

CLARK COUNTY
DEPARTMENT OF AIR QUALITY AND
ENVIRONMENTAL MANAGEMENT
500 South Grand Central Parkway, Box 555210, Las Vegas, Nevada 89155
Part 70 Operating Permit
Source: 652
Issued in accordance with the
Clark County Air Quality Regulations (AQR)

ISSUED TO: San Diego Gas & Electric Company- Desert Star Energy Center

SOURCE LOCATION:

701 El Dorado Valley Drive
Boulder City, Nevada 89005
T25S, R62E, Section 12
Hydrographic Basin Number: 167

COMPANY ADDRESS:

P.O. Box 62470
Boulder City, Nevada 89006

NATURE OF BUSINESS:

SIC Code 4911: Electric Services
NAICS Code 221112: Fossil Fuel Electric Power Generation

RESPONSIBLE OFFICIAL:

Name: Kevin Lampman
Title: Plant Manager
Phone: (702) 568-8203
Fax Number: (702) 568-8213

Permit Issuance Date: December 31, 2010

Expiration Date: December 30, 2015

Permit Administrative Revision Date: October 7, 2011

ISSUED BY: CLARK COUNTY DEPARTMENT OF AIR QUALITY AND ENVIRONMENTAL MANAGEMENT



Tina Gingras
Control Officer, Clark County DAQEM

EXECUTIVE SUMMARY

Desert Star Energy Center is a major source of NO_x, and a minor source of PM₁₀, PM_{2.5}, CO, SO_x, VOC and HAP owned by San Diego Gas & Electric Company. The source is a major source for greenhouse gases. All processes at the site are grouped under SIC 4911: Electric Services (NAICS 221112: Fossil Fuel Electric Power Generation). The source is located at 701 El Dorado Valley Drive, Boulder City, Nevada 89005 in the El Dorado Valley airshed, hydrographic basin number 167. Hydrographic basin 167 is designated as nonattainment area for ozone and attainment area for all other regulated air pollutants.

The source is a 500 MW natural gas power generating plant. The natural gas fired 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.

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 ₂ S	Lead (Pb)
PTE Totals	89.62	89.62	194.17	95.35	8.65	49.25	12.16	0.00	0.00

¹ Not a source-wide emission limit; values are used for determining the major source status.

² Combination of all HAPs.

This Part 70 OP Administrative revision is issued based on the Title V revision applications submitted on July 7, 2011, and September 6, 2011, for the removal of two solar fields and a transfer of permit.

Pursuant to AQR 12.5.2 all terms and conditions in Sections I through V and Attachment 1 in this permit are federally enforceable unless explicitly denoted otherwise.

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I. ACRONYMS

Table I-1: List of Acronyms

Acronym	Term
AQR	Clark County Air Quality Regulations
ATC	Authority to Construct
CAM	Compliance Assurance Monitoring
CEMS	Continuous Emissions Monitoring System
CFR	United States Code of Federal Regulations
CO	Carbon Monoxide
CTG	Combustion Turbine-Generator
DAQEM	Clark County Department of Air Quality & Environmental Management
DLN	Dry Low-NO _x
EPA	United States Environmental Protection Agency
EU	Emission Unit
HAP	Hazardous Air Pollutant
HHV	Higher Heating Value
HP	Horse Power
kW	kilowatt
LHV	Lower Heating Value
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
RMP	Risk Management Plan
SCC	Source Classification Codes
scf	Standard Cubic Feet
SCR	Selective Catalytic Reduction
SIC	Standard Industrial Classification
SIP	State Implementation Plan
S/N	Serial Number
SO _x	Sulfur Oxides
TCS	Toxic Chemical Substance
ULN	Ultra Low-NO _x
VOC	Volatile Organic Compound

II. GENERAL CONDITIONS

A. General Requirements

1. The Permittee must comply with all conditions of the Part 70 Operating Permit. Any permit noncompliance may constitute a violation of the AQRs, Nevada law, and the Act, and is grounds for any of the following: enforcement action; permit termination; revocation and re-issuance; revision; or denial of a permit renewal application. *[AQR 12.5.2.6(g)(1)]*
2. If any term or condition of this permit becomes invalid as a result of a challenge to a portion of this permit, the other terms and conditions of this permit shall not be affected and shall remain valid. *[AQR 12.5.2.6(f)]*
3. The Permittee shall pay all permit fees pursuant to AQR Section 18. *[AQR 12.5.2.6(h)]*
4. The permit does not convey any property rights of any sort, or any exclusive privilege. *[AQR 12.5.2.6(g)(4)]*
5. The Permittee shall not hinder, obstruct, delay, resist, interfere with, or attempt to interfere with the Control Officer, or any individual to whom authority has been duly delegated for the performance of any duty by the AQR. *[AQR 5.1.1]*
6. The Permittee shall allow the Control officer, or an authorized representative, upon presentation of credentials and other documents as may be required by law, to enter the Permittee's premises where a Part 70 source is located or emissions related activity is conducted and to: *[AQR 12.5.2.8(b)]*
 - a. Have access to and copy any records that must be kept under the conditions of the permit;
 - b. Inspect any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under the permit;
 - c. Sample or monitor substances or parameters for the purpose of assuring compliance with the permit or applicable requirements; and
 - d. Document alleged violations using devices such as cameras or video equipment.
7. The Permittee owning, operating, or in control of any equipment or property who shall cause, permit, or participate in, any violation of the AQR shall be individually and collectively liable to any penalty or punishment imposed by and under the AQR. *[AQR 8.1]*
8. Any Permittee who fails to submit any relevant facts or who has submitted incorrect information in a permit application shall, upon becoming aware of such failure or incorrect submittal, promptly submit such supplementary facts or corrected information. *[AQR 12.5.2.2]*

