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PERMIT TO OPERATE EVALUATION

APPLICANT

Southern California Edison
2492 W San Bernardino Ave
Redlands, CA 92374

EQUIPMENT LOCATION

2492 W San Bernardino Ave
Redlands, 92374

EQUIPMENT DESCRIPTION

Section D of the Reclaim Facility Permit ID# 160437

Equipment	ID No.	Connected To	RECLAIM Source Type/ Monitoring Unit	Emissions and Requirements	Conditions
Process 1: INTERNAL COMBUSTION					
System 1: GAS TURBINES, POWER GENERATION					
TURBINE, GAS, NO. 3A (TRAIN 3-1), NATURAL GAS, GENERAL ELECTRIC, MODEL 7FA.04, COMBINED CYCLE, WITH DRY LOW NOX COMBUSTORS DLN 2.6+, 1,991 MMBTU/HR AT 30 DEG F, WITH A/N: ~~500208~~ **578178** GENERATOR, ELECTRICAL ~~175.7~~ **177.1** MW (~~MAXIMUM~~ GROSS OUTPUT AT 59 DEG F)	D18	C23, C24, S26	NOX: MAJOR SOURCE	CO: 2000 PPMV (5) [RULE 407]; CO: 6 PPMV (4) [RULE 1303 BACT]; NOX: 2 PPMV (7) [RULE 2005]; NOX 87.9 PPMV (8) [40CFR 60 SUBPART GG]; PM: 0.01 GR/SCF (5A) [RULE 475]; PM: 0.1 GR/SCF (5) [RULE 409]; PM: 11 LBS/HR (5) [RULE 475];	A63.2, A63.3, A63.4, A99.2, A99.3, A195.1, A195.2, A327.1, A433.1, A433.2, D29.2, D82.1, D82.2, D182.1, D372.1, E57.1, E193.1, E193.3, E193.4, H23.4, I298.1, K40.1,

Equipment	ID No.	Connected To	RECLAIM Source Type/ Monitoring Unit	Emissions and Requirements	Conditions
GENERATOR, HEAT RECOVERY STEAM STEAM TURBINE, GE, MODEL D11, COMMON WITH GAS TURBINE 3B, ~~209.2~~ **212.4** MW (~~MAXIMUM~~ GROSS OUTPUT AT 59 DEG F)				SOX: 150 PPMV (8) [40CFR 60 SUBPART GG]; SO2: (9) [40CFR 72 – ACID RAIN]; VOC: 2 PPMV (4) [RULE 1303-BACT]	K67.4, K171.1, K171.2, K171.3
BURNER, DUCT, NATURAL GAS, 135 MMBTU/HR A/N: ~~500208~~ **578178**	D21	C23, C24, S26	NOX: MAJOR SOURCE	CO: 2000 PPMV (5) [RULE 407]; CO: 6 PPMV (4) [RULE 1303 BACT]; NOX: 2 PPMV (7) [RULE 2005]; NOX 87.9 PPMV (8) [40CFR 60 SUBPART GG]; PM: 0.01 GR/SCF (5A) [RULE 475]; PM: 0.1 GR/SCF (5) [RULE 409]; PM: 11 LBS/HR (5) [RULE 475]; SOX: 150 PPMV (8) [40CFR 60 SUBPART GG]; SO2: (9) [40CFR 72 – ACID RAIN]; VOC: 2 PPMV (4) [RULE 1303-BACT]	I298.7
STACK, NO. 3A, DIA: 18 FEET, HEIGHT: 200 FEET A/N: ~~500208~~ **578178**	S26	D18	D21		
TURBINE, GAS, NO. 3B (TRAIN 3-2), NATURAL GAS, GENERAL ELECTRIC, MODEL 7FA.04, COMBINED CYCLE, WITH DRY LOW NOX COMBUSTORS DLN	D27	C32, C33, S35	NOX: MAJOR SOURCE	CO: 2000 PPMV (5) [RULE 407]; CO: 6 PPMV (4) [RULE 1303 BACT]; NOX: 2 PPMV (7) [RULE 2005]; NOX	A63.2, A63.3, A63.4, A99.2, A99.3, A195.1, A195.2, A327.1, A433.1,

Equipment	ID No.	Connected To	RECLAIM Source Type/ Monitoring Unit	Emissions and Requirements	Conditions
2.6+, 1,991 MMBTU/HR AT 30 DEG F, WITH A/N: ~~500211~~ **578179** GENERATOR, ELECTRICAL ~~175.7~~ **177.1** MW (~~MAXIMUM~~ GROSS OUTPUT AT 59 DEG F) GENERATOR, HEAT RECOVERY STEAM STEAM TURBINE, GE, MODEL D11, COMMON WITH GAS TURBINE 3A, ~~209.2~~ **212.4** MW (~~MAXIMUM~~ GROSS OUTPUT AT 59 DEG F)				87.9 PPMV (8) [40CFR 60 SUBPART GG]; PM: 0.01 GR/SCF (5A) [RULE 475]; PM: 0.1 GR/SCF (5) [RULE 409]; PM: 11 LBS/HR (5) [RULE 475]; SOX: 150 PPMV (8) [40CFR 60 SUBPART GG] SO2: (9) [40CFR 72 – ACID RAIN]; VOC: 2 PPMV (4) [RULE 1303-BACT]	A433.2, D29.2, D82.1, D82.2, D182.1, D372.1, E57.1, E193.1, E193.3, E193.4, H23.4, I298.2, K40.1, K67.4, K171.1, K171.2, K171.3
BURNER, DUCT, NATURAL GAS, 135 MMBTU/HR A/N: ~~500211~~ **578179**	D30	C32, C33, S35	NOX: MAJOR SOURCE	CO: 2000 PPMV (5) [RULE 407]; CO: 6 PPMV (4) [RULE 1303 BACT]; NOX: 2 PPMV (7) [RULE 2005]; NOX 87.9 PPMV (8) [40CFR 60 SUBPART GG]; PM: 0.01 GR/SCF (5A) [RULE 475]; PM: 0.1 GR/SCF (5) [RULE 409]; PM: 11 LBS/HR (5) [RULE 475]; SOX: 150 PPMV (8) [40CFR 60 SUBPART GG]; SO2: (9) [40CFR 72 – ACID RAIN]; VOC: 2 PPMV (4) [RULE 1303-BACT]	I298.8

Equipment	ID No.	Connected To	RECLAIM Source Type/ Monitoring Unit	Emissions and Requirements	Conditions
STACK, NO. 3B, DIA: 18 FEET, HEIGHT: 200 FEET A/N: ~~500211~~ **578179**	S35	D27, D30			
TURBINE, GAS, NO. 4A (TRAIN 4-1), NATURAL GAS, GENERAL ELECTRIC, MODEL 7FA.04, COMBINED CYCLE, WITH DRY LOW NOX COMBUSTORS DLN 2.6+, 1,991 MMBTU/HR AT 30 DEG F, WITH A/N: ~~500212~~ **578180** GENERATOR, ELECTRICAL ~~175.7~~ **177.1** MW (~~MAXIMUM~~ GROSS OUTPUT AT 59 DEG F) GENERATOR, HEAT RECOVERY STEAM STEAM TURBINE, GE, MODEL D11, COMMON WITH GAS TURBINE 4B, ~~209.2~~ **212.4** MW (~~MAXIMUM~~ GROSS OUTPUT AT 59 DEG F)	D36	C41, C42, S44	NOX: MAJOR SOURCE	CO: 2000 PPMV (5) [RULE 407]; CO: 6 PPMV (4) [RULE 1303 BACT]; NOX: 2 PPMV (7) [RULE 2005]; NOX 87.9 PPMV (8) [40CFR 60 SUBPART GG]; PM: 0.01 GR/SCF (5A) [RULE 475]; PM: 0.1 GR/SCF (5) [RULE 409]; PM: 11 LBS/HR (5) [RULE 475]; SOX: 150 PPMV (8) [40CFR 60 SUBPART GG] SO2: (9) [40CFR 72 – ACID RAIN]; VOC: 2 PPMV (4) [RULE 1303-BACT]	A63.2, A63.3, A63.4, A99.2, A99.3, A195.1, A195.2, A327.1, A433.1, A433.2, D29.2, D82.1, D82.2, D182.1, D372.1, E57.1, E193.1, E193.3, E193.4, H23.4, I298.3, K40.1, K67.4, K171.1, K171.2, K171.3
BURNER, DUCT, NATURAL GAS, 135 MMBTU/HR A/N: ~~500212~~ **578180**	D39	C41, C42, S44	NOX: MAJOR SOURCE	CO: 2000 PPMV (5) [RULE 407]; CO: 6 PPMV (4) [RULE 1303 BACT]; NOX: 2 PPMV (7) [RULE 2005]; NOX 87.9 PPMV (8) [40CFR 60 SUBPART GG]; PM: 0.01 GR/SCF (5A) [RULE 475]; PM: 0.1 GR/SCF (5) [RULE	I298.9

