DOCKETED	
Docket Number:	81-AFC-01C
Project Title:	Compliance - Application for Certification of the Occidential Plant # 1
TN #:	233639
Document Title:	Calistoga (Unit 19) Petition for Modification for Installation of a Standby Pump for the Cooling Tower Wet-Down System
Description:	N/A
Filer:	Deric Wittenborn
Organization:	Ellison Schneider Harris & Donlan LLP
Submitter Role:	Applicant
Submission Date:	6/24/2020 3:51:43 PM
Docketed Date:	6/24/2020

ELLISON SCHNEIDER HARRIS DONLAN

June 24, 2020

Mr. Eric Veerkamp
Compliance Project Manager
Siting, Transmission and
Environmental Protection (STEP) Division
California Energy Commission
1516 Ninth Street, MS-2000
Sacramento, CA 95814
E-Mail: Eric.Veerkamp@energy.ca.gov

RE: Calistoga Geothermal Power Plant (Unit 19) (81-AFC-01C)
Petition for Modification: Installation of a Standby Pump for the Cooling Tower Wet-Down System

Dear Mr. Veerkamp:

On behalf of the Geysers Power Company, LLC ("Project Owner"), attached is a Petition for Modification ("Petition") for the Calistoga Geothermal Project ("Calistoga").

If you have any questions, please contact Barbara McBride at Barbara.McBride@calpine.com.

Sincerely,

/s/

Jeffery D. Harris
Chase K. Maxwell
Ellison Schneider Harris & Donlan LLP
2600 Capitol Avenue, Suite 400
Sacramento, CA 95816
Tel: (916) 447-2166
Email: jdh@eslawfirm.com
ckm@eslawfirm.com

Calistoga Geothermal Power Plant
Unit 19

(81-AFC-01C)

Petition for Modification for the Installation of a Standby Pump for the Cooling Tower Wet-Down System

Submitted by

Geysers Power Company, LLC.

June 24, 2020

CALISTOGA GEOTHERMAL POWER PLANT (UNIT 19)

81-AFC-01C

PETITION FOR MODIFICATION

Pursuant to Section 1769 of the California Energy Commission's ("CEC's") Siting Regulations, Geysers Power Company, LLC ("Project Owner") hereby submits this *Petition for Modification for the Installation of a Standby Pump for the Cooling Tower Wet-Down System* (the "Petition") for the Calistoga Geothermal Power Plant, Unit 19 ("Project").

The Petition requests approval to install a permanent standby diesel engine-powered pump for the cooling tower wet-down system. The Commission recently approved a similar amendment allowing for installation of a permanent standby diesel engine-powered pump for the cooling tower wet-down system at the Lake View Geothermal Power Plant Unit 17 (79-AFC-1C; TN # 231785), and an amendment for the installation of a permanent standby diesel engine-powered pump for the cooling tower wet-down system at the Sonoma Geothermal Project Unit 3 (80-AFC-1C; TN # 232608) is pending.

As set forth below, the proposed modifications will not have a significant effect on the environment and the Project will continue to comply with applicable laws, ordinances, regulations, or standards ("LORS").

I. Section 1769(a)(1)(A): Description of the proposed change, including new language for affected conditions of certification.

The Project Owner is in the process of recommissioning the fire system at the Project, which includes repair and like-kind replacement of certain components of the existing system, and, in some cases, will require modifications to the existing fire system. As part of the recommissioning process, the Project Owner is proposing installation of a permanent emergency standby pump for the cooling tower wet-down system.

The permanent stationary emergency standby wet-down pump proposed for installation is a skid-mounted diesel engine driven pump that includes auxiliaries, including the pump control system. The diesel engine, pump, dual-walled diesel fuel tank, pump controller, and batteries are all contained on a single skid. Fuel lines will not extend off of the skid. Piping and flanges will be provided by the pump supplier to the edge of the skid to allow for connections to off-skid piping that will be routed above ground to the cooling tower wetting system header. The foundations for the skids are being installed within the power plant yards, and will be approximately three feet deep. Excavation for the foundations will be in existing asphalt-covered, previously disturbed ground. Other than the skid foundation and pipe support foundations that are being installed in similar ground conditions as the pump foundations, no other trenching is anticipated for this project.

The water supply will be from the cooling tower basin and the pump outlet is through the wetting system header. It will be mounted and wired/connected to the engine at the factory. In the event of an impending wildfire and back-up power loss to the wetting system, the standby pump will start automatically.

The Lake County Air Quality Management District ("LCAQMD") has issued the Authority to Construct ("ATC") for the standby pump, which is provided in Attachment A. The ATC limits total operating hours used for testing and maintenance of the standby pump to no more than 50 hours per 12-month period. This does not include hours that the pump may be used during an emergency. Pursuant to the ATC, the Project Owner will maintain a log recording the total engine operating hours, initial start-up hours, and maintenance hours to show compliance with the ATC's maintenance plan and New Source Performance Standard requirements. The standby pump will be a Tier 3 diesel drive engine. The Commission's Air Quality Conditions of Certification should be revised as necessary to ensure conformity with the attached ATC.

II. Section 1769(a)(1)(B): Discussion of the necessity for the change and explanation of why the change should be permitted.

Wet-down systems are designed to prevent the ignition of cooling tower surfaces, and are demonstrated to be successful in preventing the ignition of cooling towers in geothermal facilities during outages. In the case of the Project, the wet-down system provides increased protection from wildland fire embers. The permanent emergency standby pump will be used as needed in emergency situations, such as a facility evacuation necessitated by a threat from a wildland fire. In such a case, the emergency standby wet-down pump will provide continued wet-down of the cooling tower for approximately 24 hours or longer.

As part of the Project Owner's review and recommissioning of its fire prevention systems, the wetting system is now capable of not only being activated manually at the plant site, but also from the plant control room or from the Project Owner's central operations facility at the Geysers Administration Center. When the wetting system is activated, the electric submersible pump runs. If the Project loses both plant power and backup power, then the emergency standby pump will be set to start automatically. Automatic start of the standby pump enhances Project safety as it allows onsite personnel to evacuate more quickly, or where personnel are not onsite, avoids the need for plant personnel to travel to the site during an emergency in order to manually start the standby pump. Once running, the systems must be turned off manually at each plant site to ensure operations, and to prevent inadvertent stoppage, during a time of need.

III. Section 1769(a)(1)(C): A description of any new information or change in circumstances that necessitated the change.

The Project was designed and constructed in the early 1980s. The Project Owner has undertaken a review and recommissioning of the Project's fire protection and prevention systems for the betterment of the Project. Installation of the permanent emergency standby pump is part of the review and recommissioning of the Project's fire prevention system and will provide continued wet-down of the cooling tower in the event of an approaching wildland fire.

IV. Section 1769(a)(1)(D): An analysis of the effects that the proposed change to the project may have on the environment and proposed measures to mitigate any significant environmental effects.

There is no possibility that the modifications described above will result in adverse environmental impacts. These are minor modifications to an existing facility, and do not require any new ground disturbance outside of the existing Project site, do not change the Project footprint, and do not significantly alter the appearance of the facility. The modifications will not impact existing levels of operational noise.

Potential construction emissions from the proposed modification will be minimal and short term. Therefore, no significant construction emissions are expected from the proposed modification.

Potential operational impacts have been evaluated by the LCAQMD and are based on estimated emissions from the diesel fire pump, using manufacturer's data for the Cummins Model CFP7E-F40, and estimated testing and actual use of approximately 50 hours per year. The operational emission limits and requirements are provided in the attached ATC.

V. Section 1769(a)(1)(E): An analysis of how the proposed change would affect the project's compliance with applicable laws, ordinances, regulations, and standards.

The proposed modifications will not impact the Project's ability to comply with all applicable LORS.

VI. Section 1769(a)(1)(F): A discussion of how the proposed change would affect the public.

The proposed modifications will not adversely affect the public. There will be no significant effects and the project will comply with applicable LORS. The facilities affected are all within the site.

VII. Section 1769(a)(1)(G): A list of current assessor's parcel numbers and owners' names and addresses for all parcels within 500 feet of any affected project linears and 1,000 feet of the project site.

Consistent with privacy considerations, a list of current assessor's parcel numbers and owners' names and addresses for all parcels within 500 feet of the project site will be provided directly to the Compliance Project Manager.

VIII. Section 1769(a)(1)(H): A discussion of the potential effect of the proposed change on nearby property owners, residents, and the public.

The proposed modifications will have no potentially significant environmental effects and will be in compliance with all applicable LORS. Therefore, the proposed modifications will have no adverse impacts on property owners, the public, or any parties in the application proceeding.

IX. Section 1769(a)(1)(I): A discussion of any exemptions from the California Environmental Quality Act, commencing with section 21000 of the Public Resources Code, that the project owner believes may apply to approval of the proposed change.

The proposed modifications are categorically exempt from the California Environmental Quality Act ("CEQA") pursuant to Title 14 of the California Code of Regulations as activities that constitute a minor alteration of the existing Project that involves no expansion of an existing use. (14 C.C.R. § 15301.)