B. Modification, Revision, Renewal Requirements

1. No person shall begin actual construction of a New Part 70 source, or modify or reconstruct an existing Part 70 source that falls within the preconstruction review applicability criteria, without first obtaining an Authority to Construct Permit from the Control Officer *[AQR 12.4.1.1(a)]*
2. The permit may be revised, revoked, reopened and reissued, or terminated for cause. The filing of a request by the Permittee for a permit revision, revocation, reissuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any permit condition. *[AQR 12.5.2.6(g)(3)]*
3. A permit, permit revision, or renewal may be approved only if all of the following conditions have been met: *[AQR 12.5.2.10(a)]*

- a. The Control Officer has received a complete application for a permit, permit revision, or permit renewal, except that a complete application need not be received before a Part 70 general permit is issued pursuant to Section 12.5.2.20;
 - b. Except for revisions qualifying as administrative or minor permit revisions under Section 12.5.2.13 or paragraphs (a) and (b) of Section 12.5.2.14, the Control Officer has complied with the applicable requirements for public participation in Section 12.5.2.17;
 - c. The Control Officer has complied with the requirements for notifying and responding to EPA and affected states under paragraph (b) of Section 12.5.2.18;
 - d. The conditions of the permit provide for compliance with all applicable requirements and the requirements of Section 12.5; and
 - e. EPA has received a copy of the proposed permit or permit revision and any notices required under paragraphs (a) and (b) of Section 12.5.2.18, and has not objected to issuance of the permit under paragraph (c) of Section 12.5.2.18 within the time period specified therein.
4. The Permittee shall not build, erect, install or use any article, machine, equipment or process, the use of which conceals an emission, which would otherwise constitute a violation of an applicable requirement. *[AQR 80.1 and 40 CFR 60.12]*
 5. No permit revisions shall be required under any approved economic incentives, marketable permits, emissions trading and other similar programs or processes for changes that are provided for in the permit. *[AQR 12.5.2.6(i)]*
 6. Permit expiration terminates the Permittee's right to operate unless a timely and complete renewal application has been submitted. *[AQR 12.5.2.11(b)]*
 7. For purposes of permit renewal, a timely application is a complete application that is submitted at least six (6) months and not greater than eighteen (18) months prior to the date of permit expiration. If a source submits a timely application under this provision, it may continue operating under its current Part 70 Operating Permit until final action is taken on its application for a renewed Part 70 Operating Permit. *[AQR 12.5.2.1(a)(2)]*

C. Reporting/Notifications/Providing Information Requirements

1. The Permittee shall submit all reports to the Control Officer. *[AQR 12.5.2.8(e)(4)]*
2. Any application form, report, or compliance certification submitted pursuant to the permit or AQRs shall contain certification by a responsible official of truth, accuracy, and completeness. This certification and any other certification required under AQR 12.5 shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete. *[AQR 12.5.2.6(l)]*
3. The Permittee shall furnish to the Control Officer, within a reasonable time, any information that the Control Officer may request in writing to determine whether cause exists for revising, revoking and reissuing, or terminating the permit, or to determine compliance with the permit. Upon request, the Permittee shall also furnish to the Control Officer copies of records required to be kept by the permit or, for information claimed to be confidential, the Permittee may furnish such records directly to the Administrator along with a claim of confidentiality. *[AQR 12.5.2.6(g)(5)]*
4. Upon request of the Control Officer, the Permittee shall provide such information or analyses as will disclose the nature, extent, quantity or degree of air contaminants which are or may be discharged by such source, and type or nature of control equipment in use, and the Control Officer may require such disclosures be certified by a professional engineer registered in the state. In addition to such report, the Control Officer may designate an authorized agent to make an independent study and report as to the nature, extent, quantity

- or degree of any air contaminants which are or may be discharged from the source. An authorized agent so designated is authorized to inspect any article, machine, equipment, or other contrivance necessary to make the inspection and report. [AQR 4.4]
5. The Permittee shall submit annual emissions inventory reports based on the following: [AQR 18.6.1]
 - a. The annual emissions inventory must be submitted to DAQEM by March 31 of each calendar year; and
 - b. The report shall include the emission factors and calculations used to determine the emissions from each permitted emission unit, even when an emission unit is not operated.
 6. The Permittee shall make all production, emission and monitoring calculations available to the Control Officer for inspection within 30 days from the end of each month. [AQR12.5.2.8]
 7. The Permittee who has been issued a permit under Section 12.5 shall post such permit in a location which is clearly visible and accessible to the facility's employees and representatives of the department. [AQR 12.5.2.6(m)]

