

DOCKETED

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Sent: Tuesday, July 08, 2014 12:31 PM
To: Stora, Christine@Energy
Cc: Douglas Hall; Sanjeev Kamboj
Subject: Application 26216 NRG Marsh Landing LLC
Attachments: 26216 Draft Eval to CEC 070814.doc

Follow Up Flag: Follow up
Flag Status: Flagged

Ms. Stora:

The District understands that NRG Marsh Landing LLC (MLGS) has submitted a Petition to Amend the Energy Commission Decision to amend the CEC license for the facility located in Antioch, CA 94509. The Petition is requesting to add diesel standby generator and a diesel fire pump to the licensed equipment. In connection with this Petition, MLGS has also submitted application 26216 to obtain an Authority to Construct for these engines.

The District has prepared the enclosed draft engineering evaluation for these engines. The District is submitting this document to the Energy Commission for use in processing the Petition to Amend the Energy Commission license. The District will revise the conditions in the District Authority to Construct to reflect any changes that the Energy Commission makes to its Conditions of Certification in connection with this Petition.

Let me know if you have any questions.

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DRAFT ENGINEERING EVALUATION
NRG Marsh Landing Generating Station, LLC
Application: 26216
Plant:19169
Antioch, CA 94509

BACKGROUND

Marsh Landing Generation Station has applied to obtain an Authority to Construct (AC) for the following equipment:

S-7 Emergency Standby Diesel Generator, Caterpillar C15 ATAAC, 779 bhp, 4.9 MMBtu/hour

S-8 Diesel Fire Pump, Cummins CFP9E-F20 or Equivalent, 299 bhp, 2.1 MMBtu/hour

The generator set will allow the facility to black start the facility (no grid power). The fire pump will allow the facility to have an onsite fire pump instead of relying on the Contra Costa Power Plant (Plant 18) fire pump.

EMISSIONS

S-7 has been certified by EPA to meet interim Tier 4 emissions standards. S-8 has been certified by EPA to meet Tier 3 emissions standards (S-8 is a direct drive fire pump). Except for SO₂, the emission factors are from the CARB certifications for each engine. The SO₂ emissions were calculated based on the maximum allowable sulfur content (0.0015 wt% S) of the diesel fuel with assumption that all of the sulfur present will be converted to SO₂ during the combustion process.

Diesel Engine Emissions

BAAQMD May 2014

Engine Certification ARB U-R-001-0430 Interim Tier 4

Rated Horsepower: 779 Nameplate

S-7 Emergency Standby Generator Marsh Landing Generating Station

	g/kw-hr	(g/hp-hr)
NOx		2.3100
CO		0.8200
POC		0.0700
PM ₁₀		0.0500
SO ₂		0.0055

Annual Emissions

Pollutants	Factors	Annual (lb/yr)	Annual (TPY)
NOx	2.3100	198.356	0.099
CO	0.8200	70.412	0.035
POC	0.0700	6.011	0.003
PM₁₀	0.0500	4.293	0.002
SO₂	0.0055	0.472	0.0002

*The emission factor for SO₂ is from Chapter 3, Table 3.4-1 of the EPA Document AP-42, Compilation of Air Pollutant Emission Factors.

SO₂: 8.09E-3 (% S in fuel oil) lb/hp-hr = 8.09E-3 (0.0015% S) (453.6 g/lb) = 0.0055 g/hp-hr

Maximum Daily Emissions

Pollutants	Factors	Daily (lb/day)
NOx	2.310	95.211
CO	0.820	33.798
POC	0.070	2.885
PM₁₀	0.050	2.061
SO₂	0.0055	0.227

Pollutants	Factors	hp	Hours	lb/g	lbs/yr	TPY
NOx	= (2.3100 g/hp-hr)*	(779 hp)*	(50 hrs/yr)*	(0.00220 lbs/g)	= 198.36 lbs/yr	= 0.099 TPY
CO	= (0.8200 g/hp-hr)*	(779 hp)*	(50 hrs/yr)*	(0.00220 lbs/g)	= 70.41 lbs/yr	= 0.035 TPY
POC	= (0.0700 g/hp-hr)*	(779 hp)*	(50 hrs/yr)*	(0.00220 lbs/g)	= 6.01 lbs/yr	= 0.003 TPY
PM ₁₀	= (0.0500 g/hp-hr)*	(779 hp)*	(50 hrs/yr)*	(0.00220 lbs/g)	= 4.29 lbs/yr	= 0.002 TPY
SO ₂	= (0.0055 g/hp-hr)*	(779 hp)*	(50 hrs/yr)*	(0.00220 lbs/g)	= 0.47 lbs/yr	= 0.000 TPY

