

<b>SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT</b>  <b>ENGINEERING AND COMPLIANCE DIVISION</b>  <b>APPLICATION PROCESSING AND CALCULATIONS</b>	PAGE 1	PAGES 6
	APPL. NO. 543518 Em ICE Phone	DATE 11/02/12
	PROCESSOR MFN	REVIEWER

## PERMIT TO OPERATE ANALYSIS

### FACILITY MAILING ADDRESS

California Steel Industries  
14000 San Bernardino Avenue  
Fontana, California 92335

(ID: 046268      NOx RECLAIM Cycle 1 – Title V)

### EQUIPMENT LOCATION

SAME AS ABOVE

### EQUIPMENT DESCRIPTION

**APPLICATION NO.      543517      -      TITLE V PERMIT REVISION**

**APPLICATION NO.      543518      -      PERMIT TO OPERATE**  
PROCESS 2:      INTERNAL COMBUSTION ENGINES

INTERNAL COMBUSTION ENGINE, D239, EMERGENCY, GENERAC POWER SYSTEMS, INC., RICH BURN, NATURAL GAS FIRED, ELECTRIC POWER GENERATION, MODEL NO. 6.8GLPNQT-70 WITH A 6.8 LITER V-10 ENGINE, NATURALLY ASPIRATED, TEN CYLINDERS, FOUR CYCLES, 111.93 BHP, WITH NON-SELECTIVE CATALYTIC REDUCTION.

### BACKGROUND

Application No. 543517 was filed on October 16, 2012, for a Significant Permit Revision. Application No. 543518 was filed on October 16, 2012, as a Class I Permit to Construct/Operate.

### **Complaints**

There were no complaints credited to this facility for the past two years.

### **Notices to Comply**

D20285, 06/21/11 1) to calculate monthly NOx emissions for D202 using monthly totalizing fuel meter readings & appendix A.

2) to report quarterly emissions for major sources, report R219 using all record identifiers.

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3) submit QCERs

Applicant in compliance with all requested requirements, no subsequent compliance action taken.

D122245, 12/09/11 Certification of Emissions Reports are to be signed by the highest management official with responsibility for operation of equipment subject to the Facility Permit.

Applicant has corrected practice.

### **PROCESS DESCRIPTION**

California Steel Industries, Inc. (CSI) is a steel rolling mill that produces hot rolled, cold rolled, pickled and oiled and galvanized steel products, they also produce electric resistance welded pipe.

This natural gas Emergency Electrical Generator (EEG) will be used to power equipment for their Phone System (PS) during power outages and emergencies. Currently CSI has a LPG fueled EEG (device ID D11) performing this task. The new natural gas fueled EEG is rated 111.93 hp. The existing LPG EEG is 107 hp and will be removed from service once the new engine is installed and tested.

### **EVALUATION**

**Given:**

Operating Schedule: 1 hr/day, 1 day/wk, 52 wks/yr  
(District Default for Emergency Engines)  
System Manufacturer: Generac Power Systems  
Rating: 111.93 BHp  
Fuel: Natural Gas  
Fuel Usage Rate: 1020 ft<sup>3</sup>/hr  
NSCR Manufacturer: Generac

$$R1 = R2$$

$$R1 \text{ (lb/hr)} = \frac{\text{hp} \times \text{gr/bhp-hr}}{454 \text{ gr/lb}}$$

Per Table 1 of Rule 2012 titled RELCAIM NOx Emission Factors, NOx emission factor for an ICE is the equivalent to the permitted BACT limit.

$$\text{NO}_{x\text{RECLAIM}} = \frac{(1.5 \text{ gr/bhp-hr}) \times (111.93 \text{ bhp}) \times (1,000,000 \text{ cf/mmcf})}{(454 \text{ gr/lb}) \times (1020 \text{ cf/hr})} = 362.56 \text{ lb/mmcf}$$

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Pollutant	Emission factor, R1 g/bhp-hr	Emission factor, R2 g/bhp-hr	Emission rate lb/hr	30 Day Average lb/day	BACT Limit g/bhp-hr	BACT compliance
NOx*	1.07	1.07	0.2638	0.0369	1.5	Yes
CO*	0.10	0.10	0.0247	0.0035	2.0	Yes
ROG*	0.09	0.09	0.0222	0.0031	1.5	Yes
PM <sub>10</sub>	10.0**	10.0	0.0102	0.01	Clean Fuel	Yes
SOx	0.6**	0.6	0.000612	0.00	Clean Fuel	Yes

\* NOx, CO and ROG emission factors based on Certified Engine information

\*\* PM<sub>10</sub> and SOx emission factors are District Default for 4 Stroke, Rich-Burn Engines and in lb/mmcf.