D. Compliance Requirements

1. The Permittee shall not use as a defense in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit. [AQR 12.5.2.6(g)(2)]
2. Any person who violates any provision of AQR, including, but not limited to, any application requirement; any permit condition; any fee or filing requirement; any duty to allow or carry out inspection, entry or monitoring activities or any requirements by DAQEM is guilty of a civil offense and shall pay civil penalty levied by the Air Pollution Control Hearing Board and/or the Hearing Officer of not more than \$10,000. Each day of violation constitutes a separate offense. [AQR 9.1]
3. Any person aggrieved by an order issued pursuant to AQR Section 9 is entitled to review as provided in Chapter 233B of NRS. [AQR 9.12]
4. The Permittee of any stationary source or emission unit that fails to demonstrate compliance with the emissions standards or limitations shall submit a compliance plan to the Control Officer pursuant to AQR Section 10. [AQR 10.1]
5. The Permittee shall comply with the requirements of 40 CFR 61, Subpart M, of the National Emission Standard for Asbestos for all demolition and renovation projects. [AQR 13.1(b)(8)]
6. Permittee shall submit compliance certification with terms and conditions contained in the Operating Permit, including emission limitations, standards, or work practices, as follows: [AQR 12.5.2.8(e)]
 - a. the Permittee shall submit compliance certifications annually in writing to the Control Officer (500 Grand Central Parkway, Box 555210, Las Vegas, NV 89155) and the Administrator at USEPA Region IX (Director, Air and Toxics Divisions, 75 Hawthorne St., San Francisco, CA 94105). A compliance certification for each year will be due on January 30th of the following year;
 - b. annual submission of compliance certification, or more frequently if specified in the applicable requirement or by the Control Officer;
 - c. a means for monitoring the compliance of the source with its emission limitations, standards, and work practices;
 - d. compliance certification shall include all of the following:
 - i. the identification of each term or condition of the permit that is the basis of the certification;

- ii. the identification of the methods or other means used by the owner or operator for determining the compliance status with each term and condition during the certification period;
 - iii. the status of compliance with the terms and conditions of the permit for the period covered by the certification, including whether compliance during the period was continuous or intermittent;
 - iv. such other facts as the Control Officer may require to determine the compliance status of the source.
7. The Permittee shall report to the Control Officer (500 Grand Central Parkway, Box 555210, Las Vegas, NV 89155) any upset, breakdown, malfunction, emergency or deviation which cause emissions of regulated air pollutants in excess of any limits set by regulation or by this permit. The report shall be in two parts as specified below: *[AQR 12.5.2.6(d)(4)(B) and AQR 25.6.1]*
 - a. within twenty-four (24) hours of the time the Permittee learns of the event, the report shall be communicated by phone (702) 455-5942, fax (702) 383-9994, or email.
 - b. within seventy-two (72) hours of the notification required by paragraph (a) above, the detailed written report containing the information required by AQR Section 25.6.3 shall be submitted.
8. The Permittee shall report to the Control Officer deviations that do not result in excess emissions, with the semi-annual reports. Such reports shall include the probable cause of deviations and any corrective actions or preventative measures taken. *[AQR 12.5.2.6(d)(4)(B)]*

E. Performance Testing Requirements

1. Upon request of the Control Officer, the Permittee shall test or have tests performed to determine the emissions of air contaminants from any source whenever the Control Officer has reason to believe that an emission in excess of that allowed by the DAQEM regulations is occurring. The Control Officer may specify testing methods to be used in accordance with good professional practice. The Control Officer may observe the testing. All tests shall be conducted by reputable, qualified personnel. *[AQR 4.5]*
2. Upon request of the Control Officer, the Permittee shall provide necessary holes in stacks or ducts and such other safe and proper sampling and testing facilities, exclusive of instruments and sensing devices, as may be necessary for proper determination of the emission of air contaminants. *[AQR 4.6]*
3. The Permittee shall submit for approval a performance testing protocol which contains testing, reporting, and notification schedules, test protocols, and anticipated test dates to the Control Officer (500 Grand Central Parkway, Box 555210, Las Vegas, NV 89155) not less than 45 nor more than 90 days prior to the anticipated date of the performance test. *[AQR 12.5.2.8]*
4. The Permittee shall submit to EPA for approval any alternative test methods that are not already approved by EPA. *[40 CFR 60.8(b)]*
5. The Permittee shall submit a report describing the results of each performance test to the Control Officer within 60 days from the end of the performance test. *[AQR 12.5.2.8]*

III. EMISSION UNITS AND APPLICABLE REQUIREMENTS

A. Emission Units

1. The stationary source covered by this Part 70 OP consists of the emission units and associated appurtenances summarized in Table III-A-1. *[NSR ATC Modification 1, Revision 1, (04/30/2007) and NSR ATC Modification 2, Revision 0, (12/17/2009)]*

Table III-A-1: List of Emission Units

EU	Description	Rating	Make	Model #	Serial #
A01	Stationary Gas Turbine, natural gas fired	1,652.94 MMBtu/hr 165 MW	Westinghouse	501FC+	37A8029-1
A01A	Duct Burner for HRSG EU: A01	175 MMBtu/hr	Forney	394671-01	N/A
A02	Stationary Gas Turbine, natural gas fired	1,652.94 MMBtu/hr 165 MW	Westinghouse	501FC+	37A8030-1
A02A	Duct Burner for HRSG EU: A02	175 MMBtu/hr	Forney	394671-01	N/A
A03	Emergency Diesel Fire Pump, DOM: 1998	140 bhp	Clarke Allison	PDFP-06YT	713787F