Pollutants	Factors	hp	hr/day	lb/g	lbs/day
NOx	= (2.3100 g/hp-hr)*	(779 hp)*	(24 hr/day)*	(0.00220 lbs/g)	= 95.211 lbs/day
CO	= (0.8200 g/hp-hr)*	(779 hp)*	(24 hr/day)*	(0.00220 lbs/g)	= 33.798 lbs/day
POC	= (0.0700 g/hp-hr)*	(779 hp)*	(24 hr/day)*	(0.00220 lbs/g)	= 2.885 lbs/day
PM ₁₀	= (0.0500 g/hp-hr)*	(779 hp)*	(24 hr/day)*	(0.00220 lbs/g)	= 2.061 lbs/day
SO ₂	= (0.0055 g/hp-hr)*	(779 hp)*	(24 hr/day)*	(0.00220 lbs/g)	= 0.227 lbs/day

Diesel Engine Emissions

BAAQMD May 2014

Engine Certification ARB U-R-002-0521 Tier 3

Rated Horsepower: **299** Nameplate

S-8 Diesel Fire Pump Marsh Landing Generating Station

	g/kw-hr	(g/hp-hr)	
NOx		2.4100	95% of NMHC + NOx
CO		1.4200	
POC		0.1300	5% of NMHC + NOx
PM ₁₀		0.1300	
SO ₂		0.0055	

Annual Emissions

Pollutants	Factors	Annual (lb/yr)	Annual (TPY)
NOx	2.4100	79.430	0.040
CO	1.4200	46.801	0.023
POC	0.1300	4.285	0.002
PM₁₀	0.1300	4.285	0.002
SO₂	0.0055	0.181	0.0001

*The emission factor for SO₂ is from Chapter 3, Table 3.4-1 of the EPA Document AP-42, Compilation of Air Pollutant Emission Factors.

SO₂: 8.09E-3 (% S in fuel oil) lb/hp-hr = 8.09E-3 (0.0015% S) (453.6 g/lb) = 0.0055 g/hp-hr

Maximum Daily Emissions

Pollutants	Factors	Daily (lb/day)
NOx	2.410	38.126
CO	1.420	22.465
POC	0.130	2.057
PM₁₀	0.130	2.057
SO₂	0.0055	0.087

Pollutants	Factors	hp	Hours	lb/g	lbs/yr	TPY
NOx	= (2.4100 g/hp-hr)*	(299 hp)*	(50 hrs/yr)*	(0.00220 lbs/g)	= 79.43 lbs/yr	= 0.040 TPY
CO	= (1.4200 g/hp-hr)*	(299 hp)*	(50 hrs/yr)*	(0.00220 lbs/g)	= 46.80 lbs/yr	= 0.023 TPY
POC	= (0.1300 g/hp-hr)*	(299 hp)*	(50 hrs/yr)*	(0.00220 lbs/g)	= 4.28 lbs/yr	= 0.002 TPY
PM ₁₀	= (0.1300 g/hp-hr)*	(299 hp)*	(50 hrs/yr)*	(0.00220 lbs/g)	= 4.28 lbs/yr	= 0.002 TPY
SO ₂	= (0.0055 g/hp-hr)*	(299 hp)*	(50 hrs/yr)*	(0.00220 lbs/g)	= 0.18 lbs/yr	= 0.000 TPY

Pollutants	Factors	hp	hr/day	lb/g	lbs/day
NOx	= (2.4100 g/hp-hr)*	(299 hp)*	(24 hr/day)*	(0.00220 lbs/g)	= 38.126 lbs/day
CO	= (1.4200 g/hp-hr)*	(299 hp)*	(24 hr/day)*	(0.00220 lbs/g)	= 22.465 lbs/day
POC	= (0.1300 g/hp-hr)*	(299 hp)*	(24 hr/day)*	(0.00220 lbs/g)	= 2.057 lbs/day
PM ₁₀	= (0.1300 g/hp-hr)*	(299 hp)*	(24 hr/day)*	(0.00220 lbs/g)	= 2.057 lbs/day
SO ₂	= (0.0055 g/hp-hr)*	(299 hp)*	(24 hr/day)*	(0.00220 lbs/g)	= 0.087 lbs/day