Equipment	ID No.	Connected To	RECLAIM Source Type/ Monitoring Unit	Emissions and Requirements	Conditions
				409]; PM: 11 LBS/HR (5) [RULE 475]; SOX: 150 PPMV (8) [40CFR 60 SUBPART GG]; SO2: (9) [40CFR 72 – ACID RAIN]; VOC: 2 PPMV (4) [RULE 1303-BACT]	
STACK, NO. 4A, DIA: 18 FEET, HEIGHT: 200 FEET A/N: ~~500212~~ **578180**	S44	D36, D39			
TURBINE, GAS, NO. 4B (TRAIN 4-2), NATURAL GAS, GENERAL ELECTRIC, MODEL 7FA.04, COMBINED CYCLE, WITH DRY LOW NOX COMBUSTORS DLN 2.6+, 1,991 MMBTU/HR, WITH A/N: ~~500213~~ **578181** GENERATOR, ELECTRICAL ~~175.7~~ **177.1** MW (~~MAXIMUM~~ GROSS OUTPUT AT 59 DEG F) GENERATOR, HEAT RECOVERY STEAM STEAM TURBINE, GE, MODEL D11, COMMON WITH GAS TURBINE 4A, ~~209.2~~ **212.4** MW (~~MAXIMUM~~ GROSS OUTPUT AT 59 DEG F)	D45	C50, C51, S53	NOX: MAJOR SOURCE	CO: 2000 PPMV (5) [RULE 407]; CO: 6 PPMV (4) [RULE 1303 BACT]; NOX: 2 PPMV (7) [RULE 2005]; NOX 87.9 PPMV (8) [40CFR 60 SUBPART GG]; PM: 0.01 GR/SCF (5A) [RULE 475]; PM: 0.1 GR/SCF (5) [RULE 409]; PM: 11 LBS/HR (5) [RULE 475]; SOX: 150 PPMV (8) [40CFR 60 SUBPART GG] SO2: (9) [40CFR 72 – ACID RAIN]; VOC: 2 PPMV (4) [RULE 1303-BACT]	A63.2, A63.3, A63.4, A99.2, A99.3, A195.1, A195.2, A327.1, A433.1, A433.2, D29.2, D82.1, D82.2, D182.1, D372.1, E57.1, E193.1, E193.3, E193.4, H23.4, I298.4, K40.1, K67.4, K171.1, K171.2, K171.3
BURNER, DUCT, NATURAL GAS, 135 MMBTU/HR A/N: ~~500213~~ **578181**	D48	C50, C51, S53	NOX: MAJOR SOURCE	CO: 2000 PPMV (5) [RULE 407]; CO: 6 PPMV (4) [RULE 1303 BACT];	I298.10

Equipment	ID No.	Connected To	RECLAIM Source Type/ Monitoring Unit	Emissions and Requirements	Conditions
				NOX: 2 PPMV (7) [RULE 2005]; NOX 87.9 PPMV (8) [40CFR 60 SUBPART GG]; PM: 0.01 GR/SCF (5A) [RULE 475]; PM: 0.1 GR/SCF (5) [RULE 409]; PM: 11 LBS/HR (5) [RULE 475]; SOX: 150 PPMV (8) [40CFR 60 SUBPART GG]; SO2: (9) [40CFR 72 – ACID RAIN]; VOC: 2 PPMV (4) [RULE 1303-BACT]	
STACK, NO. 4B, DIA: 18 FEET, HEIGHT: 200 FEET A/N: ~~500213~~ **578181**	S53	D45, D48			

FACILITY DESCRIPTION

The facility is located in the city of Redlands on a 54.3 acre parcel bound by West San Bernardino Ave on the south, Mountainview Ave on the west, light industrial and office space to the east, and the Santa Ana River channel to the north. The closest residential areas are to the southwest, approximately 1,500 feet from the turbine stacks. The Totally Kids Rehabilitation Hospital is about 2,500 feet to the south of the site, and the hospital also contains a school.

BACKGROUND

The Mountainview power plant was originally permitted by the SCAQMD on May 24, 2001. The power generation equipment consists of four combustion gas turbine generators and two steam turbine generators. Two combustion turbines are paired together with one stream turbine to form the two plus one combined cycle configuration. Therefore, the equipment form two

combined cycle units, Unit 3 and Unit 4. The nominal net plant generation capacity is 1,056 MW. There were several delays in construction of the facility (the construction permit was extended 3 times – on 5/31/02, 3/28/03, and 2/17/04), and several changes in controlling interest in the plant along the way, but eventually the plant was brought online in 2005.

Since the initial construction permit was issued, several modifications of the turbines were requested by Mountainview, summarized as follows:

The original permits to construct were issued on May 24, 2001. In September, 2001, the facility submitted a set of applications to make design changes to the turbines and cooling towers, to make changes to the startup, shutdown, and commissioning period requirements, and to ask for emissions limits pertaining to combustor tuning activities. A revised permit was issued in September 2004. Subsequently, a set of applications was submitted to request an exemption from the NOx and CO BACT limits for shutdowns, and revision of the CO emissions reporting factor. The permit revision was issued in February 2006. A subsequent set of permit applications was submitted to request changing the VOC limit from 1.4 ppm to 2.0 ppm. This request was approved and the permit was issued in September 2006. Mountainview provided an additional 172 lbs. of VOC offsets to cover the increased emissions.

Southern California Edison (SCE) purchased the Mountainview Power Plant from Mountainview Power, LLC effective on 06/30/2009. A set of applications was submitted for change of ownership. The equipment are currently operating under the Change of Ownership permits issued to SCE (5th set of applications).

The following table shows the application history:

Equipment	Device ID#	1st Application	2nd Application	3rd Application	4th Application	5th Application
Turbine 3A	D18	366147	391557	446878	453966	500208
Turbine 3B	D27	366148	391558	446879	453967	500211
Turbine 4A	D36	366149	391559	446881	453968	500212
Turbine 4B	D45	366150	391560	446882	453970	500218

The facility is now proposing changes to the turbine permit by replacing the existing dry low NOx (DLN) combustors with a new DLN combustors that will increase the efficiency of the units, allow faster ramping, and higher turndown ratios.

The Title V permit was renewed and issued to new owner SCE on 4/9/10 under ID# 160437. SCE applied to renew its permit on 10/14/14 under A/N569066. The proposed permit revision of the burner replacement project will be included in the Title V permit renewal. The renewal application is pending SCAQMD review and noticing.

The following table summarizes the applications submittal.

A/N	Submittal Date	Application Purposes	Fee
578178	9/11/15	Gas Turbine 3A Modification	$14,880.63
578179	9/11/15	Gas Turbine 3B Modification	7,440.32
578180	9/11/15	Gas Turbine 4A Modification	7,440.32
578181	9/11/15	Gas Turbine 4B Modification	7,440.32
Expedited Permit Processing Fee			18,600.80
Total Fee Submitted			57,796.94

The Mountainview facility is a federal Title V facility and participates in the NOx RECLAIM program. The proposed modification will be evaluated as a revision to the existing Title V permit for the Southern California Edison, Mountainview Generating Station facility (ID# 160437). The project is also subject to the California Energy Commissioning licensing procedure and an Application for Certification (AFC) has been submitted with that agency (00-AFC-02). The Mountainview facility is considered a major source under PSD. The determination as to whether the proposed changes are subject to a full PSD analysis is discussed further under the rules evaluation. The facility is not a major source of HAP emissions.