ATTACHMENT A

Lake County Air Quality Management District
Authority to Construct 2020-05

LAKE COUNTY AIR QUALITY MANAGEMENT DISTRICT
2617 South Main Street
Lakeport, CA 95453
Phone (707) 263-7000
Fax (707) 263-0421

Douglas G. Gearhart
Air Pollution Control Officer
dougg@lcaqmd.net

Mr. James Kluesener, Vice President
Attn: Brian Berndt, ES Manager
Geysers Power Company, LLC
c/o Calpine Corporation
10350 Socrates Mine Road
Middletown, CA 95461

May 11, 2020

Subject: A/C 2020-05 Permit Issuance. Calistoga Geothermal Power Plant - Diesel Engine Powered Emergency Standby Cooling Tower Wet-Down Pump.

Dear Mr. Kluesener:

Please find the enclosed Authority to Construct permit for the facility project as specified. I have attached a copy of the permitting assessment for your reference.

Be advised, District Rule 620 requires you post the permit or a facsimile at the site to be available for District staff inspection. If you have questions, please feel free to contact the District at (707) 263-7000.

Sincerely,

Elizabeth Knight, AQPC

Atts: (2)
Permitting Assessment
Permit Card

AUTHORITY TO CONSTRUCT

Permit # A/C 2020-05

Lake County Air Quality Management District
2617 S. Main Street, Lakeport, CA 95453 (707) 263-7000, Fax (707) 263-0421

By: Douglas G. Gearhart, APCO

Type of Issuance: Original *Issuance Date:* 5/11/2020 *Valid through:* 10/31/2020 *Category:* II

Operations under this permit must be conducted in compliance with all specifications and data included with the application under which this permit was issued. Equipment must be properly maintained and kept in good condition at all times. Post this permit or a facsimile (with conditions) in a conspicuous location on or near the equipment.

Contact:	Mr. James Kluesener, Vice President
Owner:	Geysers Power Company, LLC
Mailing Address:	c/o Calpine Corporation 10350 Socrates Mine Road Middletown, CA 95461

Facility:	Calistoga Geothermal Power Plant
Location:	8950 Socrates Mine Road Middletown, CA 95461

Name and Equipment Description: **Diesel Engine Powered Emergency Standby Cooling Tower Wet-Down Pump**

One (1) 2020 Cummins Model CFP7E-F40 QSB6.7, 204 HP, Tier 3 Diesel Engine, Engine Family: LCEXL0409AAB. S/N to be provided upon installation.

Permit Conditions

Condition 1: Emissions

A. All equipment shall be regularly maintained in good working order pursuant to manufacturer's guidelines and operated in a manner to prevent or minimize air emissions. The Lake County Air Quality Management District (LCAQMD) shall be notified pursuant to Rule 510, regarding equipment breakdown.

B. The total ROG, PM-10, SOx or NOx emission rate for this facility shall not exceed 25 tons per 12-month period. This emission rate determination shall be consistent with the methodology and assumptions used to evaluate the application under which this permit was issued. Diesel particulate emissions shall not exceed 0.11 g/bhp-hr.

C. Visible emissions shall not exceed Ringelmann 0.5 (10% opacity) from the generator exhaust stack for more than three (3) minutes in any one (1) hour.

Condition 2: Administrative

A. This permit has been issued and is valid for a diesel engine powered emergency standby cooling tower wet-down pump for use when commercial line power is not available because of an emergency or line maintenance outage. Geysers Power Company, LLC (GPC) shall develop or utilize an engine maintenance plan with prescribed oil change frequency per manufacturer's specifications and/or the National Emission Standard for Hazardous Air Pollutants (NESHAP) for Reciprocating Internal Combustion Engines (RICE) and New Source Performance Standards (NSPS).

B. Testing and maintenance operations are allowed for up to 50 hours per 12-month period.

C. Diesel fuel utilized shall be California Low Sulfur Diesel containing less than 15ppmw sulfur.

(Conditions 2 through 6 are continued on the back of this card)

THIS PERMIT BECOMES VOID UPON CHANGE OF OWNERSHIP OR LOCATION

D. GPC shall comply with the requirements of the Air Toxics "Hot Spots" Information and Assessment Act as specified in Sections 44300 - 44394 of the California Health and Safety Code as well as the Air Toxix Control Measure (ATCM) for Stationary Compression Ignition Engines.

E. Within 180 days of initial operation, GPC shall apply for a Permit to Operate, and prove compliance with these conditions.

Condition 3: Records and Reporting

A. GPC shall maintain a log (logs can be hard copy or digital) meeting the requirements of the NESHAP for RICE and NSPS which contains at a minimum, the facility name, location, engine information, fuel used, emission control equipment, maintenance conducted on the engine, and documentation that the engine meets the emission standards.

B. GPC shall maintain a log of usage that shall document hours of operation, and initial startup hours. GPC shall maintain a log of engine maintenance to show compliance with maintenance plan and NSPS requirements.

C. GPC shall document fuel usage by retention of fuel purchase records, accounting for all fuel used in the engine. Log entries shall be retained for a minimum of 36 months, with 24 months of the most recent entries retained on-site. The log shall meet all requirements of the ATCM for Stationary Compression Ignition Engines.

D. GPC shall maintain a non-resettable hour meter capable of displaying 9,999 hours.

E. GPC shall furnish an annual record of fuel use (gallons) and engine use (hours), breaking down hours of testing, maintenance, and emergency use, or in a format acceptable to the LCAQMD, within 15 days of request, and by October 31st of each year.

Condition 4: Modification

A. GPC shall apply for and receive an Authority to Construct permit prior to the addition of new equipment or modification of permitted equipment.

Condition 5: Monitoring

A. The herein permitted facility shall not cause a public nuisance nor make a measurable contribution to any Ambient Air Quality Standard exceed. Should this facility result in odor or health complaints, the LCAQMD may require under Sections 430 and 670, monitoring, testing, and mitigation by GPC to abate said condition.

Condition 6: Identification and Access

A. This permit shall be posted at the equipment site and be available for GPC's reference and LCAQMD staff inspection. If locks or unmanned gates are used to secure the project area, the LCAQMD or its representative will be given free access of entry for the purposes of monitoring or inspecting during normal business hours or periods of engine use.

LAKE COUNTY
AIR QUALITY MANAGEMENT DISTRICT

2617 S. MAIN ST., LAKEPORT, CA 95453

AUTHORITY TO CONSTRUCT
PERMITTING ASSESSMENT

GEYSERS POWER COMPANY, LLC
DIESEL ENGINE POWERED EMERGENCY STANDBY COOLING TOWER WET-DOWN PUMP
8950 SOCRATES MINE ROAD, MIDDLETOWN, CA 95461
A/C 2020-05

BY DOUGLAS GEARHART, APCO AND FAHMY ATTAR, AQE

MAY 11, 2020

LAKE COUNTY AIR QUALITY MANAGEMENT DISTRICT
AUTHORITY TO CONSTRUCT PERMITTING ASSESSMENT

GEYSERS POWER COMPANY, LLC
DIESEL ENGINE POWERED EMERGENCY STANDBY COOLING TOWER WET-DOWN PUMP
8950 SOCRATES MINE ROAD, MIDDLETOWN, CA 95461
A/C 2020-05

Introduction

On March 9, 2020 the Lake County Air Quality Management District (LCAQMD) received an application (See Attachment 1) from Geysers Power Company, LLC (GPC) for an Authority to Construct permit to install a diesel engine powered emergency standby cooling tower wet-down pump at the Calistoga Geothermal Power Plant (CGPP) located at 8950 Socrates Mine Road, Middletown, CA 95461. (See Map 1). The diesel engine is a 204 bhp Tier 3 2020 Cummins Model CFPE-F40, EPA Engine Family LCEXL0409AAB and will provide power to the cooling tower wet down pump during power outages. A legal notice was published in the Lake County Record Bee on March 14, 2020 (See Attachment 2). No comments were received.

Discussion

The cooling tower wet down system is used to keep the surfaces of the cooling tower structure wet when the cooling tower is not in operation. This wetting reduces the heat below the ignition temperature of the elemental sulfur that coats the sides of the cooling tower when geothermal steam condensate is oxidized to soluble sulfur compounds during venting. This prevents the ignition of flammable sulfur. However, during a full plant shut down and the cooling tower is not circulating water, auxillary or wet down pumps are turned on to sprinkle areas of the cooling tower that can dry out so they do not become damaged or more vulnerable to fire. The Cummins Model CFPE-F40 diesel engine powers the wet-down pump for the CGPP cooling towers. Under the New Source Performance Standards (NSPS), an engine maintenance plan must be implemented either per manufacturer's specifications or by owner (equivalent to manufacturer) which includes oil change frequency, hour meter, record of hours of operation, and records of engine maintenance.

Diesel exhaust emissions will result from operation during testing, maintenance and power outages. Such outages typically occur during storm conditions, when impacts are minimized. Engine testing and maintenance operations will be limited to 50 hours per year as a condition of the permit.

The site is located approximately 8800 feet from the nearest residence, and 3 miles from the nearest school. See attached Map 1 for the location of the facility.

The Lake County Air Basin can be adversely impacted by this facility if the subject equipment is not maintained, managed, and operated properly. GPC is expected to use good management practices and judgment to avoid problems and/or violations. This and other similar installations within the District have been operated without incident or complaints while being located at similar distances from offsite receptors. The LCAQMD has not received any complaints regarding the site.

Emissions

Of primary concern are the emissions associated with the exhaust generated from the diesel-powered internal combustion engine. If the equipment is properly managed and controlled through routine preventative maintenance and adjustment to achieve high efficiency, emissions can be maintained at acceptable levels. These practices should avoid nuisance, contributing a measurable quantity to Ambient Air Quality Standards (AAQS) exceeds, and health problems.