PLANT CUMULATIVE INCREASE/OFFSETS

Pollutant	A18404 Original Offset	A18404 Voluntary Offset	A22479 Voluntary Offset	A22479 Increase Voluntary Not Offset	A26216 Increase New	Total
NO _x	78.570		0.000	0.260	0.139	78.709
CO	138.570		0.300		0.058	138.628
POC	14.210	0.03	0.020		0.005	14.215
PM ₁₀	31.540	0.13	0.030		0.004	31.544
SO ₂	4.940		0.020		0.000	4.940

Note: CO emissions were not offset since there are no CO ERCs.

A22479 Increase for NO_x was not offset since CEC only requires mitigation at a 1:1.

District Regulations did not require any offsets be provided for A22479 (voluntary CEC).

Total does not include voluntary CEC mitigation under A18404 and A22479.

Application 18404 offset the gas turbine emissions and the emissions from two exempt natural gas fired preheaters. Under District regulations the facility was only required to offset NO_x and POC emissions from the non-exempt sources. POC offsets would also have been required to be provided by the District small facilities bank since emissions exceed 10 tons/year per 2-2-302. As a CEQA equivalent (Warren-Alquist Act) mitigation measure, the facility provided offsets for POC, PM₁₀, and SO₂ for all sources at the facility. CEC mitigation does not require an offset ratio so no additional NO_x offsets were required to offset the two natural gas fired preheaters.

After the Authority to Construct was issued under application 18404, the applicant increased the maximum firing rate of each preheater from 5 MMBtu/hour to 8 MMBtu/hour. Application 22479 was submitted by the facility to offset a small increase in POC, PM₁₀, and SO₂ emissions from two exempt natural gas fired preheaters. Offsets were provided for POC, PM₁₀, and SO₂ as a CEQA equivalent (Warren-Alquist Act) mitigation measure for the increase in emissions from the preheaters. No additional offsets for NO_x were required since the facility offset the increase of 78.57 at a 1.15 to 1 ratio (90.36 tons of offsets were surrendered). The increase from the heaters is in effect offset by the 15% ratio.

As part of the current application, the applicant will also offset the increase in emissions due to the installation of S-7 and S-8 from all pollutants except CO. In accordance with 2-2-302, NO_x emissions will be offset at a 1.15 to 1 ratio since the permitted emissions exceed 35 tons/year. In accordance with 2-2-302, POC emissions will be offset at a 1 to 1 ratio since the permitted emissions exceed 10 tons/year. Normally, POC offsets would be supplied by the District’s small facilities bank, but POC emissions will be provided by the applicant as a CEC CEQA equivalent mitigation. The applicant will also provide offsets for PM₁₀ and SO₂ emissions at a 1 to 1 ratio as a CEC CEQA equivalent mitigation. The facility will offset the following under this application:

NOx 0.139 ton/year x 1.15 = 0.160 ton/year
 POC 0.005 ton/year
 PM10 0.004 ton/year
 SO2 0.000 ton/year

As stated previously, District regulations only require the facility to offset NOx emissions per 2-2-302. The applicant is surrendering the following ERCs to offset the emissions increase associated with S-7 and S-8.

NRG Potrero, LLC holds banking certificate 1294 (issued 5/2/12 when the Potrero power plant shutdown in San Francisco). This certificate will be transferred to NRG Marsh Landing, LLC when the emission reduction credits are surrendered to offset the increase from this application. This certificate holds the following emissions reduction credits which are adequate to offset the increase from this application.

	NOx (tons/year)	POC (tons/year)	PM10 (tons/year)	SO2 (tons/year)
Certificate 1294	5.894	3.644	5.061	0.399
District Offsets	0.160			
CEC Mitigation		0.005	0.004	0.000
Remaining ERCs	5.734	3.639	5.057	0.399

TOXIC RISK SCREENING ANALYSIS

This application required a Toxics Risk Screen because the diesel particulate emissions from S-7 and S-8 are greater than the toxic trigger level.