COMPLIANCE RECORD REVIEW

According to the SCAQMD compliance database, the Mountainview facility has had 0 citizen complaints file, 2 Notices to Comply, and 0 Notices of Violation in the last 5 years, summarized as follows:

Violation #	Violation Date	Description
D17203	4/16/14	Follow the proper CGA testing frequency
E1179	8/9/12	Improper calculation of emissions for the APEP

There are currently no open compliance issues with the facility.

PROCESS DESCRIPTION

The Mountainview facility is composed of four GE 7FA.03 combustion turbines, equipped with dry low NOx combustors and evaporative inlet air cooling, each with a heat recovery steam generator (HRSG) employing 135 MMBtu/hr duct burners, and two steam turbine generators. All units vent to SCRs and oxidation catalysts. Approximate heat input capacity to the combustion turbines is 1,991 MMBtu/hr, at the low ambient temperature of 30 degree F. The combustion turbines and duct burners use natural gas exclusively.

There are two cooling towers each rated at 147,000 GPM, utilizing reclaimed water.

The exhaust stacks are each 200 feet high with a diameter of 18 feet.

The facility proposes to now replace the existing DLN burners with the latest GE DLN burner technology, called DLN 2.6+. The modification will include an Advanced Gas Path upgrade, consisting of new stage 1-3 buckets, nozzles, and shrouds to account for the higher combustion temperatures, as well as modifications to the combustion system with new caps, liners, TPs, and fuel nozzles. With this upgrade the gas turbine will be equivalent to GE 7FA.04 model.

These modifications will result in improved output and heat rate. The existing gas turbine generates 175.7 megawatts gross at ambient temperature of 30 degree F, and 166.7 megawatts gross at the nominal ambient temperature of 59 degree F. Theoretically, the modification will increase the output to 179.35 megawatts gross at ambient temperature of 59 degree F. In practice and considering plant deterioration over time the facility anticipates the nominal output to be 177.1 megawatts gross at the nominal ambient temperature of 59 degree F. The steam turbine output will increase from 209.2 MWs to 212.4 MWs, at nominal ambient temperature of 59 degree F. The increase in power production will not require an increase in fuel usage, however. The facility has provided a statement from GE Power (dated 11/18/15, copy in the file) which confirms that the max case heat consumption of each gas turbine will remain below 1,991 MMBtu/hr (HHV) across all site ambient conditions (not including duct firing).

The comparison of plant output pre modification vs post modification at nominal ambient condition is summarized in the following table:

	Current Configuration	After Modification
4 combustion turbines, gross output, MW	4*166.7 = 666.8	4*177.1 = 708.4
2 steam turbines, gross output, MW	2*209.2 = 418.4	2*212.4 = 424.8
Plant gross power output, MW	1,085.2	1,133.2
Plant net power output, MW	1,056.0	1,104.0

The project will therefore result in the increase in net plant power output will be 48 megawatts.

The following table outlines the gas turbine specifications.

Specification	
Manufacturer/Model	General Electric
Model	7FA.04
Fuel Type	Pipeline natural gas
Gas Turbine Heat Input Rating	1,802 MMBtu/hr at 59 °F 1,949 MMBtu/hr at 26 °F Not to exceed 1,991 MMBtu/hr @ 30 °F
Gas Turbine Heat Rate	9,049 Btu/kwh at 59 °F

	8,943 Btu/kwh at 26 °F
NOx Combustion Control	DLN (2.6+) 9 ppm

The approximate capital cost of the upgrades is estimated by the facility to be $157 million dollars total for all 4 turbines.

EMISSIONS

There are no changes in emissions because the heat input rate and the emission limits are unchanged by this upgrade. The following tables show the emissions from the turbines taken from the previous application A/N500208.

Pollutant	Uncontrolled Maximum Emissions		Controlled Maximum Emissions		30 Day Average	Annual Controlled
	lbs/hr	lbs/day	lbs/hr	lbs/day	lbs/day	lbs/yr
NOx	142.2	3,039.6	14.22	255.96	1276	382,384
CO	259.1	4,963.8	25.91	466.38	287	163,440
VOC	9.76	234.2	4.88	117	119	25,870
PM10	11	264	11	264	257	59,358
SOx	1.42	34	1.42	34	34	7,468

GHG = 1,991 MMBtu/hr /1,005 Btu/scf * 60.139 tons/mmscf = 119.14 tons/hr

RULE EVALUATION

40CFR Part 60 Subpart GG – Standards of Performance for Stationary Combustion Turbines
The gas turbines are subject to this subpart. As determined in the previous evaluations the applicable emission limits are:

NOx = 87.9 ppmv
SOx = 150 ppmv

Compliance with this rule has been demonstrated by the previous source tests. Continued compliance is expected.

40CFR Part 60 Subpart KKKK – Standards of Performance for Stationary Combustion Turbines
Subpart KKKK applies to gas turbines that are installed after February 18, 2005 and have a heat input greater than 10.7 gigajoules per hour (10 MMBtu/hr). The turbines will not be subject to this subpart.

40CFR 60 Subpart Da – Standards of Performance for Boilers and Duct Burners
The subpart applies to electric utility steam generator units whose heat input rate is greater than 250 MMBtu/hr. The duct burners are rated at 135 MMBtu/hr. The subpart does not apply.

40CFR Part 60 Subpart TTTT – Standards of Performance for Greenhouse Gas Emissions from Electric Utility Generating Units
On August 3rd, 2015 the EPA released the final rule of GHG emissions from electric utility generating units. This subpart applies to the gas turbines.

For a natural gas fired base load unit the requirement is to meet the CO2 limit of 1,000 lbs/MWh gross output on a 12-month rolling average basis. Alternatively, if the equipment has not been operating as a base load unit, the unit shall meet the CO2 limit of 120 lb/MMBtu. EPA defines non-base load operation as generating less than 50% of the rated capacity on an annual basis.

For each of the combined cycle generator, i.e., Unit 3 or Unit 4, the anticipated annual GHG emissions under nominal operating conditions are:

Megawatt rating:	566.6 MW gross (2 combustion turbine and 1 steam turbine)
Annual hours:	8,760 hr/year
Heat input:	1,991 MMBtu/hr @ 30 degree F, per combustion gas turbine
Natural Gas HHV:	1,005 Btu/scf
Fuel usage:	1.981 mmscf/hr, per combustion gas turbine
Annual fuel usage:	1.981 mmscf/hr * 8,760 hr/year * 2 = 34,707 mmscf/yr
Annual GHG:	60.139 tons/mmscf * 34,707 mmscf/yr = 2.087 million tons
Annual Power Output:	566.6 *8,760 = 4.9634 MWh gross

GHG rate = 2.087/4.9634 *2000 = 841 lbs/MWh

Compliance with the 1,000 lbs/MWh standard is anticipated.

NESHAPS for Stationary Gas Turbines - 40CFR Part 63 Subpart YYYY
The facility is not a major source of the hazardous air pollutants (HAP) because the facility total actual HAP emissions are 4.19 tons in 2013, less than the 25 tons/year threshold. The gas turbines are exempted from this subpart.

40CFR Part 64 – Compliance Assurance Monitoring
The CAM regulation applies to major stationary sources that use control equipment to achieve a specified emission limit. The rule is intended to provide a "reasonable assurance" that the control systems are operating properly to maintain compliance with the emission limits. The turbines are major sources for NOx, CO, and VOC emissions, and will use control equipment to meet BACT limits for NOx and CO. The external control equipment for NOx and CO consists of the selective catalyst reduction (SCR) and oxidation catalysts. VOC emissions are controlled

by the use of natural gas and by efficient combustor design, but not by use of an external device. Therefore, the CAM rule applies to NOx and CO emissions. Since there is no add-on control equipment used to meet the VOC limit this regulation would not apply for VOC.