GPC must meet all requirements of the Air Toxics Control Measure (ATCM) for Stationary Compression Ignition Engines (Section 93115, Title 17, California Code of Regulations). GPC is required to comply with the National Emission Standard for Hazardous Air Pollutants (NESHAP) for Reciprocating Internal Combustion Engines (RICE) and NSPS. Fuel type specification is addressed as a specific permit condition, and requires only California Low Sulfur Diesel containing less than 15 ppmw sulfur to be used.

GPC has specified the diesel pump engine as a 2020 model year, 204 bhp. A worst case estimate is a maximum annual fuel consumption estimated at 10,600 gallons per year, based on a maximum of 1,000 hours per year use. Diesel combustion exhaust emissions will result from operation during testing and power outages. Other similar installations within the LCAQMD are typically tested monthly under full load for approximately one hour. The LCAQMD has estimated testing and actual use at less than 200 hours per year (2,120 gallons per year) based on anticipated conditions although during a Public Safety Power Shutoff event the

hours could reach or exceed 1,000 hours. Permit conditions allow operation of up to 50 hours per year for maintenance and testing.

Table 1 presents the combustion emission estimates for the engine at full load. Emission factors were obtained from submitted Statement of Exhaust Emissions and the submitted process fuel rate information.

Table 1: Combustion Emissions

	Emission Factors	Emissions		
Pollutant	g/bhp-hr	lbs/hr	lbs/yr**	tons/yr**
CO	1.19	0.54	107.31	0.05
NMHC+NOX	2.54	1.14	228.20	0.11
Diesel Particulate	0.111	0.05	9.98	0.00
		Total:	345.49	0.17

** 200 hours per year

AB 2588 Risk Evaluation

The method used to evaluate this project originated from the California Air Pollution Control Officers Association (CAPCOA) Air Toxics "Hot Spots" Program Facility Prioritization Guidelines, and consists of the emissions and potency procedure. The method examines the type of emission, the potency or toxicity of the compound, and the proximity of the emission source to receptors. This method uses those parameters to examine the carcinogenic and non-carcinogenic effects of emissions from which a "score" is calculated based on those calculated potential effects. Carcinogenic and non-carcinogenic exposure factors presented as "unit risk factors" or "acceptable exposure levels" incorporated into the evaluation were obtained from CAPCOA's Risk Assessment Guidelines. The scores for all applicable compounds are combined to give a total score (carcinogens and non carcinogens) for the facility. The higher of the two scores is used to prioritize the facility (See Table 2) as low, intermediate, or high priority.

Table 2: Facility Prioritization

Facility Score	**Facility Designation**
Total Score ≥ 10	High Priority and Concern
Total Score ≥ 1 and <10	Intermediate Priority and Concern
Total Score <1	Low Priority and Concern

Of the compounds examined through the prioritization procedure, diesel particulate is the only pollutant released in measurable amounts for which unit risk factors exist and whose potential impacts are possible to estimate. Potential health effects from this and other compounds examined either directly cause or may contribute to respiratory, eye, nerve, kidney, liver, reproductive, or immune disorders. The toxicological endpoints of those compounds are presented below in Table 3.

Table 3

Compound	**System or organ affected**
Diesel Particulate	Central or peripheral nervous system.

Using the estimated diesel emission rate, facility prioritization scores were calculated using the CAPCOA method. The unit risk factors are statistical probabilities and represent the upper bound or "worst case" probability. Using estimated emissions for 200 hours per year and receptor proximity of more than a 2,000 meters (R = 0.001) for the facility, the resulting prioritization score is 0.01 (carcinogenic effects), a Low Priority and Concern. Even if use reaches 1,000 hours in a single year, the risk will not exceed the Medium risk category. The air toxics information and prioritization calculations are presented in Table 4. Actual production and throughput will likely be considerably less than "worst case" values used in this calculation, and along with the expected short duration of the project, the air toxics generated from the addition of this project are not considered to be significant.

Table 4: Air Toxics Estimate

Compound	Unit Risk Factor	AEL Acute	AEL Chronic
Diesel Particulate	3.00E-04	-	-

Emissions and Potency Method

Carcinogens	Risk Factor	Emissions (lbs/yr)	Receptor Proximity	Norm Factor	Score
Diesel Particulate	3.00E-04	9.98	0.001	1700	0.01

Carcinogen Score Total: 0.01

Assumptions:
Receptor Proximity = (>2000m, R=0.001)
200 hours of engine operation per year

Applicable Rules

The project is subject to several rules (See Attachment 3). Though analysis by the LCAQMD of potential impact has not been performed per New Source Review, the use of experience from similar historically operated equipment is relied upon to conclude that causing or contributing to the violation of any applicable AAQS or nuisance condition will not occur. Presently, exceeds of relevant AAQS's are not believed to occur or likely to be contributed to in a measurable quantity. This conclusion can be tested by data collected locally if complaints are received and further mitigation may be required as a result. GPC is required to maintain the subject generator in compliance with all applicable rules of the LCAQMD. GPC is required to comply with NESHAP for RICE and NSPS.

Conclusion

After a review of the application, emissions potential, and LCAQMD Rules and Regulations, the Air Pollution Control Officer (APCO) has concluded that GPC can and will be issued an Authority to Construct, as conditioned (See Attachment 4). This review is based on information provided by GPC who is expected to use good management practices and judgment to avoid problems and/or violations. In the APCO's opinion, such issuance will be in compliance with LCAQMD Rules and Regulations.

MAP 1
8950 SOCRATES MINE ROAD, MIDDLETOWN, CA 95461

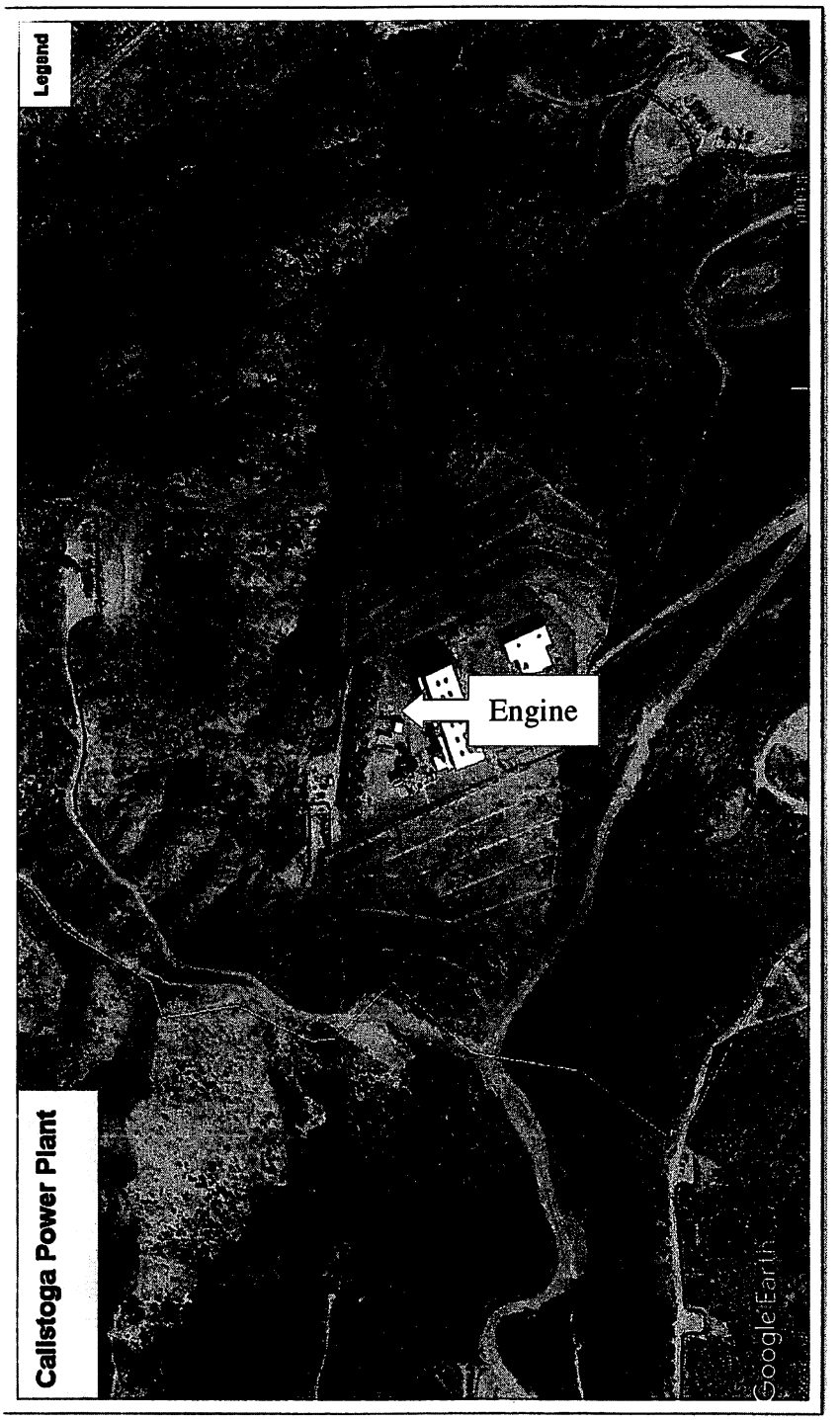

Figure 1. Google Earth View Showing Location of the Calistoga Power Plant

GPC20-020.docx

ATTACHMENT 1
APPLICATION FOR AN AUTHORITY TO CONSTRUCT

Lake County Air Quality Management District
2617 South Main Street
Lakeport, CA 95453
707-263-7000 / fax 263-0421