Source:	PM₁₀ Emission Factor (g/HP-hr)	HP	Annual Usage (Hours/year)	Diesel Exhaust Particulate Emissions (lb/year):	Trigger Level (lb/yr)	Risk Screen Required? (Yes/No)
7	0.05	779	50	4.29	0.34	Y
8	0.13	299	50	4.28	0.34	Y

S-7 and S-8 meet Best Available Control Technology for toxics (TBACT) since the diesel particulate emissions from both engines are less than 0.15 g/bhp-hr.

Per the attached memorandum dated May 14, 2014 by Catherine S. Fortney, the cancer risk at the maximum exposed residential receptor was 0.03 in a million with a chronic hazard index of 0.00001. The cancer risk at the maximum exposed worker receptor was 0.17 in a million with a chronic hazard index of 0.0001. The risk screen results meet Regulation 2, Rule 5 requirements. S-7 and S-8 both meet TBACT and will have conditions limiting maintenance and reliability testing to 50 hour per year or less.

STATEMENT OF COMPLIANCE

BACT

In accordance with Regulation 2, Rule 2, Section 301, BACT is triggered for any new or modified source with the potential to emit 10 pounds or more per highest day of POC, NPOC, NOx, CO, SO₂ or PM₁₀. The latest District BACT guideline is shown below.

Source:	<i>IC Engine – Compression Ignition: Stationary Emergency, non-Agricultural, non-direct drive fire pump</i>	Revision:	7
		Document #:	96.1.3
Class:	> 50 BHP Output	Date:	12/22/2010
POLLUTANT	BACT 1. Technologically Feasible/ Cost Effective 2. Achieved in Practice 3. TBACT	TYPICAL TECHNOLOGY	
POC	1. n/s ^c 2. CARB ATCM standard ^a for POC at applicable horsepower rating (see attached Table 1).	1. n/s ^c 2. Any engine certified or verified to achieve the applicable standard. ^a	
NOx	1. n/s ^c 2. CARB ATCM standard ^a for NOx at applicable horsepower rating (see attached Table 1).	1. n/s ^c 2. Any engine certified or verified to achieve the applicable standard. ^a	
SO₂	1. n/s ^c 2. Fuel sulfur content not to exceed 0.0015% (wt) or 15 ppm (wt).	1. n/s ^c 2. CARB Diesel Fuel (Ultra Low Sulfur Diesel)	
CO	1. n/s ^c 2. CARB ATCM standard ^a for CO at applicable horsepower rating (see attached Table 1).	1. n/s ^c 2. Any engine certified or verified to achieve the applicable standard. ^a	
PM₁₀	1. n/s ^c 2. 0.15 g/bhp-hr 3. 0.15 g/bhp-hr	1. n/s ^c 2. Any engine or technology demonstrated, certified or verified to achieve the applicable standard. 3. Any engine or technology demonstrated, certified or verified to achieve the applicable standard.	
NPOC	1. n/s ^c 2. n/s	1. n/s ^c 2. n/s	

Reference:

- a. ATCM standard (listed below): Where NMHC + NOx is listed (with no individual standards for NOx or NMHC) as the standard, the portions may be considered 95% NOx and 5% NMHC. For the purposes of determining BACT NMHC = POC. Any engine which has been certified or demonstrated to meet the current year tier standard may be considered compliant with the certified emission standard for that pollutant.*
- b. Deleted (no longer applies).*
- c. Cost effectiveness analysis must be based on lesser of 50 hr/yr or non-emergency operation as limited by District health risk screen analysis.*

BACT 2 Emission Limits based on CARB ATCM

Emissions Standards for Stationary Emergency Standby Diesel-Fueled CI Engines >50 BHP g/Kw-hr (g/bhp-hr)			
Maximum Engine Power	PM	NMHC+NOx	CO
37 < KW < 56 (50 < HP < 75)	0.20 (0.15)	4.7 (3.5)	5.0 (3.7)
56 < KW < 75 (75 < HP < 100)	0.20 (0.15)	4.7 (3.5)	5.0 (3.7)
75 < KW < 130 (100 < HP < 175)	0.20 (0.15)	4.0 (3.0)	5.0 (3.7)
130 < KW < 225 (175 < HP < 300)	0.20 (0.15)	4.0 (3.0)	3.5 (2.6)
225 < KW < 450 (300 < HP < 600)	0.20 (0.15)	4.0 (3.0)	3.5 (2.6)
450 < KW < 560 (600 < HP < 750)	0.20 (0.15)	4.0 (3.0)	3.5 (2.6)
KW > 560 (HP > 750)	0.20 (0.15)	6.4 (4.8)	3.5 (2.6)