Compliance with the BACT limits for NOx and CO will be through real time monitoring by CEMS. The NOx CEMS will be certified in accordance with Rule 2012 requirements and the CO CEMS will be certified in accordance with the Rule 218 requirements. Compliance with the VOC limit will be determined by periodic source testing. Compliance with this regulation is expected.

40CFR Part 72 – Acid Rain

This facility is subject to the requirements of the Federal Acid Rain program. The facility is required to apply for a federal permit (Title IV). The acid rain program is similar to RECLAIM in that facilities are required to cover SO2 emissions with "SO2 Allowances" (similar to RTCs), or purchases of SO2 on the open market. The facility has existing SO2 allocation as specified in condition F18.1. It may purchase or trade SO2 allowances on the open market. The plant is also required to monitor SO2 emissions through use of fuel gas meters and gas composition analysis (use of emission factors is also acceptable in certain cases) or with the use of exhaust gas CEMS. It is expected that SCE will comply with the monitoring requirements of the acid rain provisions with the use of gas meters in conjunction with gas analysis.

It is noted that the facility had requested via email to Chris Perri that the facility's original allocation be removed. The allocation was from previous operation of Boiler #1 and #2, and was specified in the facility condition F18.1. Therefore, the facility condition F18.1 has been deleted.

California Environment Quality Act (CEQA)

The CEC is the lead agency for CEQA. On January 5, 2015 SCE filed a petition to amend its CEC certification. The CEC is reviewing the replacement project as a modification to the original certification 00-AFC-02C. The District's permit on air quality will be incorporated as a part of the CEC's CEQA certification.

Rule 212 – Standards for Approving Permits

This project is not subject to the Rule 212 public notice requirements because there is no increase in daily maximum or toxic emissions, and the facility is not located within 1,000 feet of a school (the closest school is ABC Hope for Kids School located at 1720 Mountainview Ave, about 2500 feet south of the site).

Rule 401 – Visible Emissions

Visible emissions are not expected under normal operation. There is no indication of visible emission problems in the SCAQMD compliance database.

Rule 402 – Nuisance

Use of ammonia for the SCR system can potentially result in odor problems. However, it is expected that if the facility maintains the 5 ppm ammonia slip level, odor will not be a problem. Furthermore, there have been no issues of odor or other nuisance problems with the plant since it began operating.

Rule 407 – Liquid and Gaseous Air Contaminants

This rule limits the CO emissions to 2,000 ppm. Compliance with the CO limit has been demonstrated through stack testing. The turbine is also subject to a more stringent CO BACT limit of 6 ppm. The tests performed after the installation of the SCRs confirm that the unit can comply with the 6 ppm limit as well. Furthermore, the facility is required to maintain a CO continuous monitor.

Rule 409 Combustion Contaminants

This rule limits particulate emissions to 0.1 gr/scf at 12% CO2. The test results show that the actual particulate emissions are below this limit. The test results are summarized as follows:

	Test	Results, gr/scf at 12% CO2
Initial testing Oct 2005	W/O Duct Firing	0.001
	W/Duct Firing	0.001
Periodic Testing Nov 2008	W/O Duct Firing	0.00079
	W/Duct Firing	0.00074
Periodic Testing Aug 2011	W/O Duct Firing	0.00007
	W/Duct Firing	0.00078

Continued compliance with this rule is expected.

Rule 431.1 – Sulfur Content of Gaseous Fuel

The natural gas supplied to the turbine is expected to comply with the 16 ppmv sulfur limit (calculated as H2S) specified in this rule. Commercial grade natural gas has an average sulfur content of about 4ppm. The applicant will also comply with reporting and record keeping requirements as outlined in subdivision (e) of this rule.

Rule 475 – Electric Power Generating Equipment

This rule applies to power generating equipment greater than 10 MW installed after May 7, 1976, and requires that the equipment meet a limit for combustion contaminants of 11 lbs/hr or 0.01 gr/scf. Compliance is achieved if either the mass limit or the concentration limit is met.

The equipment is expected to meet the 11 lb/hour PM10 emission limit (see the emissions summary table). Compliance is expected.

REGULATION XIII/– New Source Review for Criteria Pollutants

This regulation applies to new or modified sources that have increased emissions discharges. The turbine upgrade project is to replace the existing dry low NOx burner with a more advanced and efficient burner. There will not be an increase in heat input rate. The emission limits will remain unchanged. Therefore, there will not be emissions increases, either in hourly emission rate or 30-day averaged emissions rate. This regulation is not triggered.

The equipment are subject to the tri-annual source tests (condition D29.2) for verification of compliance with PM10, SOx, and VOC BACT emission limits. The facility is scheduled to conduct the next test in the first quarter of 2017. This test may be used as a verification test for the upgrade project. Compliance with NOx and CO BACT limits are monitored through the CEMS. Therefore, a separate source test for verification of the burner upgrade project will not be required.

RULE 1325/40CFR 51 Appendix S – Federal PM2.5 New Source Review
This rule applies to PM2.5 emissions. It applies to a new major polluting facility, a major modification to a major polluting facility, or a modification to an existing facility that would constitute a major polluting facility in and of itself. If triggered, this rule will require use of LAER/BACT and emission offset,

The proposed project is a modification to a major polluting facility. However, it is not a major modification. The modification will not have increase of PM2.5 emissions on potential to emit basis. According to Rule 1325(d)(2) emission calculations for existing emission units may use the Actual-to-Projected-Actual applicability test. In the case, the facility does not expect any increase over the existing baseline emissions, calculated based on the previous 2-year average emissions. The project actual emissions may increase if the unit capacity usage factor increases. However, unused capacity emissions may be subtracted from projected actual for PSD applicability per 40 CFR 52.21(b)(41)(ii)(c). Thus this rule is not triggered.

RULE 1401 – New Source Review for Toxic Pollutants
This rule is not triggered because there are no emission increases.

REGULATION XVII – Prevention of Significant Deterioration
The SCAQMD has a partial delegation of PSD authority form the US EPA. The applicant may apply to SCAQMD for the PSD permit as long as the applicant does not seek to use certain "additional calculation methodologies" and the permit is not based on a "Plantwide Applicability Limit". Otherwise, the applicant will have to apply directly to the EPA for the PSD permit.

The applicant has determined that the replacement project will not require a PSD permit modification by conducting emission calculations using the "additional calculation methodologies". In adopting the "additional calculation methodologies" the applicant does not seek PSD permit modification through the SCAQMD. Instead, the EPA is the PSD authority. The applicant submitted a letter including project summary to the US EPA on December 18, 2015. The applicant explained to EPA its opinion that the project does not trigger PSD review.

In accordance with 40 CFR 52.21(r)(6) the EPA is not expected to make any decision related to PSD non-applicability.

Rule 1714 – PSD for Greenhouse Gases
As of January 2, 2011 Greenhouse gases (GHGs) are a regulated New Source Review pollutant under the PSD permitting program when they are emitted by new sources or modifications to existing sources at amounts equal to or greater than the applicability thresholds of the GHG tailoring rule.

According to a recent Supreme Court decision a project would not trigger GHG PSD review unless other criteria pollutants triggers a PSD review. The GHG by itself does not trigger PSD review regardless of the GHG emissions. This project does not trigger PSD review of criteria pollutants. It therefore does not trigger the GHG PSD review requirement of this rule.

Rule 2005 – New Source Review for RECLAIM Pollutants
This rule applies to NOx emissions because the facility participates in the NOx RECLAIM program. This rule is not triggered because there is no increase in the maximum hourly emissions. The NOx emission limits stay at 2.0 ppmv.

Rule 2012 – NOx RECLAIM Monitoring, Reporting, and Recordkeeping
The four combustion gas turbines are NOx RECLAIM major sources. Each of the units is equipped with a NOx CEMS. The facility is following the monitoring, reporting, and recordkeeping requirements for a NOx major source. Continued compliance is expected.

