Yes/No
NSCR Catalyst	No
SCR Catalyst	No
JLCC Catalyst	No
Parameter Adjustment	No
Stratified Charge	No
Other (Specify)	No

Emission Calculations			Generator 1					
	Manufacturer's emission factors (g/hp-hr)	AP-42 Table 3.2-3 4 Stroke, Rich Burn engine emission factors (Ib/MMBtu)	Controlled Emission Factors ^b (g/hp-hr)	Emission Factor Used	Units	Emissions (lb/hr)	Emissions (tpy)	
VOC ^a	0.70	0.0296	0.72	0.7205	g/hp-hr	0.40	1.77	
NOx	1.00	2.21	1.00	1	g/hp-hr	0.56	2.45	
CO	2.00	3.72	2.00	2	g/hp-hr	1.12	4.91	
PM ₁₀		0.01941		0.01941	lb/MMBtu	0.04	0.18	
PM _{2.5}		0.01941		0.01941	lb/MMBtu	0.04	0.18	
SO ₂		0.000588		0.000588	lb/MMBtu	0.01	0.04	
Formaldehyde		0.0205		0.0205	lb/MMBtu	0.04	0.19	
Benzene		0.00158		0.00158	lb/MMBtu	3.41E-03	0.01	
H ₂ S		N/A		98% DRE	N/A	9.50E-05	4.16E-04	

 $^{\rm a}$ VOC emissions based on the sum of NMNEHC and Formaldehyde

^b Controlled emissions based on NSPS JJJJ limits. Total VOC emissions includes Formaldehyde as calculated using AP-42 Formaldehyde emission factor

Sequitur Permian, LLC Munson #1201 SWD Facility **Gas Generator**

EPN: GEN-1 FIN: GEN-1

Calculation:

Calculation: For emission factors in terms of g/hp-hr: (Emission factor) * (Horsepower) / (Conversion factor) (g/hp-hr) * (hp) / (453.59 g/lb) For emission factors in terms of lb/MMBtu: (Emission factor) * (Fuel Consumption) * (Horsepower) * (Conversion factor) (lb/MMBtu) * (Btu/hp-hr) * (hp) * (1 MMBtu/1,000,000 Btu)

HAP Emission Calculations								
	4 Stroke, Rich- Burn	Genera	tor 1					
Pollutant	AP-42 Table 3.2-3 Emission Factor (Ib/MMBtu)	Emissions lb/hr	Emissions tpy					
1,1,2,2-Tetrachloroethane	2.53E-05	5.46E-05	2.39E-04					
1,1,2-Trichloroethane	1.53E-05	3.30E-05	1.45E-04					
1,3-Butadiene	6.63E-04	1.43E-03	0.01					
1,3-Dichloropropene	1.27E-05	2.74E-05	1.20E-04					
2-Methylnaphthalene								
2,2,4-Trimethylpentane								
Acenaphthene								
Acenaphthylene								
Acetaldehyde	2.79E-03	0.01	0.03					
Acrolein	2.63E-03	0.01	0.02					
Benzene	1.58E-03	3.41E-03	0.01					
Benzo(b)flouanthene								
Benzo(e)pyrene								
Benzo(g,h,i)perylene								
Biphenyl								
Carbon Tetrachloride	1.77E-05	3.82E-05	1.67E-04					
Chlorobenzene	1.29E-05	2.78E-05	1.22E-04					
Chloroform	1.37E-05	2.96E-05	1.29E-04					
Chrysene								
Ethylbenzene	2.48E-05	5.35E-05	2.34E-04					
Ethylene Dibromide	2.13E-05	4.60E-05	2.01E-04					
Flouranthene								
Flourene								
Formaldehyde	0.02	0.04	0.19					
Methanol	3.06E-03	0.01	0.03					
Methylene Chloride	4.12E-05	8.89E-05	3.89E-04					
n-Hexane								
Napthalene	9.71E-05	2.09E-04	9.17E-04					
PAH	1.41E-04	3.04E-04	1.33E-03					
Phenanthrene								
Phenol								
Pyrene								
Styrene	1.19E-05	2.57E-05	1.12E-04					
Tetrachloroethane								
Toluene	5.58E-04	1.20E-03	0.01					
Vinyl Chloride	7.18E-06	1.55E-05	6.78E-05					
Xylene	1.95E-04	4.21E-04	1.84E-03					
Total HAPs		0.07	0.31					

Sequitur Permian, LLC Munson #1201 SWD Facility Gas Generator (cont'd)

EPN: GEN-2 FIN: GEN-2

Engine Data	
Name	Generator 2
Manufacturer	PSI
Model Number	Doosan 11.1L
Horsepower:	254
Fuel consumption (Btu/hp-hr):	8,493
Hours of operation per year:	8,760
Engine Type:	4 Stroke, Rich-Burn

Fuel Data	
Fuel Type	field gas
Fuel Consumption (BTU/bhp-hr)	8,493
Heat Value (HHV)	1,020
Heat Value (LHV)	1,020
Sulfur Content (grains/100scf)	1 5727

Method of Emission Control	Yes/No
NSCR Catalyst	No
SCR Catalyst	No
JLCC Catalyst	No
Parameter Adjustment	No
Stratified Charge	No
Other (Specify)	No

Emission Calculations		Generator 2					
	Manufacturer's emission factors (g/hp-hr)	AP-42 Table 3.2- 3 4 stroke, rich burn engine emission factors (Ib/MMBtu)	Controlled Emission Factors ^b (g/hp-hr)	Emission Factor Used	Units	Emissions (lb/hr)	Emissions (tpy)
VOC ^a	0.70	0.0296	0.72	0.7205	g/hp-hr	0.40	1.77
NOx	1.00	2.21	1.00	1	g/hp-hr	0.56	2.45
CO	2.00	3.72	2.00	2	g/hp-hr	1.12	4.91
PM ₁₀		0.01941		0.01941	lb/MMBtu	0.04	0.18
PM _{2.5}		0.01941		0.01941	lb/MMBtu	0.04	0.18
SO ₂		0.000588		0.000588	lb/MMBtu	0.01	0.04
Formaldehyde		0.0205		0.0205	lb/MMBtu	0.04	0.19
Benzene		0.00158		0.00158	lb/MMBtu	3.41E-03	0.01
H ₂ S		N/A		98% DRE	N/A	9.50E-05	4.16E-04

 $^{\rm a}$ VOC emissions based on the sum of NMNEHC and Formaldehyde

^b Controlled emissions based on NSPS JJJJ limits. Total VOC emissions includes Formaldehyde as calculated using AP-42 Formaldehyde emission factor.

Sequitur Permian, LLC Munson #1201 SWD Facility Gas Generator (cont'd)

EPN: GEN-2 FIN: GEN-2

Calculation:

Calculation: For emission factors in terms of g/hp-hr: (Emission factor) * (Horsepower) / (Conversion factor) (g/hp-hr) * (hp) / (453.59 g/lb) For emission factors in terms of lb/MMBtu: (Emission factor) * (Fuel Consumption) * (Horsepower) * (Conversion factor) (lb/MMBtu) * (Btu/hp-hr) * (hp) * (1 MMBtu/1,000,000 Btu)

HAP Emission Calculations						
	4 Stroke, Rich- Burn	Generator 2				
Pollutant	AP-42 Table 3.2-					
Polititant	3 Emission	Emissions	Emissions			
	Factor	lb/hr	tpy			
	(lb/MMBtu)					
1,1,2,2-Tetrachloroethane	2.53E-05	5.46E-05	2.39E-04			
1,1,2-Trichloroethane	1.53E-05	3.30E-05	1.45E-04			
1,3-Butadiene	6.63E-04	1.43E-03	0.01			
1,3-Dichloropropene	1.27E-05	2.74E-05	1.20E-04			
2-Methylnaphthalene						
2,2,4-Trimethylpentane						
Acenaphthene						
Acenaphthylene						
Acetaldehyde	2.79E-03	0.01	0.03			
Acrolein	2.63E-03	0.01	0.02			
Benzene	1.58E-03	3.41E-03	0.01			
Benzo(b)flouanthene						
Benzo(e)pyrene						
Benzo(g,h,i)perylene						
Biphenyl						
Carbon Tetrachloride	1.77E-05	3.82E-05	1.67E-04			
Chlorobenzene	1.29E-05	2.78E-05	1.22E-04			
Chloroform	1.37E-05	2.96E-05	1.29E-04			
Chrysene						
Ethylbenzene	2.48E-05	5.35E-05	2.34E-04			
Ethylene Dibromide	2.13E-05	4.60E-05	2.01E-04			
Flouranthene						
Flourene						
Formaldehyde	0.02	0.04	0.19			
Methanol	3.06E-03	0.01	0.03			
Methylene Chloride	4.12E-05	8.89E-05	3.89E-04			
n-Hexane						
Napthalene	9.71E-05	2.09E-04	9.17E-04			
РАН	1.41E-04	3.04E-04	1.33E-03			
Phenanthrene						
Phenol						
Pyrene						
Styrene	1.19E-05	2.57E-05	1.12E-04			
Tetrachloroethane						
Toluene	5.58E-04	1.20E-03	0.01			
Vinyl Chloride	7.18E-06	1.55E-05	6.78E-05			
Xylene	1.95E-04	4.21E-04	1.84E-03			
Total HAPs		0.07	0.31			