For S-7 and S-8, BACT is triggered for NOx and CO since the maximum daily emissions for these pollutants exceeds 10 lb/day. The BACT guideline for this source is presented in the current BAAQMD BACT/TBACT Workbook for IC Engine – Compression Ignition: Stationary Emergency, non-Agricultural, non-direct drive fire pump, Document # 96.1.3, Revision 7 dated 12/22/2010.

For NOx, BACT(2) is 2.85 g/bhp-hr (95% of NMHC + NOx Tier 3 limit of 3.0 g/bhp-hr). For CO BACT (2) is 2.6 g/bhp-hr (Tier 3 limit). BACT(1) has not been determined for NOx or CO. Based on the certified emissions factors provided by the manufacturer, S-7 and S-8 both meet the BACT(2) standards for NOx and CO.

Regulation 6, Rule 1

S-7 and S-8 are tier certified engines that are expected to comply with Regulation 6, Rule 1 ("Particulate Matter") requirements. Regulation 6-1-303.1 limits opacity from internal combustion engines to Ringelmann 2. Regulation 6-1-305 limits emissions of visible particles on adjacent properties. Regulation 6-1-310 limits particulate concentration to less than or equal to 0.15 grains/dscf exhaust volume.

Regulation 9, Rule 1

S-7 and S-8 are expected to comply with 9-1-301 (ground level concentration) and 9-1-304 (0.5% by weight in fuel) by combusting ARB diesel (15 ppm S).

Regulation 9, Rule 8

S-7 and S-8 will be operated as emergency standby engines and therefore are not subject to the emission rate limits in Regulation 9, Rule 8 ("NOx and CO from Stationary Internal Combustion Engines"). S-7 and S-8 are exempt from the requirements of Sections 9-8-301 through 305, 501

and 503 per Reg. 9-8-110.5 (Emergency Standby Engines). S-7 and S-8 are subject to and expected to comply with 9-8-330 (Emergency Standby Engines, Hours of Operation) since non-emergency hours of operation will be limited in the permit conditions to 50 hours per year. S-7 and S-8 are also subject to and expected to comply with monitoring and record keeping requirements of Regulation 9-8-530.

CEQA

The California Energy Commission (CEC) is the lead agency under a CEQA equivalent process (Warren-Alquist Act). The applicant will be submitting a request to the CEC to amend the license to include these engines. The District will not issue the Authority to Construct until the CEC approves of the addition of these engines to the license for the facility.

Public Notice - Schools

This facility is not within 1,000 feet from the nearest school and therefore is not subject to the public notification requirements of Regulation 2-1-412.

CARB STATIONARY DIESEL ENGINE ATCM

S-7 and S-8 are expected to comply with the Airborne Toxics Control Measure for Stationary Compression Ignition Engines (ATCM). The allowable operating hours and recordkeeping requirements contained in the ATCM will be included in the Permit Conditions below. The hours of operation for S-7 will be limited according to the ATCM (See Table 1 and 2) based on the emissions data available for each engine. The ATCM does not limit hours for reliability and maintenance testing for diesel fire pump engines as long as the hours are necessary to comply with NFPA 25 requirements. The Tier 3 diesel fire pump engine S-8 will also be allowed up to 50 hours for maintenance and testing and subject to Condition No. 22850.

NSPS for S-7

S-7 is subject to 40 CFR 60, Subpart IIII, Standards of Performance for Stationary Compression Ignition Internal Combustion Engines because it was manufactured after April 1, 2006, as required by Section 60.4200(a)(2)(i).

S-7 is 299 hp and each cylinder has a volume of less than 10 liters. S-7 is a 2012 model year engine and is not a fire pump. Section 60.4205(b) requires this engine to comply with the emission standards in Section 60.4202, which refers to 40CFR89.112 and 40CFR89.113 for all pollutants.