B. Emission Limitations and Standards

1. Emission Limits

- a. The Permittee shall not allow actual emissions from each emission unit to exceed the PTE listed in Table III-B-1 per rolling 12-month period. Tons-per-year emission limits of each emission unit include startup and shutdown emissions. *[NSR ATC Modification 1, Revision 1, (04/30/2007) and NSR ATC Modification 2, Revision 0, (12/17/2009)]*

Table III-B-1: Emission Unit PTE, Including Startup and Shutdowns (tons per year)

EU	PM ₁₀	NO _x	CO	SO _x	VOC	HAP
A01	39.42	96.50	45.55	4.30	22.78	---
A01+A01A	44.80	96.50	47.65	4.30	24.60	6.07
A02	39.42	96.50	45.55	4.30	22.78	---
A02+A02A	44.80	96.50	47.65	4.30	24.60	6.07
A03	0.02	1.17	0.05	0.05	0.05	0.02

- b. The Permittee shall not allow actual emissions from each emission unit to exceed the emission rates listed in Table III-B-2. NO_x emissions, for the stationary gas turbine units, shall not be exceeded for any three (3)-hour rolling average period as determined by the CEMS. Pound-per-hour limits are normal operation (exclude startup and shutdown) limits only. *[NSR ATC Modification 1, Revision 1 (04/30/2007)]*

Table III-B-2: Emission Rates, Excluding Startup and Shutdowns (pounds per hour)

EU	NO _x (3-hr average)	CO	VOC
A01	23.00	10.40	5.20
A01+A01A	23.00	13.10	6.60
A02	23.00	10.40	5.20
A02+A02A	23.00	13.10	6.60

- c. The Permittee shall not allow actual emissions from each emission unit to exceed the emission rates listed in Table III-B-3, as determined by the CEMS for NO_x and performance testing for CO. The emission limits are normal operation (exclude startup and shutdown) limits only. *[NSR ATC Modification 1, Revision 1 (04/30/2007)]*

Table III-B-3: Emission Rates, Excluding Startup and Shutdown

EU	Averaging Period	O ₂ Standard	NO _x (ppmvd)	CO (ppmvd)
A01	3-Hour	15%	3.5	2.6
A01+A01A	3-Hour	15%	3.7	3.5
A02	3-Hour	15%	3.5	2.6
A02+A02A	3-Hour	15%	3.7	3.5

- d. The Permittee shall not discharge into the atmosphere, from any emission unit, any air contaminant in excess of an average of 20 percent opacity for a period of more than 6 consecutive minutes, when viewed in accordance with EPA Method 9. *[AQR 26.1.1]*

2. Production Limits

- a. The Permittee shall limit the operation of each emission unit to the fuel limitations listed in Table III-B-4. Compliance with the limitation for total fuel consumed shall be demonstrated for each rolling 12-month period. *[NSR ATC Modification 1, Revision 1 (04/30/2007)]*

Table III-B-4: Fuel Limitations for Combustion Equipment

Equipment	Fuel Type	MMBtu/hr	MMBtu/year	Reference
A01	Natural Gas	1,653 ¹	14,479,755	Based on LHV of Natural Gas
A02	Natural Gas	1,653 ¹	14,479,755	Based on LHV of Natural Gas
A01A	Natural Gas	175 ²	692,000	Based on HHV of Natural Gas
A02A	Natural Gas	175 ²	692,000	Based on HHV of Natural Gas

¹ Based on 100 percent load at 8°F.

² Based on 100 percent load at 116°F.

- b. Cold startup shall be defined as the period beginning with the flow of fuel to the stationary gas turbine when the steam turbine initial temperature is 290 degrees Fahrenheit or less and lasting until a stationary gas turbine load reaches 100 MW. *[NSR ATC Modification 1, Revision 1 (04/30/2007)]*
- c. Warm startup shall be defined as the period beginning with the flow of fuel to the stationary gas turbine when the steam turbine initial temperature is greater than 290 degrees Fahrenheit and lasting until a stationary gas turbine load reaches 100 MW. *[NSR ATC Modification 1, Revision 1 (04/30/2007)]*
- d. The Permittee shall limit the duration of a cold startup to 8 hours and a warm startup to 5 hours. *[Part 70 OP Renewal Application (04/11/2008)]*
- e. Shutdown shall not exceed 180 minutes per event. Shutdown is defined as the period beginning with the lowering of the electric load of a turbine below 50 percent of nameplate capacity and ending when combustion has ceased. *[NSR ATC Modification 1, Revision 1 (04/30/2007)]*
- f. The Permittee shall limit the operation of the emergency fire pump (EU: A03) for testing and maintenance to 100 hours per rolling 12-month period. *[NSR ATC Modification 1, Revision 1 (04/30/2007)]*