Regulation XXX – Title V
The project is considered a minor revision to the facility's Title V permit because there will be no emission increases. The draft permit and the engineering evaluation will be submitted to EPA for its 45-day review. The permit revision will be concurrent with the facility's Title V renewal. The Title V permit will be renewed, with the new gas turbine burners, after the EPA review.

RECOMMENDATION

Approved the proposed burner upgrade project subject to the following revision of the conditions.

1. Condition D29.2 is updated with the revised VOC test method.
2. Condition D29.3 is updated with the revised test frequency.
3. Conditions I298.1-I298.4 are revised. The conditions are RECLAIM NOx RTC hold requirements for the gas turbines. It is necessary to separate the duct burners from the gas turbines. New conditions I298.7-I298.10 are created for the duct burners. The original RTC amounts of I298 conditions are partitioned into the gas turbine part and the duct burner part based on the heat input:

For the first year:
NOx, Turbine = 122,170 *1991/(1991+135) = 114,412 lbs
NOx, Duct Burner = 122,170 * 135/(1991+135) = 7,758 lbs

For the subsequent years:

NOx, Turbine = 114845 *1991/(1991+135) = 107,552 lbs
NOx, Duct Burner = 114,845 * 135/(1991+135) = 7,293 lbs

CONDITIONS

Facility Conditions

F9.1 Except for open abrasive blasting operations, the operator shall not discharge into the atmosphere from any single source of emissions whatsoever any air contaminant for a period or periods aggregating more than three minutes in any one hour which is:

(a) As dark or darker in shade as that designated No.1 on the Ringelmann Chart, as published by the United States Bureau of Mines; or

(b) Of such opacity as to obscure an observer's view to a degree equal to or greater than does smoke described in subparagraph (a) of this condition.

[RULE 401, 3-2-1984; RULE 401, 9-11-1998]

F14.1 The operator shall not use diesel fuel containing sulfur compounds in excess of 0.05 percent by weight.

[RULE 431.2, 5-4-1990; RULE 431.2, 9-15-2000]

F14.2 The operator shall not purchase diesel fuel containing sulfur compounds in excess of 15 ppm by weight as supplied by the supplier.

[RULE 431.2, 9-15-2000]

Device Conditions

A63.2 The operator shall limit emissions from this equipment as follows:

Contaminant	Emission Limit
CO	Less than or equal to 8610 LBS IN ANY ONE MONTH
VOC	Less than or equal to 3569 LBS IN ANY ONE MONTH
PM10	Less than or equal to 7725 LBS IN ANY ONE MONTH
SOx	Less than or equal to 1005 LBS IN ANY ONE MONTH

The operator shall calculate the monthly emissions for VOC, PM10 and SOx using the equation below and the following emission factors: VOC - 2.51 lbs/mmscf; PM10 - 5.57 lbs/mmscf; and SOx - 0.71 lbs/mmscf.

Monthly Emissions, lbs/mon = X (E.F.)

where X = monthly fuel usage, mmscf/mon and E.F = emission factor indicated above.

Compliance with the CO emission limit shall be verified through valid CEMS data. In the absence of valid CEMS data the operator shall calculate the emission limit(s) for the purpose of determining compliance with the monthly CO limit by using the above equation and the CO emission factor(s) of 13.10 lbs/mmscf.

~~After CO CEMS certification test is approved by the AQMD, the emissions monitored by the CEMS and calculated in accordance with Condition 82.1 shall be used to calculate emissions.~~

[RULE 1303(b)(2)-Offset]

[Devices subject to this condition: D18, D27, D36, D45]

A63.3 The operator shall limit emissions from this equipment as follows:

Contaminant	Emission Limit
CO	Less than or equal to 694 LBS IN ANY ONE DAY

The operator shall calculate the emission limit(s) from valid CEMS data. In the absence of valid CEMS data, the daily CO emissions shall be calculated by using daily fuel use data and the CO emission factor of 13.10 lbs/mmscf

[RULE 1303(a)(1)-BACT]

[Devices subject to this condition: D18, D27, D36, D45]

A63.4 The operator shall limit emissions from this equipment as follows:

Contaminant	Emission Limit
NOx	Less than 3419 LBS IN ANY ONE DAY

The limit shall be based on the emissions of all 4 turbines combined.

[40CFR 52.21 - PSD]

[Devices subject to this condition: D18, D27, D36, D45]

A99.2 The 2.0 PPM NOX emission limit(s) shall not apply during a startup. Startup time shall not exceed 4 hours per day, except for a cold startup or combustor tuning activities, which shall not exceed 6 hours per day. A shutdown event shall not exceed 30 minutes.

A cold start up shall be defined as a startup of the gas turbine after the steam turbine has been shut down for a period of 72 hours or more

A gas turbine shutdown event shall be defined as the period beginning with the inability to comply with the 2.0 ppmv limit after initiation of the combustion turbine shutdown sequence and ending either with 1) the cessation of firing of the combustion turbine, or 2) when the unit ramps back up after an aborted shutdown, to the attainment of minimum load

Total start up and shutdown time for all four gas turbines shall not exceed 3008 hours per year.

[RULE 2005; 40CFR 52.21 - PSD]

[Devices subject to this condition: D18, D27, D36, D45]

A99.3 The 6.0 PPM CO emission limit(s) shall not apply during a startup. Startup time shall not exceed 4 hours per day, except for a cold startup or combustor tuning activities, which shall not exceed 6 hours per day. A shutdown event shall not exceed 30 minutes.

A cold startup shall be defined as a startup of the gas turbine after the steam turbine has been shutdown for a period of 72 hours or more

A gas turbine shutdown event shall be defined as the period beginning with the inability to comply with the 2.0 ppmv NOx limit after initiation of the combustion turbine shutdown sequence and ending either with 1) the cessation of firing of the combustion turbine, or 2) when the unit ramps back up after an aborted shutdown, to the attainment of minimum load

Total start up and shutdown time for all four gas turbines shall not exceed 3008 hours per year

[RULE 1303(a)(1)-BACT; 40CFR 52.21 - PSD]

[Devices subject to this condition: D18, D27, D36, D45]

A195.1 The 2.0 PPM NOX emission limit(s) is averaged over 60 minutes at 15 percent oxygen, dry. The limit shall not apply to the first fifteen 1-hour average NOx emissions above 2.0 ppmv, dry basis at 15% O2, in any rolling 12- month period for each combustion gas turbine provided that it meets all of the following requirements in subsections A, B, C, and D below.

A. This equipment operates under any one of the following qualified conditions listed under a, b, c, or d.

a) Rapid combustion turbine load changes due to the following conditions: 1) Load changes initiated by the California ISO or a successor entity when the plant is operating under Automatic Generation Control; or 2) Activation of a plant automatic safety or equipment protection system which rapidly decreases turbine load.

b) The first two 1-hour reporting periods following the initiation/shutdown of an evaporative cooler, c) The first two 1-hour reporting periods following the initiation/shutdown of HRSG duct burners, d) events as the result of technological limitation identified by the operator and approved in writing by the EPA and SCAQMD EO or his designees.

B. The 1-hour average NOx emissions above 2.0 ppmv, dry basis at 15 percent O2, did not occur as a result of operator neglect, improper operation or maintenance, or qualified breakdown under Rule 2004(i).

C. The qualified operating conditions described in (A) above are recorded in the plant's operating log within 24 hours of the event, and in the CEMS by 5 p.m. the next business day following the qualified operating condition. The notations in the log and CEMS must describe the data and time of entry into the log/CEMS and the plant operating conditions responsible for NOx emissions exceeding the 2.0 ppmv 1-hour average limit.

D. The 1-hour average NOx concentration for periods that result from a qualified operating condition does not exceed 25 ppmv, dry basis at 15 percent O2.

All NOx emissions during these events shall be included in all calculations of hourly, daily, and annual mass emission rates as required by this permit.

[RULE 2005; 40CFR 52.21 - PSD]

[Devices subject to this condition: D18, D27, D36, D45]

A195.2 The 6.0 PPMV CO emission limit(s) is averaged over 60 minutes at 15 percent oxygen, dry.

