TECHNICAL SUPPORT DOCUMENT

TECHNICAL INFORMATION PRESENTED IN REVIEW OF AN
APPLICATION FOR A PART 70 OPERATING PERMIT

APPLICATION SUBMITTED BY

San Diego Gas & Electric Company

For

Desert Star Energy Center

Part 70 Operating Permit Number: 652
(Renewal)

SIC Code 4911: Electric Utility Services

Clark County
Department of Air Quality and Environmental Management
Permitting Section

June 2016

EXECUTIVE SUMMARY

San Diego Gas & Electric Company – Desert Star Energy Center (DSEC) is a major stationary source of NO_X and a minor source of CO, SO_X, VOC and HAP. The source is also a source of greenhouse gases. All processes at the site are grouped under SIC 4911: Electric Services (NAICS 221112: Fossil Fuel Electric Power Generation). The DSEC is located at 701 El Dorado Valley Drive, Boulder City, Nevada 89005 in the Eldorado Valley airshed, hydrographic basin number 167. Hydrographic basin 167 is designated as an attainment area for all regulated air pollutants.

The potential electrical generating capacity of the source is above 250 MMBtu/hr. As a result, the source is a categorical source, as defined by AQR 12.2.2(j)(1). The source is a 500 MW natural gas power generating plant. The plant has a two-on-one combined cycle configuration, consisting of two natural gas-fired stationary gas turbines, two Heat Recovery Steam Generators (HRSGs) with natural gas fired duct burners for supplemental firing and one steam turbine generator. The facility also operates one diesel-fired emergency fire pump, one emergency generator, a gasoline dispensing facility and several insignificant emission units or activities.

The following table summarizes the source PTE for each regulated air pollutant for all emission units addressed by this Part 70 Operating Permit:

Source-wide PTE (tons per year)[1]

Pollutants	PM_{10}	$PM_{2.5}$	NO_x	CO	SO_x	VOC	HAP[2]	H_2S	Lead (Pb)	GHG[3]
PTE Totals	**89.63**	**89.63**	**194.31**	**95.45**	**8.67**	**49.58**	**12.18**	**0**	**0**	**1,692,045**

[1] Not a source-wide emission limit; values are used for determining the major source status.
[2] Combination of all HAPs.
[3] Expressed as CO_2e

The last Title V operating permit (Part 70 OP) was issued on December 31, 2010. This Part 70 OP is issued based on the Title V renewal application submitted on June 15, 2015, and supplemental info received October 26, 2015. The action will also include the addition of a gasoline dispensing operation as a minor revision.

Based on the information submitted by the applicant and a technical review performed by Air Quality staff, the Air Quality proposes the renewal of Part 70 Operating Permit to San Diego Gas & Electric Company.

This Technical Support Document (TSD) accompanies the proposed Part 70 Operating Permit for San Diego Gas & Electric Company.

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I. ACRONYMS

Table I-1: List of Acronyms and Abbreviations

Term	
AQR	Clark County Air Quality Regulations
ATC	Authority to Construct
CAA	Clean Air Act
CAM	Compliance Assurance Monitoring
CEMS	Continuous Emissions Monitoring System
CFR	United States Code of Federal Regulations
CO	Carbon Monoxide
CTG	Combustion Turbine-Generator
Air Quality	Clark County Department of Air Quality
DSEC	Desert Star Energy Center
EPA	United States Environmental Protection Agency
EU	Emission Unit
HAP	Hazardous Air Pollutant
bhp	Brake Horse Power
kW	kilowatt
MACT	Maximum Achievable Control Technology
MMBtu	Millions of British Thermal Units
M/N	Model Number
MW	Megawatt
NAICS	North American Industry Classification System
NO_x	Nitrogen Oxides
NRS	Nevada Revised Statutes
OP	Operating Permit
PM_{10}	Particulate Matter less than 10 microns
ppm	Parts per Million
ppmvd	Parts per Million, Volumetric Dry
PTE	Potential to Emit
QA/AC	Quality Assurance/Quality Control
RATA	Relative Accuracy Test Audits
RICE	Reciprocating Internal Combustion Engine
RMP	Risk Management Plan
SCC	Source Classification Codes
scf	Standard Cubic Feet
SIC	Standard Industrial Classification
SIP	State Implementation Plan
S/N	Serial Number
SO_x	Sulfur Oxides
VOC	Volatile Organic Compound

II. SOURCE INFORMATION

A. General

Permittee	San Diego Gas & Electric Company
Mailing Address	P.O. Box 62470, Boulder City, Nevada 89006
Contacts	Kevin Lampman
Phone Number	(702) 568-8203
Fax Number	(702) 568-8213
Source Location	701 El Dorado Valley Drive, Boulder City, Nevada 89005
Hydrographic Area	167
Township, Range, Section	T25S, R62E, Section 12
SIC Code	4911: Electric Services
NAICS Code	221112: Fossil Fuel Electric Power Generation

B. Description of Process

The San Diego Gas & Electric Company – Desert Star Energy Center (DSEC) has a two-on-one combined cycle configuration, consisting of two combustion turbine generators (CTGs), two heat recovery steam generators (HRSGs), one steam turbine generator and associated auxiliary systems and equipment. The plant is capable of generating a nominal 500 megawatts (MW) of gross electrical power with duct burning at a maximum ambient air temperature of 120°F and 15 percent humidity. The CTGs are heavy-duty, single-shaft turbines with a 165 MW (nominal) rating each.

The combustion system has dry low-NO_x combustion burner technology that accurately controls fuel flow to maintain turbine load and minimize turbine emissions. The turbines and duct burners combust only pipeline quality natural gas.

Each CTG is equipped with inlet air filtering and inlet air evaporative coolers. Combustion air for the turbine is filtered by media filters housed in an inlet filter compartment mounted adjacent to the turbine compartment. The filter housing also contains the evaporative cooling system. Air flows through the air filter, evaporative cooler and associated inlet air ductwork of each CTG and is then compressed. Natural gas is injected into the combustor section and ignited. The hot combustion gases expand through the turbine section to drive the entire CTG. The hot gases exit the turbine section and enter a HRSG dedicated to each combined turbine generator.

The Forney natural gas fired duct burners are installed immediately upstream of each HRSG. The duct burners are used for supplemental firing for additional power. The CTGs and HRSGs are in single train configuration and the exhaust gases from each HRSG passes through the ductwork to individual 100-foot exhaust stacks. The HRSGs are equipped with SCR and oxidation catalyst systems to reduce emissions.

In the HRSG, heat from the turbine exhaust gas is recovered by transferring the heat to water pumped into the HRSG, resulting in generation of steam. The steam from each HRSG is combined for use in a single steam turbine generator. The steam generator at EDE has a nominal output of 170 MW. The system is using a large air-cooled condenser.

There are also one 140 bhp emergency diesel fire pump, a 44 bhp emergency generator on site and one 280-gallon gasoline storage tank with dispenser. Larger ancillary equipment on site which does not require a permit either by AQR regulations or Part 70 includes two stationary diesel storage tanks (250- and 500-gallons), one 100-gallon portable diesel storage tank, an aqueous ammonia storage tank and lube oil tanks for the turbines.

C. Permitting History

San Diego Gas & Electric Company is regulated by the Air Quality and has a Title V permit.

The initial Title V operating permit (OP) was issued on October 23, 2003.

This Part 70 OP renewal is proposed based on the Title V renewal application submitted on June 15, 2015, and supplemental information submitted on October 26, 2015. The renewal application and the supplemental information submitted thereafter, requested the addition of the existing gasoline dispensing facility to the Part 70 OP.

The application for this permit renewal was deemed complete on August 12, 2015. The Part 70 OP will be issued under the authority of AQR Section 12.5 of the current regulations, consistent with the federal Part 70 rules.

Table II-C-1: Permits Issued to San Diego Gas & Electric Company

Date Issued	Description
12/13/2012	Minor Revision to the Part 70 OP to add an emergency generator (A07)
12/13/2012	Administrative Revision to change the name of the owner and the name of the facility
10/7/2011	Administrative Revision to remove all facilities associate with solar power
12/31/2010	Part 70 OP renewal
12/17/2009	ATC Mod 2: ATC for solar plant disturbed surfaces
4/30/2007	ATC/OP Mod 1, Rev 1: Modification updated existing fire pump (EU: A03) emissions and cancelled previous ATC issued for evaporative air cooler (EU: A04)
4/21/2004	ATC Mod 1: Modification to add evaporative air cooler (EU: A04)
10/23/2003	Initial Part 70 OP
12/13/2000	Section 16 OP
8/15/1997	Initial ATC

Table II-C-2: Part 70 OP Renewal Application and Supplemental Information Submitted by San Diego Gas & Electric Company for This Action

Date Submitted	Description
10/26/2015	Current Acid Rain Permit (2009).
6/15/2015	Part 70 OP renewal application and to add the gasoline dispensing facility.
3/28/2016	Discussion regarding startup and shutdown emissions and gasoline dispensing facility. Also included new application for Acid Rain Permit (2015).

