DOCKETED					
Docket Number:	23-AFC-02				
Project Title:	Elmore North Geothermal Project (ENGP)				
TN #:	250729				
Document Title:	Elmore North Geothermal Project Air Permit Application Completeness Determination				
Description:	N/A				
Filer:	Jerry Salamy				
Organization:	Jacobs				
Submitter Role:	Applicant Consultant				
Submission Date:	6/23/2023 3:41:44 PM				
Docketed Date:	6/23/2023				



TELEPHONE: (442) 265-1800 FAX: (442) 265-1799

June 22, 2023

Elmore North Geothermal, LLC 7030 Gentry Rd. Calipatria, CA 92233

Subject:

Permit Application to Construct for the Elmore North Geothermal Project, located on APN 020-110-038 within the Salton Sea Known Geothermal Resource Area in Imperial County, California.

Dear Jon Trujillo:

The Imperial County Air Pollution Control District (ICAPCD) received a permit application to construct for the Elmore North Geothermal Project (ENGP) on April 27, 2023. After an initial review of the submitted materials, the ICAPCD deemed the application package incomplete and included a list of identified issues in a letter to the applicant dated May 30, 2023. On June 12, 2023, the applicant responded to this letter and provided additional information. Upon review of the additional information, the ICAPCD is deeming the application complete.

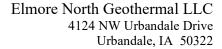
The following issues have been addressed through the applicant's response to the completeness review:

- BACT Analyses: The applicant confirmed the BACT analysis for the Elmore North facility is intended to be representative of the ENGP emission sources.
- **Confidential Appendix:** The applicant provided the requested confidential appendix which includes detailed mass balance information.
- Equipment IDs: The applicant confirmed that they have not assigned unique IDs to identify
 equipment.
- Other Facilities: The applicant confirmed that no other stationary sources are owned or operated by Elmore North Geothermal, LLC in California outside of the emissions sources included in the application.
- **Electronic Files:** The applicant provided electronic versions of the emission calculations and modeling files.
- Storage Tanks/Vessels: The applicant confirmed that tanks containing toxic air contaminants (TACs), or volatile organic compounds (VOCs) are present and provided emissions calculations and material contents for the tanks. The applicant confirmed that none of the tanks have control devices.
- **Operational Trips:** The applicant explained where in the application's emissions calculations emissions associated with operational onsite and offsite trips are represented.

Please be aware that additional information may be needed during the course of our full engineering evaluation. Your cooperation is key to the timely review of the applications. If you have any questions regarding your permit applications, please contact me at 442-265-1800.

Sincerely,

Jesus A. Ramirez APC Division Manager





June 12, 2023

Mr. Jesus Ramirez APC Division Manager Imperial County Air Pollution Control District 150 South Ninth Street El Centro, California 92243

RE: <u>Permit Application to Construct the Elmore North Geothermal Project – Imperial County Air Pollution Control District Incompleteness Determination</u>

Dear Mr. Ramirez:

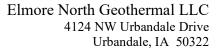
Elmore North Geothermal, LLC (the Applicant), an indirect, wholly owned subsidiary of BHE Renewables, LLC, submitted an Imperial County Air Pollution Control District (ICAPCD) Application to Construct (ATC) for the Elmore North Geothermal Project (ENGP) on April 27, 2023. This application was submitted to ICAPCD in conjunction with an Application for Certification (AFC) that was filed with the California Energy Commission (CEC) on April 18, 2023¹. In a letter dated May 30, 2023, ICAPCD identified several issues that resulted in an incompleteness determination for the application package.

The Applicant has reviewed each of the completeness issues identified by ICAPCD and provided a response to each issue in the table below, with any necessary additional data attached to this letter. As requested by ICAPCD, Elmore North Geothermal, LLC does not own or operate any current or planned emission sources other than those included in the ENGP application. Therefore, demonstration of compliance with the Clean Air Act and emission limitations is not currently applicable to Elmore North Geothermal, LLC.