RECEIVED
MAR 09 2020
LAKE COUNTY AQMD

Douglas G. Gearhart
Air Pollution Control Officer
dougg@lcaqmd.net

App. # 2020-09
Alc 2020-05

Application For An Authority To Construct (& Attached List and Criteria)

Type of Application: ☐ New Facility ☑ Modification ☐ Existing Facility, Not Previously Permitted

Contact Name: Brian Berndt
Legal Owner: Geysers Power Company LLC
Mailing Address: 10350 Socrates Mine Road
Middletown, CA 95461

Facility Name: Calistoga Power Plant
Facility or Project Name: Emergency Diesel Engine
Permit #: _____ Category: II

Description of the Process/Purpose of the Facility:
The Emergency engine powers a Cooling Tower wet down pump

Equipment Location/Legal Description:
Adjacent to the cooling tower at the Calistoga Power Plant
(As shown on enclose Plot Plan)

Estimated Construction dates:
Start - August 2020 Completion - October 2020

Description of equipment by make, model, size and type:
Refer to Exhaust Stack and Building Dimensions Information attached

Diagram/Plot Plan of Facility Enclosed? ☑ Yes ☐ No

Additional List and Criteria Data Attached: Yes ☑ No ☐ (List and Criteria are attached)

If no give reason: _____

Operating Schedule: _____ Hours/Day _____ Days/Week _____ Weeks/Year Lat•N: 38.789694°

Production Rates: _____ /Hour, _____ /Day, 50 hours /Year (Specify Units) Long•W: -122.745236°

Amount, nature, and duration of emissions: Maintenance hours will not exceed 50 hours per year

Attach a Facility and Equipment Diagram, Specification Sheet(s), and Process Flow Diagram. Show the location and distance to adjacent residences, businesses, schools and hospitals.

Type and efficiency of air pollution control equipment: Tier 3 EPA Standards for Emergency Standby Diesel Engines and CARB Air Toxic Control Measures (ATCM)

Type and Estimated Quantity of fuel use: DFO #2 530 gal/yr (%S): 0.0015

Ten year projected expansion plans: _____

I have read and understand the Lake County Air Quality Management District's (District) List and Criteria for Authority to Construct Permits. I understand that I am responsible for any information listed herein or requested pursuant to this application. Based on information and belief formed after reasonable inquiry, the statements and information presented in this application and supplemental documentation are true, accurate, and complete. Applicant shall defend, indemnify and hold harmless the District and its agents, including consultants, officers and employees from any claim, action or proceeding against the District or its agents, including consultants, officers or employees to attack, set aside, void, or annul the approval of this application or adoption of the environmental document which accompanies it. This indemnification obligation shall include, but not be limited to, damages, costs, expenses, attorney's fees, or expert witness costs that may be asserted by any person or entity, including the applicant, arising out of or in connection with the approval of this application, including any claim for private attorney general fees claimed by or awarded to any party against the District, and shall also include the District's costs incurred in preparing the administrative record which are not paid by the petitioner. The District shall promptly notify the applicant of any claim, action or proceeding. Notwithstanding the foregoing, the District shall control the defense of any such claim, action or proceeding unless the settlement is approved by the applicant and that the applicant may act in its own stead as the real party in interest in any such claim, action or proceeding.

Signature of authorized representative ~~of firm~~ _____ Date: 3-3-2020

Name: Brian Berndt Title: EHS Manager Geysers Telephone: (707) 431-6266

FAX: (707) 431-6246

Ek 5/2018

ATTACHMENT 1
APPLICATION FOR AN AUTHORITY TO CONSTRUCT

CALPINE

GEYSERS POWER COMPANY, LLC
10350 Socrates Mine Road
Middletown, CA 95461

10350 SOCRATES MINE ROAD
MIDDLETOWN, CALIFORNIA 95461
707.431.6000

Letter GPC20-020

February 28, 2020

RECEIVED
MAR 0 2 2020
LAKE COUNTY AQMD

Douglas Gearhart
Air Pollution Control Officer
Lake County Air Quality Management District
2617 South Main Street
Lakeport, CA 95453

Dear Mr. Gearhart:

Subject: Authority To Construct Application For an Emergency Wet-Down Pump Engine at the Calistoga Power Plant

Enclosed is Geysers Power Company's application for an Authority to Construct permit for an emergency wet-down pump engine to be located at Calistoga Power Plant. Also attached is payment in the amount of $266.99 (Check No.1000115723) for the application filing and permit processing fees.

This proposed diesel engine will support operation of the Calistoga Power Plant cooling tower wetting / fire prevention system during loss of normal site power.

Please contact me at (707) 431-6266, if you need any additional information in support of this permit application.

Sincerely,

Brian J. Berndt
EHS Manager | Geysers

Enclosure & Attachments

cc: Eric VeerKamp, Compliance Project Manager
California Energy Commission (CEC),
1516 Ninth Street, MS-15
Sacramento, CA 95814-5512

ATTACHMENT 1
APPLICATION FOR AN AUTHORITY TO CONSTRUCT

Project Description

BACKGROUND:

Cooling tower wet down systems are common on wood cooling towers and are used to keep the normally wetted surfaces of the cooling tower structure wet when the cooling tower is not in operation to preserve the wood. Typically when a plant shuts down for an overhaul and the cooling tower is not circulating water, auxiliary or fire pumps are turned on to sprinkle areas of the cooling tower that can dry out, become damaged and more vulnerable to fire. These systems are not subject to NFPA or other codes. Impact spray nozzles (Rainbird™-style) are often used because they provide large coverage areas.

The desire for wetting is particularly true of cooling towers that use geothermal steam condensate for cooling. This is because, as hydrogen sulfide contained in the geothermal steam condensate is oxidized to soluble sulfur compounds, it becomes elemental sulfur for a period of time and can coat the wetted surfaces of the tower. Sulfur is a flammable solid that has a relatively low ignition temperature. Utilizing a wet down system has been very successful in preventing the ignition of cooling towers in the geothermal industry during outages.

Wet down systems are not to be confused with fire suppression systems. A wet down system prevents the ignition of vulnerable surfaces while fire suppression systems are designed to douse fires after ignition occurs. Typically, the water pumping capacity of a fire suppression system is very large and the coverage area is very small and focused (able to cover a couple of cells). Deluge systems that typically do not cover the fan or hot water decks and have limited coverage are judged not a good defense against wild land fires.

During the 2015 Valley Fire, four completely and one partially cooling towers were fire damaged at several Geysers power plants. Some of these cooling towers ignited while there was full cooling circulation water flow. Analysis of the burned cooling towers indicates that the center of the cooling towers burned in the non-wetted areas such as the fan deck and the area below the fans (plenum area). Field observations on cooling towers that did not burn showed indications that burning embers were deposited on the fan deck by the wild land fire as it passed the power plant.

Thus, there is a need to spray water to any areas where sulfur residue may be found, including increasing the spray coverage in the normally non-wetted areas such as the fan deck, hot water basin, and plenum areas for increased protection from wild land fire embers. Figure 1 shows a Google Earth view of the location of the power plant.

ATTACHMENT 1
APPLICATION FOR AN AUTHORITY TO CONSTRUCT

Project Description (continued)

PROPOSED PROJECT

An emergency wet down pump engine along with a separate water spray system is proposed to be added for use in the event of a plant evacuation due to the threat of an approaching wild land fire. Figure 2 illustrates the proposed flow diagram. The location of the emergency wet-down pump engine is shown adjacent to the cooling tower circulating water pit on the Unit 19 Power Plant Plot Plan (Figure 3).

The emergency wet down pump engine will be manually started prior to evacuation of the power plant due to an approaching wild land fire to provide continued wet down of the cooling tower for approximately 24 hours or longer depending on fuel consumed. Particulate and other exhaust emissions resulting from the operation of the diesel engine would be consistent with manufacturer's specifications for this Tier 3 engine. The exhaust emissions from the engine during emergency use would be virtually undetectable amidst the emissions resulting from an uncontrolled wild land fire.

TESTING AND MAINTENANCE:

Annual testing and maintenance operation hours are limited to no more than 50 hours. Test operation routines will vary through the year with more frequent test operations occurring during the dry season and less frequent test operation occurring during wet seasons. The hour meter indications will be logged as a result of routine inspections and at the start and completion of test and maintenance operations to ensure that annual hours of emergency use, and annual hours of test and maintenance operation are recorded.

APPLICABLE REGULATIONS

Title 17, California Code of Regulations section 93115 Airborne Toxic Control Measure for Stationary Compression Ignition (CI) Engines.

The Emergency Standby Wet-Down Pump Diesel Drive Engine meets the required criteria of § 93115.4 (29) for definition as an "Emergency Standby Engine" pursuant to (29) (A), (B), (C), (D), and (E).

Operation of the Emergency Standby Wet-Down Pump Diesel Drive Engine meets multiple criteria of § 93115.4 (30) for definition as "Emergency Use" pursuant to (30) (A), (B), and (D), and (F).