In addition to the minor revision and renewal, Air Quality performed the following changes to the Part 70 OP and TSD to maintain consistency with current practice:

- Add startup/shutdown emission factors back to the Part 70 OP.
- Add Acid Rain Permit to the Part 70 OP as an attachment.
- Add and update the insignificant activities list to the Part 70 OP and TSD.
- Add Greenhouse Gas emissions to the Part 70 OP and TSD.
- Split operational limitations into separate conditions in the Part 70 OP.
- Revise the performance testing requirements in the Part 70 OP and TSD.
- Remove remaining ammonia conditions from the Part 70 OP.
- Revise "rolling 12-month" limits to "any consecutive 12-month period" limits, where appropriate.
- Update rules tables to reflect changes in the AQR and SIP in the Part 70 OP and TSD.
- On May 1, 2015, the U.S. Court of Appeals for the D.C. Circuit issued a decision to vacate provisions in 40 CFR Part 60 Subpart IIII and 40 CFR Part 63 Subpart ZZZZ that allowed emergency engines to operate for demand response and when there is a deviation of voltage or frequency. Therefore, Air quality is prohibiting sources to operate emergency generators for those activities, which is consistent with the court decision and EPA's implementation memo dated April 15, 2016. In order to utilize the generator to operate for demand response or when there is a deviation of voltage or frequency, the source must request that the engine be treated as a nonemergency engine.

Table II-C-3: BACT Determinations for Emission Units

EU	Description	BACT Technology	BACT Limit
A01	165 MW Stationary Gas Turbine	SCR, dry low-NO_X burners, oxidation catalyst, natural gas combustion, inlet air filters	3.5 ppmvd NO_X and 2.6 ppmvd CO on a 3-hour average at 15 percent O_2
A01+A01A	165 MW Stationary Gas Turbine and 175 MMBtu/hr Duct Burner	SCR, dry low-NO_X burners, oxidation catalyst, natural gas combustion, inlet air filters	3.7 ppmvd NO_X and 3.5 ppmvd CO on a 3-hour average at 15 percent O_2
A02	165 MW Stationary Gas Turbine	SCR, dry low-NO_X burners, oxidation catalyst, natural gas combustion, inlet air filters	3.5 ppmvd NO_X and 2.6 ppmvd CO on a 3-hour average at 15 percent O_2
A02+A02A	165 MW Stationary Gas Turbine and 175 MMBtu/hr Duct Burner	SCR, dry low-NO_X burners, oxidation catalyst, natural gas combustion, inlet air filters	3.7 ppmvd NO_X and 3.5 ppmvd CO on a 3-hour average at 15 percent O_2
A03	140 bhp diesel emergency fire pump	Timing retardation, turbocharging, aftercooling, low sulfur diesel fuel	Technology Based
A07	44 bhp diesel emergency genset	Not Required	
A08	280 gallon gasoline dispensing facility	Not Required	

D. Operating Scenario

Stationary Gas Turbine Generators
The stationary gas turbines are heavy duty, single shaft and natural gas-fired units with a nominal energy production rating of 165 MW each. The heat input for each stationary gas turbine, based on the lower heating value of natural gas, is limited to 1,652.94 MMBtu/hr. Determination of this heat input limit is based on operating at full load, 13.77 psia and 8°F. There is no limit on the hours of operation of the stationary gas turbines.

Duct Burners
Heat input for each duct burner, based on the lower heating value of natural gas, is limited to 175 MMBtu/hr and 692,000 MMBtu/year based on 12-month rolling average. Determination of these heat input limits are based on operating at full load. There is no limit on the hours of operation of the duct burners.

Emergency Fire Pump
The emergency engine-driven diesel fire pump is installed at the site to ensure the availability of fire-fighting water, even in the event of a power failure. The unit has a rating of 140 hp. The fire pump PTE is based on 500 hours of operation per year.

Emergency Generator
The emergency generator is installed at the site in the event of a power failure. The unit has a rating of 44 hp. The emergency generator PTE is based on 500 hours of operation per year.

Gasoline Dispensing
The 280-gallon, above-ground gasoline dispensing facility is installed at the site to serve on-site equipment. The PTE is based on 10,000 gallons per year throughput

E. Proposed Exemptions

No proposed exemptions.

III. EMISSIONS INFORMATION

A. Source-Wide Potential to Emit

The DSEC is a major source for NO_x, and a minor source for CO, SO_x, VOC, and HAP and a source of GHG:

Table III-A-1: Total Source PTE (tons per year)

Pollutant	PM_{10}	PM2.5	NO_x	CO	SO_X	VOC	HAP[1]	GHG[2]
PTE Totals	89.63	89.63	194.31	95.45	8.67	49.58	12.18	1,692,045
Major Source Thresholds	100	100	100	100	100	100	10/25[1]	N/A

[1]25 tons for combination of all HAPs (no single HAP exceeds 10 tons).
[2]Expressed as CO_2e

B. Emission Units

The stationary source covered by this Part 70 OP is defined to consist of the emission units summarized in Table III-B-1.

Table III-B-1: List of Emission Units

EU	Description	Rating	Make	Model #	Serial #	SCC
A01	Stationary Gas Turbine, natural gas fired	1,616.53 MMBtu/hr 165 MW	Westinghouse	501FC+	37A8029-1	20100201
A01A	Duct Burner for HRSG EU: A01	175 MMBtu/hr	Forney	394671-01	N/A	10100601
A02	Stationary Gas Turbine, natural gas fired	1,616.53 MMBtu/hr 165 MW	Westinghouse	501FC+	37A8030-1	20100201
A02A	Duct Burner for HRSG EU: A02	175 MMBtu/hr	Forney	394671-01	N/A	10100601
A03	Emergency Fire Pump	126 bhp	ITT		96-249297-01-01	20200102
	Emergency Diesel Engine, DOM: 1998	140 bhp	Clarke Allison	PDFP-06YT	713787F	
A07	Emergency Genset	33kW	Doosan	G40		20200102
	Emergency Diesel Engine, DOM: 2011	44 bhp	Mitsubishi	S4S-Y362IR	231875	
A08	Gasoline Dispensing Facility	280 gallons	Advanced Perfect Tank MFG. Ltd.	N/A	N/A	40600706

The following units or activities are present at this source, but are insignificant. The emissions from these units or activities, when added to the PTE of the source presented in Table III-B-1, will not make the source major for any additional pollutant not already considered major.

Table III-B-2: Insignificant Units or Activities

Description
Diesel Storage Tank (100 gallons)
Diesel Storage Tank (200 gallons)
Diesel Storage Tank (500 gallons)
0.1 MMBtu/hr Diesel Powered Space Heater
0.1 MMBtu/hr Diesel Powered Space Heater
29 hp Diesel Powered Mobile Welder, Miller Big Blue, M/N: 251D
10.5 hp Diesel Powered Light Tower
16 hp Gasoline Powered Pressure Washer
0.028 MMBtu/hr Diesel Powered Pressure Washer Heater
Evaporative Intake Air Coolers
Aqueous Ammonia Storage and Distribution
Lube Oil Tanks

C. Emission Limitations and PTE

Stationary Gas Turbines and Duct Burners (EUs: A01/A01A and A02/A02A)
Hourly emission limits for all pollutants except HAP for each turbine (without duct burner) were taken from manufacturer's specifications obtained from GE and Westinghouse for models 7FA and 501FC, respectively. The worst case emission limit in pounds per hour was taken between 8°F and 67°F, each for 100% load. Hourly emission limits for the turbine and the duct burner combined were taken from manufacturer's specifications at 100 percent load and 116°F.

Annual emission limits for each turbine (without duct burner) were calculated by multiplying the hourly emission limit in pounds per hour by 8,760 hours per year. Annual emission limits for each turbine and duct burner combined were calculated by multiplying the hourly emission limit for the turbine alone at 67°F by 4,760 hours per year and adding it to the product of the turbine and duct burner hourly limit (at 116°F) and 4,000 hours per year.

PM_{10} example
A01 (turbine alone at 67°F) hourly limit: 9.00 lbs/hr
A01+A01A (turbine plus duct burner) hourly limit: 11.60 lbs/hr

A01 (turbine alone) annual limit:

$$9.00\frac{lbs}{hr} * 8{,}760\frac{hrs}{yr} * \frac{1}{2{,}000}\frac{ton}{lbs} = 39.42\frac{tons}{yr}$$

A01+A01A (turbine plus duct burner) annual limit:

$$\left(9.00\frac{lbs}{hr} * 4{,}760\frac{hrs}{yr} * \frac{1}{2{,}000}\frac{ton}{lbs}\right) + \left(11.6\frac{lbs}{hr} * 4{,}000\frac{hrs}{yr} * \frac{1}{2{,}000}\frac{ton}{lbs}\right) = 44.80\frac{tons}{yr}$$

The HAP emissions were calculated by using CATEF emission factors for all HAP except metals and lead which were calculated from EPA AP-42 emission factors.