Issue Topic	Identified Issue	Applicant Response
Confidential	The application is lacking in detailed	This confidential appendix is included
Appendix	mass balance information but refers to	as Attachment A of this letter and is
	a confidential appendix (not supplied)	submitted with the request of
	with this information. To help us	remaining confidential as it contains
	further track material flows, please	proprietary information crucial to
	provide a copy of this confidential	ENGP's planned operations.
	appendix.	Analytical data accompanying the
		process flow diagram shown in this
		confidential appendix are presented in
		Appendix 5.1A of the ATC.
Equipment IDs	The application did not appear to	Specific equipment IDs have not been
	assign unique equipment IDs. Please	developed for equipment at the ENGP.
	confirm that no unique IDs are	
	assigned to identify equipment.	

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¹ The CEC website for the ENGP proceeding is available at - https://www.energy.ca.gov/powerplant/steam-turbine/elmore-north-geothermal-project-engp





T	T	T
Storage Tank Vessels	We noted that the application (e.g., Section 2.3.3.4.15 Yard Tanks) refers to various chemical holding tanks but does not specify the contents of those tanks. Please provide additional information on the chemicals and materials stored in tanks and other storage vessels. Further, if any tanks contain toxic air contaminants (TACs) or volatile organic compounds (VOCs), please provide information on potential emissions and any control devices installed on tanks, if present.	The ENGP will include multiple tanks for storing various liquids, only several of which would be expected to emit VOCs based on the composition of the stored liquid. Emission calculations for these select tanks have been developed and included in Attachment B of this letter. None of the tanks at the ENGP will have emission control devices beyond best business practices.
Other Facilities	Please provide confirmation that all other stationary sources owned or operated by Elmore North Geothermal in California which are subject to emissions limitations, if any, are either in compliance or on a schedule for compliance with all applicable emissions limitations under the Clean Air Act (CAA) per ICAPCD Rule 207(C)(5)(c).	Elmore North Geothermal, LLC does not own or operate any current or planned emission sources other than those included in the ENGP application.
Operational Trips	We did not locate information on operational trips, such as worker, vendor, or haul trips associated with facility operations. Please provide this information as applicable to the facility's normal operation.	Emissions associated with operational onsite support vehicles and operational worker and haul truck trips are included in Appendix 5.1A in the "O&M Emission Calculations" tables of the ENGP ATC as "Onsite Pickup Truck", "Off-Site Pickup Trucks", and "Off-Site Haul Trucks", respectively. Additionally, the Off-Site Haul Truck category is inclusive of operational vendor and haul trips. The miles traveled associated with these trips has been increased to more closely align with vehicle trip data presented in Section 5.12.2.1.2 of the AFC. These emission increases do not change Project permitting and significance conclusions. Calculations are included in the electronic files submitted with this letter.
Electronic Files	To facilitate our review and validate the methodology and emissions	Electronic copies of the air quality and public health modeling files and



Elmore North Geothermal LLC 4124 NW Urbandale Drive Urbandale, IA 50322

Jon Trujillo General Manager, Geothermal Development

calculations, please provide electronic	emission calculations from Appendices
versions of the emission calculations	5.1A and 5.1D of the ENGP ATC will
and modeling files.	be provided via electronic file transfer
	protocol (ftp) by Jacobs Engineering.

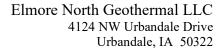
The Applicant looks forward to working with the ICAPCD during its review of these ATC materials and would like to request confirmation that the responses and additional data provided with this letter are adequate for ICAPCD to issue a completeness determination no later than June 26, 2023, thereby allowing the Applicant to fully respond to the CEC's data adequacy review. Please contact Anoop Sukumaran at (760) 348-4275 (email address: Anoop.Sukumaran@calenergy.com) or Andrew Dunavent at (707) 372-7810 (email address: Andrew.Dunavent@jacobs.com) if you have any questions or if you need additional information.