For engines greater than 175 hp and smaller than 300 hp, these standards are:

NMHC+NOx: 3.0 g/hp-hr

CO: 2.6 g/hp-hr

PM: 0.15 g/hp-hr

20% opacity during acceleration mode

15% opacity during lugging mode

50% opacity during peaks in acceleration or lugging mode

According to the manufacturer's specification and ARB emission certification, the engine will comply with the standards.

Sections 60.4206 and 60.4211(a) require that the owner/operator operate and maintain the engine according to the manufacturer's written instructions or procedures developed by the owner or operator that are approved by the engine manufacturer, over the entire life of the engine. The owner/operator is expected to comply with this requirement.

Section 60.4207(a) requires that by October 1, 2007, the owner/operator must use fuel that complies with 40 CFR 80.510(a). This means that the fuel must have a sulfur content of 500 parts per million (ppm) maximum, a cetane index of 40 or a maximum aromatic content of 35 volume percent. The owner/operator is expected to comply with this requirement because CARB diesel is required to be used in California.

Section 60.4207(b) requires that by October 1, 2010, the owner/operator must use fuel that complies with 40 CFR 80.510(b). This means that the fuel must have a sulfur content of 15 parts per million (ppm) maximum, and the same cetane index or aromatic content as above. The owner/operator is expected to comply with this requirement because CARB diesel is required to be used in California.

Section 60.4209(a) requires a non-resettable hour meter. This requirement is already in the standard permit conditions.

The engine will comply with the requirements of Section 60.4211(c) because it has been certified in accordance with 40 CFR Part 89.

The engine will comply with the requirement in Section 60.4211(f) to run for less than 100 hours per year for maintenance checks and readiness testing, and the prohibition of running for any reason other than emergency operation, maintenance, and testing because the engine is limited by permit condition to 50 hours per year for reliability testing and otherwise may only operate for emergencies.

The owner/operator is not required to perform tests in accordance with Section 60.4212 or 60.4213.

Section 60.4214 states that owner/operators do not have to submit an initial notification to EPA for emergency engines.

Because the engine does not have a diesel particulate filter, the owner/operator is not subject to Section 60.4214(c).

The owner/operator is required to comply with certain sections of 40 CFR 60, Subpart A, General Provisions. The owner/operator is expected to comply with this requirement.

NSPS for S-8

S-8 is subject to 40 CFR 60, Subpart IIII, Standards of Performance for Stationary Compression Ignition Internal Combustion Engines because it was manufactured after July 1, 2006 and is a certified NFPA fire pump engine, as required by Section 60.4200(a)(2)(ii).

S-8 is 779 hp and each cylinder has a volume of less than 30 liters. S-7 is a 2010 model year engine and is a fire pump. Section 60.4205(c) requires this engine to comply with the emission standards in table 4 of Subpart IIII.

For engines greater than 175 hp and smaller than 300 hp, these standards are:

NMHC+NO_x: 3.0 g/hp-hr

CO: 2.6 g/hp-hr

PM: 0.15 g/hp-hr

According to the manufacturer's specification and ARB emission certification, the engine will comply with the standards.

Sections 60.4206 and 60.4211(a) require that the owner/operator operate and maintain the engine according to the manufacturer's written instructions or procedures developed by the owner or operator that are approved by the engine manufacturer, over the entire life of the engine. The owner/operator is expected to comply with this requirement.

Section 60.4207(a) requires that by October 1, 2007, the owner/operator must use fuel that complies with 40 CFR 80.510(a). This means that the fuel must have a sulfur content of 500 parts per million (ppm) maximum, a cetane index of 40 or a maximum aromatic content of 35 volume percent. The owner/operator is expected to comply with this requirement because CARB diesel is required to be used in California.

Section 60.4207(b) requires that by October 1, 2010, the owner/operator must use fuel that complies with 40 CFR 80.510(b). This means that the fuel must have a sulfur content of 15 parts per million (ppm) maximum, and the same cetane index or aromatic content as above. The owner/operator is expected to comply with this requirement because CARB diesel is required to be used in California.

Section 60.4209(a) requires a non-resettable hour meter. This requirement is already in the standard permit conditions.