The Emergency Standby Wet Down Diesel Drive Engine meets the requirement of §93115.6(a)(3)(A)(1) Table 1: Emission Standards for New Stationary Emergency Standby Diesel-Fueled CI Engines.

ATTACHMENT 1
APPLICATION FOR AN AUTHORITY TO CONSTRUCT

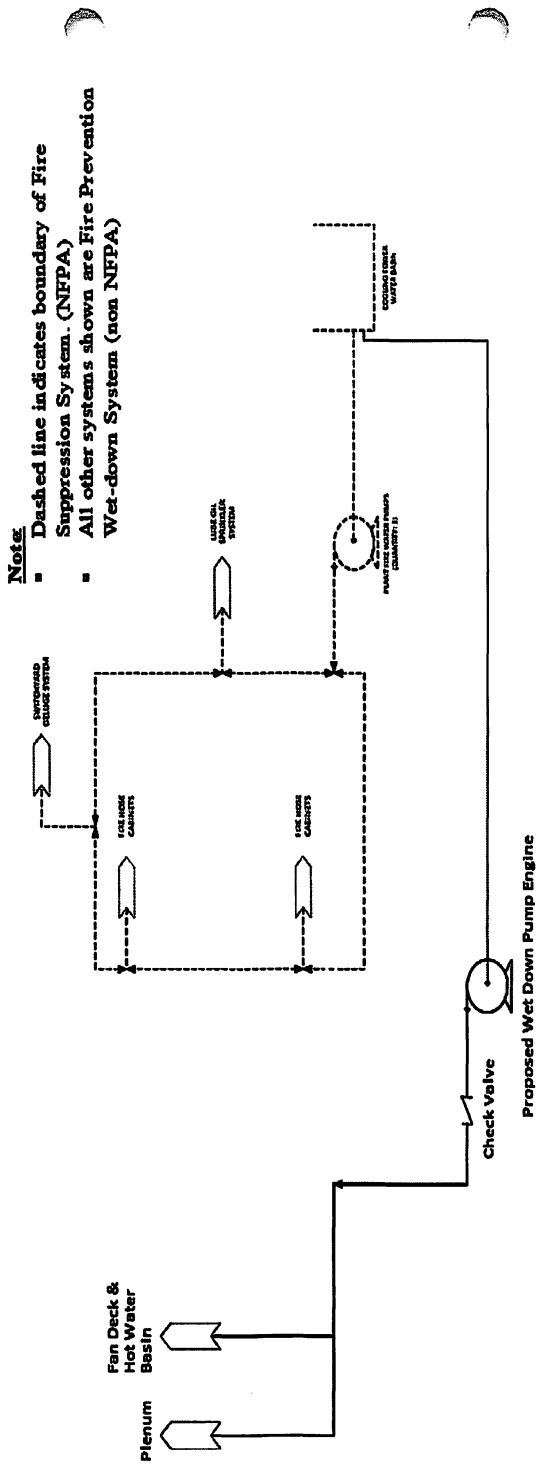

Figure 2
Flow Diagram Showing Emergency Wet Down Pump Engine

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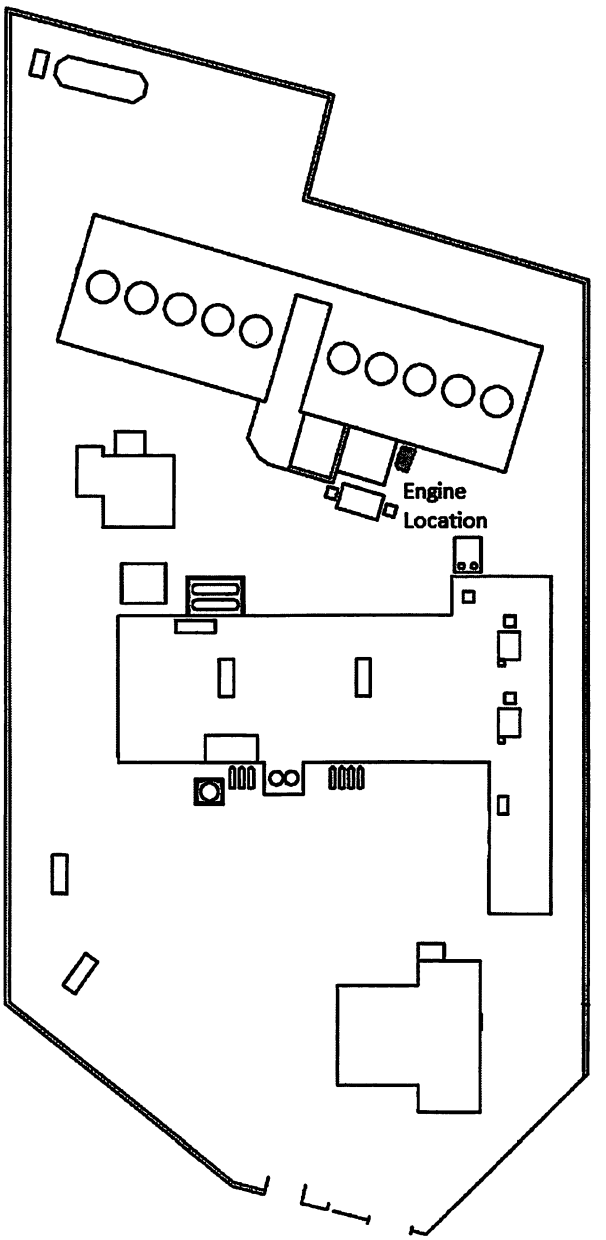
ATTACHMENT 1
APPLICATION FOR AN AUTHORITY TO CONSTRUCT

Figure 3
Calistoga Power Plant: Plot Plan Showing the Emergency Wet Down Pump Engine Location



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ATTACHMENT 1
APPLICATION FOR AN AUTHORITY TO CONSTRUCT

Exhaust Stack and Building Dimensions Information

DATA SUMMARY FOR EMERGENCY WET-DOWN PUMP ENGINE

Business Name Geysers Power Company LLC, Calistoga Power Plant

Engine Manufacturer Cummins

Engine Family[+] LCEXL0409AAB Model CFP7E-F40

Serial Number Available Upon Delivery Year of Manufacture 2020

Rated Brake Horsepower Rating 204

Engine Emission Factors (g/bhp-hr)[++]

NOx 2.475 PM 0.111 NMHC 0.062 NMHC + NOx 2.537 CO 1.193 .

Control Equipment: [] Turbocharger [] Aftercooler [] Injection Timing Retard [] Catalyst []

Diesel Particulate Filter [X] Tier 3 Emission Compliance

Fuel Used: **[X] CARB Ultra Low Sulfur Diesel** [ ] Diesel [] Other _____

Operation Information:

Engine Operating Time for Testing and Maintenance: 50 hrs/yr

Typical load 100 % of maximum bhp rating

Total annual hours of operation 50 hours /yr (Testing and maintenance)

Fuel usage rate 10.6 gallons/hr

[+] Manufacturers Specification Sheet for the diesel engine provided **(Attachment 1)**.

[++] U.S. EPA Certificate of Conformity with the Clean Air Act provided **(Attachment 2)**.

EXHAUST STACK AND BUILDING DIMENSION DATA

Exhaust Stack Height Above Ground 11 ft*

Exhaust Stack Height Above Top of Building -37 ft , Exhaust stack will be below the top of the adjacent building (cooling tower.)

Exhaust Stack Diameter 0.333 ft

Exhaust Stack Flowrate 1,218 CFM

Exhaust Stack Direction [X] Up [ ] Down [ ] Side Raincap [X] Yes [ ] No

Exhaust Stack Gas Temperature 986.7 °F

Nearest Building Dimensions L: 385' W: 52' H: 48'

Distance from stack to nearest residence 8,800 ft**

Distance to nearest school grounds 2.97 mi***

[*] Exhaust Height may vary by +- 3 ft depending on final enclosure design.

[**] Distance given is from the engine stack to the nearest residence.

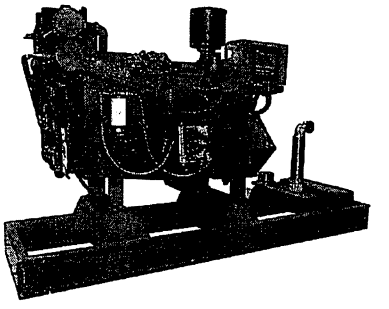
[***] Distance given is from the engine stack to the Cobb Mountain Elementary School (15,700 ft).

Attachment 1
Manufacturer's Specification Sheets for the Engine

Specification sheet

Fire Pump Drive Engine

CFP7E-F40
CFP7EVS-F40



Description

Engine Series - Cummins QSB6.7
Exhaust Emissions - EPA Tier 3

When performance matters, we take notice. Our engines are an assurance of safety specifically designed to fit your needs. The Cummins CFP7E fire pump drive engine features a cast-iron parent bore block structurally designed to reduce noise and increase durability.

Features

Control System - The industry-leading, state-of-the-art Fire Pump Digital Panel (FPDP) provides total fire pump drive engine system integration and intuitive operation, including:

- Color touchscreen;
- Dual microprocessors for critical signal redundancy;
- Standard J1939 parameter and Cummins fault code display;
- Engine idling;
- Electronic Control Module (ECM) self-diagnosis; and
- Optional Modbus® protonode remote messaging capability.