[RULE 1303(a)(1)-BACT]

[Devices subject to this condition: D18, D27, D36, D45]

A327.1 For the purpose of determining compliance with District Rule 475, combustion contaminant emissions may exceed the concentration limit or the mass emission limit listed, but not both limits at the same time.

[RULE 475, 10-8-1976; RULE 475, 8-7-1978]

[Devices subject to this condition: D18, D27, D36, D45]

A433.1 The operator shall comply with the 2.0 ppmvd NOx BACT emission concentration limit at all times, except as specified in Condition A195.1 and under the following conditions:

Emission Limit	Averaging Time	Operation Requirements
600 lbs/startup	6 hour	The 600 lbs/startup emission limit shall apply to a single turbine during a cold startup which shall not exceed 6 hours per day.
400 lbs/startup	4 hour	The 400 lbs/startup emission limit shall apply to a single turbine during a startup other than a cold startup. Startup time shall not exceed 4 hours/day
320 lbs/hr	1 hour	The 320 lbs/hr limit shall only apply when a turbine is in any startup mode. The limit shall be based on the total emissions from the 4 turbines (D18, D27, D36, D45) and the duct burners (D21, D30, D39, and D48)

For purposes of this entire condition, a cold startup shall be defined as a startup of a gas turbine after the steam turbine has been shutdown for a period of 72 hours or more

[RULE 2005; 40CFR 52.21 - PSD]

[Devices subject to this condition: D18, D21, D27, D30, D36, D39, D45, D48]

A433.2 The operator shall comply with the 2.0 ppmvd NOx BACT emission concentration limit at all times, except as specified in Condition A195.1 and under the following conditions:

Emission Limit	Averaging Time	Operation Requirements
80 lbs/startup	1 hour	The 80 lbs/hr emission limit shall apply to combustor tuning. Combustor tuning activity shall not exceed 6 hrs/day. The operator shall notify the SCAQMD via email at energy_compliance@aqmd.gov within 2 weeks of combustor tuning activity.
160 lbs/hr	3 hour	The 160 lbs/hr emission limit shall apply to a single turbine during startups. Startup time shall not exceed 4 hours/day, except for a cold startup which shall not exceed 6 hours per day
70 lbs/shutdown	30 minutes	The 70 lbs/shutdown emission limit shall apply to a single gas turbine during a shutdown event which shall not exceed 30 minutes per event.

For purposes of this entire condition, a cold startup shall be defined as a startup of a gas turbine after the steam turbine has been shutdown for a period of 72 hours or more

[RULE 2005; 40CFR 52.21 - PSD]

[Devices subject to this condition: D18, D21, D27, D30, D36, D39, D45, D48]

D29.2 The operator shall conduct source test(s) for the pollutant(s) identified below.

Pollutant to be Tested	Required Test Method	Averaging Time	Location
SOx	~~Approved District Method~~ AQMD Laboratory Method 307-91	District approved averaging time	Fuel Sample

VOC	~~Approved~~ District Method 25.3	I hour	Outlet
PM10 Emissions	~~Approved~~ District Method 5.1	District approved averaging time	Outlet

The test(s) shall be conducted at least once every three years. In the case where 3 consecutive annual PM tests (required by condition D372.1) show compliance, the once every 3 year frequency of this condition shall take precedence over the once every 5 year time frame specified in condition D372.1.

The test shall be conducted and the results submitted to the District within 60 days after the test date.

The SCAQMD shall be notified of the date and time of the test at least 7 days prior to the test.

The test shall be conducted in accordance with a District approved source test protocol. The protocol shall be submitted to the District permitting engineer no later than 45 days before the proposed test date and shall be approved by the District before the test commences. The protocol shall include the proposed operating conditions of the turbine during the tests, the identity of the testing lab, a statement from the lab certifying that it meets the criteria of R304, and a description of all sampling and analytical procedures.

The test shall be conducted to demonstrate compliance with the Rule 1303 concentration and emissions limit.

The test shall be conducted to determine the oxygen levels in the exhaust. In addition, the tests shall measure the fuel flow rate (CFH), the flue gas flow rate, and the turbine generating output (MW).

The test shall be conducted for compliance verification of the BACT VOC 2.0 ppmv limit.

For natural gas fired turbines only, an alternative to SCAQMD Method 25.3 for the purpose of demonstrating compliance with BACT as determined by CARB and SCAQMD, may be the following:

a) Triplicate stack gas samples are extracted directly into Summa canisters, maintaining a final canister pressure between 400-500 mm Hg absolute,

b) Pressurization of the Summa canisters is done with zero gas analyzed/certified to containing less than 0.05 ppmv total hydrocarbons as carbon, and

c) Analysis of Summa canisters is per unmodified EPA Method TO-12 (with preconcentration) or the canister analysis portion of SCAQMD Method 25.3 with a minimum detection limit of 0.3 ppmvC or less and reported to two significant figures, and (d) The temperature of the Summa canisters when extracting samples for analysis is not to be below 70 F.

The use of this alternative method for VOC compliance determination does not mean that it is more accurate than unmodified SCAQMD Method 25.3, nor does it mean that it may be used in lieu of SCAQMD Method 25.3 without prior approval, except for the determination of compliance with the BACT level of 2.0 ppmv VOC calculated as carbon set by CARB for natural gas fired turbines.

The test shall be conducted when this equipment is operating at loads of 100, 75, and 50 percent of maximum load.

[RULE 1303(a)(1)-BACT; RULE 1303(b)(2)-Offset]

[Devices subject to this condition: D18, D27, D36, D45]

D29.3 The operator shall conduct source test(s) for the pollutant(s) identified below.

Pollutant to be Tested	Required Test Method	Averaging Time	Location
NH3	District Method 207.1 and 5.3 or EPA method 17	1 hour	Outlet

The test shall be conducted ~~once each calendar quarter during the first 12 months of operation and at least~~ annually ~~thereafter~~. The NOx concentration, as determined by the CEMS, shall be simultaneously recorded during the ammonia slip test. If the CEMS is inoperable, a test shall be conducted to determine the NOx emissions using District Method 100.1 measured over a 60 minute averaging time period.

The test shall be conducted to demonstrate compliance with the Rule 1303 concentration limit.

The test shall be conducted when the equipment is operating at 80 percent load or greater.

The test shall be conducted and the results submitted to the SCAQMD permitting engineer within 45 days after the test date.

[RULE 1303(a)(1)-BACT]

[Devices subject to this condition: C24, C33, C42, C51]

D82.1 The operator shall install and maintain a CEMS to measure the following parameters:

CO concentration in ppmv

Concentrations shall be corrected to 15 percent oxygen on a dry basis.

The CEMS shall be installed and operated to measure CO concentrations over a 15 minute averaging time period

The CEMS would convert the actual CO concentrations to mass emission rates (lbs/hr) using the equation below and record the hourly emission rates on a continuous basis.

CO Emission Rate, lbs/hr = K Cco Fd [20.9/(20.9% - %O2 d)] [(Qg x HHV)/1.0E+06], where:

K = 7.267E-08 (lb/scf)/ppm

Cco = Average of four consecutive 15-min. ave. CO concentration, ppm

Fd = 8710 dscf/mmBTU natural gas

%O2 d = Hourly ave. % by vol.O2 dry, corresponding to Cco.

Qg = Fuel gas usage during the hour, scf/hr

HHV = Gross high heating value of fuel gas, BTU/scf

[RULE 1303(a)(1)-BACT; RULE 218]

[Devices subject to this condition: D18, D27, D36, D45]

D82.2 The operator shall install and maintain a CEMS to measure the following parameters:

NOX concentration in ppmv

The CEMS shall meet EPA monitoring performance and quality assurance specifications of 40 CFR Part 60, Appendix B and Appendix F, and 40 CFR Part 75.