Permit by Rule Registration Munson #1201 Salt Water Disposal Facility

APPENDIX B TCEQ FORMS

Date:	February 2018		Permit Number N/A	Regulated Entity No:	RN110197134
Area Name:	Munson #1201 SWD Facilit	ΞΥ		Customer Reference No.:	CN605190081
Review of applicat	tions and issuance of permit	s will be expedited by supplying all nee	cessary information requested on this	Table.	
		AIR CONT	AMINANT DATA		
	1. Emissio	n Point		3. Air Contamina	nt Emission Rate
EPN	FIN	NAME	2. Component of Air Contaminant Name	Pounds per Hour	ТРҮ
(A)	(B)	(C)		(A)	(B)
			VOC	0.40	1.77
			NO _x	0.56	2.45
	GEN-1	Generator 1	CO	1.12	4.91
			PM ₁₀	0.04	0.18
GEN-1			PM _{2.5}	0.04	0.18
			SO ₂	0.01	0.04
			H ₂ S	< 0.01	< 0.01
			Benzene	< 0.01	0.01
			HAP	0.07	0.31
			VOC	0.40	1.77
			NO _x	0.56	2.45
			CO	1.12	4.91
			PM ₁₀	0.04	0.18
GEN-2	GEN-2	Generator 2	PM _{2.5}	0.04	0.18
			SO ₂	0.01	0.04
			H ₂ S	< 0.01	< 0.01
			Benzene	< 0.01	0.01
			HAP	0.07	0.31

Date:	February 2018	Permit Number:	N/A	Regulated Entity No:	RN110197134
Area Name:	Munson #1201 SWD Facility	-		Customer Reference No.:	CN605190081

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

AIR CONTAMINANT DATA			EMISSION POINT DISCHARGE PARAMETERS																						
1. Emission Point		4. UTM Coordinates of Emission		Source																					
		Point		5.	6.	7. Stack Exit Data			8. Fugitives																
EPN	FIN	NAME				Building	Height	Diameter	Velocity	Temperature	Length	Width	Axis												
(A)	(B)	(C)	Zone	East North (Meters) (Meters)	East	East	East	East	East	East	East	East	East	East	East	East	East North	Height	Above	(Feet)	(fps)	(°F)	(ft)	(ft)	Degrees
					(Meters) (Meters)	(Feet)	(Feet)	(A)	(B)	(C)	(A)	(B)	(C)												
GEN-1	GEN-1	Generator 1	14	303732	3453415		7	1.00	30.25	1382															
GEN-2	GEN-2	Generator 2	14	303732	3453415		7	1.00	30.25	1382															

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 Web site at: www.tceq.texas.gov/permitting/air/nav/air_pbr.html.

1.	30 TAC § 106.4(a)(1) and (4): Emission limits					
	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?	X YES 🗌 NO				
•	Are the NO $_{\rm x}$ and CO emissions claimed for each facility in this PBR submittal less than 250 tpy?	YES 🗌 NO				
If t ca	he answer to both is "Yes," continue to the question below. If the answer to either quest nnot be claimed .	tion is "No," a PBR				
	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				
If [•]	'Yes," skip to Section 2. If "No," continue to the questions below.					
If t	he 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?	X YES 🗌 NO				
•	Are the NO $_{\rm x}$ and CO emissions claimed for all facilities in this PBR submittal less than 250 tpy?	YES 🗌 NO				
If t	If the answer to both questions is "Yes," continue to Section 2.					
If i Ch	If the answer to either question is "No," a PBR cannot be claimed . A permit will be required under Chapter 116.					

Permit by Rule Applicability Checklist Title 30 Texas Administrative Code § 106

2. 30 TAC § 106.4(a)(2): Nonattainment check					
• 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? <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>	☐ YES ☐ NO				
• Is the site an existing major nonattainment site and are the emissions of VOC or NO_ increasing by 40 tpy or more?	U YES INO				
If needed, attach contemporaneous netting calculations per nonattainment guidance.					
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_newsource.html	1				
<i>If "Yes," to any of the above, the project is a major source or a major modification and a</i> used <i>. A Nonattainment Permit review must be completed to authorize this project. If "No Section 3.</i>	PBR may not be ," continue to				
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?	TYES X NO				
• Are emissions of any criteria pollutant increasing by 250 tpy of any criteria pollutant at an unnamed source?					
• Are emissions increasing above significance levels at an existing major site?					
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_newsource.html If "Yes," to any of the above, a PBR may not be used. A PSD Permit review must be completed to authorize the project. If "No." continue to Section 4					

Permit by Rule Applicability Checklist Title 30 Texas Administrative Code § 106

4. 30 TAC § 106.4(a(6): Federal	Requirements				
• Will all facilities under this PBR me Federal Regulations (40 CFR) Part (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)?				
<i>If "Yes," which Subparts are applicable?</i>	NSPS JJJJ				
 Will all facilities under this PBR meet applicable requirements of 40 CFR Part 63, Hazardous Air Pollutants Maximum Achievable Control Technology (MACT) standards? 					
If "Yes," which Subparts are applicable?	MACT ZZZZ				
 Will all facilities under this PBR me National Emissions Standards for I 	eet applicable requirements of 40 CFR Part 61, Hazardous Air Pollutants (NESHAPs)?	🗌 YES 🗌 NO 🔀 NA			
If "Yes," which Subparts are applicable?					
If "Yes" to any of the above, please atto	ach a discussion of how the facilities will meet any	applicable standards.			
5. 30 TAC § 106.4(a)(7): PBR pro	hibition check				
• Are there any air permits at the sit restrict the use of PBRs?	e containing conditions which prohibit or	🗌 YES 🔀 NO			
If "Yes," PBRs may not be used or their amendment may be required.	use must meet the restrictions of the permit. A ne	ew permit or permit			
List permit number(s):					
6. 30 TAC § 106.4(a)(8): NO Ca	o and Trade				
Is the facility located in Harris, Brazoria, Chambers, Fort Bend, Galveston, Liberty, UES 🛛 NO Montgomery, or Waller County?					
If "Yes," answer the question below	r. If "No," continue to Section 7.				
• Will the proposed facility or group if they are subject to 30 TAC Chap Mass Emissions Cap and Trade Pro	of facilities obtain required allowances for NO ter 101, Subchapter H, Division 3 (relating to the ogram)?	☐ YES ☐ NO			

Permit by Rule Applicability Checklist Title 30 Texas Administrative Code § 106

. Highly Reactive Volatile Organic Compounds (HRVOC) check					
• Is the facility located in Harris County?		YES X NO			
If "Yes," answer the next question. If "No," skip to the box belo	<i>)W</i> .				
• Will the project be constructed after June 1, 2006?		I YES I NO			
If "Yes," answer the next question. If "No," skip to the box belo	<i><i>w</i>.</i>				
 Will one or more of the following HRVOC be emitted as a project? 	part of this	🗌 YES 🔀 NO			
If "Yes," complete the information below:					
	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) 	 beta-butylene (dimethylethylene, including both cis- and trans-isomers) 				
▶ ethylene					
▶ propylene					
• Is the facility located in Brazoria, Chambers, Fort Bend, G Montgomery, or Waller County?	alveston, Liberty,	🗌 YES 🔀 NO			
If "Yes," answer the next question. If "No," the checklist is con	ıplete.				
• Will the project be constructed after June 1, 2006?		TYES NO			
If "Yes," answer the next question. If "No," the checklist is con	ıplete.				
• Will one or more of the following HRVOC be emitted as a part of this YES NO project?					
If "Yes," complete the information below:					
	lb//hr	tpy			
▶ ethylene					
▶ propylene					



EPNs GEN-1 and GEN-2

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 permit by rule (PBR) forms, tables, checklists, and guidance documents are available from the Texas Commission on Environmental Quality (TCEQ), Air Permits Division Web site at: www.tceq.texas.gov/permitting/air/nav/air_pbr.html.

This PBR (§ 106.512) requires registration with the commission's Office of Air in Austin before construction if the horsepower (hp) of the facility is greater than 240 hp. Registration of the facility can be performed by completing a Form PI-7, "Registration for Permits by Rule," or Form PI-7-CERT, "Registration and Certification for Permits by Rule." This checklist should accompany the registration form.

For additional assistance with your application, including resources to help calculate your emissions, please visit the Small Business and Local Government Assistance (SBLGA) webpage at the following link: www.TexasEnviroHelp.org

Definitions:

The following words and terms, when used in this section, shall have the following meanings, unless the context clearly indicates otherwise.