Emergency Fire Pump (EU: A03)
Short term emissions from the fire pump were provided by the source from the manufacturer. Annual PTE was calculated by multiplying the hourly emission limits by 500 hours per year.

Emergency Generator (EU: A07)
Short term emissions from the emergency generator were provided by the source from the manufacturer. Annual PTE was calculated by multiplying the hourly emission limits by 500 hours per year.

Table III-C-1: Emission Unit PTE, Including Startups and Shutdowns (tons per year) [1]

EU	PM_{10}	$PM_{2.5}$	NO_x	CO	SO_x	VOC	HAP	NH_3
A01	39.42	39.42	96.50	45.55	4.30	22.78	---	58.00
A01+A01A	44.80	44.80	96.50	47.65	4.30	24.60	6.07	106.90
A02	39.42	39.42	96.50	45.55	4.30	22.78	---	58.00
A02+A02A	44.80	44.80	96.50	47.65	4.30	24.60	6.07	106.90
A03	0.02	0.02	1.17	0.05	0.05	0.05	0.02	0.00
A07	0.01	0.01	0.01	0.10	0.02	0.03	0.01	0
A08	0	0	0	0	0	0.30	0.01	0
Total PTE	**89.63**	**89.63**	**194.31**	**95.45**	**8.67**	**49.58**	**12.18**	**213.80**

[1] **NH_3 is listed for information only.**

Table III-C-2: Emission Unit PTE, Excluding Startups and Shutdowns (pounds per hour) [1]

EU	PM_{10}	NO_x	CO	SO_x	VOC	HAP	NH_3
A01	9.00	23.00	10.40	1.01	5.20	---	24.40
A01+A01A	11.60	23.00	13.10	1.01	6.60	1.36	24.40
A02	9.00	23.00	10.40	1.01	5.20	---	24.40
A02+A02A	11.60	23.00	13.10	1.01	6.60	1.36	24.40

[1] NH_3 is listed for information only.

Table III-C-3: Emission Rates/Concentrations Excluding Startups and Shutdowns[1]

EU	Averaging Period	O_2 Standard	NO_X (ppmvd)	CO (ppmvd)	NH_3 (ppmvd)
A01	3-Hour	15%	3.5	2.6	10
A01+A01A	3-Hour	15%	3.7	3.5	10
A02	3-Hour	15%	3.5	2.6	10
A02+A02A	3-Hour	15%	3.7	3.5	10

[1] NH_3 is listed for information only.

The startup and shutdown emission rates listed in Table III-C-4 are not federally enforceable limits. These values are to be used when CEMS data is not available. The Permittee shall include actual startup and shutdown emissions in the annual emission inventory reporting.

Table III-C-4: Startup and Shutdown PTE (pounds per hour)[1]

EU	NO_x	CO
A01	44.63	132.24
A02	44.63	132.24

[1] Emissions do not include contribution from HRSG units.

To date, DSEC has not had a situation that required estimating emission values. If such a situation develops that the ability of the CEMS to record data is in question, the Control Room Operator (CRO) would take manual control of the affected units ammonia supply flow control valve and place it in the last known “proper” position base on their operating experience. If the other unit is not affected, the CRO would match the valve position to the other unit, if operating. The Environmental Compliance Coordinator (ECC) would then look at all available data to determine the best course of action. Possible sources of substation data:

a. If the CEMS data history is available, the ECC can pull data from equivalent plant conditions for substitution.
b. If CEMS data history is not available, the permit Table III-B-4 can be used to substitute data during a startup or shutdown malfunction.
c. If CEMS data history is not available, and excess emissions are not suspected, then the maximum allowed operating limit values would be substituted.
d. If CEMS data history is not available, and excess emissions are suspected, then permit Table III-B-4 would be used as this is the maximum value expected with the control system nonoperational.

Table III-C-5: HAP PTE (tons per year)

Pollutant	Per Turbine with Duct Burning (pounds per hour)[1]	Per Turbine with Duct Burning (tons per year)
1,3 Butadiene	2.27E-04	0.01
Acetaldehyde	1.23E-01	0.54
Acrolein	4.24E-02	0.19
Arsenic	3.65E-04	0.01
Benzene	2.46E-02	0.11
Beryllium	2.15E-05	0.01
Ethylbenzene	3.21E-02	0.14
Formaldehyde	1.97E-01	0.86
Lead	8.94E-04	0.01
Naphthalene	2.97E-03	0.01
Propylene Oxide	8.54E-02	0.37
Toluene	1.27E-01	0.56
Xylenes	2.56E-01	1.15
Hexane	4.63E-01	2.03
Cadmium Compounds	1.97E-03	0.01
Chromium Compounds	2.50E-03	0.01
Cobalt Compounds	1.50E-04	0.01
Manganese Compounds	6.80E-04	0.01
Mercury Compounds	4.65E-04	0.01
Nickel Compounds	3.76E-03	0.02
HAP Emissions Subtotals	**1.36**	**6.07**

[1] Emission factors from CATEF for all pollutants except metals and lead which come from EPA AP-42.

Gasoline Dispensing

Emissions for the gasoline dispensing facility were calculated using EPA's AP-42, as provided by the applicant.

No single source-wide HAP emission will exceed ten tons per year and total source-wide HAP emissions will not exceed 25 tons per year. Therefore, this source is not subject to MACT for stationary gas turbines. The emergency fire pump is subject to a MACT standard (40 CFR 63, Subpart ZZZZ) since it is an existing reciprocating internal combustion engine operating at an area source of HAP emissions and installation date. The emergency generator is subject to a NSPS standard (40 CFR 60, Subpart IIII) due to its build date. The gasoline dispensing facility is subject to 40 CFR 63, Subpart CCCCCC.

Since HAP is below 10 tons per year individual/25 tons per year total, there will be no permit conditions for HAP.

The source has proposed to install Phase I on the tank so that they will be in compliance with the to-be-proposed revision to the SIP version of AQR 52 regardless of what, if any, threshold for requiring Phase I is chosen.

D. Testing

Performance testing is subject to 40 CFR 60, Subparts A, Db and GG, 40 CFR 63, Subpart ZZZZ, 40 CFR 63, Subpart CCCCCC, 40 CFR 72 and Air Quality's Guidelines for Source Testing.

Table III-D-1: Performance Testing Requirements for Stationary Gas Turbines

Test Point	Pollutant	Method (40 CFR 60, Appendix A)
Turbine Exhaust Outlet Stack	CO	EPA Method 10
Stack Gas Parameters	---	EPA Methods 1, 2, 3, 4

On May 7, 2014, Air Quality established a practice that subsequent performance testing for PM_{10} and VOC for natural gas combusting emission units is not required unless a standard or regulation requires ongoing compliance demonstration. This practice was made based on the fact that PM_{10} and VOC emissions are insignificant for natural gas combustion units. Additionally, the practice stated that no subsequent performance testing is needed for NOx emissions if NOx is continuously monitored using CEMS and relative accuracy of the monitoring system is demonstrated annually. The practice also removed the requirements for Method 9 opacity testing, provided the permit included conditions for periodic visible emission checks. Compliance with emissions limit of CO shall be demonstrated using performance testing because there is no CEMS for CO.

Standard Air Quality performance testing will be required for the gasoline dispensing facility because it has Phase I controls installed.

E. Continuous Emissions Monitoring

To demonstrate continuous direct compliance with all emission limitations for NO_X specified in this permit, the source operates a continuous emission monitoring system (CEMS) for NO_X and O_2 on each stationary gas turbine unit in accordance with 40 CFR 75. The CEMS monitors and records the following parameters for each individual stationary gas turbine:

a. hours of operation;
b. electrical load;
c. fuel consumption and type;
d. exhaust gas flow rate (by direct or indirect methods);
e. exhaust gas concentration of NO_X and diluent O_2;
f. three-hour rolling average NO_X concentration;
g. the mass flow rate of NO_X;
h. daily and quarterly accumulated mass emissions of NO_X; and
i. hours of downtime of the CEMS.

Compliance with all emission limitations for CO shall be demonstrated with compliance assurance and monitoring plan for CO oxidation catalyst for each of turbine generators as well as with CO performance testing. The plan includes the following enforceable conditions:

a. the oxidation catalyst temperature thermocouple must be mounted in the inlet duct leading to the catalyst bed and must maintain an accuracy within five degrees Fahrenheit (5°F);
b. the thermocouple must be calibrated, maintained, and operated as directed by the manufacturer. The Permittee shall maintain log of these activities; and
c. the catalyst bed must be visually inspected for degradation by trained professionals during plant downtime.