## **RULES COMPLIANCE**

### **RULE 212** Public Notification

**Paragraph 212 (c)(1)** Requires a public notice for all new or modified permit units that may emit air contaminants located within 1,000 feet from the outer boundary of a school. According to the website geodistance.com the closest school, Live Oak Elementary School is over 1 mile from California Steel Industries' property line. A 30-Day Public Notice is not required under this paragraph.

**Paragraph 212(c)(2)** The equipment will not result in on-site emission increase exceeding the daily maximums as specified in the table in Rule 212(g). Therefore, a 30-day public notice period will not be required under this paragraph.

**Paragraph 212(c)(3)** Public notice will not be required under this paragraph. See Rule 1401 evaluation section.

**RULE 401** Compliance is expected. Visible emissions are not expected with proper maintenance and operation of this equipment.

**RULE 402** Compliance is expected. Operation of this equipment is not expected to cause a nuisance.

**RULE 404** Engine is in compliance with this rule. Per table 404(a), the allowable PM concentration at 557 scfm is 0.196 gr/scf

$$PM = \frac{0.0102 \text{ lb/hr} \times 7000 \text{ gr/lb}}{557 \text{ scfm} \times 60 \text{ min/hr}} = 0.002 \text{ gr/scf}$$

**RULE 431.1** Natural gas purchased is required to have a sulfur content less than 16 ppmv. Compliance is expected.

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**RULE 1110.2** Engine is exempt per section (h)(2) of this rule.

**REG XIII** This engine is in compliance with current **BACT** Limits for a spark ignition engine. Emergency engines are exempt from **Modeling** and **Offsets** per R1304 (a)(4).

**RULE 1401** Exempt per section (g)(1)(F) of this rule.

**RULE 1470** Does not apply to Natural Gas fueled engines.

**REG XX** NOx emissions are offset by CSI's available NOx RTC's. See condition I297.3

**REG XXX** This is a Significant Permit revision. EPA 45-day and 30-day Public Notice is required.

**NESHAP ZZZZ** National Emission Standard for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines, this Emergency SI Engine is located at a HAP area source. This RICE NESHAP requires compliance with Stationary Engine NSPS JJJJ

**NSPS JJJJ** New Source Performance Standards for Stationary Compression Ignition Internal Combustion Engines, this new Emergency IC Engine is located at HAP area source and in compliance with this standard.

This is a post June 12, 2006, engine. Per JJJJ, it is required to meet standards of Table 1 ( $\text{NO}_x + \text{ROG} \leq 10 \text{ g/BHP-hr}$  and  $\text{CO} \leq 387 \text{ g/BHP-hr}$ ). In addition, certain operating parameters and monitoring requirements are required for this engine. A non-resettable hour meter is required (Condition D12.2). The engine is allowed to operate up to 100 hours per year for maintenance and testing, however our Rule 1303(a) only allow 50 hours per year (Condition C1.8). The engine is also required to comply with manufacturer's written operating instructions (Condition E193.2) and emission standards specified in 40CFR 60.4233(e) (Table 1).

### RECOMMENDATION

After of the 45-day EPA review period and 30-day Public Notice:

Approve Plan for A/N 543517-Significant Permit Revision

Issue Permit to Operate for A/N 543818 as described in this report.

INTERNAL COMBUSTION ENGINE, D239, EMERGENCY, GENERAC POWER SYSTEMS, INC., RICH BURN, NATURAL GAS FIRED, ELECTRIC POWER GENERATION, MODEL NO. 6.8GLPNQT-70 WITH A 6.8 LITER V-10 ENGINE, NATURALLY ASPIRATED, TEN CYLINDERS, FOUR CYCLES, 111.93 BHP, WITH NON-SELECTIVE CATALYTIC REDUCTION.