Concentrations shall be corrected to 15% oxygen on a dry basis

The CEMS shall be operated during startups and shutdowns

[RULE 2012; 40CFR 52.21 - PSD]

[Devices subject to this condition: D18, D27, D36, D45]

D182.1 The operator shall test this equipment in accordance with the following specifications:

The test shall be constructed to determine the NOx emissions using EPA methods 1-4 and 7E measured over a 60 minute averaging period. In lieu of the above mentioned test methods, equivalent methods may be used with prior written approval from EPA

The test shall be conducted within 60 days after achieving the maximum production rate, but no later than180 days after initial startup (as defined in 40 CFR 60.2), and annually thereafter (within 30 days of the anniversary of the initial performance test). Upon written request from the permittee (Attn: Air 5), and adequate justification, EPA may waive a specific annual test and/or allow for testing to be done at less than maximum operating capacity

The EPA shall be notified of the date and time of the test at least 30 days prior to the test.

The test shall be conducted to determine the oxygen levels in the exhaust. In addition, the test shall measure the fuel flow rate (CFH), the flue gas flow rate, and the turbine generating output (MW)

For the initial source test, the test shall be conducted when the equipment is operating at or near loads of 100 percent, 75 percent, and 50 percent of maximum load. For the annual source tests, the test shall be conducted when the equipment is operating at or near maximum load.

The test shall be conducted in accordance with an EPA approved source test protocol. The protocol shall be submitted to the EPA no later than 45 days prior to the proposed test date and shall be approved by the EPA before the test commences. The test protocol shall include the proposed operating conditions of the turbine during the test, the identity of the testing lab, and a description of all sampling and analytical procedures

[40CFR 52.21 - PSD]

[Devices subject to this condition: D18, D27, D36, D45]

D372.1 The operator shall determine compliance with the particulate matter (PM) emission limit by conducting a source test at the outlet of the exhaust stack annually using SCAQMD Method 5.1. Each test shall include:

(a) One test using natural gas operating at minimum load under normal operating conditions, if natural gas is burned more than 120 consecutive hours or 200 hours accumulated over any 12 consecutive months. The test shall be conducted no later than six months after the time limit has been exceeded;

(b) One test using natural gas operating at maximum load under normal operating conditions, if natural gas is burned more than 120 consecutive hours or 200 hours accumulated over any 12 consecutive months. The test shall be conducted no later than six months after the time limit has been exceeded;

(c) One test using fuel oil operating at maximum load under normal operating conditions, if fuel oil is burned more than 120 consecutive hours or 200 hours accumulated over any twelve consecutive months. However, this condition does not apply if fuel oil is not burned. The test shall be conducted no later than six months after the time limit has been exceeded.

The annual source test frequency will be reduced to at least once every five years for each fuel type under the highest emitting load if three consecutive annual tests show compliance with either the concentration limit or the mass emission limit.

No test shall be required in any one year for which the equipment is not in operation.

[RULE 3004(a)(4)-Periodic Monitoring]

[Devices subject to this condition: D18, D27, D36, D45]

E57.1 The operator shall vent this equipment to the SCR and oxidation catalyst whenever the turbines are in operation.

During a turbine start up, ammonia injection must be initiated as soon as the SCR catalyst temperature exceed 480 degrees F and the ammonia vaporizer outlet temperature has been at least 495 degrees F for a period of 30 minutes.

[RULE 1303(a)(1)-BACT; RULE 2005; 40CFR 52.21 - PSD]

[Devices subject to this condition: D18, D27, D36, D45]

E193.1 The operator shall operate and maintain this equipment according to the following specifications:

A data acquisition system shall be installed and maintained to monitor and record the combined NOx emissions in pounds per hour from all gas turbines, Devices D18, D27, D36, and D45 and their respective Duct Burners, Devices D21, D30, D39 and D48, whenever at least one gas turbine is in startup mode. This data shall be used to determine compliance with permit condition A433.1

[RULE 2005; 40CFR 52.21 - PSD]

[Devices subject to this condition: D18, D21, D27, D30, D36, D39, D45, D48]

E193.3 The operator shall construct, operate, and maintain this equipment according to the following specifications:

In compliance with all applicable provisions of all other applicable Federal, State, and local air quality regulations, including, but not limited to 40 CFR Parts 52, 60, and 61

[40CFR 52.21 - PSD]

[Devices subject to this condition: D18, D27, D36, D45]

E193.4 The operator shall operate and maintain this equipment according to the following specifications:

All equipment, facilities and systems installed or used to achieve compliance with the terms and conditions of this permit shall at all times be maintained in good working order and be operated as efficiently as possible so as to minimize air pollution emissions

[40CFR 52.21 - PSD]

[Devices subject to this condition: D18, D27, D36, D45]

H23.4 This equipment is subject to the applicable requirements of the following rules or regulations:

Contaminant	Rule	Rule/Subpart
NOx	40CFR60, Subpart	GG
SOx	40CFR60, Subpart	GG

[40CFR 63 Subpart GG]

[Devices subject to this condition: D18, D27, D36, D45]

I298.1 This equipment shall not be operated unless the facility holds ~~122170~~ 114412 pounds of NOx RTCs in its allocation account to offset the annual emissions increase for the first year of operation. The RTCs held to satisfy the first year of operation portion of this condition may be transferred only after one year from the initial start of operation. In addition, this equipment shall not be operated unless the operator demonstrates to the Executive Officer that, at the commencement of each compliance year after the start of operation, the facility holds ~~114845~~ 107552 pounds of NOx RTCs valid during that compliance year. RTCs held to satisfy the compliance year portion of this condition may be transferred only after the compliance year for which the RTCs are held. If the initial or annual 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.

[RULE 2005]

[Devices subject to this condition: D18]

I298.2 This equipment shall not be operated unless the facility holds ~~122170~~ 114412 pounds of NOx RTCs in its allocation account to offset the annual emissions increase for the first year of operation. The RTCs held to satisfy the first year of operation portion of this condition may be transferred only after one year from the initial start of operation. In addition, this equipment shall not be operated unless the operator demonstrates to the Executive Officer that, at the commencement of each compliance year after the start of operation, the facility holds ~~114845~~ 107552 pounds of NOx RTCs valid during that compliance year. RTCs held to satisfy the compliance year portion of this condition may be transferred only after the compliance year for which the RTCs are held. If the initial or annual 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.

[RULE 2005]

[Devices subject to this condition: D27]

I298.3 This equipment shall not be operated unless the facility holds ~~122170~~ 114412 pounds of NOx RTCs in its allocation account to offset the annual emissions increase for the first year of operation. The RTCs held to satisfy the first year of operation portion of this condition may be transferred only after one year from the initial start of operation. In addition, this equipment shall not be operated unless the operator demonstrates to the Executive Officer that, at the commencement of each compliance year after the start of

operation, the facility holds ~~114845~~ 107552 pounds of NOx RTCs valid during that compliance year. RTCs held to satisfy the compliance year portion of this condition may be transferred only after the compliance year for which the RTCs are held. If the initial or annual 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.

[RULE 2005]

[Devices subject to this condition: D36]

I298.4 This equipment shall not be operated unless the facility holds ~~122170~~ 114412 pounds of NOx RTCs in its allocation account to offset the annual emissions increase for the first year of operation. The RTCs held to satisfy the first year of operation portion of this condition may be transferred only after one year from the initial start of operation. In addition, this equipment shall not be operated unless the operator demonstrates to the Executive Officer that, at the commencement of each compliance year after the start of operation, the facility holds ~~114845~~ 107552 pounds of NOx RTCs valid during that compliance year. RTCs held to satisfy the compliance year portion of this condition may be transferred only after the compliance year for which the RTCs are held. If the initial or annual 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.

[RULE 2005]

[Devices subject to this condition: D45]

I298.7 This equipment shall not be operated unless the facility holds 7758 pounds of NOx RTCs in its allocation account to offset the annual emissions increase for the first year of operation. The RTCs held to satisfy the first year of operation portion of this condition may be transferred only after one year from the initial start of operation. In addition, this equipment shall not be operated unless the operator demonstrates to the Executive Officer that, at the commencement of each compliance year after the start of operation, the facility holds 7293 pounds of NOx RTCs valid during that compliance year. RTCs held to satisfy the compliance year portion of this condition may be transferred only after the compliance year for which the RTCs are held. If the initial or annual 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.