3. Emission Controls

Combined Cycle System

- a. The Permittee shall control PM₁₀ exhaust emissions from each combined cycle system by properly maintaining and periodically replacing the inlet air filters preceding each stationary gas turbine (EUs: A01 and A02). *[NSR ATC Modification 1, Revision 1 (04/30/2007)]*
- b. The Permittee shall combust only pipeline quality natural gas in each stationary gas turbine unit and associated duct burner (EUs: A01, A01A, A02 and A02A). *[NSR ATC Modification 1, Revision 1 (04/30/2007)]*
- c. Each stationary gas turbine (EUs: A01 and A02) and the associated duct burners (EUs: A01A and A02A) shall burn only natural gas containing no more than 0.2 grains of sulfur per 100 standard cubic foot of fuel. *[NSR ATC Modification 1, Revision 1 (04/30/2007)]*
- d. The Permittee shall maintain and operate each SCR system to control NO_x emissions in accordance with manufacturer's specifications and good operating practices. SCR shall operate at all times the stationary gas turbines and associated duct burners are operating, excluding periods of startup and shutdown. *[NSR ATC Modification 1, Revision 1 (04/30/2007)]*
- e. The Permittee shall further control NO_x emissions with dry low-NO_x combustors, operated in accordance with manufacturer's specifications and good combustion practices (EUs: A01 and A02). *[NSR ATC Modification 1, Revision 1 (04/30/2007)]*
- f. The Permittee shall operate SCR such that NO_x emissions will not exceed the limits listed in Tables III-B-2 and III-B-3, excluding periods of startup and shutdown. *[NSR ATC Modification 1, Revision 1 (04/30/2007)]*
- g. The Permittee shall operate an oxidation catalyst to control CO emissions on each of the stationary gas turbines at all times the associated emission units are operating, excluding periods of startup and shutdown (EUs: A01 and A02). *[NSR ATC Modification 1, Revision 1 (04/30/2007)]*
- h. The Permittee shall operate each oxidation catalyst such that CO emissions do not exceed the limitations listed in Tables III-B-2 and III-B-3, excluding periods of startup and shutdown. *[NSR ATC Modification 1, Revision 1 (04/30/2007)]*

Diesel Engine

- i. The Permittee shall operate the emergency fire pump with a turbocharger and an aftercooler and employ fuel injection timing retardation (EU: A03). *[NSR ATC Modification 1, Revision 1 (04/30/2007)]*
- j. The Permittee shall operate and maintain the emergency fire pump engine in accordance with the manufacturer's emission-related operation and maintenance instructions (EU: A03). *[NSR ATC Modification 1, Revision 1 (04/30/2007)]*
- k. The Permittee shall only combust diesel fuel in the diesel engine with a maximum sulfur content of 500 ppm and either a minimum cetane index of 40 or a maximum aromatic content of 35 percent by volume (EU: A03). *[40 CFR 63.6604]*
- l. The Permittee shall not test the fire pump during CO advisories. *[NSR ATC Modification 1, Revision 1 (04/30/2007)]*
- m. Beginning May 3, 2013, the Permittee shall comply with the following applicable requirements for the diesel emergency fire pump (EU: A03) contained in 40 CFR 63.6603:
 - i. change the oil and filter every 500 hours of operation or annually, whichever comes first;

- ii. inspect the air cleaner every 1,000 hours of operation or annually, whichever comes first;
- iii. inspect all hoses and belts every 500 hours of operation or annually, whichever comes first; and
- iv. install a non-resettable hour meter if one is not already installed.

Other

- n. The Permittee must comply with the control requirements contained in this section. If there is inconsistency between standards or requirements, the most stringent standard or requirement shall apply. *[NSR ATC Modification 1, Revision 1 (04/30/2007)]*
- o. The Permittee shall, under all conditions, maintain and operate the source in a manner consistent with good air pollution control practice for minimizing emissions as required by 40 CFR 60.11. *[NSR ATC Modification 1, Revision 1 (04/30/2007)]*

C. Monitoring

1. To demonstrate continuous, direct compliance with all emission limitations for NO_x specified in this permit, the Permittee shall install, calibrate, maintain, operate, and certify CEMS for NO_x on each stationary gas turbine unit in accordance with 40 CFR 75, as applicable. CEMS shall include an automated data acquisition and handling system. Each system shall monitor and record at least the following data: *[AQR 12.5.2.6(d) and 40 CFR 75]*
 - 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 O₂;
 - f. three-hour rolling average NO_x concentrations;
 - 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.
2. The Permittee submitted a Quality Assurance (QA) Plan for CEMS and the QA Plan has been accepted by the Control Officer (October 1999). The QA Plan is binding and consistent with the regulations. The QA Plan contains auditing schedules, reporting schedules, design specifications and other quality assurance requirements for the CEMS system. The CEMS shall conform to applicable provisions of 40 CFR 60.13 and 40 CFR 60, Subpart GG. Audit procedures shall conform to the applicable provisions of 40 CFR 60, Appendix F. *[AQR 12.5.2.6(d)]*
3. The Permittee shall conduct relative accuracy test audits (RATA) of the NO_x and O₂ CEMS at least annually. *[AQR 12.5.2.6(d)]*
4. The Permittee shall operate CEMS such that total "out-of-control" periods as defined in 40 CFR 75, Appendix B, shall not exceed two percent (2%) of the time that the associated HRSG is in operation. *[40 CFR 70.6]*
5. 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). The monitoring approach is listed in Table III-C-1 *[40 CFR 64.3(c)]*:
 - a. The Permittee shall continuously monitor the oxidation catalyst operating temperature all times when the turbines are operating. (Continuous monitoring is defined as data

recorded at least every fifteen (15) minutes with three hour average). This monitoring frequency requirement is not applicable during periods of monitor downtime including calibration, maintenance, and malfunction of the meter, with such downtime not to exceed (5) five percent of the total operating time. [AQR 12.5.2.6(d)]

- b. The Permittee shall submit the monitoring system performance report or summary report to the Control Officer, if the total downtime of the continuous monitoring system is five (5) percent or greater of the total monitoring time of the reporting period. [AQR 12.5.2.6(d)]
- c. The Permittee shall establish, maintain and monitor the catalyst temperature so that yearly emissions of CO can be accurately recorded and reported. [AQR 12.5.2.6(d)]

Table III-C-1: Monitoring Approach¹

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 $\pm 5^\circ\text{F}$. 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 biannual 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.