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**CONDITIONS:**

**C1.6** THE OPERATOR SHALL LIMIT THE OPERATING TIME TO NO MORE THAN 199 HOURS IN ANY ONE YEAR.

THE OPERATOR SHALL MAINTAIN RECORDS IN A MANNER APPROVED BY THE DISTRICT, TO DEMONSTRATE COMPLIANCE WITH THIS CONDITION.

**C1.8** THE OPERATOR SHALL LIMIT THE \_OPERATING TIME TO NO MORE THAN 50 HOURS IN ANY ONE YEAR.

FOR THE PURPOSE OF THIS CONDITION, OPERATING TIME SHALL BE DEFINED AS MAINTENANCE AND TESTING.

THE OPERATOR SHALL MAINTAIN RECORDS IN A MANNER APPROVED BY THE DISTRICT, TO DEMONSTRATE COMPLIANCE WITH THIS CONDITION.

**C1.29** THE OPERATOR SHALL LIMIT THE OPERATING TIME TO NO MORE THAN 4.2 HOURS IN ANY ONE CALENDAR MONTH.

FOR THE PURPOSE OF THIS CONDITION, OPERATING TIME SHALL BE DEFINED AS MAINTENANCE AND TESTING.

THE OPERATOR SHALL MAINTAIN RECORDS IN A MANNER APPROVED BY THE DISTRICT, TO DEMONSTRATE COMPLIANCE WITH THIS CONDITION.

**D12.2** THE OPERATOR SHALL INSTALL AND MAINTAIN A NON-RESETTABLE ELAPSED TIME METER TO ACCURATELY INDICATE THE ELAPSED OPERATING TIME OF THE ENGINE.

**E71.15** THE OPERATOR SHALL ONLY OPERATE THIS EQUIPMENT DURING EMERGENCIES RESULTING IN AN INTERRUPTION OF SERVICE OF THE PRIMARY POWER SUPPLY, DURING A STAGE II OR III ELECTRICAL EMERGENCY DECLARED BY THE CALIFORNIA INDEPENDENT SYSTEM OPERATOR OR FOR MAINTENANCE AND TESTING.

THE OPERATOR SHALL MAINTAIN RECORDS IN A MANNER APPROVED BY THE DISTRICT, TO DEMONSTRATE COMPLIANCE WITH THIS CONDITION.

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**E114.1** THE OPERATOR SHALL NOT USE THIS EQUIPMENT IN CONJUNCTION WITH ANY UTILITY VOLUNTARY DEMAND REDUCTION PROGRAM.

**E193.1** THE OPERATOR SHALL OPERATE AND MAINTAIN THIS EQUIPMENT ACCORDING TO THE FOLLOWING SPECIFICATIONS:

OPERATE ENGINE ACCORDING TO THE MANUFACTURER'S EMISSION-RELATED WRITTEN INSTRUCTIONS.

CHANGE ONLY THE EMISSION RELATED SETTINGS THAT ARE PERMITTED BY THE MANUFACTURER.

MEET THE REQUIREMENTS OF 40CFR PARTS 90 OR 1054 AS APPROPRIATE.

**I297.3** THIS EQUIPMENT SHALL NOT BE OPERATED UNLESS THE FACILITY HOLDS 13 POUNDS OF NOX RTCS IN ITS ALLOCATION ACCOUNT TO OFFSET THE ANNUAL EMISSIONS INCREASE FOR THE FIRST YEAR OF OPERATION. RTCS HELD TO SATISFY THIS CONDITION MAY BE TRANSFERRED ONLY AFTER ONE YEAR FROM THE INITIAL START OF OPERATION. IF THE HOLD AMOUNT IS PARTIALLY SATISFIED BY HOLDING RTCS THAT EXPIRE MIDWAY THROUGH THE HOLD PERIOD, THOSE RTCS MAY BE TRANSFERRED UPON THEIR RESPECTIVE EXPIRATION DATES. THIS HOLD AMOUNT IS IN ADDITION TO ANY OTHER AMOUNT OF RTCS REQUIRED TO BE HELD UNDER OTHER CONDITION(S) STATED IN THIS PERMIT.