Compliance with all emission limitations for SO_X shall be demonstrated via certification of fuel sulfur analysis from the fuel oil supplier for each delivery or the annual certification from the natural gas supplier or gas analysis. The sulfur content shall not exceed any consecutive 12-month average of 0.2 grains/100 dscf.

Required periodic audit procedures and QA/QC procedures for CEMS shall conform to the provisions of 40 CFR 60, Appendix F. Relative accuracy test audits (RATA) of the NO_X and O_2 CEMS shall be conducted at least annually.

F. Compliance Assurance Plan

The turbines with duct burners (EUs: A01/A01A and A02/A02A) are subject to the requirements of 40 CFR 64 for CO. The Permittee shall use the oxidation catalyst operating temperature to demonstrate compliance with 40 CFR 64, Compliance Assurance Monitoring (CAM).

Table III-F-1: Monitoring Approach[1]

Criteria	Indicator
Indicator and Measurement Approach	The oxidation catalyst operating temperature is monitored as the indicator of CO emissions compliance.
Indicator Range	The operating temperature range of the catalyst is used to determine the required CO destruction efficiency. An excursion is defined as a three-hour average temperature outside the specified catalyst temperature range. The real-time continuous measurements of inlet temperature are collected and archived by the facility's distributed control system DCS). The minimum oxidation catalyst inlet temperature was established at 515°F and the maximum catalyst inlet temperature was established at 1,000°F. Excursions trigger an investigation, corrective actions and a reporting requirement. Number of temperature excursions greater than five percent (5%) of the total unit operating time will require a quality improvement plan (QIP).
Performance Criteria Data Representativeness	The catalyst temperature is measured by a thermocouple mounted in the inlet duct leading to the catalyst bed and represents an overall average temperature. The accuracy of this measurement is within ± 5°F. The turbine emissions are tested annually using EPA Method 10 to ensure the CO emissions are below the emission rate listed in the permit.
Verification of Operational Status	Compliance with Part 70 OP conditions
QA/QC Practices and Criteria	Annual or biannual verification of thermocouple accuracy is performed (based on manufacturer's specification). Annual or bi annual source testing using EPA Method 10. Visual inspection of the catalyst bed for debris is also performed.
Monitoring Frequency	The real-time oxidation catalyst inlet temperature is monitored continuously by a thermocouple system.
Data Collection Procedures	A real-time continuous measurements of the oxidation catalyst inlet temperatures are collected and archived by the facility distributed control system (DCS).
Averaging Period	A three-hour fixed block averaging period is used. All reported emissions are based on rolling 3-hour average.

[1] Except during periods of startup, shutdown, calibration, maintenance/planned outage, or malfunction. Neither short term permit limits nor CO controls are applicable to turbine startup and shutdown periods.

For the purpose of CAM, an exceedance of CO is deemed to occur if the data logging system records a three-hour average oxidation catalyst temperature outside the optimum range or a performance test records a CO result higher than the 3.5 ppmvd limit. The Permittee shall use CO performance testing; and information from the data logging system as a measure of compliance with the turbine's CO annual emission limits.

IV. REGULATORY REVIEW

A. Local Regulatory Requirements

Air Quality has determined that the following public law, statutes and associated regulations are applicable:

1. Clean Air Act, as amended (CAAA), Authority: 42 U.S.C. § 7401, et seq.;
2. Title 40 of the Code of Federal Regulations (CFR);
3. Nevada Revised Statutes (NRS), Chapter 445B;
4. Portions of the AQR that are included in the State Implementation Plan (SIP) for Clark County, Nevada. SIP requirements are federally enforceable. All requirements from Authority to Construct permits and Section 16 Operating Permits issued by Air Quality are federally enforceable because these permits were issued pursuant to SIP-included sections of the AQR; and
5. Portions of the AQR that are not included in the SIP. These locally applicable requirements are locally enforceable only.

The Nevada Revised Statutes (NRS) and the Clean Air Act Amendments (CAAA) are public laws that establish the general authority for the Regulations mentioned.

The Air Quality Part 70 (Title V) Program received Final Approval on November 30, 2001 with publication of that approval appearing in the Federal Register December 5, 2001 Vol. 66, No. 234. AQR Section 19 - Part 70 Operating Permits [Amended 07/01/04] details the Clark County Part 70 Operating Permit Program. On September 20, 2010, Clark County submitted a revision to the operating permit program (AQR 12.5) pursuant to 40 CFR Part 70.4(i)(2). EPA has not acted on that request yet. These regulations may be accessed on the Internet at: http://www.clarkcountynv.gov/depts/AirQuality/Pages/Rules_CurrentRulesandRegulations.aspx

Local regulations contain sections that are federally enforceable and sections that are locally enforceable only. Locally enforceable only rules have not been approved by EPA for inclusion into the State Implementation Plan (SIP). Requirements and conditions that appear in the Part 70 OP which are related only to non-SIP rules are notated as locally enforceable only.

Table IV-A-1: AQR Section 12 Summary Table for This Source

	PM_{10}	$PM_{2.5}$	NO_X	CO	SO_2	VOC	HAP
Air Quality Area	Attainment	Attainment	Attainment	Attainment	Attainment	Attainment	N/A
Source PTE (tpy)	**89.63**	**89.63**	**194.31**	**95.45**	**8.67**	**49.58**	**12.18**
Major Source (categorical)	≥ 100 tpy	≥ 100 tpy	≥ 100 tpy	≥ 100 tpy	≥ 100 tpy	≥ 100 tpy	≥ 10 tpy for each HAP, or ≥ 25 tpy for combined HAPs

Discussion: DSEC is a major stationary source of NO_X, a minor source of all other regulated pollutants and a source of GHG. This proposed renewal will also trigger notice of proposed action.

The addition of a gasoline dispensing facility (EU: A08) results in an emission increase of 0.30 tons per year of VOC and trace amounts of HAPs. The increase is below the significance threshold of a minor revision so therefore RACT is not required.

All Applicable Air Quality Regulations are included in the attachment.

Increment Analysis

DSEC is a major source in Hydrographic Area (HA) 167 (Eldorado Valley). Permitted emission units include two turbines, one fire pump and disturbed surfaces. Minor source baseline dates for PM_{10} (December 19, 2001), NO_2 (December 19, 2001) and SO_2 (December 19, 2001) have been triggered for HA 167. Since minor source baseline dates have been triggered, Prevention of Significant Deterioration (PSD) increment analysis is required.

Air Quality modeled the source using AERMOD to track the increment consumption. Stack data submitted by the applicant were supplemented with information available for similar emission units. Five years (1999 to 2003) of meteorological data from the McCarran Station and Desert Rock Station were used in the model. United States Geological Survey (USGS) National Elevation Dataset (NED) terrain data was used to calculate elevations. Table IV-A-3 presents the results of the modeling.

Table IV-A-3: PSD Increment Consumption for HA 167

Pollutant	Averaging Period	PSD Increment Consumption by the Source (μg/m^3)	Location of Maximum Impact	
			UTM X (m)	UTM Y (m)
SO_2	3-hour	12.76[1]	681700	3962100
SO_2	24-hour	3.15[1]	681675	3962555
SO_2	Annual	0.46	681675	3962555
PM_{10}	24-hour	9.24[1]	681407	3961977
PM_{10}	Annual	0.56	681140	3962163
NO_X	Annual	1.18	681140	3962163

[1]Modeled 2nd High Concentration
[2]Modeled 6th High Concentration

Table IV-A-3 shows the location of the maximum impact and the potential PSD increment consumed by the source at that location. The impacts are below the PSD increment limits.

B. Federally Applicable Regulations

40 CFR 60-STANDARDS OF PERFORMANCE FOR NEW STATIONARY SOURCES:

Subpart A – General Provisions

40 CFR 60.7 – Notification and record keeping
Discussion: This regulation requires notification to Air Quality of modifications, opacity testing, records of malfunctions of process equipment and/or continuous monitoring device, CEMS data, and performance test data. These requirements are found in the Part 70 OP. Air Quality

requires records to be maintained for five years, a more stringent requirement than the two years required by 40 CFR 60.7.

40 CFR 60.8 – Performance tests
Discussion: These requirements are found in the Part 70 OP. Notice of intent to test, the applicable test methods, acceptable test method operating conditions, and the requirement for three runs are outlined in this regulation. Air Quality requirements for initial performance testing are identical to AQR Section 60.8. Air Quality also requires periodic performance testing on emission units based upon throughput or usage. More discussion is in this document under the compliance section.