- A. Rich-burn Engine: A rich-burn engine is a gas-fired, spark-ignited engine that is operated with an exhaust oxygen content less than four percent by volume.
- B. Lean-burn Engine: A lean-burn engine is a gas-fired, spark-ignited engine that is operated with an exhaust oxygen content of four percent by volume, or greater.
- C. Rated Engine Horsepower: Engine rated horsepower shall be based on the engine manufacturer's maximum continuous load rating at the lesser of the engine or driven equipment's maximum published continuous speed.
- D. Turbine Horsepower: Turbine rated horsepower shall be based on turbine base load, fuel power heating value, and International Standards Organization Standard Day Conditions of 59 degrees Fahrenheit, 1.0 atmosphere pressure, and 60 percent relative humidity.

Questions/Descr	iption and Response	
Will the engine or to meet all the require Turbine Componen	urbine be used as a replacement at an oil and gas site and does it ments of the policy memo entitled, "Replacement of All Engine and ts for Oil and Gas Production?"	🗌 YES 🛛 NO
If "YES," registration	on is not required for like-kind replacements of engine or turbine co	omponents.
If "NO," please cont	finue.	
Rule	Introduction	
(1)	Is the engine or turbine rated less than 240 hp?	🗌 YES 🗶 NO
If "YES," then regis rule.	tration is not required, but the facility must comply with condition	s (5) and (6) of this
Form PI-7 and Tab	le 29 or Table 31, as applicable, within 10 days after construction b	pegins.
Indicate the type of	equipment (pick one):	
Engine	Turbine	
If an engine, contin	ue to the questions regarding "Engines."	
If a turbine, skip to	the questions regarding "Gas Turbines."	
Rule	Engines	
(2)	Is the engine rated at 500 hp or greater?	YES 🗙 NO
If "NO," the engine Form PI-7 and a Ta §§ 106.512(5) and (is between 240 hp and 500 hp. The engine must be registered by suble 29 within 10 days after construction begins and must comply v 6). Skip to the questions regarding § 106.512(4).	ubmitting a completed with the conditions in
If "YES," in addition (NO _x) emission lim	n to registration, the engine must operate in compliance with the fo it(s). Check the limit(s) applicable to this engine by answering the f	ollowing nitrogen following:
(2)(A)(i)	The engine is a gas-fired, rich-burn engine and will not exceed 2.0 grams per horsepower hour (g/hp-hr) under all operating conditions.	🗌 YES 🗌 NO
Indicate grams per	horsepower hour NO _x :	(g/hp-hr)
(2)(A)(ii)	The engine is a spark-ignited, gas-fired, lean-burn engine or any compression-ignited, dual fuel-fired engine manufactured new after June 18, 1992, and will not exceed 2.0 g/hp-hr NO _x at manufacturer's rated full load and speed at all times; except, the engine will not exceed 5.0 g/hp-hr NO _x under reduced speed and 80% and 100% of full torque conditions.	YES NO
Indicate grams per	horsepower hour NO _x :	(g/hp-hr)

Questions/Descr	iption and Response	
Rule	Engines (<i>continued</i>)	
(2)(A)(iii)	The engine is any spark-ignited, lean-burn two-cycle or four-cycle engine or any compression-ignited, dual fuel-fired engine rated 825 hp or greater and manufactured between September 23, 1982 and June 18, 1992, and will not exceed 5.0 g/hp-hr NO _x under all operating conditions.	YES NO
Indicate grams per	horsepower hour NO _x :	g/hp-hr
(2)(A)(iv)	The engine is any spark-ignited, gas-fired, lean-burn, four-cycle engine or compression-ignited, dual-fuel-fired engine that was manufactured before June 18, 1992, and is rated less than 825 hp, or was manufactured before September 23, 1982, and will not exceed 5.0 g/hp-hr NO _x at manufacturer's rated full load and speed at all times; except, the engine will not exceed 8.0 g/hp-hr NO _x under reduced speed and 80% and 100% of full torque conditions.	YES NO
Indicate grams per	horsepower hour NO _x :	g/hp-hr
(2)(A)(v)	The engine is any spark-ignited, gas-fired, two-cycle, lean-burn engine that was manufactured before June 18, 1992, and is rated less than 825 hp, or was manufactured before September 23, 1982, and will not exceed 8.0 g/hp-hr NO _x under all operating conditions.	YES NO
Indicate grams per	horsepower hour NO _x :	g/hp-hr
(2)(A)(vi)	The engine is any compression-ignited, liquid-fired engine and will not exceed 11.0 g/hp-hr NO _x under all operating conditions.	YES NO
Indicate grams per	horsepower hour NO _x :	g/hp-hr
(2)(B)	Does the engine require an automatic air-fuel ratio controller to meet the NO_x limit(s) above?	🗌 YES 🗌 NO
(2)(B)	For spark-ignited gas-fired or compression-ignited dual fuel-fired engines, is the engine required to have an automatic air-fuel ratio controller under condition (2)(B) of the PBR?	YES NO
(2)(C)	Are you aware of and accept responsibility for the record and testing requirements as specified in (2)(C) of the PBR?	YES NO

Questions/Descr	iption and Response							
Rule	Gas Turbines							
(3)	Is the turbine rated 500 hp or more?	YES NO						
If "NO," the turbine is between 240 hp and 500 hp. The engine only needs to be registered by submitting a completed Form PI-7 and a Table 31 within 10 days after construction begins.								
If "YES," in addition to registration, the turbine must operate in compliance with the following emission limit(s) and must comply with the conditions in §§ 106.512(5)(6). Skip to questions regarding "Additional Requirements."								
(3)(A)	Will the emissions of NO _x exceed 3.0 g/hp-hr for gas firing?	YES NO						
(3)(B)	Will the turbine meet all applicable NO _x and sulfur dioxide (or fuel sulfur) emission limitations, monitoring requirements, and reporting requirements of 40 CFR Part 60, NSPS Subpart GG?	YES NO						
Rule	Additional Requirements							
(4)	Is the engine or turbine rated less than 500 hp or used for temporary replacement purposes?	🛛 YES 🗌 NO						
If "NO," continue to	next question.							
If "YES," the equipm temporary replace	nent does not have to meet the emission limits of §§ 106.512(2) and ment equipment can only remain in service for a maximum of 90 o	(3). However, the lays.						
(5)	What type of fuel will be used and will the fuel meet the requirements of the PBR?	X YES 🗌 NO						
Indicate the fuel(s)	used.							
🗵 Natural gas	Liquid Petroleum gas Field gas	Liquid fuel						
(6)	Does the installation comply with the National Ambient Air Quality Standards (NAAQS)?	🗙 YES 🗌 NO						
Indicate which meth the selected methoc	nod is used and attach the modeling report and/or calculations and I.	diagrams to support						
Modeling	Stack height 🛛 🗴 Facility emissions and property	line distance						
(6)	Have you included a modeling report and/or calculations and diagrams to support the selected NAAQS compliance determination method?	X YES 🗌 NO						
Rule	Other Applicable Rules and Regulations							
For the following fo from October 2006.	ur questions, please refer to the Electric Generators under Permit b	y Rule policy memo						
Is the engine or turk	pine used to generate electricity?	X YES 🗌 NO						
If "NO," the following the second sec	ng do not apply.							

Questions/Descr	iption and Response	
Rule	Other Applicable Rules and Regulations (continued)	
Will the engine or t authorized by a Nev	urbine be used to generate electricity to operate facilities w Source Review Permit?	YES 🛛 NO
If "YES," the engine permit amendmen	e or turbine does not qualify for this PBR and authorization must be t.	e obtained through a
If the engine or tur use at locations wh	bine is used to generate electricity, will it be exclusively for on-site ich cannot be connected to an electric grid?	🛛 YES 🗌 NO
If "YES," describe v	vhy access to the electric grid is not available.	
If "NO," the engine	or turbine does not qualify for this PBR.	
Has an Electric Ger activities for which	nerating Unit Standard Permit been issued for one of the following the engine or turbine will only be used to generate electricity?	🗌 YES 🗵 NO
Engines or tu Standard Peri	rbines used to provide power for the operation of facilities registerec mit for Concrete Batch Plants.	l under the Air Quality
Engines or tu Subchapter E	rbines satisfying the conditions for facilities permitted by rule under (relating to Aggregate and Pavement).	30 TAC Chapter 106,
Engines or tu	rbines used exclusively to provide power to electric pumps used for i	rrigating crops
If "NO," the engine	or turbine does not qualify for this PBR.	
If the engine or turk site subject to the N	bine is located in the Houston/Galveston nonattainment area, is the Mass Emission Cap and Trade Program?	🗌 YES 🗌 NO
Why or Why Not:		
N/a		
Is the facility subject	ct to 30 TAC Chapter 115?	YES 🗙 NO
Why or Why Not:		
Irion County not subj	ect to 30 TAC Chapter 115	
Is the facility subject	ct to 30 TAC Chapter 117?	YES 🗙 NO
Why or Why Not:		
Irion County not subj	ect to 30 TAC Chapter 117	