Sincerely,

Anoop Digitally signed by Anoop Sukumaran Date: 2023.06.12 09:09:23 -07'00'

Anoop Sukumaran – Director, Environmental Services on behalf of Jon Trujillo - General Manager, Geothermal Development

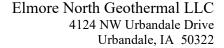
cc: Jon Trujillo/BHE Renewables Linda Poksay/SWCA Andrew Dunavent/Jacobs Jerry Salamy/Jacobs





Attachment A: Confidential Appendix

(Note: See Transaction Number 249797)





Attachment B: Tank Emission Calculations

Elmore North Geothermal Project ICAPCD Completeness Determination Response ENGP Tank Emission Calculations June 2023

Emission Source	Tank Size (gallons)	Annual Throughput (gal/year)	VOC Emission Factor (lbs/1000 gal)	Annual VOC Emissions (TPY)
3.49 MW Diesel Emergency Generator Tank ^a	<10,000	10,950	2.80E-03	1.53E-05
3.49 MW Diesel Emergency Generator Tank ^a	<10,000	10,950	2.80E-03	1.53E-05
3.49 MW Diesel Emergency Generator Tank ^a	<10,000	10,950	2.80E-03	1.53E-05
3.49 MW Diesel Emergency Generator Tank ^a	<10,000	10,950	2.80E-03	1.53E-05
2.7 MW Diesel Emergency Generator Tank ^a	<10,000	8,750	2.80E-03	1.23E-05
Diesel Fire Pump Tank ^a	<10,000	300	2.80E-03	4.20E-07
Used Oil Tank ^b	<10,000	4,000	9.21E-01	1.84E-03
Turbine (TG) Lube Oil Console ^b	<10,000	16,380	9.21E-01	7.54E-03
Above Ground Diesel Fuel Tank for Equipment ^a	10,000	52,850	2.80E-03	7.40E-05
Norms Inhibitor Tank ^c	<10,000	110,000	9.21E-01	5.07E-02

^a Emission factor based upon South Coast Air Quality Management District's *Supplemental Instructions for Liquid Organic Storage Tanks* (October 2019) for service station diesel above ground tanks. Tank throughputs based on each engine's hourly fuel throughput and annual hours of operation. The above ground diesel fuel tank is used to resupply the individual diesel engine tanks.

^b Emission factor based upon South Coast Air Quality Management District's *Supplemental Instructions for Liquid Organic Storage Tanks* (October 2019) for service station gasoline above ground tanks. This emission factor is conservative as gasoline is more volatile than the Project tank constituent. The used oil tank and turbine lube reservoir throughput assume one full tank volume every 90 days.

^c Emission factor based upon South Coast Air Quality Management District's *Supplemental Instructions for Liquid Organic Storage Tanks* (October 2019) for service station gasoline above ground tanks. This emission factor is conservative as gasoline is more volatile than the Project tank constituent. Tank throughput assumes up to 13 deliveries per year.



TELEPHONE: (442) 265-1800 FAX: (442) 265-1799

May 30, 2023

Elmore North Geothermal, LLC 7030 Gentry Rd. Calipatria, CA 92233

Subject:

Permit Application to Construct for the Elmore North Geothermal Project, located on APN 020-110-038 within the Salton Sea Known Geothermal Resource Area (KGRA) in Imperial County, California.

Dear Jon Trujillo:

The Imperial County Air Pollution Control District (ICAPCD) received a permit application to construct for the Elmore North Geothermal Project (ENGP) on April 27, 2023. As a first step in our review process, we have briefly evaluated the application to determine whether it is complete and ready for review. Based on our initial review of the submitted materials it has been determined that the application package is incomplete.

The following issues have been identified during the completeness review:

- **Confidential Appendix:** The application is lacking in detailed mass balance information but refers to a confidential appendix (not supplied) with this information. To help us further track material flows, please provide a copy of this confidential appendix.
- **Equipment IDs:** The application did not appear to assign unique equipment IDs. Please confirm that no unique IDs are assigned to identify equipment.
- **Storage Tanks/Vessels:** We noted that the application (e.g., Section 2.3.3.6.15 Yard Tanks) refers to various chemical holding tanks but does not specify the contents of those tanks. Please provide additional information on the chemicals and materials stored in tanks and other storage vessels. Further, if any tanks contain toxic air contaminants (TACs) or volatile organic compounds (VOCs), please provide information on potential emissions and any control devices installed on tanks, if present.
- Other Facilities: Please provide confirmation that all other stationary sources owned or operated by Elmore North Geothermal in California which are subject to emissions limitations, if any, are either in compliance or on a schedule for compliance with all applicable emissions limitations under the Clean Air Act (CAA) per ICAPCD Rule 207(C)(5)(c).
- **Operational Trips:** We did not locate information on operational trips, such as worker, vendor, or haul trips associated with facility operations. Please provide this information as applicable to the facility's normal operation.