40 CFR 60.11 – Compliance with standards and maintenance requirements
Discussion: Compliance with various applicable standards will be demonstrated by performance tests unless otherwise specified in the standard. The source is subject to 40 CFR 60 Subpart GG which requires fuel monitoring and sampling to meet a standard. Subpart GG requirements are addressed in the Part 70 OP. AQR Section 26 is more stringent than the federal opacity standards, setting a maximum of 20 percent opacity for a period of more than 6 consecutive minutes. San Diego Gas & Electric Company shall operate in a manner consistent with this section of the regulation.

40 CFR 60.12 – Circumvention
Discussion: This prohibition is addressed in the Part 70 OP. This is also local rule AQR 80.1.

40 CFR 60.13 – Monitoring requirements
Discussion: This section requires that CEMS meet 40 CFR 75 Appendix B and 40 CFR 60 Appendix F standards of operation, testing and performance criteria. The Part 70 OP contains the CEMS conditions and citations to 40 CFR 75 Appendix B and 40 CFR 60 Appendix F. In addition, the QA plan approved for the CEMS follows the requirements outlined including span time and recording time.

Subpart Db – Standards of Performance for Industrial – Commercial – Institutional Steam Generating Units

40 CFR 60.40b – Applicability
Discussion: The duct burners (EUs: A01A and A02A) are subject to the provisions of this subpart. They each have a rated capacity of 175 MMBtu/hr.

Subpart GG – Standards of Performance for Stationary Gas Turbines

40 CFR 60.330 – Applicability and designation of affected facility
Discussion: Subpart GG applies to the two stationary gas turbines at this source (EUs: A01 and A02).

40 CFR 60.332 – Standard for nitrogen oxides
Discussion: The NSPS NO_X emission standard is calculated with a heat rate of 1.0548 kJ/Btu. Assuming that there are 8.29 Btu/Wh, the value of Y in this equation is 8.74 kJ/Wh. Because the facility uses natural gas, the F factor is zero.

Therefore:
NO_x emission standard = 0.0075 (14.4 / Y) + F
0.0075 x 14.4/8.74 + 0 = 0.0124 percent by volume at 15 percent oxygen
0.0124 volume% x (10,000 ppm/volume %) = 124 ppmv NO_X at 15 percent oxygen
DSEC shall comply with this standard.

40 CFR 60.333 – Standard for sulfur dioxide
Discussion: The sole use of pipeline-quality natural gas with total sulfur content less than 0.8 percent (8000 ppmw) satisfies this requirement. The sulfur is limited to 0.75 grains per 100 dry standard cubic feet.

40 CFR 60.334 – Monitoring of operations
Discussion: The requirements are stipulated in the Part 70 OP. Sulfur content shall be verified annually and based on data from the gas supplier.

40 CFR 60.335 – Test methods and procedures
Discussion: These requirements are found in the conditions for performance testing found in the Part 70 OP.

Subpart IIII – Standards of Performance of for Stationary Compression Ignition Internal Combustion Engines

40 CFR 60.4200 – Applicability
Discussion: Subpart IIII applies to the emergency generator at this source.

40 CFR 60.4202 – Emission Standards for Manufacturers
Discussion: The manufacturer's data sheet indicates that the manufacturer has met the emission standards.

40 CFR 60.4205 – Emission Standards for Owners
Discussion: The source will maintain a copy of the manufacturer's data sheet.

40 CFR 60.4207 – Fuel Requirements
Discussion: The source will use ultra-low sulfur fuel in this emission unit.

40 CFR 60.4211 – Compliance Requirements
Discussion: Performance testing is not required for emergency engines.

40 CFR 60.4214 – Notification and Reports for Operators
Discussion: By applying for a permit, the source has met the notification requirements.

Subpart KKKK – Standards of Performance for Stationary Combustion Turbines

40 CFR 60.4305 – Applicability.
Discussion: Subpart KKKK does not apply to the turbines at this source because the turbines did not commence construction, modification, or reconstruction after February 18, 2005.

40 CFR 63-NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS FOR SOURCE CATEGORIES:

Subpart ZZZZ – National Emission Standard for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines

40 CFR 63.6585 – Applicability
Discussion: Subpart ZZZZ applies to the 140 hp emergency fire pump engine at this source.

40 CFR 63.6595 – Date of Compliance
Discussion: The emergency diesel fire pump must comply with the applicable emission limitations and operating limitations no later than May 3, 2013.

40 CFR 63.6603 – Emission Limitations and Operating Limitations
Discussion: The requirements are stipulated in the Part 70 OP.

40 CFR 63.6625 – Monitoring, Installation, Collection, Operation and Maintenance Requirements
Discussion: The source must install a nonresettable hour meter if one is not already installed. The source must operate and maintain the stationary RICE and after-treatment control device (if any) according to the manufacturer's emission-related written instructions or develop their own maintenance plan which must provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions.

Subpart CCCCCC – National Emission Standards for Hazardous Air Pollutants for Source Category: Gasoline Dispensing Facilities

40 CFR 63.11110-11113 – Applicability
Discussion: The source has a gasoline dispensing facility and is an affected emission unit.

40 CFR 63.11115-11118 – Emission Limits and Management Practices
Discussion: With a throughput less than 10,000 gallons/month, the emission unit is subject to management practices.

40 CFR 63.11124-11126 – Notifications, Records and Reports
Discussion: The source has notified Air Quality that an affected unit is present, and will keep records to demonstrate status has not changed.

40 CFR 64 – COMPLIANCE ASSURANCE MONITORING

40 CFR 64.2 – Applicability
Discussion: CAM requirements contained in 40 CFR 64 are only applicable for an emission unit when that unit meets all of the following:

- The unit must be located at a major source for which a Part 70 or 71 permit is required.
- The unit must be subject to an emission limitation or standard.
- The unit must have uncontrolled potential emissions of at least 100 percent of the major source amount.
- The unit must use a control device to achieve compliance.

The turbines with duct burners (EUs: A01/A01A and A02/A02A) are subject to the requirements of 40 CFR 64 for CO. The Permittee shall use the oxidation catalyst operating temperature to demonstrate compliance with 40 CFR 64, Compliance Assurance Monitoring (CAM).

Additionally, certain exemptions under the CAM rule apply to those units that are subject to requirements and compliance demonstration provisions under Titles IV and V to the Clean Air Act (CAA).

40 CFR 72 – ACID RAIN PERMITS REGULATION

Subpart A – Acid Rain Program General Provisions

40 CFR 72.6 – Applicability
Discussion: San Diego Gas & Electric Company is defined as a utility unit in the definitions of 40 CFR 72; therefore, the provisions of this regulation apply.

40 CFR 72.9 – Standard Requirements
Discussion: San Diego Gas & Electric Company has applied for all of the proper permits under this regulation.

Subpart B – Designated Representative
Discussion: San Diego Gas & Electric Company has a Certificate of Representation for Designated Representative on file. They have fulfilled all requirements under this Subpart.

Subpart C – Acid Rain Permit Applications
Discussion: San Diego Gas & Electric Company has applied for an acid rain permit.

Subpart D – Acid Rain Compliance Plan and Compliance Options
Discussion: This Subpart discusses the individual requirements necessary for a complete compliance plan. A compliance plan exists for each stationary combustion turbine.

Subpart E – Acid Rain Permit Contents
Discussion: San Diego Gas & Electric Company has applied for an acid rain permit and it will contain all information necessary to demonstrate compliance with this Subpart.

40 CFR 73 – ACID RAIN SULFUR DIOXIDE ALLOWANCE SYSTEM
Discussion: San Diego Gas & Electric Company is an affected source pursuant to 40 CFR 72.6 because it fits the definition of a utility unit; therefore, this regulation shall apply.

Subpart B – Allowance Allocations
Discussion: San Diego Gas & Electric Company is not listed on either Phase I or Phase II tables because it is a newer power plant; therefore, it will not have an initial allocation per 40 CFR 73.10.

Subpart C – Allowance Tracking System
Discussion: A complete certificate of representation has been received and an account has been established for this source. San Diego Gas & Electric Company shall follow all guidelines and instructions presented in this Subpart while maintaining its allowance account.

Subpart D – Allowance Transfers
Discussion: When an allowance transfer is necessary, San Diego Gas & Electric Company shall follow all procedures in this Subpart.

Subpart E – Auctions, Direct Sales and Independent Power Producers Written Guarantee
Discussion: This Subpart outlines the auction process for allowance credits.

Subpart F – Energy Conservation and Renewable Energy Reserve
Discussion: There are no qualified conservation measures or renewable energy generation processes at this source; therefore, this Subpart does not apply.

40 CFR 75 – CONTINUOUS EMISSION MONITORING
Discussion: San Diego Gas & Electric Company is subject to the Acid Rain emission limitations of 40 CFR 72; therefore, the facility is subject to the monitoring requirements of this regulation. Each stationary gas turbine/duct burner has been equipped with a NO_X CEMS and a diluent oxygen monitor. Each stationary gas turbine is also equipped with a fuel flow monitor. The data from the CEMS is used to provide quarterly acid rain reports to both EPA and Air Quality.