Other Applicable Rules and Regulations (continued)	
Is the facility subject to 40 CFR Part 60, NSPS Subpart D?	🗌 YES 🗵 NO
Why or Why Not:	
Facility does not include fossil fuel steam generators	
Is the facility subject to 40 CFR Part 60, NSPS Subpart Da?	YES 🛛 NO
Why or Why Not:	
Facility does not include electric utility steam generators	
Is the facility subject to 40 CFR Part 60, NSPS Subpart Db?	🗌 YES 🗵 NO
Why or Why Not:	
Facility does not include electric utility steam generators	
Is the facility subject to 40 CFR Part 60, NSPS Subpart Dc?	🗌 YES 🔀 NO
Why or Why Not:	
Facility does not include industrial-commercial- institutional steam generators	
Is the facility subject to 40 CFR Part 60, NSPS Subpart GG?	🗌 YES 🔀 NO
Why or Why Not:	
Facility does not include small industrial-commercial-institutional steam generators.	
Is the facility subject to 40 CFR Part 63, MACT Subpart YYYY?	🗌 YES 🔀 NO
Why or Why Not:	
Facility does not include stationary combustion turbines.	
Is the facility subject to 40 CFR Part 63, MACT Subpart ZZZZ	🗙 YES 🗌 NO
Why or Why Not:	
RICE located at an area source. Will meet MACT Subpart ZZZZ by complying with NSPS JJJJ.	
Is the facility subject to 40 CFR Part 63, MACT Subpart PPPPP?	🗌 YES 🗙 NO
Why or Why Not:	
RICE is not located at a major source of HAPs	

4

Record Keeping: In order to demonstrate compliance with the general and specific requirements of this PBR, sufficient records must be maintained to demonstrate that all requirements are met at all times. If the engine or turbine is rated greater than 500 horsepower, all records must be maintained as required by 30 TAC § 106.512(2)(C). The registrant should also become familiar with the additional record keeping requirements in 30 TAC § 106.8. The records must be made available immediately upon request to the commission or any air pollution control program having jurisdiction. If you have any questions about the type of records that should be maintained or testing requirements, contact the Air Program in the TCEQ Regional Office for the region in which the site is located.

Recommended Calculation Method: In order to demonstrate compliance with this PBR, emission factors for each air contaminant from the EPA Compilation of Air Pollutant Emission Factors (AP-42), Fifth Edition, Volume 1, Section 3.1: Stationary Gas Turbines for Electricity Generation at: www.epa.gov/ttn/chief/ap42/index.html should be used, including, the specific air contaminant's emission limit listed on the table below.

PRINT FORM

RESET FORM

				0	%									
	06/18/92	200*	Reduce	80-100%		2.0	5.0	5.0	5.0	11.0	3.0	Yes	Biennia	
		After 06	X >5	Full	N/A		2.0	2.0	2.0	2.0	11.0	3.0	Yes	Biennial
		8/92	X >825	N/A	N/A		2.0	5.0	5.0	5.0	11.0	3.0	Yes	Biennial
iidelines		3/82 to 06/1	i ≤824*	Reduced	80-100%	Design	2.0	8.0	8.0	8.0	11.0	3.0	Yes	Biennial
General Gu	_imits	09/2:	500 ≤ X	Full	N/A	Combustion	2.0	5.0	8.0	5.0	11.0	3.0	Yes	Biennial
3106.512 0	ir Emission L	9/23/82	200*	Reduced	80-100%	Engine	2.0	8.0	8.0	8.0	11.0	3.0	Yes	Biennial
ion 30 TAC	NO _X g/hp-h	Before 0	i< X	Full	N/A		2.0	5.0	8.0	5.0	11.0	3.0	Yes	Biennial
CEQ Exempt		NA	240< X<500	N/A	N/A		N/A	N/A	N/A	N/A	N/A	NA	Yes	No
1 T		N/A	X < 240	N/A	N/A		A/N	A/N	A/N	N/A	N/A	NA	No	No
		Manufacture	rsepower	pe	ank		Rich Burn ††	Lean Burn**	2-Cycle	Dual Fuel	Liquid Fuel		on	bu
		Date Original N	Mfg. Rated Ho	Operating Spee	Operating Torc	Ignition Type	Spark	Spark	Spark	Compression	Compression	Turbinest	PI-7 Registration	Emission Testi

Notes:

* Lower emission rates apply to lean-burn engine operating: Full Speed & Any Torque or Any Speed & <80% or >100% Torque \dagger Turbine emissions are also regulated by EPA NSPS Standards for NO_X and SO₂