The engine will comply with the requirements of Section 60.4211(c) because it has been certified in accordance with 40 CFR Part 89.

The engine will comply with the requirement in Section 60.4211(f) to run for less than 100 hours per year for maintenance checks and readiness testing, and the prohibition of running for any reason other than emergency operation, maintenance, and testing because the engine is limited by permit condition to 50 hours per year for reliability testing and otherwise may only operate for emergencies.

The owner/operator is not required to perform tests in accordance with Section 60.4212 or 60.4213.

Section 60.4214 states that owner/operators do not have to submit an initial notification to EPA for emergency engines.

Because the engine does not have a diesel particulate filter, the owner/operator is not subject to Section 60.4214(c).

The owner/operator is required to comply with certain sections of 40 CFR 60, Subpart A, General Provisions. The owner/operator is expected to comply with this requirement.

NESHAP

This engine is not subject to the emission or operating limitations in 40 CFR 63, Subpart ZZZZ, National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines, because it is subject to Subpart IIII (See 40 CFR 63.6590(c)(1)). S-7 and S-8 comply with Subpart ZZZZ by meeting Subpart IIII requirements.

PSD is not triggered.

PERMIT CONDITIONS

Condition for S-7 and S-8:

COND# 22850 -----

1. The owner/operator shall not exceed 50 hours per year per engine for reliability-related testing.
[Basis: Title 17, California Code of Regulations, section 93115, ATCM for Stationary CI Engines]
2. The owner/operator shall operate each emergency standby engine only for the following purposes: to mitigate emergency conditions, for emission testing to demonstrate compliance with a District, State or Federal emission limit, or for reliability-related activities (maintenance and other testing, but excluding emission testing). Operating while mitigating emergency conditions or while emission testing to show compliance with District, State or Federal emission limits is not limited.
[Basis: Title 17, California Code of Regulations, section 93115, ATCM for Stationary CI Engines]
3. The owner/operator shall operate each emergency

DRAFT ENGINEERING EVALUATION (A26216, July 8, 2014)

standby engine only when a non-resettable totalizing meter (with a minimum display capability of 9,999 hours) that measures the hours of operation for the engine is installed, operated and properly maintained.

[Basis: Title 17, California Code of Regulations, section 93115, ATCM for Stationary CI Engines]

4. Records: The owner/operator shall maintain the following monthly records in a District-approved log for at least 36 months from the date of entry (60 months if the facility has been issued a Title V Major Facility Review Permit or a Synthetic Minor Operating Permit). Log entries shall be retained on-site, either at a central location or at the engine's location, and made immediately available to the District staff upon request.
 - a. Hours of operation for reliability-related activities (maintenance and testing).
 - b. Hours of operation for emission testing to show compliance with emission limits.
 - c. Hours of operation (emergency).
 - d. For each emergency, the nature of the emergency condition.
 - e. Fuel usage for each engine(s).

[Basis: Title 17, California Code of Regulations, section 93115, ATCM for Stationary CI Engines]

5. At School and Near-School Operation:
If the emergency standby engine is located on school grounds or within 500 feet of any school grounds, the following requirements shall apply:

The owner/operator shall not operate each stationary emergency standby diesel-fueled engine for non-emergency use, including maintenance and testing, during the following periods:

- a. Whenever there is a school sponsored activity (if the engine is located on school grounds)
- b. Between 7:30 a.m. and 3:30 p.m. on days when school is in session.

"School" or "School Grounds" means any public or private school used for the purposes of the education of more than 12 children in kindergarten or any of grades 1 to 12, inclusive, but does not include any private school in which education is primarily conducted in a private home(s). "School" or

"School Grounds" includes any building or structure, athletic field, or other areas of school property but does not include unimproved school property.

[Basis: Title 17, California Code of Regulations, section 93115, ATCM for Stationary CI Engines]

RECOMMENDATION

Issue a conditional Authority to Construct to NRG Marsh Landing Generating Station for:

S-7 Emergency Standby Diesel Generator, Caterpillar C15 ATAAC, 779 bhp, 4.9 MMBtu/hour

S-8 Diesel Fire Pump, Cummins CFP9E-F20 or Equivalent, 299 bhp, 2.1 MMBtu/hour

Exemptions: None

Brian Lusher
Senior Air Quality Engineer