V. COMPLIANCE

A. Compliance Certification

19.3.3.9 Requirements for compliance certification:

(a) Regardless of the date of issuance of this Part 70 OP, the schedule for the submittal of reports to Air Quality shall be as follows:

Table V-A-1: Reporting Schedule

Required Report	Applicable Period	Due Date
Semiannual Report for 1st Six-Month Period	January, February, March, April, May, June	July 30 each year[1]
Semiannual Report for 2nd Six-Month Period, any additional annual records required	July, August, September, October, November, December	January 30 each year[1]
Annual Compliance Certification Report	Preceding Calendar Year	January 30 each year[1]
Annual Emission Inventory Report	Preceding Calendar Year	March 31 each year[1]
Excess Emission Notification	As Required	Within 24 hours of the time the Permittee first learns of the excess emissions
Excess Emission Report	As Required	Within 72 hours of the Excess Emission Notification
Deviation Report	As Required	Along with semiannual reports[1]
Performance Testing	As Required	Within 60 days from the end of the test[1]

[1]If the due date falls on a Saturday, Sunday or a Federal or Nevada holiday, then the submittal is due on the next regularly scheduled business day.

(b) A statement of methods used for determining compliance, including a description of monitoring, recordkeeping, and reporting requirements and test methods.
(c) A schedule for submission of compliance certifications during the permit term.
(d) A statement indicating the source's compliance status with any applicable enhanced monitoring and compliance certification requirements of the Act.

B. Compliance Summary

Table V-B-1: AQR Applicable to San Diego Gas & Electric Company

Citation	Title	Applicability	Applicable Test Method	Compliance Status
AQR Section 0	Definitions	Applicable – DSEC will comply with all applicable definitions as they apply.	DSEC will meet all applicable test methods should new definitions apply.	DSEC complies with applicable requirements.
AQR Section 4	Control Officer	Applicable – The Control Officer or his representative may enter into DSEC property, with or without prior notice, at any reasonable time for purpose of establishing compliance with permit regulations	DSEC will allow Control Officer to enter property as required.	DSEC complies with applicable requirements.
AQR Section 12.5	Part 70 Operating Permits	Applicable – DSEC is a major stationary source and under Part 70. Renewal applications are due between 6 and 18 months prior to expiration. Revision applications will be submitted within 12 months of commencing operation of the new emission unit.	DSEC submitted the initial Part 70 permit application within 12 months of startup. The renewal application was submitted within the appropriate timeframe.	DSEC complies with applicable requirements.
AQR Section 13.2.(b)(82) Subpart ZZZZ	NESHAP – Stationary Reciprocating Internal Combustion Engines	Applicable – The DSEC fire pump is an affected unit.	Applicable monitoring requirements.	DSEC complies with applicable requirements.
AQR Section 14.1.(b)(1) Subpart A	NSPS – General Provisions	Applicable – DSEC is an affected facility under the regulations. Sec. 14.	Applicable monitoring, recordkeeping and reporting requirements.	DSEC complies with applicable requirements.
AQR Section 14.1(b)(4) Subpart Db	NSPS – Standards of Performance for Electric Utility Steam Generating Units for Which Construction is Commenced after September 18, 1978	Applicable – The DSEC duct burners are natural gas fired units with heat input between 100 and 250 MMBtu/hr.	All duct burners meet the applicable PM, SO_2 and NO_x emission standards. The duct burners also meet the opacity requirements.	DSEC complies with applicable requirements.

Citation	Title	Applicability	Applicable Test Method	Compliance Status
AQR Section 14.1(b)(80) Subpart IIII	NSPS – Standards of Performance for Stationary Compression Ignition Internal Combustion Engines	Applicable – The DSEC emergency generator is an affected unit	Applicable monitoring requirements.	DSEC complies with applicable requirements.
AQR Section 14.1(b)(40) Subpart GG	NSPS – Standards of Performance for Stationary Gas Turbines	Applicable – The DSEC stationary gas turbines are natural gas fired units with heat input greater than 10 MMBtu/hr.	All stationary gas turbines meet the applicable NO_x emission standard. When firing on natural gas, NO_x emissions shall not exceed 3.7 ppmv (dry, corrected to 15 percent oxygen). NO_x emissions determined by EPA Method 7E.	DSEC complies with applicable requirements.
AQR Section 13.1(b)(106) Subpart CCCCCC	NESHAP – National Emissions Standard for Hazardous Air Pollutants for Source Category – Gasoline Dispensing	Applicable – The DSEC has a gasoline dispensing facility.	No test methods required at the proposed throughput, but the source has Phase I controls and will demonstrate compliance with the control factor.	DSEC complies with applicable requirements.
AQR Section 18	Permit and Technical Service Fees	Applicable – DSEC will be required to pay all required/applicable permit and technical service fees.	DSEC is required to pay all required/applicable permit and technical service fees.	DSEC complies with applicable requirements.
AQR Section 21	Acid Rain Permits	Applicable – DSEC is an affected facility. The stationary combustion turbines are applicable under the Acid Rain Program.	DSEC submitted required acid rain permit forms/applications.	DSEC complies with applicable requirements.
AQR Section 22	Acid Rain Continuous Emission Monitoring	Applicable – DSEC an affected facility and is required to meet the requirements for the monitoring, recordkeeping and reporting of flow rate.	DSEC submitted all required protocols/test plans per ATC prior to CEMS certification.	DSEC complies with applicable requirements.

Citation	Title	Applicability	Applicable Test Method	Compliance Status
AQR Section 25	Upset/Breakdown, Malfunctions	Applicable – Any upset, breakdown, emergency condition, or malfunction which causes emissions of regulated air pollutants in excess of any permit limits shall be reported to Control Officer. Section 25.1 is locally and federally enforceable.	Any upset, breakdown, emergency condition, or malfunction in which emissions exceed any permit limit shall be reported to the Control Officer within 1-hour of onset of such event.	The DSEC currently complies with applicable requirements.
AQR Section 26	Emissions of Visible Air Contaminants	Applicable – Opacity for the any emission unit may not exceed 20 percent for more than 6 consecutive minutes.	Compliance determined by EPA Method 9.	DSEC complies with applicable requirements.
AQR Section 27	Particulate Matter from Process Weight Rate	Applicable – The Station emission units are required to meet the maximum weight based on maximum design rate of equipment.	Compliance determined by meeting maximum particulate matter discharge rate based on process rate from AQR Table 27.1	DSEC complies with applicable requirements.
AQR Section 28	Fuel Burning Equipment	Applicable – The PM emission rates for all stationary gas turbines are well below those established based on Section 28 requirements.	Maximum allowable PM emission rate determined from equation in Section 28.	DSEC complies with applicable requirements.
AQR Section 29	Sulfur Content of Fuel Oil	Applicable – If fuel oil is used it must be low sulfur fuel with sulfur content less than 0.05 percent by weight. Section 29 is locally enforceable only.	Fuel sulfur content verification obtained from fuel oil supplier.	DSEC complies with applicable requirements.
AQR Section 40	Prohibition of Nuisance Conditions	Applicable – No person shall cause, suffer or allow the discharge from any source whatsoever such quantities of air contaminants or other material which cause a nuisance. Section 40 is locally enforceable only.	DSEC air contaminant emissions controlled by pollution control devices or good combustion and thus will not cause a nuisance.	DSEC complies with applicable requirements.

Citation	Title	Applicability	Applicable Test Method	Compliance Status
AQR Section 41	Fugitive Dust	Applicable – DSEC shall take necessary actions to abate fugitive dust from becoming airborne.	DSEC utilizes appropriate best practices to not allow airborne fugitive dust.	DSEC complies with applicable requirements.
AQR Section 42	Open Burning	Applicable – In event DSEC burns combustible material in any open areas, such burning activity will have been approved by Control Officer in advance. Section 42 is a locally enforceable rule only.	DSEC will contact Air Quality and obtain approval in advance for applicable burning activities as identified in the rule.	DSEC complies with applicable requirements.
AQR Section 43	Odors in the Ambient Air	Applicable – An odor occurrence is a violation if the Control Officer is able to detect the odor twice within a period of an hour, if the odor causes a nuisance, and if the detection of odors is separated by at least 15 minutes. Section 43 is a local enforceable rule only.	DSEC is a predominantly natural gas-fired facility and is not expected to cause odors.	DSEC complies with applicable requirements.
AQR Section 52	Gasoline Dispensing Facilities	DSEC has gasoline dispensing facility.	DSEC submitted an application to add the facility to the source.	DSEC complies with applicable requirements.
AQR Section 70.4	Emergency Procedures	Applicable – DSEC submitted an emergency standby plan for reducing or eliminating air pollutant emissions in the Section 16 Operating Permit Application.	DSEC submitted an emergency standby plan and received the Section 16 Operating Permit.	DSEC complies with applicable requirements.