In addition to the items identified above required to deem the application complete, we request the following:

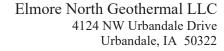
• **Electronic Files:** To facilitate our review and validate the methodology and emissions calculations, please provide electronic versions of the emission calculations and modeling files.

Please be aware that additional information may be needed during the course of our full engineering evaluation. Your cooperation is key to the timely review of the application. If you have any questions regarding your permit application, please contact me at 442-265-1800.

Sincerely,

Jesus A. Ramirez
APC Division Manager

ICAPCD





April 24, 2023

Mr. Jesus Ramirez APC Division Manager Imperial County Air Pollution Control District 150 South Ninth Street El Centro, California 92243

RE: <u>Elmore North Geothermal, LLC Imperial County Air Pollution Control District Permit Application to Construct the Elmore North Geothermal Project</u>

Dear Mr. Ramirez:

Elmore North Geothermal, LLC (the Applicant), an indirect, wholly owned subsidiary of BHE Renewables, LLC (BHER), is submitting five copies of the application materials for an Imperial County Air Pollution Control District (ICAPCD) Authority to Construct (ATC) for the Elmore North Geothermal Project (ENGP). This application is being submitted to ICAPCD in conjunction with an Application for Certification (AFC) that was submitted to the California Energy Commission (CEC) on April 18, 2023¹.

The ENGP will provide an efficient method for meeting power needs in California by providing firm, clean power from a renewable geothermal source. The Project design applies known equipment, operational lessons learned, and corrosion-resistant materials for a planned operational life of 40 years. ENGP's maximum continuous rating is approximately 157 megawatts (MW) gross output, with an expected net output of approximately 140 MW.

The ENGP consists of a proposed geothermal Resource Production Facility, a geothermal-powered Power Generation Facility, and associated facilities. The RPF includes geothermal production wells, pipelines, fluid and steam handling facilities, a solid handling system, a Class II surface impoundment, a service water pond, a retention basin, process fluid injection pumps, power distribution centers, and injection wells. The RPF also includes steam-polishing equipment designed to provide turbine-quality steam to the PGF. The PGF electrical power is generated using a triple pressure condensing turbine/generator set with a surface condenser, a non-condensable gas (NCG) removal system, an NCG sparger abatement system (located within the cooling tower basin), condensate bio-oxidation abatement systems adjacent to the cooling tower, a heat rejection system cooling tower, and a generator step-up transformer. Heat rejection for the steam turbines will be accomplished with a mechanical draft counterflow wet cooling tower. The PGF also includes a 230 kilovolt substation, power distribution centers, and six emergency standby diesel-fueled engines (five generators and one fire water pump). The project also includes a control building, a service water pond, and other ancillary facilities.

The contents of this application package include the required ICAPCD forms and the following sections from the AFC:

- Section 1.0: Executive Summary
- Section 2.0: Project Description

 $^{1}\ The\ CEC\ website\ for\ the\ project\ -\ \underline{https://www.energy.ca.gov/powerplant/steam-turbine/elmore-north-geothermal-project-engp}$



Elmore North Geothermal LLC 4124 NW Urbandale Drive Urbandale, IA 50322

Jon Trujillo General Manager, Geothermal Development

- Section 5.1: Air Quality (includes Appendices 5.1A through 5.1E)
- Section 5.9: Public Health (includes Appendices 5.9A through 5.9B)

As described in Sections 5.1 and 5.9 of the AFC, the Applicant conducted a health risk assessment (HRA) and a criteria pollutant air quality impact analysis consistent with the current practice of estimating emissions from the cooling towers, geothermal brine systems, and diesel combustion engines and associated modeling guidelines. Emissions of criteria pollutants, air toxics, and greenhouse gases associated with operation of the ENGP were estimated using emission factors approved by the California Air Resources Board and the U.S. Environmental Protection Agency or representative analytical data from other geothermal power plants in the area, as detailed in Section 5.1 and Appendices 5.1A and 5.1B of the AFC. Section 5.9 of the AFC also summarizes the air toxics emissions used for the HRA. The results of these analyses indicate that ENGP would result in less than significant impacts with respect to air quality and public health. The ENGP is also not expected to require any offsets or emission reduction credits.