Variable Speed Pressure Limiting Control (VSPLC) - Cummins' VSPLC-equipped fire pump drive engines are capable of maintaining a constant pump discharge pressure by controlling the engine speed down to 1200 RPM, while still maintaining T3 emissions certification. VSPLC fire pump drive engines provide design flexibility in the fire pump system for high-rise applications; compensate for varying discharge pressure; allow the system architect to apply a larger pump and/or a pump with a steeper curve; and significantly reduce water consumption during the weekly test.

Warranty and Service - Our models are backed by a comprehensive warranty and worldwide distributor network.

Certified Power - The CFP7E-F40 complies with NFPA 20 and is UL 1247-listed and FM 1333-approved. The CFP7EVS-F40 complies with NFPA 20 and is FM 1333-approved.

Ratings in HP (kW)

Operating Speed (RPM)	1470		1760		1900		2100		2360		2600	
CFP7E-F40	192	(143)	220	(164)	204	(152)	215	(160)	216	(161)	219	(163)
CFP7EVS-F40	192	(143)	220	(164)	204	(152)	215	(160)	216	(161)	219	(163)

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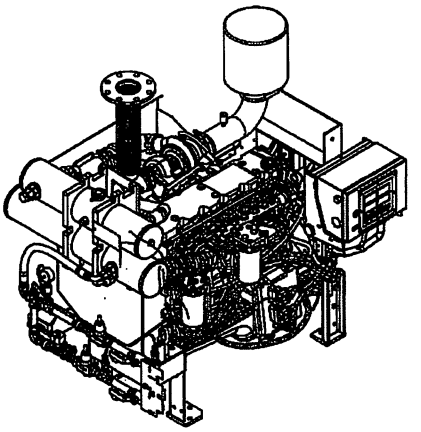


General Engine Data

Engine Family	Industrial
Engine Type	4 Cycle; In-Line, 6 Cylinder
Aspiration	Turbocharged and Charge-Air Cooled
Bore and Stroke	4.21 x 4.88 in. (107 x 124 mm)
Displacement	409 in^3 (6.7 L)
Rotation	Counterclockwise from flywheel end
Compression Ratio	17.2:1
Valves per Cylinder	Intake - 2 Exhaust - 2
Fuel System	Bosch Electronic Common Rail
Maximum Allowable Bending Moment @ Rear Face of Block	1000 lb.-ft. (1356 N-m)
Estimated Wet Weight*	TBD

*Weight includes engine, cooling loop, heat exchanger, dual Electronic Control Modules (ECMs), Fire Pump Digital Panel (FPDP), standard air cleaner, standard exhaust flex, and all fluids.

Equipment	Standard	Optional
Air Cleaner	Disposable; treated for high humidity, indoor service	Heavy-duty, two-stage with replaceable elements
Alternator	12V-DC, 95 amps; includes belt guard	24V-DC, 45 amps with belt guard
Cooling Loop (maximum pressure of 300 PSI)	3/4" diameter for fresh water; includes alarm sensors and FM-approval	Cu Ni construction available for sea water applications; approved loops up to 1 1/4"
Cooling System	Tube and shell type, 60 PSI with NPTF connections	Radiator[1]; sea water tube and shell
Engine Heater	120V-AC, 1500 watts	240V-AC, 1500 watts
Exhaust Protection	Metal guards on manifolds and turbocharger	N/A
Exhaust Flex Connection	Steel, flanged	Stainless steel flex, NPT
Flywheel Power Take-Off	Flywheel	Driveshaft system, stub shaft
Fuel Connections	Fire-resistant flexible supply and return lines	N/A
Fuel Filter	Primary and secondary	N/A
Governor, Speed	Constant speed, adjustable	VSPLC[2]
Fire Pump Digital Panel (FPDP)	7" color touchscreen; enclosure rated as Type 2/Type 4X; imperial and metric values	Optional 316SS construction; custom gauges with digital panel expansion module (DPEM)
Lube Oil Cooler	Engine-water-cooled, plate type	N/A
Lube Oil Filter	Full-flow with by-pass valve	N/A
Lube Oil Pump	Gear-driven	N/A
Manual Start Controls	On FPDP and/or contactors	N/A
Overspeed Controls	Electronic with reset and test on FPDP	N/A
Starter	12V-DC	24V-DC

[1] Not UL-listed and not FM-approved.

[2] FM-approved, but not UL-listed.

Air Induction System

Maximum Temperature Rise Between Ambient Air and Engine Air Inlet	30.6 °F (17 °C)
Maximum Inlet Restriction with Dirty Filter	25 in. H_2O (635 mm H_2O)
Recommended Air Cleaner Element - (Standard)	Cummins Filtration AH1196
Recommended Air Cleaner Element - (Heavy Duty)	Optional: primary element AF26124; secondary element AF26125

Lubrication System

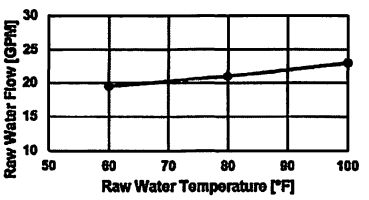
Oil Pressure Range at Rated	40-70 PSI (276-483 kPa)
Oil Capacity of Pan (High - Low)	16-13 qt. (16-14 L)
Total System Capacity	4 gal. (15.1 L)
Recommended Lube Oil Filter	Cummins Filtration LF3970

Cooling System*

Raw Water Working Pressure Range at Heat Exchanger	60 PSI (413 kPa) MAX
Recommended Minimum Water Supply Pipe Size to Heat Exchanger	.75 in. (19.05 mm)
Recommended Minimum Water Discharge Pipe Size From Heat Exchanger	1.00 in. (25.40 mm)
Coolant Water Capacity	3.75 gal. (14.2 L)
Standard Thermostat - Type	Modulating
Standard Thermostat - Range	180-199 °F (82-93 °C)
Minimum Raw Water Flow:	
- with Water Temperatures to 60 °F (16 °C)	19.5 GPM (1.23 L/sec)
- with Water Temperatures to 80 °F (27 °C)	21 GPM (1.32 L/sec)
- with Water Temperatures to 100 °F (38 °C)	23 GPM (1.45 L/sec)

* A jacket water heater is mandatory on this engine. The recommended heater wattage is 1500 down to 40 °F (4 °C)

CFP7E Cooling Loop



Exhaust System

Maximum Allowable Back Pressure by Complete Exhaust System	40.8 in. H_2O (10.2 kPa)
Exhaust Pipe Size Normally Acceptable	4 in. (102 mm)

Noise Emissions - The noise emission values are estimated sound pressure levels at 3.3 ft. (1 m).

Top	92.5 dBa
Right Side	94.3 dBa
Left Side	93.8 dBa
Front	92.1 dBa
Exhaust	114.2 dBa

Fuel Supply/Drain System

Operating Speed in RPM	1470		1780		1800		2100		2350		2600	
Fuel Rate - Gal/hr (L/hr)	9.9	(37.6)	11.4	(43.0)	10.6	(40.0)	11.3	(42.6)	11.6	(43.8)	12.3	(46.7)

Fuel Type	No. 2 diesel only
Minimum Supply Line Size	0.5 in. (12.70 mm)
Minimum Drain Line Size	0.375 in. (9.53 mm)
Maximum Fuel Height above C/L Fuel Pump	360 in. (9.1 m)
Recommended Fuel Filter - Primary	Cummins Filtration FF5612
Recommended Fuel Filter - Secondary	Cummins Filtration FS1212
Maximum Restriction @ Lift Pump-Inlet - With Clean Filter	5.0 in. Hg (127 mm Hg)
Maximum Restriction @ Lift Pump-Inlet - With Dirty Filter	10.0 in. Hg (254 mm Hg)
Maximum Return Line Restriction - Without Check Valves	5.9 in. Hg (150 mm Hg)
Minimum Fuel Tank Vent Capability	7.1 ft^3/hr (0.21 m^3/hr)
Maximum Fuel Temperature @ Lift Pump Inlet	158 °F (70 °C)

Starting and Electrical System

Min. Recommended Battery Capacity - Cold Soak at 0 °F (-18 °C) or Above	12V	24V
Engine Only - Cold Cranking Amperes	1400 CCA*	900 CCA*
Engine Only - Reserve Capacity	430 minutes*	430 minutes*

*Based on FM requirement for a minimum of 900 CCA and 430 Reserve Capacity Minutes

Battery Cable Size - Minimum of 2/0 AWG and Maximum Cable Length Not to Exceed 6 ft. (1.5 m)	12V	24V
Maximum Resistance of Starting Circuit	0.001 Ohms	0.002 Ohms
Typical Cranking Speed	120 RPM	120 RPM
Alternator (Standard), Internally Regulated	95 amps	70 amps

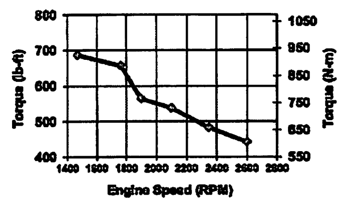
Operating Conditions

Operating Speed in RPM	1470		1780		1800		2100		2350		2600	
Output - BHP (kW)	192	(143)	220	(164)	204	(152)	215	(160)	216	(161)	219	(163)
Ventilation Air Required - CFM (litre/sec)	435	(205)	487	(230)	511	(241)	571	(270)	629	(297)	691.9	(327)
Exhaust Gas Flow - CFM (litre/sec)	1055	(498)	1219	(575)	1218	(575)	1363	(643)	1500	(708)	1650	(779)
Exhaust Gas Temperature - °F (°C)	988.7	(530)	988.7	(530)	986.7	(530)	988.7	(530)	986.7	(530)	986.7	(530)
Heat Rejection to Coolant - BTU/min. (kW)	3803	(67)	4186	(74)	3926	(69)	4263	(75)	4707	(83)	5178	(91)
Heat Rejection to Ambient - BTU/min. (kW)	1026	(18)	1091	(19)	1188	(21)	1282	(23)	1258	(22)	1231	(22)