- 6. For 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 performance test records a CO result higher than the 3.5 ppmvd limit. [40 CFR 64.6(c)(2)]
- 7. In the event of an exceedance, the Permittee shall restore operation of the unit, including the control device, to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions. [40 CFR 64.7(a)]

8. In the event of an exceedance, the Permittee shall comply with the applicable CAM reporting and recordkeeping requirements of 40 CFR 64.9(a). [40 CFR 64.9(a)]
9. The Permittee shall use CO performance testing; and information from the data logging system as a measure of compliance with the turbine's CO yearly emission limits. This does not, however, preclude the use of other credible evidence in determining or showing compliance. [AQR 12.5.2.6(d)]
10. The Permittee shall perform at least one visual emissions check quarterly on each turbine/HRSG (EU: A01/A01A and A02/A02A), and the diesel-fired fire pump (EU: A03), while operating, to demonstrate compliance with their corresponding opacity limits. If the fire pump does not operate during the calendar quarter, then no observation of that unit shall be required. If visible emissions are observed, the opacity of emissions shall be visually determined in accordance with 40 CFR 60 Appendix A: Reference Method 9. Necessary corrective actions shall be taken to minimize any emissions. [AQR 12.5.2.6(d) and 40 CFR 70.6]
11. On-site personnel familiar with EPA Method 9 shall perform quarterly visible emissions checks for each emission unit. If the emergency generator does not operate during the calendar quarter, then no observation of that unit shall be required. [AQR 12.5.2.6(d) and 40 CFR 70.6]
 - a. If the observer, during required visible emissions check, does not see any plume that, on an instantaneous basis, appears to exceed the opacity standard, then the observer shall keep a record of the name of the observer, the date on which the observation was made, the location, and the results of the observation.
 - b. If the observer sees a plume during required visible emissions check that, on an instantaneous basis, appears to exceed the opacity standard, then the Permittee shall have a certified VE observer take an EPA Method 9, or equivalent, observation of the plume and record the results.
 - c. If Method 9 readings cannot be obtained, the observer shall indicate in the log: a) the reason why a Method 9 could not be performed, b) the color of the emissions, c) whether the emissions were light or heavy, d) the cause of the abnormal emissions, and e) any corrective action taken.
 - d. The Permittee shall investigate any occurrence of visible fugitive dust at or near the opacity limit. Corrective actions shall be immediately taken to correct causes of fugitive dust in excess of allowable opacity limits.
12. The Permittee shall verify the sulfur content of the natural gas at least annually. These verifications shall be based on reports or written data from the gas supplier or by sampling and analysis and must demonstrate compliance with emission control conditions of this permit. [AQR 12.5.2.6(d)]
13. The Permittee shall verify the sulfur content of the diesel fuel to be used in the emergency fire pump engine with each fuel delivery or at least annually. [AQR 12.5.2.6(d)]

D. Testing

1. Performance testing is subject to 40 CFR 60 Subpart A, 40 CFR 60 Subpart GG, Subpart Db, 40 CFR 72 and DAQEM's Guideline on Performance Testing. [AQR 12.5.2.6(d) and 40 CFR 60.335]
2. The Permittee shall conduct annual performance testing for CO and VOC on each of the turbine/HRSG (EUs: A01/A01A and A02/A02A) as per the protocol requirements listed in Table III-D-1. The tests shall be completed within 30 days of the anniversary of the initial performance tests. [AQR 12.5.2.6(d)]

3. If the oxidizing catalyst is replaced on a turbine, the Permittee shall conduct performance testing for CO every other year for the first four years after the replacement and annually thereafter. *[AQR 12.5.2.6(d)]*

Table III-D-1: Performance Testing Protocol Requirements for Stationary Gas Turbines/Duct Burners

Test Point	Pollutant	Method (40 CFR 60, Appendix A)
Turbine Exhaust Outlet Stack	VOC	EPA Method 25a
Turbine Exhaust Outlet Stack	CO	EPA Method 10 analyzer
Turbine Exhaust Outlet Stack	Opacity	EPA Method 9
Stack Gas Parameters	---	EPA Methods 1, 2, 3, 4

E. Record Keeping

1. The Permittee shall comply with all applicable record keeping requirements of 40 CFR 60.7; 40 CFR 60 Subpart GG and Subpart Db; 40 CFR 72 and 40 CFR 75, Subpart F and any other applicable regulations. The Permittee shall report and maintain records on site that include, at a minimum: *[AQR AQR 12.5.2.6(d)]*

Stationary Gas Turbines and Duct Burners (EUs: A01/A01A and A02/A02A)