Emissions to the air due to ENGP operation will be minimized through the use of high-efficiency drift eliminators and a combination of hydrogen sulfide sparging and bio-oxidation box, which are considered best available control technology for the ENGP's cooling towers and geothermal processes, respectively. The diesel-fired emergency generators will be Tier 4 certified engines, meaning diesel particulate matter and criteria pollutant emissions will be minimized through the use of Tier 4 controls, including selective catalytic reduction, diesel particulate filtration, and a diesel oxidation catalyst.

Attached to this application is a check in the amount of \$213.00 for the requisite application filing fee.

The Applicant looks forward to working with the ICAPCD during the review of these application materials and the issuance of the ICAPCD ATC. Please contact Anoop Sukumaran at (760) 348-4275 (email address: Anoop.Sukumaran@calenergy.com) or Andrew Dunavent at (707) 372-7810 (email address: Andrew.Dunavent@jacobs.com) if you have any questions or if you need additional information. Sincerely,

Jon Truiillo

General Manager, Geothermal Development



AIR POLLUTION CONTROL DISTRICT

150 S 9th Street El Centro, CA 92243 P. 442.265.1800 F. 442.265.1799

APPLICATION FOR	Authority to Co	Construction	Permit to Operate Transfer of Ownership	Emission Credit Banking Change of Permit Conditions
	Amendment		Relocation	Equipment Modification or Addition
			Name change	
PERMIT NUMBER (if an	ıy)			
1. Name of Applicant			2. Responsible Person	
Elmore North Geoth	nermal, LLC		Jon Trujillo	
3. Mailing Address			4. Title	1.D. informant
7030 Gentry Road	104040 17		GM, Geotherma	al Development Cell Phone
5. City Calipatria	State Z	Zip Code 92233	6. Phone (760) 604-0045	1
7. Type of Organization (Corp.,	, Government, Indiv	ridual, etc.)	_ , -	
Corporation				
8. Brief Description of Project/A	•	Dower	Concretion Excilit	
Geothermal Resource 9. Location of Project/Activity	Se Production	and Power	Generation racing	У
APN 020-100-038 Bc	ounded by Sin	ıclair Road,	Cox Road, and Ga	rst Road
10. Property Owner			,	
BHE Renewables, L				
11. Person in Charge at Locatio	n n	12	Title	13. Phone Number
Anoop Sukumaran			Director Anticipated Life of Draine	(760) 348-4275
14. Anticipated Date of Construction Apr. 01 2024		15	Anticipated Life of Projec	
Start Apr 01, 2024			Completion Aug 31, 2	
16. Estimated Emissions			ncontrolled lbs/day	Controlled lbs/day
For largest single polluta	ant		e Attachments.	See Attachments.
Total for all emissions			e Attachments.	See Attachments.
	tification was f	filed with the		y Commission on 04/18/23.
18. Plot plans, flow charts, of19. The information previous		nent description a	•	lired by "List and Critieria" attached. hanges have been made except as
shown on attachement.	ally Submitted with _	1477.4	15 Still Valid and no c.	laliyes have been made except as
20. Request for confidential	_	∌d.		
21. Total pages attached	809			
that the operation of the pla and Regulations."	ant and/or equipr		_	tion Control District and I certify ation will comply with said Rules
4/24/202 3 Date	3	Si	gnature of Responsible Per	******
OFFICE USE ONLY All pays	ments must be nation fee of \$213.0	nade by Chec 0 is due upon	k or Money Order. C submission of an applic	Cash will not be accepted. An cation for 2023. Thank you.
Date application submi			Amount paid:	•
Received by:			Receipt Numb	
Staff Comments:				