** Lean Burn > 4% exhaust O_2

t† Rich Burn = ≤ 4% exhaust 0_2

Texas Commission on Environmental Quality Table 29 Reciprocating Engines

I. Eng	gine Data	a									
Manufact	urer:		Model N	ío.		Serial No.			Manufac	ture Date:	
PSI			Doosan '	11.1L							
Rebuilds	Date:		No. of C	ylinders:		Compress	ion Ratio):	EPN:		
						10.5			GEN-1		
Applicati	on:	Gas Compr	ression	× Electric	Generati	on Re	frigeratio	n 🗌 En	hergency/	Stand by	
× 4 Stro	ke Cycle	2 Stro	ke Cycle	Carb	oureted	🗌 Spark Ig	gnited	Dual Fue	el 🗌 Fi	uel Injected	
Diesel	🗌 🗌 Na	turally Asp	irated	Blower	/Pump So	cavenged	Turbo	Charged a	nd I.C.	🗌 Turbo C	Charged
Intercooled I.C. Water Temperature Lean Burn Kich Burn											
Ignition/	njection	Timing:	Fixed:				Vari	able:			
Manufact	ure Horse	epower Rati	ing: 254			Proposed	Horsepo	wer Rating	: 254		
				D	ischarge	Parameter	S		1		
Stack	Height (Feet)	Stack	Diameter	(Feet)	Stack T	'emperat	ure (°F)	Exit	Velocity (FPS)
II. Fue	el Data			1611.0						<u> </u>	1
Type of F	uel: X	Field Gas		andfill Gas		$\frac{1}{1}$ $\frac{1}{1}$	Natural	Gas L I	Digester C	as 🗌 Dies	sel
Fuel Cons	sumption	(BTU/bhp-	hr):		eat ing V	alue: 1020		Lowe	er Heating	g Value: 10	20
Sulfur Co	ntent (gra	$\frac{100 \text{ sci}}{100 \text{ sci}}$	t - weight	t %): 1.572	r grains/	TUUSCT					
III. Em	ission Fa	actors (Bef	ore Cont	rol)			<u>a</u>				,
	NOxCOSO2VOCFormaldehydePM10										
)		D ₂			rorman	lenyue		10
g/hp-hr	y ppmv	g/hp-hr	ppmv	g/hp-hr	ppmv	g/hp-hr	c ppmv	g/hp-hr	ppmv	g/hp-hr	ppmv
g/hp-hr 1.00	ppmv	g/hp-hr 2.00	ppmv	g/hp-hr	ppmv	g/hp-hr 0.7	ppmv	g/hp-hr	ppmv	g/hp-hr	ppmv
g/hp-hr 1.00 Source of	ppmv Emission	g/hp-hr 2.00 n Factors:	ppmv	g/hp-hr ufacturer D	ppmv ata	g/hp-hr 0.7 AP-42	ppmv Other (sp	g/hp-hr ecify):	ppmv	g/hp-hr	ppmv
g/hp-hr 1.00 Source of IV. Em	ppmv Emission ission Fa	g/hp-hr 2.00 n Factors: actors (Pos	ppmv	g/hp-hr ufacturer D	ppmv ata	g/hp-hr 0.7 AP-42	C ppmv Other (sp	g/hp-hr ecify):	ppmv	g/hp-hr	ppmv
g/hp-hr 1.00 Source of IV. Em NO	x ppmv Emission ission Fa	g/hp-hr 2.00 n Factors: actors (Pos C(g/hp-hr	ppmv Manu t Contro	g/hp-hr ufacturer D l) g/hn-hr	ppmv ata A	g/hp-hr 0.7 AP-42 VO g/hp-hr	C ppmv Other (sp C	g/hp-hr ecify): Formald	ppmv lehyde	g/hp-hr PM g/hn-hr	10 ppmv
g/hp-hr 1.00 Source of IV. Em NO g/hp-hr	x ppmv Emission ission Fa	g/hp-hr 2.00 n Factors: actors (Pos C(g/hp-hr	ppmv ppmv X Manu t Contro ppmv	g/hp-hr ufacturer D l) g/hp-hr	ppmv ata A ppmv p	g/hp-hr 0.7 AP-42 VO g/hp-hr	C ppmv Other (sp C ppmv	g/hp-hr ecify): Formalo g/hp-hr	ppmv lehyde ppmv	g/hp-hr PM g/hp-hr	110 ppmv [10 [10 [10 ppmv]
g/hp-hr 1.00 Source of IV. Em NO g/hp-hr Method o	x ppmv Emission ission Fa x ppmv f Emissio	g/hp-hr 2.00 n Factors: actors (Pos CC g/hp-hr	ppmv ⊠ Mant t Contro ppmv □ NSC	g/hp-hr ufacturer D I) SC g/hp-hr	$\begin{array}{c c} \mathbf{ppmv} \\ \hline \mathbf{ppmv} \\ \hline \\ ata \\ \hline \\ \mathbf{p}_2 \\ \hline \\ \mathbf{ppmv} \\ t \\ \hline \\ Le \end{array}$	g/hp-hr 0.7 AP-42 VO g/hp-hr an Operatio	C Other (sp C ppmv	g/hp-hr ecify): Formald g/hp-hr	ppmv lehyde ppmv	g/hp-hr PM g/hp-hr	10 ppmv (10 (10 (10) ppmv
g/hp-hr 1.00 Source of IV. Em NO g/hp-hr Method o	x ppmv Emission ission Fa x ppmv f Emissic	g/hp-hr 2.00 n Factors: actors (Pos CC g/hp-hr on Control: ge	ppmv X Manu t Contro ppmv □ NSC □ JLC	g/hp-hr ufacturer D l) g/hp-hr CR Catalyst	2 ppmv ata ☐ A 2 ppmv t ☐ Le ☐ Oti	g/hp-hr 0.7 AP-42 g/hp-hr an Operatio her (Specify	C Other (sp C ppmv n _ F r):	g/hp-hr ecify): Formald g/hp-hr Parameter A	lehyde ppmv lehyde ppmv	g/hp-hr PM g/hp-hr	10 ppmv [10 [10 [10 [10 [10 [10 [10 [10]] [10]] [10][10][10][10][10][10][10][10][10][10]
g/hp-hr 1.00 Source of IV. Em NO g/hp-hr Method o Stratif Note: Mu	x ppmv Emission ission Fa x ppmv f Emissic ied Charg	g/hp-hr 2.00 n Factors: actors (Pos CC g/hp-hr on Control: ge t a copy of o	ppmv Manu t Contro ppmv NSC JLC any manu	g/hp-hr ufacturer D l) g/hp-hr CR Catalyst CC Catalyst ufacturer co	ppmv ata p p ppmv p ppmv t Le Otiontrol info	yo g/hp-hr 0.7 AP-42 yor vo g/hp-hr an Operation her (Specify pormation that	C Other (sp C ppmv n I f i f i f i f f f f f f f f f f f f f	g/hp-hr becify): Formald g/hp-hr Parameter A	lehyde ppmv lehyde ppmv Adjustmer	g/hp-hr PM g/hp-hr at	10 ppmv [10 [10 ppmv
g/hp-hr 1.00 Source of IV. Em NO g/hp-hr Method o ☐ Stratif Note: Mu Is Formal	x ppmv Emission ission Fa x ppmv f Emission ied Charg ust submited	g/hp-hr 2.00 n Factors: actors (Pos CC g/hp-hr on Control: ge t a copy of a ncluded in t	ppmv X Manu t Contro ppmv D NSC J JLC any manu he VOCs	g/hp-hr ufacturer D l) g/hp-hr CR Catalyst CC Catalyst ufacturer co	2 ppmv ata A 02 ppmv t Le Otto pntrol info	yo g/hp-hr 0.7 AP-42 yo g/hp-hr an Operatio her (Specify prmation that	C ppmv Other (sp C ppmv n H):	g/hp-hr ecify): Formald g/hp-hr Parameter A	lehyde ppmv dehyde ppmv adjustmer	pM g/hp-hr g/hp-hr at	110 ppmv [10 [10 [10 ppmv No
g/hp-hr 1.00 Source of IV. Em NO g/hp-hr Method o ☐ Stratif Note: Mu Is Formal V. F	x ppmv Emission ission Fa x ppmv f Emissic ied Charg ust submit dehyde in ederal an	g/hp-hr 2.00 n Factors: actors (Pos CC g/hp-hr on Control: ge t a copy of a ncluded in t	ppmv X Manu t Contro ppmv □ NSC □ JLC any manu he VOCs andards	g/hp-hr ufacturer D l) g/hp-hr CR Catalyst CC Catalyst tfacturer co s? (Check all	2 ppmv ata A 02 ppmv t Le Otto Otto pontrol info that app	yo g/hp-hr 0.7 AP-42 yvO g/hp-hr an Operatio her (Specify prmation that	C Other (sp C ppmv n): at demon:	g/hp-hr ecify): Formald g/hp-hr Parameter A	lehyde ppmv djustmer	g/hp-hr g/hp-hr g/hp-hr at	IIO ppmv IIO Ppmv NO