[RULE 2005]

[Devices subject to this condition: D21]

I298.8 This equipment shall not be operated unless the facility holds 7758 pounds of NOx RTCs in its allocation account to offset the annual emissions increase for the first year of operation. The RTCs held to satisfy the first year of operation portion of this condition may be transferred only after one year from the initial start of operation. In addition, this equipment shall not be operated unless the operator demonstrates to the Executive Officer that, at the commencement of each compliance year after the start of operation, the facility holds 7293 pounds of NOx RTCs valid during that compliance year. RTCs held to satisfy the compliance year portion of this condition may be transferred only after the compliance year for which the RTCs are held. If the initial or annual 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.

[RULE 2005]

[Devices subject to this condition: D30]

I298.9 This equipment shall not be operated unless the facility holds 7758 pounds of NOx RTCs in its allocation account to offset the annual emissions increase for the first year of operation. The RTCs held to satisfy the first year of operation portion of this condition may be transferred only after one year from the initial start of operation. In addition, this equipment shall not be operated unless the operator demonstrates to the Executive Officer that, at the commencement of each compliance year after the start of operation, the facility holds 7293 pounds of NOx RTCs valid during that compliance year. RTCs held to satisfy the compliance year portion of this condition may be transferred only after the compliance year for which the RTCs are held. If the initial or annual 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.

[RULE 2005]

[Devices subject to this condition: D39]

I298.10 This equipment shall not be operated unless the facility holds 7758 pounds of NOx RTCs in its allocation account to offset the annual emissions increase for the first year

of operation. The RTCs held to satisfy the first year of operation portion of this condition may be transferred only after one year from the initial start of operation. In addition, this equipment shall not be operated unless the operator demonstrates to the Executive Officer that, at the commencement of each compliance year after the start of operation, the facility holds 7293 pounds of NOx RTCs valid during that compliance year. RTCs held to satisfy the compliance year portion of this condition may be transferred only after the compliance year for which the RTCs are held. If the initial or annual 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.

[RULE 2005]

[Devices subject to this condition: D48]

K40.1 The operator shall provide to the District a source test report in accordance with the following specifications:

Source test results shall also include turbine and generator output under which the test was conducted.

Source test results shall also include turbine fuel flow rate under which the test was conducted.

All exhaust flow rate shall be expressed in terms of dry standard cubic feet per minute (DSCFM) and dry actual cubic feet per minute (DACFM).

Emission data shall be expressed in terms of lbs/MM cubic feet.

Source test results shall be submitted to the District no later than 60 days after the source test was conducted.

Emission data shall be expressed in terms of concentration (ppmv), corrected to 15 percent oxygen, dry basis.

Emission data shall be expressed in terms of mass rate (lbs/hr). In addition, solid PM emissions, if required to be tested, shall also be reported in terms of grains per DSCF.

Source test results shall also include exhaust gas moisture content under which the test was conducted.

Source test results shall be submitted to the EPA no later than 60 days after the source test was conducted.

Written correspondence shall be forwarded to EPA at the following address: Director, Air Division (Attn: Air-1), US EPA Region 9, 75 Hawthorne St, San Francisco, CA 94105

[RULE 1303(a)(1)-BACT; RULE 1303(b)(2)-Offset; RULE 2005; 40CFR 52.21 - PSD]

[Devices subject to this condition: D18, D27, D36, D45]

K67.4 The operator shall keep records, in a manner approved by the District, for the following parameter(s) or item(s):

Facility log documenting all start-ups, shutdowns, and combustor tuning events. The log shall indicate the date, type, time and duration of each event.

Data acquired as specified in condition E193.1 for turbine startups.

The permittee must maintain a file of all measurements, including continuous monitoring system evaluations; all continuous monitoring systems or monitoring device calibration checks; adjustments and maintenance performed on these systems or device; and all other information required by this permit and 40CFR 60 Appendices A-B and 40CFR 75, recorded in a permanent form suitable for inspection. The file must be retained for 5 years following the date of such measurements, maintenance, reports, and records

Records shall be kept and maintained on file for a minimum of five years and made available to EPA and SCAQMD personnel upon request.

[RULE 2005; RULE 2012]

[Devices subject to this condition: D18, D21, D27, D30, D36, D39, D45, D48]

K171.1 The operator shall notify EPA if any of the following situations occur:

Excess emissions: the permittee must submit a written report of all excess emissions to EPA for every calendar quarter. The report must include the following

The magnitude of the excess emissions computed in accordance with 40 CFR 60.13(H), any conversion factors used, the date and time of commencement, and compilation of each time period of excess emissions

Specific identification of each period of excess emissions that occurs during startups, shutdowns, and malfunctions of any equipment. The nature and cause of any malfunction

(if known) and the corrective action taken or preventative measures adopted must also be reported

The date and time identifying each period during which the continuous monitoring system was inoperative except for zero and span checks, and the nature of the system repairs or adjustments

When no excess emissions have occurred or the continuous monitoring system has not been inoperative, repaired, or adjusted, such information must be stated in the report

Excess emissions shall be defined as any 1-hour period during which the average emissions of NOx, as measured by the CEMS, exceeds the maximum emission limits set forth in this permit

Written correspondence shall be forwarded to EPA at the following address: Director, Air Division (Attn: Air-1), US EPA Region 9, 75 Hawthorne St, San Francisco, CA 94105

[40CFR 52.21 - PSD]

[Devices subject to this condition: D18, D27, D36, D45]

K171.2The operator shall notify EPA if any of the following situations occur:

Following any failure of air pollution control equipment, process equipment, or of a process to operate in a normal manner, which results in an increase in emissions above any allowable emission limit stated in this permit. The notice shall be sent to the EPA Regional Administrator by electronic mail transmission at R9.AEO@EPA.GOV within 2 working days of the occurance. In addition, the regional administrator shall be notified in writing within 15 days of any such failure

The notice shall include a description of the malfunctioning equipment or abnormal operation, date of the initial failure, period of time over which emissions were increased due to the failure, cause of the failure, the estimated and resultant emissions is excess of those allowed in the permit

The notice shall also include the methods utilized to mitigate emissions and restore normal operations. Compliance with this malfunction notification provision shall not excuse or otherwise constitute a defense to any violation of this permit or of any law or regulation that such malfunction may cause, except as provided for below:

Definition of malfunction: A malfunction means a sudden and reasonably unforeseeable breakdown of equipment or of a process beyond the control of the source requiring immediate corrective action to restore normal operation

Emissions in excess of the limits in this permit shall constitute a violation and may be the subject of enforcement proceedings

All emissions including those associated with a malfunction which may be eligible for an affirmative defense, must be included in all emissions calculations and demonstrations of compliance with mass emissions limits in this permit

This provision is in addition to any emergency or malfunction provision contained in any applicable requirement or elsewhere in this permit

Written correspondence shall be forwarded to EPA at the following address: Director, Air Division (Attn: Air-1), US EPA Region 9, 75 Hawthorne St, San Francisco, CA 94105

[40CFR 52.21 - PSD]

[Devices subject to this condition: D18, D27, D36, D45]

K171.3 The operator shall notify EPA if any of the following situations occur:

In the event of any changes in control of ownership of the facilities to be constructed the applicant shall notify the succeeding owner and operator of this existence of this permit and its conditions by letter, a copy of which shall be forwarded to the EPA Regional Administrator and the State and local air pollution control agency within 30 days of change in ownership. The permit shall be binding on all subsequent owners and operators

Written correspondence shall be forwarded to EPA at the following address: Director, Air Division (Attn: Air-1), US EPA Region 9, 75 Hawthorne St, San Francisco, CA 94105. And to CARB at the following address: Chief, Stationary Source Division, California Air Resources Board, 1001 I Street, P.O. Box 2815, Sacramento, CA 95812

[40CFR 52.21 - PSD]

[Devices subject to this condition: D18, D27, D36, D45]