IMPERIAL COUNTY AIR POLLUTION CONTROL DISTRICT



INTERNAL COMBUSTION ENGINE SUMMARY FORM

Page 1 of 2

NOTICE

Section A	
Company/Agency	Phone Number
Elmore North Geothermal, LLC	760-348-4275
Equipment Location	Existing Permit # (if any)
Elmore North Geothermal Project	
Engine Manufacturer	Model Number
Clarke	JU6H-UFADP0
Engine Serial Number:	EPA/C.A.R.B. 12-character Engine Family Name
TBD	NJDXL13.5103
Manufacturer Date:	Is unit equipped with a non-resettable hour meter?
TBD	⊠ Yes □ No
Utilization of Engine	
Electrical GeneratorKw 🗵 Fire P	·
Compressor Drivercfm	Other
Pump Drivergpm Renta	
Fuel Information Air to	Fuel Ratio
☐ Natural Gas ☐ Gasoline ☐ LPG	Other
☐ Digester Gas ☐ Landfill Gas ☒ Diese	·l Oil
Engine Size (Manufacturers Rating) BHP@ 316	RPM 2400
Operating Schedule	
1 Hr/Days 1	Days/Week
50 Weeks/Year Maximum Ope	erating Hours <u>Varies</u> Hrs/Days
Emergency Only (indicate hours operated for testi	ng & maintenance)
Section B	
Is this unit designed to be moved or carried from one	· · · · · · · · · · · · · · · · · · ·
☐ Yes (Portable) ☑ No (Stationar	y)

IMPERIAL COUNTY AIR POLLUTION CONTROL DISTRICT



INTERNAL COMBUSTION ENGINE SUMMARY FORM

Page 2 of 2 **Section C Engine Description** Number of Cylinders: 6 Two Cycle or X Lean Burn Rich Burn or ▼ Turbocharged ☐ Turbocharged/Aftercooled ☐ Naturally Aspirated Sulfer Content of Disgester Gas, Landfill Gas or Diesel Maximum Rated Fuel Consumption (Gas/Hr, Cu. Ft/Hr) 6 gal/hr Average Load Percentage % 100 **Energy Recovery From Exhaust** □ Yes No If yes, please explain **Emission Control Device** X Yes □ No If yes, please explain **OEM Manufacturer Certification Emission Data: EMISSION BEFORE CONTROL EMISSION AFTER CONTROL POLLUTANT Gr/BHP PPM Lb/Day Gr/BHP PPM Lb/Day** NMHC or TOC 0.07 0.07 NOx 2.56 2.56 CO 0.6 0.6 PM10 0.08 0.08 SOx < 0.00001 < 0.00001 ▼ Manufacturer Data ☐ Source Test Data Section D **Stationary Engines Only** Stack Dimensions Height Above Grade 15 Ft Height Above Building Ft Exhaust Cross Section Diameter Width Length 6 In Direction of Stack Outlet ∇ertical Horizontal Exhaust Temperature **737** Other End of the Stack Capped Open ▼ Flapper Valve Stack Serves ☑ Only this equipment **Exhaust Flow CFM** 1995 ☐ Other equipment also **Total Flow Rate CFM CFM** Exhaust Pressure Receptor Information. A receptor is a residence or business whose occupants could be exposed to toxic emissions from your facility. Nearest offsite receptor Agricultural Land Distance to nearest offsite receptor feet Distance to nearest school grounds >10,000 feet 4/24/2023 **Andrew Dunavent** Name of preparer **Date**

IMPERIAL COUNTY AIR POLLUTION CONTROL DISTRICT



INTERNAL COMBUSTION ENGINE SUMMARY FORM

Page 1 of 2

NOTICE

Section A	
Company/Agency	Phone Number
Elmore North Geothermal, LLC	760-348-4275
Equipment Location	Existing Permit # (if any)
Elmore North Geothermal Project	
Engine Manufacturer	Model Number
Kohler	KD62V12
Engine Serial Number:	EPA/C.A.R.B. 12-character Engine Family Name
TBD	TBD
Manufacturer Date:	Is unit equipped with a non-resettable hour meter?
TBD	⊠ Yes □ No
Utilization of Engine	_
☑ Electrical Generator 2700 Kw ☐ Fire Pump	
Compressor Drivercfm	Other
Pump Drivergpm Rental	
Fuel Information Air to Fue	Ratio
☐ Natural Gas ☐ Gasoline ☐ LPG	Other
☐ Digester Gas ☐ Landfill Gas ☒ Diesel Oi	
Engine Size (Manufacturers Rating) BHP@ 3621	RPM 1800
Operating Schedule	
1 Hr/Days 1	Days/Week
50 Weeks/Year Maximum Operati	ng Hours <u>Varies</u> Hrs/Days
Emergency Only (indicate hours operated for testing	& maintenance)
Section B	
Is this unit designed to be moved or carried from one local	ation to another, or does it have wheels, skids,
☐ Yes (Portable) ☐ No (Stationary)	