g/hp-hr 1.00 Source of IV. Em NO g/hp-hr Method o Stratif Note: Mu Is Formal V. F ⊠ NSPS	x ppmv Emission ission Fa x ppmv f Emissic ied Charg ust submit dehyde in ederal an JJJJ	g/hp-hr 2.00 a Factors: actors (Pos CC g/hp-hr on Control: ge t a copy of a acluded in t ad State St MACT ZZ	ppmv X Manu t Contro ppmv NSC JLC any manu he VOCs andards ZZZ	g/hp-hr ufacturer D l) g/hp-hr CR Catalyst CC Catalyst tfacturer co s? (Check all NSPS IIII	ppmv ata p2 ata p2 ppmv t Lee Otto ontrol info that app Titl	yo g/hp-hr 0.7 AP-42 g/hp-hr an Operation her (Specify prmation that bly) e 30 Chapte	C Other (sp C Ppmv n): at demon:	g/hp-hr ecify): Formald g/hp-hr Parameter A strates cont	lehyde ppmv dehyde ppmv adjustmer	g/hp-hr g/hp-hr g/hp-hr nt	110 ppmv [1] [1] [1] [1] [1] [1] [1] [1] [1] [1]
g/hp-hr 1.00 Source of IV. Em NO g/hp-hr Method o Stratif Note: Mu Is Formald V. F ⊠ NSPS VI. A	x ppmv Emission ission Fa x ppmv fEmissio ied Charg ust submi dehyde in dehyde in JJJJJ X dditiona	g/hp-hr 2.00 a Factors: actors (Pos CC g/hp-hr on Control: ge t a copy of a ncluded in t ad State St MACT ZZ I Informat	ppmv X Manu t Contro ppmv □ NSC □ JLC any manu he VOCs andards ZZZ □ ion	g/hp-hr ufacturer D l) g/hp-hr CR Catalyst CC Catalyst <i>ufacturer co</i> s? (Check all NSPS IIII	P2 ppmv ata A P2 ata A P2 ata A P2 ata A P2 D2 Ppmv Let A D2 D3 D4 <pd4< p=""> D4 <pd4< p=""> <pd4<< td=""><td>yo g/hp-hr 0.7 AP-42 g/hp-hr an Operation her (Specify prmation the bly) e 30 Chapte</td><td>C ppmv Other (sp C ppmv n f): at demons er 117 - L</td><td>g/hp-hr ecify): Formald g/hp-hr Parameter A strates cont ist County:</td><td>dehyde ppmv djustmer rol efficie</td><td>g/hp-hr g/hp-hr g/hp-hr at ency. Yes ×</td><td>110 ppmv [10 [10 [10 ppmv] No</td></pd4<<></pd4<></pd4<></pd4<></pd4<></pd4<></pd4<></pd4<></pd4<></pd4<></pd4<></pd4<></pd4<></pd4<></pd4<></pd4<></pd4<></pd4<></pd4<></pd4<></pd4<></pd4<></pd4<></pd4<></pd4<></pd4<></pd4<></pd4<></pd4<></pd4<></pd4<></pd4<></pd4<></pd4<></pd4<></pd4<></pd4<></pd4<></pd4<></pd4<></pd4<></pd4<></pd4<></pd4<></pd4<></pd4<></pd4<></pd4<></pd4<></pd4<></pd4<></pd4<></pd4<></pd4<></pd4<></pd4<></pd4<></pd4<></pd4<></pd4<></pd4<></pd4<></pd4<></pd4<></pd4<></pd4<></pd4<></pd4<></pd4<></pd4<></pd4<></pd4<></pd4<></pd4<></pd4<></pd4<></pd4<></pd4<></pd4<></pd4<></pd4<></pd4<></pd4<></pd4<></pd4<></pd4<></pd4<></pd4<></pd4<></pd4<></pd4<></pd4<></pd4<></pd4<></pd4<></pd4<></pd4<></pd4<></pd4<></pd4<>	yo g/hp-hr 0.7 AP-42 g/hp-hr an Operation her (Specify prmation the bly) e 30 Chapte	C ppmv Other (sp C ppmv n f): at demons er 117 - L	g/hp-hr ecify): Formald g/hp-hr Parameter A strates cont ist County:	dehyde ppmv djustmer rol efficie	g/hp-hr g/hp-hr g/hp-hr at ency. Yes ×	110 ppmv [10 [10 [10 ppmv] No
g/hp-hr 1.00 Source of IV. Em NO g/hp-hr Method o Stratif Note: Mu Is Formal V. F NSPS VI. A 1. Subm	x ppmv Emission Fa x ppmv f Emissica ied Charş ied Charş dehyde in ederal an JJJJ X dditiona it a copy	g/hp-hr 2.00 n Factors: actors (Pos CC g/hp-hr on Control: ge t a copy of a ncluded in t nd State St MACT ZZ I Informat of the engin	ppmv Manu t Contro ppmv NSC JLC any manu he VOCs andards ZZZ ion ne manuf	g/hp-hr ufacturer D l) g/hp-hr CR Catalyst CR Catalyst ufacturer co s? (Check all NSPS IIII	ppmv ata p ata p 02 ppmv t Le Otil Otil ontrol info I that app Titl ite rating of the set	yo g/hp-hr 0.7 AP-42 g/hp-hr an Operation her (Specify prmation the obly) e 30 Chapte	C Other (sp C ppmv n f t t t t t t t t t t t t t t t t t t	g/hp-hr ecify): Formald g/hp-hr Parameter A strates cont ist County:	lehyde ppmv djustmer rol efficie	g/hp-hr pM g/hp-hr at ency.	110 ppmv [10 [10 ppmv No
g/hp-hr 1.00 Source of IV. Em NO g/hp-hr Method o Stratif Note: Mu Is Formal V. F ⊠ NSPS VI. A 1. Subm 2. Subm	x ppmv Emission Fa ission Fa x ppmv f Emissic ied Charş at submi. dehyde in ederal an JJJJ X dditiona it a copy it a typic	g/hp-hr 2.00 a Factors: actors (Pos CC g/hp-hr on Control: ge t a copy of a actuded in t actuded in t a	ppmv X Manu t Contro ppmv □ NSC □ JLC any manu he VOCs andards ZZZ □ ion ne manufa	g/hp-hr ufacturer D l) g/hp-hr CR Catalyst CC Catalyst <i>tfacturer co</i> s? (Check all NSPS IIII facturer's si including s	ppmv ata A ata A 02 ppmv t Le Oth Oth ontrol info Ithat app ite rating a ulfur cont	yo g/hp-hr 0.7 AP-42 g/hp-hr an Operation ther (Specify prmation that bly) e 30 Chapte or general rate	C ppmv Other (sp C ppmv n f): at demon: er 117 - L ating spec	g/hp-hr ecify): Formald g/hp-hr Parameter A Parameter A strates cont ist County: cification date e. For gased	Ienyde ppmv dehyde ppmv adjustmer rol efficie ata. pous fuels,	provide mo	110 ppmv (10 ppmv (10 ppmv No Dle
g/hp-hr 1.00 Source of IV. Em NO g/hp-hr Method o Stratif Note: Mu Is Formal V. F NSPS VI. A 1. Subm 2. Subm percer 3. Subm	x ppmv Emission Fa x ppmv f Emissic ied Charş dehyde in ederal an JJJJJ X dditiona it a copy it a typic nt of cons it descript	g/hp-hr 2.00 n Factors: actors (Pos CC g/hp-hr on Control: ge t a copy of a ncluded in t nd State St I Informat of the engi- al fuel gas a stituents.	ppmv Manu t Contro ppmv D NSC D JLCC any manu he VOCs andards ZZZ ion ne manuf analysis, fuel ratio	g/hp-hr ufacturer D l) g/hp-hr CR Catalyst CR Catalyst <i>ufacturer co</i> s? (Check all NSPS IIII Facturer's si including sys	2 ppmv ata A 02 ppmv b C 02 ppmv t Le Ottl Ottl ontrol info Ithat app Ithat app Titl ite rating outfur contestem (market) Item (market)	yo g/hp-hr 0.7 AP-42 g/hp-hr an Operation her (Specify prmation the bly) e 30 Chapte or general ra- tent and hea	C ppmv Other (sp C ppmv n f r 117 - L ating spec ting valu	g/hp-hr ecify): Formald g/hp-hr Parameter A strates cont ist County: cification date. For gased	Ienyde Jehyde Jehyde ppmv Adjustmer adjustmer ata. pous fuels, able	provide mo	110 ppmv (10 ppmv (10 ppmv (10 ppmv (10 ppmv (10 ppmv (10 ppmv) (10 ppmv (10 ppmv) (10 ppmv (10 ppmv) (10 ppm