Table V-B-2: Federal Air Quality Regulations Applicable to San Diego Gas & Electric Company

Citation	Title	Applicability	Applicable Test Method	Compliance Status
40 CFR Part 52.21	Prevention of Significant Deterioration (PSD)	Applicable – DSEC PTE > 100 TPY and is listed as one of the 28 source categories.	BACT analysis, air quality analysis using modeling, and visibility and additional impact analysis performed for original ATC permits.	DSEC complies with applicable sections as required by PSD regulations.

Citation	Title	Applicability	Applicable Test Method	Compliance Status
40 CFR Part 52.1470	SIP Rules	Applicable – DSEC is classified as a Title V source, and SIP rules apply.	Applicable monitoring and record keeping of emissions data.	DSEC is in compliance with applicable state SIP requirements including monitoring and record keeping of emissions data.
40 CFR Part 60, Subpart A	Standards of Performance for New Stationary Sources (NSPS) – General Provisions	Applicable – DSEC is an affected facility under the regulations.	Applicable monitoring, recordkeeping and reporting requirements.	DSEC complies with applicable requirements.
40 CFR Part 60, Subpart Db	Standards of Performance for Electric Utility Steam Generating Units for Which Construction Is Commenced After September 18, 1978	Applicable – The DSEC stationary gas turbines are applicable subject to the requirements of this Subpart.	Applicable monitoring, recordkeeping and reporting requirements.	DSEC complies with applicable requirements.
40 CFR Part 60, Subpart GG	Standards of Performance for New Stationary Sources (NSPS) – Stationary Gas Turbines	Applicable – The DSEC stationary gas turbines are natural gas- fired units with heat input greater than 10 MMBtu/hr.	Applicable monitoring, recordkeeping and reporting requirements.	DSEC complies with applicable requirements.
40 CFR Part 60, Subpart IIII	NSPS – Standards of Performance for Stationary Compression Ignition Internal Combustion Engines	Applicable – The DSEC emergency generator is an affected unit	Applicable monitoring requirements.	DSEC complies with applicable requirements.
40 CFR Part 60	Appendix A, Method 9 or equivalent, (Opacity)	Applicable – Emissions from stacks are subject to opacity standards.	Opacity determined by EPA Method 9.	DSEC complies with applicable requirements.
40 CFR Part 63, Subpart ZZZZ	Emission Standards for Hazardous Air Pollutants	Applicable – The DSEC diesel emergency fire pump is subject to the requirements of this subpart	Applicable monitoring, recordkeeping and reporting requirements.	DSEC must be in compliance with the applicable requirements on and after May 3, 2013.
AQR Section 13.1.106, Subpart CCCCCC	NESHAP – National Emissions Standard for Hazardous Air Pollutants for Source Category – Gasoline Dispensing	Applicable – The DSEC has a gasoline dispensing facility.	No test methods required at the proposed throughput, but the source has Phase I controls and will demonstrate compliance with the control factor.	DSEC complies with applicable requirements.
40 CFR Part 64	Compliance Assurance Monitoring	Applicable – DSEC has CAM Plan to demonstrate compliance with CO emissions.	DSEC monitors temperature of the CO oxidizer .	DSEC complies with applicable requirements.

Citation	Title	Applicability	Applicable Test Method	Compliance Status
40 CFR Part 70	Federally Mandated Operating Permits	Applicable – DSEC is a major stationary source and under Part 70 the initial Title V permit application was submitted as required. Renewal applications are due between 6 and 18 months prior to expiration. Revision applications will be submitted within 12 months or commencing operation of any new emission unit.	DSEC submitted a renewal application on April 11, 2008. Applications for new units will be submitted within 12 months of startup.	DSEC complies with applicable requirements.
40 CFR Part 72	Acid Rain Permits Regulation	Applicable – DSEC is applicable to the requirements under this regulation.	DSEC has submitted the required application and notifications.	DSEC complies with applicable requirements.
40 CFR Part 73	Acid Rain Sulfur Dioxide Allowance System	Applicable – DSEC is applicable to the requirements under this regulation.	DSEC will obtain SO_2 allowances based on the actual emissions recorded annually by the CEMS.	DSEC complies with applicable requirements.
40 CFR Part 75	Acid Rain CEMS	Applicable – DSEC is applicable to the requirements under this regulation.	DSEC will comply with all monitoring, recordkeeping and reporting for SO_2, NO_X and CO_2 emissions and flow rate from affected units under the Acid Rain Program.	DSEC complies with applicable requirements.
40 CFR Part 82	Protection of Stratospheric Ozone	Applicable – DSEC is subject to stratospheric ozone regulations based on 40 CFR 82.4.	Applicable.	Applicable.

C. Permit Shield

A permit shield was not requested by the source.

D. Streamlining Demonstration

Table V-D-1: 40 CFR 60 Subparts Db and GG Streamlining Demonstration

EU	Regulation (40 CFR)	Regulatory Standard	Permit Limit	Value Comparison (in Units of the Permit Limit)			Averaging Period Comparison			Streamlining Statement for Shielding Purposes
				Standard Value	Permit Limit Value	Is Permit Limit Equal or More Stringent?	Standard Averaging Period	Permit Limit Averaging Period	Is Permit Limit Equal or More Stringent?	
A01/ A02	60.332 (GG)	75 ppmvd NO_x @ 15% O_2 [(1)]	3.7 ppmvd NO_x @ 15% O_2	75 [(1)]	3.7	Yes	4 hours	3 hours	Yes	The permit limits are more stringent than the standard based upon both concentration and averaging time. Compliance with the permit demonstrates compliance with the standard.
A01/ A02	60.332 (GG)	75 ppmvd (117 lbs/hr) NO_x @ 15% O_2 [(1)]	23.0 lb NO_x/hr	117	23.0	Yes	4 hours	3 hours	Yes	
A01/ A02	60.333 (GG)	150 ppmvd (326 lbs/hr) SO_X @ 15% O_2	1.01 lbs/hr SO_X @ 15% O_2 (natural gas)	326	1.01	Yes	4 hours	3 hours	Yes	
A01/ A02	60.333 (GG)	0.8% Sulfur by weight (280 gr/100 scf)	0.2 gr/100 scf	280	0.2	Yes	4 hours	rolling 12-month	Yes	
A01A/ A02A	60.42 (Db)	0.03 lb PM/MMBtu	2.60 lbs PM_{10}/hr	5.25	2.6	Yes	30-day rolling	3 hours	Yes	The permit limits are more stringent than the standard based upon both concentration and averaging time. Compliance with the permit demonstrates compliance with the standard.
A01A/ A02A	60.42 (Db)	20% Opacity	20% Opacity	20	20	Yes	60-minute period, excepting 6 minutes	60-minute period, excepting 6 minutes	Yes	
A01A/ A02A	60.43 (Db)	0.20 lb SO_2/MMBtu	1.01 lb SO_2/hr	35	1.01	Yes	30-day rolling	3 hours	Yes	
A01A/ A02A	60.44 (Db)	0.20 lb NO_X/MMBtu	23.0 lb NO_x/hr	35	23.0	Yes	30-day rolling	3 hours	Yes	

[1] The 60.332 NO_x standard is the following formula: STD = 0.0075 * (14.4)/Y + F; the calculated value (75 ppmvd) is the minimum possible value of the standard for any emission unit.

Where:

STD = allowable ISO corrected NO_X emission concentration (percent by volume at 15 percent oxygen and on a dry basis);

Y = manufacturer's rated heat at manufacturer's rated load or actual measured heat rate based on lower heating value of fuel as measured at actual peak load for the facility. The value of Y shall not exceed 14.4 kilojoules per watt hour (for the purposes of obtaining the minimum possible value of the standard, Y = 14.4; and

F = NO_X emission allowance for fuel-bound nitrogen (N = the nitrogen content of the fuel). For the purposes of obtaining the minimum possible value of the standard, F = 0.