- a. monthly and rolling 12-month total quantity of natural gas consumed in each stationary gas turbine;
- b. monthly and rolling 12-month total quantity of natural gas consumed in each duct burner;
- c. monthly and rolling 12-month total hours of operation of each duct burner;
- d. dates, times and duration of each startup and shutdown cycle;
- e. startup and shutdown short-term total emissions for each pollutant per stationary gas turbine for each cycle event and yearly emissions for each pollutant in tons per year (12-month rolling total calculated on a monthly basis);
- f. documentation verifying sulfur content of natural gas;
- g. manufacturer's operation and maintenance specifications for SCR and Oxidation Catalyst controls;

Fire Pump (EU: A03)

- h. monthly and rolling 12-month total hours of operation of the fire pump engine for testing and maintenance purposes, and separately for operation during emergency;
- i. records of diesel emergency fire pump inspection/maintenance;
- j. documentation verifying sulfur content of diesel fuel;

CEMS

- k. CEMS audit results or accuracy checks, corrective actions, etc., as required by 40 CFR 60, Appendix F and the CEMS QA Plan;
- l. all CEMS information required by the CEMS monitoring plan as specified in 40 CFR 75 Subpart F and Monitoring Section of this permit;
- m. time, duration, nature and probable cause of any CEMS downtime and corrective actions taken;
- n. The QA Plan shall contain auditing schedules, reporting schedules, and design specifications for the CEMS. The CEMS shall conform to applicable provisions of 40 CFR 60, Subpart GG and 40 CFR 75 (The QA Plan has been approved by the Control Officer) *[AQR AQR 12.5.2.6(d)]*

2. The Permittee shall maintain records on site that include, at a minimum [AQR 12.5.2.6(d)]:
 - a. log of visual emissions checks on all emission units to include the stationary gas turbines and the fire pump;
 - b. log of thermocouple calibrations, maintenance, and operation;
 - c. the magnitude and duration of excess emissions, notifications, monitoring system performance, malfunctions, corrective actions taken, etc., as required by 40 CFR 60.7;
 - d. monthly and rolling 12-month total quantity of ammonia consumed by the SCRs;
 - e. certificates of representation for the designated representative and the alternate designated representative that meet all requirements of 40 CFR 72.24;
 - f. copies of all documents used to complete an Acid Rain permit application and any other submission under the Acid Rain Program or to demonstrate compliance with the requirements of the Acid Rain Program; and
 - g. summary of results of all performance testing.
3. For all inspections, visible emission checks, and testing required under monitoring, logs, reports, and records shall include at least the date and time, the name of the person performing the action, the results or findings, and the type of corrective action taken (if required). [AQR 12.5.2.6(d)]
4. Records and data required by this Operating Permit to be maintained by Permittee may, at the Permittee's expense, be audited at any time by a third party selected by the Control Officer. [AQR 4.4 and AQR 12.5.2.6(d)]
5. All records and logs, or a copy thereof, shall be kept on-site for a minimum of five (5) years from the date the measurement or data was entered and shall be made available to DAQEM upon request. [AQR 12.5.2.6(d)]
6. The Control Officer reserves the right to require additional requirements concerning records and record keeping for this source. [AQR 12.5.2.6(d)]

F. Reporting

1. The Permittee shall comply with all applicable notification and reporting requirements of 40 CFR 60.7, 40 CFR 60 Subparts Db and GG, 40 CFR 63 Subpart ZZZZ, 40 CFR 72.9(f), and 40 CFR 75. [AQR 12.5.2.6(d)]
2. The following requirements apply to semi-annual reports: [AQR 12.5.2.6(d)]
 - a. The report shall include a semi-annual summary of items a-m listed in Section III-E-1; and
 - b. The report shall include semi-annual summaries of any permit deviations, their probable cause, and corrective or preventative actions taken.
3. Regardless of the date of issuance of this permit, the source shall comply with the schedule for report submissions outlined in Table III-F-1 [AQR 12.5.2.6(d)]:

Table III-F-1: Required Report Submission Dates

Required Report	Applicable Period	Due Date ¹
Semi-annual Report for 1st half of the year.	January, February, March, April, May, June	July 30 each year
Semi-annual Report for 2nd half of the year.	July, August, September, October, November, December	January 30 each year
Annual Compliance Certification Report	Preceding Calendar Year	January 30 each year
Annual Emission Inventory Report	Preceding Calendar Year	March 31 each year

Required Report	Applicable Period	Due Date 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 notification of the event
Deviation Report	As Required	Along with semi-annual reports
Performance Testing	As Required	Within 60 days from the end of the test

¹If 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.

4. The Control Officer reserves the right to require additional reports and reporting to verify compliance with permit conditions, permit requirements, and requirements of applicable federal regulations. *[AQR 4.4 and AQR 12.5.2.6(d)]*
5. The Permittee shall include actual startup and shutdown emissions in the annual emission inventory reporting. *[AQR 12.5.2.6(d)]*
6. The designated representative or alternate designated representative of an affected source and each affected unit at the source shall submit the reports and compliance certifications required under the Acid Rain Program, including those under 40 CFR 72, 40 CFR 73, and 40 CFR 75. *[40 CFR 72.9(f)]*
7. A Risk Management Plan (RMP) is required for the storing, handling and use of ammonia or aqueous ammonia pursuant to 40 CFR 68. The Permittee shall submit revisions of the RMP to the appropriate authority and a copy thereof to DAQEM. *[40 CFR 68.150(b)(3)]*

