

CLARK COUNTY
DEPARTMENT OF AIR QUALITY
4701 W Russell Road, Suite 200, Las Vegas, Nevada 891185
Part 70 Operating Permit
Source: 393
Issued in accordance with the
Clark County Air Quality Regulations (AQR)

ISSUED TO: SAGUARO POWER COMPANY

SOURCE LOCATION:

435 Fourth Street
Henderson, NV 89015
T22S, R62E, Section 11, 12, 13, 14
Hydrographic Basin Number: 212

SOURCE ADDRESS:

P.O. Box 90849
Henderson, NV 89009-0849

NATURE OF BUSINESS:

SIC Code 4931 – Cogeneration Power Plant
NAICS: 221112 – Fossil Fuel Electric Power Generation

RESPONSIBLE OFFICIAL:

Name: William Dusenbury
Title: Plant Manager
Phone: (702) 558-1134
Fax Number: (702) 564-2753

Permit Issuance: October 6, 2014
Permit Revision Date: January 7, 2016

Expiration Date: October 5, 2019

ISSUED BY: CLARK COUNTY DEPARTMENT OF AIR QUALITY



Richard D Beckstead
Permitting Manager
Clark County Department of Air Quality

EXECUTIVE SUMMARY

Saguaro Power Company (SPC) is a major stationary source of NO_x, a synthetic minor for CO, and a minor source for PM₁₀, SO_x, VOC, and HAP. The source also emits greenhouse gases (GHG). The SPC is a categorical stationary source as defined by AQR 12.2.2(j). SPC is located at 435 Fourth Street, Henderson, Nevada 89015, in the Las Vegas Valley airshed, hydrographic basin number 212. Hydrographic basin 212 is attainment for all regulated air pollutants. SPC operates two General Electric (GE), 35.0 MW, natural gas combustion turbine generators (CTGs) with heat recovery steam generators (HRSG), a 23.1 MW extraction/condensing steam turbine generator system and two waste heat recovery steam generators with four 25 MMBtu/hr, each, supplemental firing duct burners. All generating and support processes at the site are grouped under the Standard Industrial Classification (SIC) 4931 – Electric and Other Services Combined (NAICS: 221112 – Fossil Fuel Electric Power Generation).

This Title V permit is issued based on a minor revision application submitted on November 24, 2015.

The following table summarizes the potential to emit (PTE) for each regulated air pollutant:

Source-wide PTE (tons per year)

PM ₁₀	PM _{2.5}	NO _x	CO	SO ₂	VOC	HAP	GHG
38.77	38.05	164.11	90.36	13.49	14.43	9.05	564,341

Pursuant to AQR 12.5, all terms and conditions in Sections I through V and the Attachment in this permit are federally enforceable unless explicitly denoted otherwise.

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I. ACRONYMS

Table I-1: List of Acronyms and Abbreviations

Acronym	Term
Air Quality	Clark County Department of Air Quality
AQR	Clark County Air Quality Regulations
ATC	Authority to Construct
ATC/OP	Authority to Construct/Operating Permit
BCC	Clark County Board of County Commissioners
BHP	Brake Horse Power
CAA	Clean Air Act
CAO	Field Corrective Action Order
CE	Control Efficiency
CF	Control Factor
CFR	United States Code of Federal Regulations
CO	Carbon Monoxide
CPI	Urban Consumer Price Index
EF	Emission Factor
EPA	United States Environmental Protection Agency
EU	Emission Unit
HAP	Hazardous Air Pollutant
HP	Horse Power
kW	kiloWatt
MMBtu	Millions of British Thermal Units
NAC	Nevada Administrative Code
NAICS	North American Industry Classification System
NEI	Net Emission Increase
NO _x	Nitrogen Oxides
NOV	Notice of Violation
NRS	Nevada Revised Statutes
NSPS	New Source Performance Standards
NSR	New Source Review
OP	Operating Permit
PM ₁₀	Particulate Matter less than 10 microns
ppm	Parts per Million
PSD	Prevention of Significant Deterioration
PTE	Potential to Emit
QA/QC	Quality Assurance/Quality Control
scf	Standard Cubic Feet
SCC	Source Classification Codes
SIC	Standard Industrial Classification
SIP	State Implementation Plan
SO _x	Sulfur Oxides
TCS	Toxic Chemical Substance
TSD	Technical Support Document
VOC	Volatile Organic Compound