IMPERIAL COUNTY AIR POLLUTION CONTROL DISTRICT



INTERNAL COMBUSTION ENGINE SUMMARY FORM

Page 2 of 2 **Section C Engine Description** Number of Cylinders: 12 Two Cycle X Four Cycle or X Lean Burn Rich Burn or ▼ Turbocharged ☐ Turbocharged/Aftercooled ☐ Naturally Aspirated Sulfer Content of Disgester Gas, Landfill Gas or Diesel Maximum Rated Fuel Consumption (Gas/Hr, Cu. Ft/Hr) 175 gal/hr Average Load Percentage % 100 **Energy Recovery From Exhaust** □ Yes No If yes, please explain **Emission Control Device** X Yes □ No If yes, please explain **Tier 4 Certified Unit with SCR, Diesel Oxidation Catalyst and Diesel Particulate Filter Emission Data: EMISSION BEFORE CONTROL EMISSION AFTER CONTROL POLLUTANT Gr/BHP PPM Lb/Day Gr/BHP PPM Lb/Day** NMHC or TOC N/A 0.14 NOx N/A 0.5 CO N/A 2.61 PM10 0.02 N/A SOx N/A < 0.00001 Manufacturer Data ☐ Source Test Data Section D **Stationary Engines Only** Stack Dimensions Height Above Grade 20.5 Ft Height Above Building Ft Exhaust Cross Section Diameter Width Length 12.6 In Direction of Stack Outlet ∇ertical Horizontal Exhaust Temperature 914 Other End of the Stack Capped Open ▼ Flapper Valve Stack Serves ☑ Only this equipment **Exhaust Flow CFM** 19467 ☐ Other equipment also **Total Flow Rate CFM CFM** Exhaust Pressure Receptor Information. A receptor is a residence or business whose occupants could be exposed to toxic emissions from your facility. Nearest offsite receptor Agricultural Land Distance to nearest offsite receptor feet Distance to nearest school grounds >10,000 feet 4/24/2023 **Andrew Dunavent** Name of preparer **Date**

IMPERIAL COUNTY AIR POLLUTION CONTROL DISTRICT



INTERNAL COMBUSTION ENGINE SUMMARY FORM

Page 1 of 2

NOTICE

Section A					
Company/Agency	Phone Number				
Elmore North Geothermal, LLC			760-348-4275		
Equipment Location	•		Existing Permit	# (if any)	
Elmore North Geotherma	l Project				
Engine Manufacturer			Model Number		
Kohler			KD83V		
Engine Serial Number:			EPA/C.A.R.B. 1	2-character	Engine Family Name
TBD			TBD		
Manufacturer Date:					resettable hour meter?
TBD			X Yes	□ No	
Utilization of Engine				_	
	490 Kw	☐ Fire Pump		Portable	
Compressor Driver	cfm	_		☐ Other	
Pump Driver	gpm	Rental			
Fuel Information		Air to Fuel	Ratio		
☐ Natural Gas ☐ G	Gasoline	☐ LPG		☐ Other	
☐ Digester Gas ☐ L	andfill Gas	▼ Diesel Oil		'	
Engine Size (Manufacture	ers Rating) B	HP@ 4680	RPM	1800	
Operating Schedule					
<u>1</u>	-Ir/Days <u>1</u>		_Days/Week		
50 V	Weeks/Year Ma	aximum Operating	g Hours <u>Varies</u>	5	Hrs/Days
⊠ Emergency Only (indi	cate hours opera	ated for testing &	maintenance)		
Section B					
Is this unit designed to be	moved or carrie	ed from one locat	ion to another,	or does it h	ave wheels, skids,
☐ Yes (Portable)	XN	lo (Stationary)			