Fuel-bound nitrogen (percent by weight)	F (NO_X percent by volume)
N ≤ .015	0
0.015 < N≤ 0.1	0.04 (N)
0.1 < N ≤ 0.25	0.004+0.0067(N–0.1)
N > 0.25	0.005

[2]Sulfur content was converted from percent by weight to grains per 100 scf as follows: 0.8% sulfur = 56 gr sulfur per lb natural gas. AP-42 defines natural gas as generally more than 85 percent methane and varying amounts of ethane propane, butane, and inerts (typically nitrogen, carbon dioxide, and helium). Assuming an average molecular weight of 18 lb/lb-mol, 1 lb natural gas = 20 scf. Lastly, 56 grains sulfur per 20 scf natural gas = 280 gr/100 scf

E. Summary of Monitoring for Compliance

Table V-E-1: Summary of Monitoring for Compliance

EU	Process Description	Monitored Pollutants	Applicable Subsection Title	Requirements	Compliance Monitoring
A01 and A02	Stationary Gas Turbines	CO, NO_x, SO_2, PM_{10}, VOC, HAPs	AQR Sections 12.5 40 CFR 60 Subpart GG	Annual and short-term emission limits.	CEMS for NO_x. Stack testing for CO, VOC, and opacity as outlined in Part 70 OP. Compliance for PM_{10}, SO_2 and HAPs shall be based on sole use of natural gas as fuel and emission factors. Recording is required for compliance demonstration.
A01 and A02	Stationary Gas Turbines	Opacity	AQR Section 26	Less than 20% opacity.	Use of natural gas as fuel and good combustion practices as well as EPA Method 9 performance testing upon the request of the Control Officer.

EU	Process Description	Monitored Pollutants	Applicable Subsection Title	Requirements	Compliance Monitoring
A01A and A02A	Duct Burners	CO, NO_x, SO_2, PM_{10}, VOC, HAPs	AQR Sections 12.5 40 CFR 60 Subpart Db	Annual and short-term emission limits.	CEMS for NO_x. Stack testing for CO, VOC, and opacity as outlined in Part 70 OP. Compliance for PM_{10}, SO_2, and HAPs shall be based on sole use of natural gas as fuel and emission factors. Recording is required for compliance demonstration.
A01A and A02A	Duct Burners	Opacity	AQR Section 26	Less than 20% opacity.	Use of natural gas as fuel and good combustion practices as well as visual emission checks as outline in Part 70 OP.
A03	Diesel Fire Pump	CO, NO_x, SO_2, PM_{10}, VOC, HAPs	AQR Sections 12.5 40 CFR 63 Subpart ZZZZ	Annual and short-term emission limits.	Compliance for regulated pollutants shall be based on sole use of low-sulfur diesel fuel and emission factors. Recording is required for compliance demonstration.
A03	Diesel Fire Pump	Opacity	AQR Section 26	Less than 20% opacity.	Sole use of low-sulfur diesel fuel and quarterly visual emission checks as outlined in Part 70 OP.
A07	Diesel Emergency Generator	CO, NO_x, SO_2, PM_{10}, VOC, HAPs	AQR Section 12.5 40 CFR 60 Subpart IIII	Annual and short-term emission limits.	Compliance for regulated pollutants shall be based on sole use of low-sulfur diesel fuel and emission factors. Records of manufacturer's guarantees
A07	Diesel Emergency Generator	Opacity	AQR Section 26	Less than 20% opacity.	Sole use of low-sulfur diesel fuel and quarterly visual emission checks as outlined in Part 70 OP.
A08	Gasoline Dispensing Facility	VOC, HAP	AQR 12.5 40 CFR 63, Subpart CCCCCC	Management Practices	Throughput monitoring, equipment inspection and performance testing of Phase I control.

VI. EMISSION REDUCTION CREDITS (OFFSETS)

The source is subject to offset requirements in accordance with AQR Section 12.7. Offset requirements and associated mitigation are pollutant-specific.

VII. ADMINISTRATIVE REQUIREMENTS

Section 12.5 requires that Air Quality identify the original authority for each term or condition in the Part 70 Operating Permit. Such reference of origin or citation is denoted by [italic text in brackets] after each Part 70 Permit condition.

Air Quality proposes to issue the Part 70 Operating Permit conditions on the following basis:

Legal:

On December 5, 2001 in Federal Register Volume 66, Number 234 FR30097 the EPA fully approved the Title V Operating Permit Program submitted for the purpose of complying with the Title V requirements of the 1990 Clean Air Act Amendments and implementing Part 70 of Title 40 Code of Federal Regulations.

Factual:

San Diego Gas & Electric Company has supplied all the necessary information for Air Quality to draft Part 70 Operating Permit conditions encompassing all applicable requirements and corresponding compliance.

Conclusion:

Air Quality has determined that San Diego Gas & Electric Company will continue to determine compliance through the use of CEMS, performance testing, reporting, record keeping, coupled with annual certifications of compliance. Air Quality proceeds with the preliminary decision that a Part 70 Operating Permit should be issued as drafted to San Diego Gas & Electric Company for a period not to exceed five years.

Attachment 1

Clark County Air Quality – AQR with Source Compliance or Requirement

Applicable Section – Title	Applicable Subsection – Title	SIP	Affected Eus
0. Definitions	applicable definitions	yes	entire source
1. Definitions	"Affected Facility", "Dust", "Existing Gasoline Station", "Fumes", "Mist", "New Gasoline Stations", "New Source", "Single Source", "Standard Conditions", "Uncombined Water".	Yes	entire source
4. Control Officer	all subsections 4.7.3 and 4.12.1 through 4.12.3 in SIP	partial	entire source
5. Interference with Control Officer	all subsections	yes	entire source
6. Injunctive Relief	all subsections	yes	entire source
7. Hearing Board and Hearing Officer	all subsections	no	entire source
8. Persons Liable for Penalties – Punishment: Defense	all subsections	yes	entire source
9. Civil Penalties	all subsections	no	entire source
10. Compliance Schedule	when applicable; applicable subsections	yes	entire source
12.0. Applicability, General Requirements and Transition Procedures	all subsections	yes	entire source
12.2 Prevention of Significant Deterioration in Attainment Areas	all subsections	yes	entire source
12.3 Permit Requirements for Major Sources in Nonattainment Areas	all subsections	yes	entire source
12.4 Authority to Construct Permit Requirements for Part 70 Sources	all subsections	yes	entire source
12.5 Part 70 Operating Permit Requirements	all subsections	yes	entire source
12.6 Confidentiality	all subsections	yes	entire source
12.7 Emission Reduction Credits	all subsections	yes	entire source
12.9 Annual Emission Inventory Requirements	all subsections	yes	entire source
12.10 Continuous Monitoring Requirements for Stationary Sources	all subsections	yes	entire source
13. National Emission Standards for Hazardous Air Pollutants	CCAQR Section 13.2.b.82: Subpart ZZZZ National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines CCAQR 13.2.b.106: Subpart CCCCCC National Emission Standard for Hazardous Air Pollutants Category: Gasoline Dispensing	no	fire pump and gas station

Applicable Section – Title	Applicable Subsection – Title	SIP	Affected Eus
14. New Source Performance Standards	CCAQR Section 14.1.b.40: Subpart GG Standards of Performance for Stationary Gas Turbines CCAQR Section 14.1.b.4: Subpart Db Standards of Performance for Industrial – Commercial – Institutional Steam Generating Units CCAQR 14.1.b.80: Subpart IIII Standards of performance for Stationary Compression Ignition Internal Combustion Engines	no	stationary gas turbines and emergency generator
18. Permit and Technical Service Fees	all subsections 18.1 through 18.5.2 and 18.6 through 18.12 in SIP	partial	entire source
21. Acid Rain Permits	all subsections	no	entire source
22. Acid Rain Continuous Emissions Monitoring	all subsections	no	entire source
24. Sampling and Testing – Records and Reports	§ 24.1 Requirements for installation and maintenance of sampling and testing facilities § 24.2 Requirements for emissions record keeping § 24.3 Requirements for the record format § 24.4 Requirements for the retention of records by the emission sources (Note: Repealed from SIP on Oct 17, 2014)	no	entire source
25.1 Upset/Breakdown, Malfunctions (1981)	§ 25.1 Requirements for the excess emissions caused by upset/breakdown and malfunctions	no	entire source
25.2 Upset/Breakdown, Malfunctions (1981)	§ 25.2 Reporting and Consultation	yes	entire source
26. Emission of Visible Air Contaminants (1981)	§ 26.1 Limit on opacity (≤ an average of 20 percent for a period of more than 6 consecutive minutes)	yes	entire source
27. Particulate Matter from Process Weight Rate	all subsections	yes	entire source
28. Fuel Burning Equipment	Emission Limitations for PM	yes	entire source
29. Sulfur Contents of Fuel Oil	Repealed by County	yes	entire source
40. Prohibitions of Nuisance Conditions	40.1 Prohibitions	no	entire source
41. Fugitive Dust	41.1 Prohibitions	yes	entire source
42. Open Burning	42.2	no	entire source
43. Odors In the Ambient Air	43.1 Prohibitions coded as Section 29	no	entire source
52. Gasoline Dispensing	Repealed by County	yes	gasoline dispensing
60. Evaporation and Leakage	all subsections Repealed by County and from SIP in 2011	no	entire source
70. Emergency Procedures	all subsections	yes	entire source
80. Circumvention	all subsections	yes	entire source

Applicable Section – Title	Applicable Subsection – Title	SIP	Affected Eus
81. Provisions of Regulations Severable	all subsections	yes	entire source