Print Form

Reset Form

Texas Commission on Environmental Quality Table 29 Reciprocating Engines

I. Eng	gine Data	ì										
Manufact	urer:		Model N	0.		Serial No.			Manufac	ture Date:		
PSI			Doosan '	11.1L								
Rebuilds	Date:		No. of C	ylinders:		Compress	ion Ratio	on Ratio: EPN:				
						10.5			GEN-2			
Applicati	on:	Gas Compr	ression	× Electric	Generati	on Re:	frigeratio	n 🗌 En	hergency/	Stand by		
× 4 Stro	ke Cycle	2 Stro	ke Cycle	Carb	oureted	🗌 Spark Ig	gnited	Dual Fue	el 🗌 Fi	uel Injected		
Diesel	🗌 🗌 Na	turally Asp	irated	Blower	/Pump So	cavenged	Turbo	Charged a	nd I.C.	🗌 Turbo C	Charged	
Intercooled I.C. Water Temperature Lean Burn Kich Burn												
Ignition/	njection	Timing:	Fixed:			1	Vari	able:				
Manufact	ure Horse	epower Rati	ing: 254			Proposed	Horsepo	wer Rating	: 254			
				D	ischarge	Parameter	S		1			
Stack	Height (Feet)	Stack	Diameter ((Feet)	Stack T	'emperat	ure (°F)	Exit	Velocity (FPS)	
II. Fue	el Data			1611.0		~ 5				<u> </u>	1	
Type of F	uel: X	Field Gas		andfill Gas		$\frac{1}{1}$ $\frac{1}{1}$	Natural	Gas L	Digester C	as Dies	sel	
Fuel Cons	sumption	(BTU/bhp-	hr):		eat ing V	alue: 1020		Lowe	er Heating	g Value: 10	20	
Sulfur Co	ntent (gra	$\frac{100 \text{ scl}}{100 \text{ scl}}$	t - weight	(%): 1.572	r grains/	TUUSCT						
III. Em	ission Fa	ictors (Bef	ore Cont	rol)			<u> </u>					
	NOxCOSO2VOCFormaldehydePM10											
	X)		D ₂		C	Formal	lenyde		10	
g/hp-hr	x ppmv	g/hp-hr	ppmv	g/hp-hr	ppmv	yO g/hp-hr	C ppmv	g/hp-hr	ppmv	g/hp-hr	ppmv	
g/hp-hr 1.00	ppmv	g/hp-hr 2.00	ppmv	g/hp-hr	ppmv	g/hp-hr 0.7	C ppmv	Format g/hp-hr	ppmv	g/hp-hr	ppmv	
g/hp-hr 1.00 Source of	x ppmv Emission	g/hp-hr 2.00 n Factors:	ppmv	g/hp-hr	ppmv ata	g/hp-hr 0.7 AP-42	ppmv Other (sp	g/hp-hr ecify):	ppmv	g/hp-hr	ppmv	
g/hp-hr 1.00 Source of IV. Em	TX ppmv Emission ission Fa	g/hp-hr 2.00 n Factors: nctors (Pos	ppmv	g/hp-hr ufacturer Da l)	ppmv ata A	g/hp-hr 0.7 AP-42	C ppmv Other (sp	g/hp-hr ecify):	ppmv	g/hp-hr	ppmv	
g/hp-hr 1.00 Source of IV. Em NO	x ppmv Emission ission Fa	g/hp-hr 2.00 n Factors: nctors (Pos C(g/hn-hr	ppmv ppmv X Manu t Control	g/hp-hr ufacturer Da l) g/hp-hr	ppmv ata A A A A A A A B B B <td>yo g/hp-hr 0.7 AP-42 VO g/hp-hr</td> <td>C ppmv Other (sp C</td> <td>g/hp-hr ecify): Formald</td> <td>ppmv lehyde</td> <td>g/hp-hr PM g/hn-hr</td> <td>10 ppmv 10 10 npmv</td>	yo g/hp-hr 0.7 AP-42 VO g/hp-hr	C ppmv Other (sp C	g/hp-hr ecify): Formald	ppmv lehyde	g/hp-hr PM g/hn-hr	10 ppmv 10 10 npmv	
g/hp-hr 1.00 Source of IV. Em NO g/hp-hr	x ppmv Emission ission Fa x ppmv	g/hp-hr 2.00 n Factors: nctors (Pos CC g/hp-hr	ppmv ppmv X Manu t Contro ppmv	g/hp-hr ufacturer Da l) g/hp-hr	ppmv ata A ppmv ppmv	v0 g/hp-hr 0.7 P-42 V0 g/hp-hr	C ppmv Other (sp C ppmv	g/hp-hr ecify): Formald g/hp-hr	ppmv lehyde ppmv	g/hp-hr PM g/hp-hr	10 ppmv 10 10 ppmv ppmv	
g/hp-hr 1.00 Source of IV. Em NO g/hp-hr	x ppmv Emission ission Fa x ppmv f Emissio	g/hp-hr 2.00 n Factors: nctors (Pos CC g/hp-hr	ppmv X Manu t Contro ppmv □ NSC	g/hp-hr ufacturer Da l) g/hp-hr CR Catalyst	$\begin{array}{c c} ppmv \\ \hline ppmv \\ \hline \\ ata \\ \hline \\ p_2 \\ \hline \\ ppmv \\ t \\ \hline \\ Le \end{array}$	g/hp-hr 0.7 AP-42 vO g/hp-hr an Operatio	C ppmv Other (sp C ppmv n I	g/hp-hr ecify): Formald g/hp-hr	ppmv dehyde ppmv	g/hp-hr PM g/hp-hr	10 ppmv 10 10 10 ppmv	
g/hp-hr 1.00 Source of IV. Em NO g/hp-hr Method o	x ppmv Emission ission Fa x ppmv f Emissic ied Charg	g/hp-hr 2.00 n Factors: nctors (Pos CC g/hp-hr on Control: ze	ppmv X Manu t Contro ppmv □ NSC □ JLC	g/hp-hr ufacturer Da l) g/hp-hr CR Catalyst	2 ppmv ata ☐ A 2 2 ppmv t ☐ Le Otil	yo g/hp-hr 0.7 AP-42 yo g/hp-hr an Operatio her (Specify	C ppmv Other (sp C ppmv n h F):	g/hp-hr ecify): Formald g/hp-hr	lehyde ppmv lehyde ppmv	g/hp-hr PM g/hp-hr	10 ppmv 10 10 10 ppmv	
g/hp-hr 1.00 Source of IV. Em NO g/hp-hr Method o Stratif Note: Mu	x ppmv Emission ission Fa x ppmv f Emissic ied Charg	g/hp-hr 2.00 n Factors: nctors (Pos CC g/hp-hr on Control: ge t a copy of o	ppmv X Manu t Contro ppmv □ NSC □ JLC any manu	g/hp-hr ufacturer D l) g/hp-hr CR Catalyst CC Catalyst	2 ppmv ata A D2 ppmv t Le Oth ontrol info	yo g/hp-hr 0.7 AP-42 vO g/hp-hr an Operatio her (Specify prmation that	C ppmv Other (sp C ppmv n): at demons	g/hp-hr ecify): Formald g/hp-hr Parameter A	lehyde ppmv lehyde ppmv Adjustmer	PM g/hp-hr g/hp-hr at	10 ppmv 10 ppmv ppmv	
g/hp-hr 1.00 Source of IV. Em NO g/hp-hr Method o ☐ Stratif Note: Mu Is Formal	x ppmv Emission ission Fa x ppmv f Emission ied Charg ust submin dehyde in	g/hp-hr 2.00 n Factors: nctors (Pos CC g/hp-hr on Control: ge t a copy of a ncluded in t	<pre>ppmv ppmv X Manu t Contro ppmv ppmv NSC JLC any manu he VOCs</pre>	g/hp-hr ufacturer Da l) g/hp-hr CR Catalyst CC Catalyst ufacturer co	2 ppmv ata A 02 Ppmv t Le Otto Otto	yo g/hp-hr 0.7 AP-42 g/hp-hr an Operatio her (Specify prmation that	C ppmv Other (sp C ppmv n): at demon:	g/hp-hr ecify): Formald g/hp-hr Parameter A	dehyde ppmv dehyde ppmv adjustmer	PM g/hp-hr g/hp-hr at	10 ppmv 10 ppmv ppmv	
g/hp-hr 1.00 Source of IV. Em NO g/hp-hr Method o ☐ Stratif Note: Mu Is Formala V. F	x ppmv Emission ission Fa x ppmv f Emissic ied Charş ust submit dehyde in ederal an	g/hp-hr 2.00 n Factors: nctors (Pos CC g/hp-hr on Control: ge t a copy of a ncluded in t nd State St	ppmv x Manut t Control ppmv □ NSC I JLC any manut he VOCs andards	g/hp-hr ufacturer Da l) g/hp-hr CR Catalyst CC Catalyst tfacturer co s? (Check all	2 ppmv ata A 02 ppmv t Le Otto Otto pontrol info that app	yo g/hp-hr 0.7 AP-42 g/hp-hr an Operatio her (Specify prmation that	C ppmv Other (sp C ppmv n):	g/hp-hr ecify): Formald g/hp-hr Parameter A	lehyde ppmv lehyde ppmv Adjustmer	PM g/hp-hr g/hp-hr at	no n	
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Print Form

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30 TAC §106.512 – Stationary Engines and Turbines NAAQS Compliance Demonstration

30 TAC §106.512 (6)(C)(i)(ii) requires that the total emissions of NOx (nitrogen oxide plus NO_2) from all existing and proposed facilities on the property do not exceed the most restrictive of the following:

(i) 250 tpy;

(ii) the value (0.3125 D) tpy, where D equals the shortest distance in feet from any existing or proposed stack to the nearest property line.

For Munson #1201 SWD Facility, the facility (EPNs GEN-1 and GEN-2) complies due to:

- NOx emissions totaling 4.91 tpy
- D= 100 feet→ (.3125D)= (.3125(16))= 5 tpy



where, 4.91 tpy ≤ 5 tpy

Permit by Rule Registration Munson #1201 Salt Water Disposal Facility

APPENDIX C AREA MAP



	AREA MAP				
Munson #1201 SWD Facility					
	Sequitur Permian, LLC – TEXA	IS			
Prepared by:	RAMBOLL ENVIRON	February 2018			

Permit by Rule Registration Munson #1201 Salt Water Disposal Facility

APPENDIX D MANUFACTURER SPECIFICATIONS

	Rev:	A		11	.1L	
	Ur	nits		11.	.1L	
ENGINES	Std	Metric	15	00	18	00
General Engine Data						
Туре	N	I/A		In-Line	4 cycle	
Number of cylinders	N	I/A			6	
Aspiration	Ν	I/A	Τι	irbo Charg	e Air Coole	ed
Bore	in	mm	4.84	123	4.84	123
Stroke	in	mm	6.1	155	6.1	155
Displacement	in^3	L	673	11.1	673	11.1
Compression Ratio	N/A			1().5	
Mean Piston Speed	ft/min	m/s	1525	7.75	1830	9.3
Gross Standby Power Rating ^{1,2,3} Per ISO 3046 at the Flywheel						
NG	Hp	kW	268	200	302	225
LP	Hp	kW	180	134	208	155
MEP (@ rated Load on NG)	psi	bar	210	14	197	14
MEP (@ rated Load on LP)	psi	bar	141	10	136	9
Gross Prime Power Rating ^{1,2,3} Per ISO 3046 at the Flywheel						
NG	Нр	kW	241	180	272	203
LP	Нр	kW	N/A	N/A	N/A	N/A
MEP (@ rated Load on NG)	psi	bar	189	13	177	12
MEP (@ rated Load on LP)	psi	bar	N/A	N/A	N/A	N/A
RPM Range (Min-Max)	R	PM		1500	-2000	
Rotation Viewed from Flywheel	N	I/A		Counter (Clockwise	
Firing Order	N	I/A		1-5-3	-6-2-4	
Dry Weight						
Fan to Flywheel	lb	kg	2600	1179	2600	1179
Rad to Flywheel	lb	kg	3125	1417	3125	1417
Wet Weight						
Fan to Flywheel	lb	kg	2695	1206	2695	2627
Rad to Flywheel	lb	kg	3377	1530	3377	1530
CG						
Distance from FW housing	in	mm	24	605	24	605
Distance above center of crankshaft	in	mm	6	160	6	160
Engine Mounting						
Maximum Allowable Bending Moment at Rear of Block	lb ft	Nm				
Moment of Inertia About Roll Axis	lb ft^2	kg m^2				
Flywheel housing	N	I/A		SAE	No.1	
Flywheel	N	I/A		No	. 14	
Number of Flywheel Teeth	N	I/A		1	52	
Exhaust System						
Type			V	Vater Cool	ed Manifold	
Maximum allowable Back pressure	in HG	kPa	3	10.2	3	10.2
Standard Catalyst Back pressure	in HG	кРа	1.5	5.1	1.5	5.1
Exhaust Outlet Pipe Size			1000		1000	
Invaximum Turbine Inlet Temperature	F	C katter	1382	/50	1382	/50
Exhuast Flow at Rated Power	ID/nr	Kg/nr	1654	750	1869	848
Exhuast Flow at Rated Power @1350F	crm	m^3/min	1261.13	35.7	1425	40.3
Maximum allowable Inteles Air Destriction with Air Cleaner						
	in LIOC	kD-	F	1.04	F	1.04
	inH2O	кра	0 15	1.24	5	1.24
Compution Air required	INH2U	Kra ka/br	1501	3.74 709	1764	3.74
Compustion Air required		ng/III m∆3/min	306	100	1/04	12
		HT: 3/11101	230	11	++0	10