Engine Performance Curve for CFP7E-F40 and CFP7EVS-F40

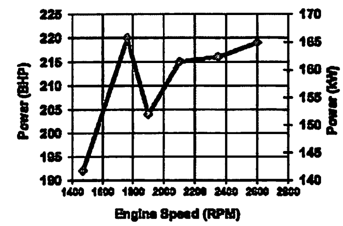
Torque Output

RPM	lb-ft	N-m
1470	686	930
1760	657	890
1900	564	765
2100	538	729
2350	483	655
2600	442	600



Horsepower Output

RPM	BHP	kW
1470	192	143
1760	220	164
1900	204	152
2100	215	160
2350	216	161
2600	219	163



All data is based on the engine operating with a fuel system, water pump, lubricating oil pump, air cleaner, and alternator. The fan, optional equipment, and driven components are not included. Data is based on operation at SAE standard J1394 conditions of 300 ft. (91.4 m) altitude, 29.61 in. (752 mm) Hg dry barometer, and 77 °F (25 °C) intake air temperature, using No.2 diesel fuel only.

Altitude above which output should be limited*:	300 ft. (91.4 m)
Correction factor per 1000 ft. (305 m) above altitude limit:	3%
Temperature above which output should be limited:	77 °F (25 °C)
Correction factor per 10 °F (11 °C) above temperature limit:	1% (2%)

* Above 5,000 feet, contact Cummins for derate information.

US EPA NSPS Tier 3 Emissions Compliance

	D2 Cycle Exhaust Emissions*									
Fuel Percentage of Sulfur	Grams per BHP - HR					Grams per kW - HR				
	NMHC	NO_x	NMHC + NO_x	CO	PM	NMHC	NO_x	NMHC + NO_x	CO	PM
15 PPM Diesel Fuel	0.062	2.475	2.537	1.193	0.111	0.083	3.319	3.402	1.600	0.149
300-4000 PPM Diesel Fuel	0.075	2.685	2.759	1.193	0.127	0.1	3.600	3.700	1.600	0.170

*The emissions values above are based on CARB approved calculations for converting EPA (500 ppm) fuel to CARB (15 ppm) fuel.

Refer to the engine data tag for the EPA Standard Engine Family.
No special options are needed to meet current regulation emissions for all fifty states.
Tests conducted using alternate test methods, instrumentation, fuel, or reference conditions can yield different results.

Diesel Fuel Specifications:
- Cetane Number: 40-48
- Reference: ASTM D975 No. 2-D

Reference Conditions:
- Air Inlet Temperature: 25 °C (77 °F)
- Fuel Inlet Temperature: 40 °C (104 °F)
- Barometric Pressure: 100 kPa (29.53 in Hg)
- Humidity: 107 g H_2O/kg (75 grains H_2O/lb) of dry air; required for NO_x correction
- Intake Restriction set to a maximum allowable limit for clean filter
- Exhaust Back Pressure set to maximum allowable limit

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Fire Pump Digital Panel (FPDP)

The Cummins FPDP is an integrated microprocessor-based control system that provides full digital technology with enhanced accuracy and built-in redundancy.

Reliable design - Designed and tested with isolated mounting to minimize vibration for longer life and durability, the Cummins FPDP proves reliable in harsh environments.

Advanced control methodology - The Cummins FPDP allows for Input/Output (I/O) expansion and remote monitoring capabilities, as well as automatic Electronic Control Module (ECM) switching for electronic engines.

Certified Quality - The Cummins FPDP is UL 1247-listed and FM 1333-approved.

Operator Panel Features

Operator/Display Panel
- 7" TFT LCD (thin-film-transistor liquid-crystal display) - color, 24-bit, 800x480 (WVGA).
- Auto, manual, start, stop, and fault reset.
- Assembly enclosure that meets Type 2 and Type 4X design requirements and is water, corrosion, fire, and impact-resistant.

Electronic Engine Communications - SAE J1939 protocol.
- Comprehensive full-authority engine (FAE) data: oil pressure and temperature; coolant temperature; and intake manifold pressure and temperature.
- Cummins fault code display.
- Sensor failure indication.
- Optional RS-485 serial - Modbus® RTU/Modbus® TCP/IP.

Variable Speed Pressure Limiting Control (VSPLC) Capabilities
- Display indicates when VSPLC is active.
- Pump discharge pressure display.
- Ability to run the engine at fixed speed from the FPDP at start-up for commissioning.

Other Control Features
- Digital Panel Expansion Module (DPEM) for additional analog/digital inputs and configurable dry relay contact output.
- Ability to idle at start-up for commissioning of electronic engines.
- Idle cool down for electronic engines.
- DC voltage.

Functional
- Configurable display units for temperature in degrees Fahrenheit or Celsius and pressure in PSI or kPa.
- Manual ECM selector switch on electronic engines.
- Ability to crank the fire pump drive engine from Battery A, Battery B, or both.
- Fixed engine speed adjustments in +/- 10 RPM increments.
- Overspeed shutdown.

Environmental
- Operating temperature - 4 to 158 °F (minus 20 to 70 °C).
- Storage temperature - minus 22 to 176 °F (minus 30 to 80 °C).
- Meets CISPR 11 Class B radiated emissions.
- Vibration: 7 G_{PEAK}; three-axis.

Electrical
- 8-30 VDC operating voltage.
- Reverse polarity protected.
- Spring cage terminal block interface.
- Built-in dual micro controllers for increased reliability.

Mechanical
- 1 3/8" pre-cut customer conduit knockout for easy field installation.
- Simplified internal design for efficiency and ease of customer connections.
- 16GA ASTM A366 material - 316 stainless steel optional.
- RAL3001 red powder coat finish.

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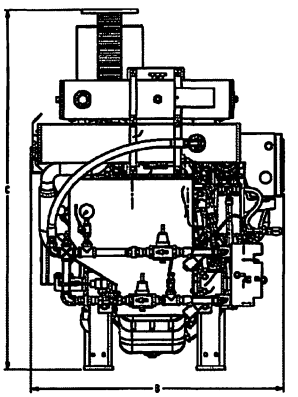

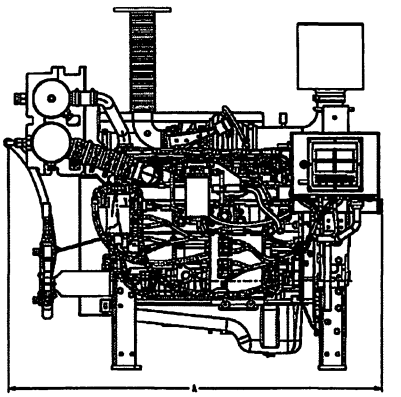

This outline drawing is for reference only.
Do not use for installation design.

	Dim "A" in. (mm)	Dim "B" in. (mm)	Dim "C" in. (mm)
CFP7E	60 (1514)	40 (1025)	57 (1457)

NOTE: Consult drawings or contact the factory for additional information.

This product has been manufactured under the controls established by a Bureau Veritas Certification approved management system that conforms with ISO 9001:2015.

NOTE: Codes or standards compliance may not be available with all model configurations - consult factory for availability. Specifications are subject to change without notice.

For more information, contact firepumpsales@cummins.com.

FM APPROVED

c UL us LISTED

Sales and Service

Cummins Sales and Service
875 Lawrence Drive
DePere, Wisconsin 54115
1 920 337 9750

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Attachment 2

U.S. EPA Certificate of Conformity with the Clean Air Act

	UNITED STATES ENVIRONMENTAL PROTECTION AGENCY 2020 MODEL YEAR CERTIFICATE OF CONFORMITY WITH THE CLEAN AIR ACT	OFFICE OF TRANSPORTATION AND AIR QUALITY ANN ARBOR, MICHIGAN 48105

Certificate Issued To: Cummins Inc. (U.S. Manufacturer or Importer) Certificate Number: LCKXL0409AAB-027	Effective Date: 07/08/2019 Expiration Date: 12/31/2020	Byron J. Bunker, Division Director Compliance Division	Issue Date: 07/08/2019 Revision Date: N/A

Model Year: 2020 Manufacturer Type: Original Engine Manufacturer Engine Family: LCEXL0409AAB	Mobile/Stationary Indicator: Stationary Emissions Power Category: 130<=kW<225 Fuel Type: Diesel After Treatment Device: No After Treatment Devices Installed Non-after Treatment Devices: No Non-After Treatment Devices Installed

Pursuant to Section 111 and Section 213 of the Clean Air Act (42 U.S.C. sections 7411 and 7547) and 40 CFR Part 60, 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 engines, by engine family, more fully described in the documentation required by 40 CFR Part 60 and produced in the stated model year.

This certificate of conformity covers only those new compression-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 60 and which are produced during the model year stated on this certificate of the said manufacturer, as defined in 40 CFR Part 60.