G. Mitigation

1. The source has no federal offset requirements associated with this permitting action. *[AQR 59.1.1]*

IV. ACID RAIN REQUIREMENTS

1. In accordance with the provisions of Title IV of the Clean Air Act and 40 CFR Parts 72 through 77, this Acid Rain Permit is issued to Desert Star Energy Center, Boulder City, NV.
2. All terms and conditions of the Acid Rain Permit are enforceable by DAQEM and EPA under the Clean Air Act. *[40 CFR 72]*
3. The Permittee shall comply with all the applicable requirements of the Acid Rain Permit Application. *[40 CFR 72.30]*
4. This Acid Rain Permit incorporates the definitions of terms in 40 CFR Part 72.2. *[40 CFR 72.2]*
5. This permit is valid for a term of five (5) years from the date of issuance unless a timely and complete renewal application is submitted to DAQEM. *[40 CFR 72.69]*
6. A timely renewal application is an application that is received at least six months prior to the permit expiration date. *[40 CFR 72.30]*
7. Emissions from this source shall not exceed any allowances that the source lawfully holds under Title IV of the Act or its regulations. *[40 CFR 70.6(a)(4)]*

V. OTHER REQUIREMENTS

1. The Permittee is subject to 40 CFR 60 Subparts A, Db and GG; 40 CFR 63 Subpart ZZZZ, 40 CFR 70; 40 CFR 72 (Acid Rain Permits); 40 CFR 73 (Acid Rain Sulfur Dioxide Allowance

System) and 40 CFR 75 (Acid Rain CEMS). It is the Permittee's responsibility to know and comply with all requirements within these federal regulations. *[NSR ATC Modification 1, Revision 1, (04/30/2007)]*

2. The Permittee shall not build, erect, install or use any article, machine, equipment or process, the use of which conceals an emission which would otherwise constitute a violation of an applicable standard. Such concealment includes, but is not limited to, the use of gaseous diluents to achieve compliance with an opacity standard or with a standard which is based on the concentration of a pollutant in gases discharged to the atmosphere. *[40 CFR 60.12]*
3. The Permittee shall not use, sell, or offer for sale any fluid as a substitute material for any motor vehicle, residential, commercial, or industrial air conditioning system, refrigerator freezer unit, or other cooling or heating device designated to use a CFC or HCFC compound as a working fluid, unless such fluid has been approved for sale in such use by the Administrator. The Permittee shall keep record of all paperwork relevant to the applicable requirements of 40 CFR 82 on site. *[40 CFR 82]*

ATTACHMENT 1 APPLICABLE REGULATIONS

REQUIREMENTS SPECIFICALLY IDENTIFIED AS APPLICABLE:

1. NRS, Chapter 445B.
2. Applicable AQR Sections:

Citation	Title
AQR Section 0	Definitions
AQR Section 4	Control Officer
AQR Section 5	Interference with Control Officer
AQR Section 8	Persons Liable for Penalties – Punishment: Defense
AQR Section 9	Civil Penalties
AQR Section 10	Compliance Schedule
AQR Section 11	Ambient Air Quality Standards
AQR Section 12.5	Part 70 Operating Permit Requirements
AQR Section 13.2.85	National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines
AQR Section 14.1.10	Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units
AQR Section 14.1.46	Standards of Performance for New Stationary Sources (NSPS) – Standards of Performance for Gas Turbines
AQR Section 18	Permit and Technical Service Fees
AQR Section 21	Acid Rain Permits
AQR Section 22	Acid Rain Continuous Emission Monitoring
AQR Section 25	Affirmative Defense for Excess Emissions due to Malfunctions, Startup and Shutdown
AQR Section 26	Emissions of Visible Air Contaminants
AQR Section 28	Fuel Burning Equipment
AQR Section 29	Sulfur Contents of Fuel Oil
AQR Section 40	Prohibition of Nuisance Conditions
AQR Section 41	Fugitive Dust
AQR Section 42	Open Burning
AQR Section 43	Odors in the Ambient Air
AQR Section 60	Evaporation and Leakage
AQR Section 70	Emergency Procedures
AQR Section 80	Circumvention

3. CAAA, Authority: 42 U.S.C. § 7401, et seq.
4. Applicable 40 CFR Subsections:

Citation	Title
40 CFR 52.21	Prevention of Significant Deterioration (PSD)
40 CFR 52.1470	SIP Rules
40 CFR 60, Subpart A	Standards of Performance for New Stationary Sources (NSPS) – General Provisions
40 CFR 60, Subpart Db	Standards of Performance for Industrial – Commercial – Institutional Steam Generating Units
40 CFR 60, Subpart GG	Standards of Performance for New Stationary Sources (NSPS) – Stationary Gas Turbines
40 CFR 60	Appendix A, Method 9 or equivalent, (Opacity)
40 CFR 63, Subpart ZZZZ	National Emission Stations for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines
40 CFR 68	Chemical Accident Prevention Provisions
40 CFR 70	Federally Mandated Operating Permits
40 CFR 72	Acid Rain Permits Regulation
40 CFR 73	Acid Rain Sulfur Dioxide Allowance System
40 CFR 75	Acid Rain Continuous Emission Monitoring
40 CFR 82	Protection of Stratospheric Ozone