	Rev:	A		11.	.1L	
ENGINES	10	Motrio	45	11.	10	00
	510	Metric	15	00	18	00
	<i>F</i>	٨H		18	50	
		~ ~				
Engine only	<u> </u>			90	00	
Engine with Drive train	0			90	00	
Maximum Allowable Resistance of Starting Circuit	Un	nms	0.4	0.0	02	7
Starting Motor Power	пр	KVV	9.4	1	9.4	1
Battery Charging Alternator	N/	lta		0	4	
Vollage	V(DIIS		Z	5	
Culleni	AI	nps		0.500	· 100/	
Spark Plug p/p	0	1115		0.590	± 10%	
Spark Flug gan	inches	mm	015" (-Ω/± ΩΩ8")	38mm (_0/.	+ 2mm)
Cooling System	incries		.010 (0,+.000).	50mm (-0/-	+. <u>2</u> mmj
Coolant Capacity						
Engine only	dal		5.5	25.0	5.5	25.0
Engine with Radiator	gal	L	23	105	23	105
Engine Coolant Flow	gal/min	L/min	69	260	82	310
Water Pump Speed	RI	PM	18	62	22	35
Heat rejected to Cooling water at rated Load	btu/min	kcal/sec	9285	39	11071	46.5
Maximum Intake Air Temperature (IAT)	F	С	155	68	155	68
ECU IAT Warning	F	С	140	60	140	60
ECU IAT Shutdown	F	С	155	69	155	69
Maximum Coolant Friction Head External to the engine	psi	bar	5.8	0.4	5.8	0.4
Maximum Air Restriction Across a Radiator	inH2O	mmH2O	0.5	12.8	0.5	12.8
Standard Thermostat Range						
Cracking Temperature	F	С	160	71	160	71
Full Open Temperature	F	С	185	85	185	85
Maximum Allowable Pressure Cap	psi	bar	14.7	1	14.7	1
Ambient Clearance Open Genset (water) (Air-to-Boil)						
Specified	F	С	142	61	142	61
Acutal	F	С			150	66
Ambient Clearance (Oil)				n		1
Specified	F	С	142	61	142	61
Acutal	F	С			139	59
CAC Rise over Ambient (Charge)				r		
Specified	F	C	15	9	15	9
Acutal	F	C			4	2
Maximum Allowable Top Tank Temperature	F	C	230	110	230	110
ECU Warning	- F	C	220	104	220	104
ECU Shutdown	F		230	110	230	110
Fan Power	HP	KVV	5	4.0	9	6.7
Fan Diameter, including blades	in	mm	38	965	38	965
Cooling For Air Flow @ 1" Statio H20. Processing and 1255 @ redictor		rivi mA2/min	15 420	407	18 000	E10
Charge Air Cooler	CFIVI	nr s/mn	15,429	437	10,000	510
Compressor Outlet Tomperature		C	225	11/	255	105
Compressor Clow Pate	Г lb/br	ka/hr	200	750	200	120 848
Heat Rejection per CAC	btu/min	k\//	TRD	730	1/60	25.7
	5.0/11111	11.4.4	ייסיי		1700	20.1

	Rev:	A		11	.1L	1
	Ur	nits		11.	.1L	
ENGINES	Std	Metric	1500		1800	
Lubrication System						
Oil Specification			SAE 15 (.255%	W-40 Low 6 by wt), A	Ash Gas e PI CD/CF (ngine oil or higher
Idle	Dei	Por	11	0.0	11	0.0
Win Max	PSI	Bar	20.2	0.8	20.2	0.8
Rated Speed	F 51	Dai	20.5	1.4	20.5	1.4
Min	Psi	Bar	20.3	14	20.3	14
Max	Psi	Bar	70	4.8	70	4.8
Maximum Allowable Oil Temperature	F	C	250	121	250	121
Engine Oil Capacity						
Min	Qts	L	20	19	20	19
Мах	Qts	L	26.5	25	26.5	25
Oil Filter Capacity	Qts	L	3.75	3.5	3.75	3.5
ECU Oil Pressure Warning ⁵	psi			3	50	
ECU Oil Pressure Shut Down ⁵	psi			2	25	
Fuel System						
Fuel Consumption ⁶						
NG	Ft ³ /hr	kg/hr	1890	43	2115	48
LP	Ft ³ /hr	kg/hr	593	32	704	38
Maximum EPR Rated Pressure	psi	kPa	1.0	6.9	1.0	6.9
Maximum Running pressure to Electronic Pressure Regulator (EPR)	inH2O	kPa	11.0	2.7	11.0	2.7
Minimum Running pressure to EPR	inH2O	kPa	7.0	1.7	7.0	1.7
Minimum Gas Supply Pipe Size				2"	NPT	
Maximum EPR Rated Pressure	psi	kPa	1.0	6.9	1.0	6.9
Maximum Running Pressure to EPR	inH2O	kPa	11.0	2.7	11.0	2.7
Minimum Running Pressure to EPR	inH2O	kPa	7.0	1.7	7.0	1.7
Minimum LPG Supply Pipe Size ⁴				2"	VPT	

The preceeding pipe sizes are only suggestions and piping sizes may vary with temperature,

pressure, distance from supply and application of local codes. Gas must be available at adequate volume and pressure for engine at the EPR.

¹Standby and overload ratings based on ISO3046.

² All ratings are gross flywheel horsepower corrected to 77°F at an altitude of 328feet with no

cooling fan or alternator losses using heating value for NG of 1015 BTU/SCF.

³ Production tolerances in engines and installed components can account for power variations of +/- 5%. Altitude, temperature and excessive exhaust and intake restrictions should be applied to ⁴ The preceeding pipe sizes are only suggestions and piping sizes may vary with temperature,

pressure, distance from supply and application of local codes. Gas must be available at adequate volume and pressure for engine at the EPR.

⁵ >1400RPM

⁶ See NGE Technical Spec. 56300002 - Fuel Specification

STATES - DUBDA	UNITED STATES ENVIRONMENTAL PROTECTION AGENCY 2014 MODEL YEAR CERTIFICATE OF CONFORMITY WITH THE CLEAN AIR ACT OF 1990			OFFICE OF TRANSPORTATION AND AIR QUALITY ANN ARBOR, MICHIGAN 48105	
Certificate Issued To: Power Solutions International, Inc. (U.S. Manufacturer or Importer) Certificate Number: EPSIB11.1NGP-016		Effective Date: 10/30/2013Image: Complexity of the sector		r, Division Director nce Division	Issue Date: 10/30/2013 Revision Date: N/A
Manufacturer: Power Solution Engine Family: EPSIB11.1N Certificate Number: EPSIB1 Certification Type: Mobile at Fuel : Natural Gas (CNG/LNG LPG/Propane Emission Standards : HC + 1 CO (g/kW-hr) : 4.4 NMHC + NOX (g/kW- VOC (g/Hp-hr) : 0.7 CO (g/Hp-hr) : 2 Emergency Use Only : N	ons International, Inc. GP 11.1NGP-016 nd Stationary G) NOx (g/kW-hr): 2.7 -hr): 2.7NOx (g/Hp-hr): 1	SHITEDSTA	753		

Pursuant to Section 213 of the Clean Air Act (42 U.S.C. section 7547) and 40 CFR Part 1048, 40 CFR Part 60, 1065, 1068, and 60 (stationary only and combined stationary and mobile) and subject to the terms and conditions prescribed in those provisions, this certificate of conformity is hereby issued with respect to the test engines which have been found to conform to applicable requirements and which represent the following nonroad engines, by engine family, more fully described in the documentation required by 40 CFR Part 1048, 40 CFR Part 60 and produced in the stated model year.

This certificate of conformity covers only those new nonroad spark-ignition engines which conform in all material respects to the design specifications that applied to those engines described in the documentation required by 40 CFR Part 1048, 40 CFR Part 60 and which are produced during the model year stated on this certificate of the said manufacturer, as defined in 40 CFR Part 1048, 40

It is a term of this certificate that the manufacturer shall consent to all inspections described in 40 CFR 1068.20 and authorized in a warrant or court order. Failure to comply with the requirements of such a warrant or court order may lead to revocation or suspension of this certificate for reasons specified in 40 CFR Part 1048, 40 CFR Part 60. It is also a term of this certificate that this certificate may be revoked or suspended or rendered void *ab initio* for other reasons specified in 40 CFR Part 60.

This certificate does not cover large nonroad engines sold, offered for sale, or introduced, or delivered for introduction, into commerce in the U.S. prior to the effective date of the certificate.