It is a term of this certificate that the manufacturer shall consent to all inspections described in 40 CFR 1068, 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 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 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

ATTACHMENT 2
LEGAL NOTICE

Lake County Publishing
Lake County Record-Bee
2150 S. Main St., PO Box 849
Lakeport, CA 95453
(707) 263-5636
advertising@record-bee.com

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COUNTY OF LAKE, AIR QUALITY MANAGEMENT
2617 SOUTH MAIN ST.
LAKEPORT, CA 95453

Legal No. **0006470925**

Affidavit of Publication
STATE OF CALIFORNIA
County of Lake

I, Audrey Taylor, being first duly sworn, depose and say: That at and during all the dates and times herein mentioned I was, and now am the legal clerk of the Lake County Record-Bee, a newspaper published for the dissemination of local or telegraphic news and intelligence of a general character, having a bona fide subscription list of paying subscribers, and which is, and has been, established, printed and published at regular intervals, to-wit: Daily (except Sunday and Monday) in the City of Lakeport, County and State aforesaid, for more than one year preceding the date of the publication below mentioned, a newspaper of general circulation, as that term is defined by Section 6,000 et al, of the Government Code of the State of California, and is not and was not during any said times, a newspaper devoted to the interests or denomination, or for any members of such classes, professions, trades, callings, races or denominations.

That at, and during all of said dates and times herein mentioned, affiant had and now has knowledge and charge of all notes and advertisements appearing in said newspaper; that the notice of which the annexed is printed copy, was published each week in the regular and entire issue of one or more number of the said newspaper during the period and times of publication thereof, to-wit:

For 1 issue published therein on the following date, viz: 03/14/2020;

that said notice was published in said newspaper proper and not in a supplement; that said notice, as so published, was set in type not smaller than nonpareil, and was preceded with words printed in black face type not smaller than nonpareil, describing and expressing in general terms the purport and character of said notice, as fully appears from the exact copy of said notice, which is hereto annexed as aforesaid.

Executed this 14th day of March, 2020 at Lakeport, California. I hereby declare under penalty of perjury that I have read the foregoing and that it is true and correct.

Audrey Taylor, Legal Clerk

RB20716
LEGAL NOTICE
The Lake County Air Quality Management District has received an application from Geysers Power Company to install and operate an emergency backup diesel generator located at **8950 Socrates mine road, Middletown.** Pertinent documents are available for review at the District Office, 2617 South Main Street, Lakeport, CA 95453. Comments may be submitted by mail, by phone 263-7000, by fax 263-0421, or in person. In order to receive consideration, comments must be submitted within thirty (30) days of this notice.
3/14/2020

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ATTACHMENT 3
APPLICABLE RULES

Provided below in table format are those existing LCAQMD rules most pertinent to the subject consideration from a pubic viewpoint with a statement on expected compliance. The designation "GPC" is used as the abbreviation for Geysers Power Company, LLC.

LCAQMD RULES (SECTIONS) CONSIDERED FOR THIS PERMIT:

Section #	Governs	Compliance Status
Section 400	Visible emissions	Compliance by GPC is expected, addressed by permit condition.
Section 410	Particulate matter emissions from combustion sources	Conformance by GPC is expected.
Section 411	Particulate matter emissions other sources	Compliance by GPC is expected.
Section 430	General - Nuisance	Continued conformance by GPC is anticipated.
Section 431	Burning - Non Agricultural	Conformance by GPC is expected.
Section 439	Fuel Storage	Conformance by GPC is expected.
Section 440	NSPS	Compliance by GPC is expected.
Section 450	NESHAPS	Compliance by GPC is expected.
Section 500	Maintenance reporting	Conformance by GPC is expected.
Section 510	Malfunction-Define emissions allowed	Conformance by GPC is expected.
Section 511	Defines operational time limits under Section 510	Cooperation and conformance by GPC is expected.
Section 520	Evasion	Cooperation and conformance by GPC is expected.
Section 530	Inspection/Emission Data	Cooperation and conformance access by GPC is expected.

ATTACHMENT 3
APPLICABLE RULES

Section #____	Governs_____	Compliance Status
Section 600	Permits-A/C	Conformance determined.
Section 602	Defines parameters for granting/denying A/C's to Sources undergoing New Source Review (NSR)	Conditional A/C permit issued.
Section 605	New Source Review (NSR)	Determination of compliance is the purpose of the herein contained analysis.
Section 606	Requires GPC to comply with all applicable local, state or federal air pollution rules or regulations	Conformance by GPC is expected.
Section 607	Requires CARB review and concurrence within thirty (30) days	Conformance is anticipated.
Section 610	Permits - P/O submittal requirements	Conformance by GPC is expected.
Section 620	Posting of permits	Conformance by GPC is expected.
Section 650	Source Emission Testing	Cooperation and conformance by GPC is expected.
Section 660	Permit fees	Cooperation and conformance by GPC is expected.
Section 661	Analysis fee	Cooperation and conformance by GPC is expected.
Section 671	Covers request for Plans Specifications	Cooperation and conformance by GPC is expected.
Section 700	Covers emergency conditions	Cooperation and compliance expected.
Table IV	Particulate Matter Emissions Standard for Process Units/Equipment	Conformance by GPC is expected.
Table V	Table of Standards	Conformance by GPC is expected.

ATTACHMENT 4
AUTHORITY TO CONSTRUCT PERMIT CONDITIONS

LAKE COUNTY AIR QUALITY MANAGEMENT DISTRICT

GEYSERS POWER COMPANY, LLC
DIESEL ENGINE POWERED EMERGENCY STANDBY COOLING TOWER WET-DOWN PUMP

A/C 2020-05

Equipment List: One (1) 2020 Cummins Model CFP7E-F40 QSB6.7, 204 HP, Tier 3 Diesel Engine, Engine Family: LCEXL0409AAB. S/N to be provided upon installation.

Location: 8950 Socrates Mine Road, Middletown, CA 95461.

Condition 1: Emissions

A. All equipment shall be regularly maintained in good working order pursuant to manufacturer's guidelines and operated in a manner to prevent or minimize air emissions. The Lake County Air Quality Management District (LCAQMD) shall be notified pursuant to Rule 510, regarding equipment breakdown.

B. The total ROG, PM-10, SOx or NOx emission rate for this facility shall not exceed 25 tons per 12-month period. This emission rate determination shall be consistent with the methodology and assumptions used to evaluate the application under which this permit was issued. Diesel particulate emissions shall not exceed 0.11 g/bhp-hr.

C. Visible emissions shall not exceed Ringelmann 0.5 (10% opacity) from the generator exhaust stack for more than three (3) minutes in any one (1) hour.

Condition 2: Administrative

A. This permit has been issued and is valid for a diesel engine powered emergency standby cooling tower wet-down pump for use when commercial line power is not available because of an emergency or line maintenance outage. Geysers Power Company, LLC (GPC) shall develop or utilize an engine maintenance plan with prescribed oil change frequency per manufacturer's specifications and/or the National Emission Standard for Hazardous Air Pollutants (NESHAP) for Reciprocating Internal Combustion Engines (RICE) and New Source Performance Standards (NSPS).

B. Testing and maintenance operations are allowed for up to 50 hours per 12-month period.

C. Diesel fuel utilized shall be California Low Sulfur Diesel containing less than 15ppmw sulfur.

D. GPC shall comply with the requirements of the Air Toxics "Hot Spots" Information and Assessment Act as specified in Sections 44300 - 44394 of the California Health and Safety Code as well as the Air Toxix Control Measure (ATCM) for Stationary Compression Ignition Engines.

E. Within 180 days of initial operation, GPC shall apply for a Permit to Operate, and prove compliance with these conditions.

Condition 3: Records and Reporting
A. GPC shall maintain a log (logs can be hard copy or digital) meeting the requirements of the NESHAP for RICE and NSPS which contains at a minimum, the facility name, location, engine information, fuel used, emission control equipment, maintenance conducted on the engine, and documentation that the engine meets the emission standards.

B. GPC shall maintain a log of usage that shall document hours of operation, and initial startup hours. GPC shall maintain a log of engine maintenance to show compliance with maintenance plan and NSPS requirements.

C. GPC shall document fuel usage by retention of fuel purchase records, accounting for all fuel used in the engine. Log entries shall be retained for a minimum of 36 months, with 24 months of the most recent entries retained on-site. The log shall meet all requirements of the ATCM for Stationary Compression Ignition Engines.

D. GPC shall maintain a non-resettable hour meter capable of displaying 9,999 hours.

E. GPC shall furnish an annual record of fuel use (gallons) and engine use (hours), breaking down hours of testing, maintenance, and emergency use, or in a format acceptable to the LCAQMD, within 15 days of request, and by October 31st of each year.

Condition 4: Modification
A. GPC shall apply for and receive an Authority to Construct permit prior to the addition of new equipment or modification of permitted equipment.

Condition 5: Monitoring
A. The herein permitted facility shall not cause a public nuisance nor make a measurable contribution to any Ambient Air Quality Standard exceed. Should this facility result in odor or health complaints, the LCAQMD may require under Sections 430 and 670, monitoring, testing, and mitigation by GPC to abate said condition.

Condition 6: Identification and Access
A. This permit shall be posted at the equipment site and be available for GPC's reference and LCAQMD staff inspection. If locks or unmanned gates are used to secure the project area, the LCAQMD or its representative will be given free access of entry for the purposes of monitoring or inspecting during normal business hours or periods of engine use.