IMPERIAL COUNTY AIR POLLUTION CONTROL DISTRICT



INTERNAL COMBUSTION ENGINE SUMMARY FORM

Page 2 of 2 **Section C Engine Description** Number of Cylinders: 16 Two Cycle X Four Cycle or X Lean Burn Rich Burn or ▼ Turbocharged ☐ Turbocharged/Aftercooled ☐ Naturally Aspirated Sulfer Content of Disgester Gas, Landfill Gas or Diesel Maximum Rated Fuel Consumption (Gas/Hr, Cu. Ft/Hr) 219 gal/hr Average Load Percentage % 100 **Energy Recovery From Exhaust** □ Yes No If yes, please explain **Emission Control Device** X Yes □ No If yes, please explain **Tier 4 Certified Unit with SCR, Diesel Oxidation Catalyst and Diesel Particulate Filter Emission Data: EMISSION BEFORE CONTROL EMISSION AFTER CONTROL POLLUTANT Gr/BHP PPM Lb/Day Gr/BHP PPM Lb/Day** NMHC or TOC N/A 0.14 NOx N/A 0.5 CO N/A 2.61 PM10 0.02 N/A SOx N/A < 0.00001 Manufacturer Data ☐ Source Test Data Section D **Stationary Engines Only** Stack Dimensions Height Above Grade 20.5 Ft Height Above Building Ft Exhaust Cross Section Diameter Width Length 12.6 In Direction of Stack Outlet ∇ertical Horizontal Exhaust Temperature 887 Other End of the Stack Open Capped ▼ Flapper Valve Stack Serves ☑ Only this equipment **Exhaust Flow CFM** 23700 ☐ Other equipment also Total Flow Rate **CFM CFM** Exhaust Pressure Receptor Information. A receptor is a residence or business whose occupants could be exposed to toxic emissions from your facility. Nearest offsite receptor **Elmore Geothermal Power Plant** Distance to nearest offsite receptor feet Distance to nearest school grounds >10,000 feet 4/24/2023 **Andrew Dunavent** Name of preparer **Date**

IMPERIAL COUNTY AIR POLLUTION CONTROL DISTRICT



INTERNAL COMBUSTION ENGINE SUMMARY FORM

Page 1 of 2

NOTICE

Section A					
Company/Agency	Phone Number				
Elmore North Geothermal, LLC			760-348-4275		
Equipment Location	•		Existing Permit	# (if any)	
Elmore North Geotherma	l Project				
Engine Manufacturer			Model Number		
Kohler			KD83V		
Engine Serial Number:			EPA/C.A.R.B. 1	2-character	Engine Family Name
TBD			TBD		
Manufacturer Date:					resettable hour meter?
TBD			X Yes	□ No	
Utilization of Engine				_	
	490 Kw	☐ Fire Pump		Portable	
Compressor Driver	cfm	_		☐ Other	
Pump Driver	gpm	Rental			
Fuel Information		Air to Fuel	Ratio		
☐ Natural Gas ☐ G	Gasoline	☐ LPG		☐ Other	
☐ Digester Gas ☐ L	andfill Gas	▼ Diesel Oil		'	
Engine Size (Manufacture	ers Rating) B	HP@ 4680	RPM	1800	
Operating Schedule					
<u>1</u>	-Ir/Days <u>1</u>		_Days/Week		
50 V	Weeks/Year Ma	aximum Operating	g Hours <u>Varies</u>	5	Hrs/Days
⊠ Emergency Only (indi	cate hours opera	ated for testing &	maintenance)		
Section B					
Is this unit designed to be	moved or carrie	ed from one locat	ion to another,	or does it h	ave wheels, skids,
☐ Yes (Portable)	XN	lo (Stationary)			

IMPERIAL COUNTY AIR POLLUTION CONTROL DISTRICT



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Manufacturer Date:					resettable hour meter?
TBD			X Yes	□ No	
Utilization of Engine				_	
	490 Kw	☐ Fire Pump		Portable	
Compressor Driver	cfm	_		☐ Other	
Pump Driver	gpm	Rental			
Fuel Information		Air to Fuel	Ratio		
☐ Natural Gas ☐ G	Gasoline	☐ LPG		☐ Other	
☐ Digester Gas ☐ L	andfill Gas	▼ Diesel Oil		'	
Engine Size (Manufacture	ers Rating) B	HP@ 4680	RPM	1800	
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