II. GENERAL CONDITIONS

A. General Requirements

1. The Permittee shall comply with all conditions of the Part 70 Operating Permit. Any permit noncompliance may constitute a violation of the Clark County Air Quality Regulations, Nevada law, and the Clean Air Act and is grounds for 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 agrees to allow inspection of the premises, to which this permit relates, by the Control Officer at any time during the Permittee's hours of operation without prior notice. The Permittee shall not obstruct, hamper or interfere with any such inspection. *[AQR 4.3.3; AQR 4.9; AQR 5.1.1; AQR 12.5.2.8(b)]*
6. The Permittee shall allow the Control Officer, upon presentation of credentials to: *[AQR 4.3; 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. 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. In addition, the Permittee shall provide additional information as necessary to address any requirements that become applicable to the source after the date it filed a complete application but prior to release of a draft permit. A responsible official shall certify the additional information consistent with the requirements of AQR Section 12.5.2.4. *[AQR 12.5.2.2]*
8. 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)]*

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 ATC 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 Permittee has submitted to the Control Officer 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; and
 - b. The conditions of the permit provide for compliance with all applicable requirements and the requirements of Section 12.5
4. The Permittee shall not build, erect, install or use any article, machine, equipment or other contrivance, the use of which, without resulting in a reduction in the total release of air contaminants to the atmosphere reduces or 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)]

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 compliance certifications to EPA and to the Control Officer. [AQR 12.5.2.8(e)(4)]
2. Any application form, report, or compliance certification submitted to the Control Officer 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 Air Quality 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.

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 the 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 Air Quality 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; NRS 445B.640]*
3. Any person aggrieved by an order issued pursuant to AQR Section 9.1 is entitled to review as provided in Chapter 233B of NRS. *[AQR 9.12]*
4. 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)]*
5. The Permittee shall certify compliance with terms and conditions contained in the Part 70 Operating Permit, including emission limitations, standards, work practices, and the means for monitoring such compliance. *[AQR 12.5.2.8(e)]*

6. The Permittee shall submit compliance certifications annually in writing to the Control Officer (4701 W Russell Road, Ste 200, Las Vegas, NV 89118) and the Administrator at USEPA Region IX (Director, Air and Toxics Divisions, 75 Hawthorne St., San Francisco, CA 94105). A compliance certification for each calendar year will be due on January 30th of the following year and shall include the following: *[AQR 12.5.2.8(e)]*
 - a. The identification of each term or condition of the permit that is the basis of the certification;
 - b. The identification of the methods or other means used by the Permittee for determining the compliance status with each term and condition during the certification period. The methods and means shall include, at a minimum, the monitoring and related recordkeeping and reporting requirements described in 40 CFR 70.6(a)(3). If necessary, the Permittee shall also identify any other material information that must be included in the certification to comply with Section 113(c)(2) of the Act, which prohibits knowingly making a false certification or omitting material information; and
 - c. 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. The certification shall be based on the methods or means designated in subsection II.D.6(b). The certification shall identify each deviation and take it into account in the compliance certification. The certification shall also identify, as possible exceptions to compliance, any periods during which compliance is required and in which an excursion or exceedance, as defined under 40 CFR Part 64, occurred.
7. The Permittee shall report to the Control Officer (4701 West Russell Road, Suite – 200, Las Vegas, NV 89118) any startup, shutdown, 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); AQR 25.6.1]*
 - a. within twenty-four (24) hours of the time the Permittee learns of the excess emissions, the report shall be communicated by phone (702) 455-5942, fax (702) 383-9994, or email: airquality@clarkcountynv.gov; and
 - 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 with the semi-annual monitoring report all deviations from permit conditions that do not result in excess emissions, including those attributable to malfunction, startup, or shutdown. Reports shall identify the probable cause of each deviation and any corrective actions or preventative measures taken. *[AQR 12.5.2.6(d)(4)(B)]*
9. The owner or operator of any source required to obtain a permit under Section 12 shall report to the Control Officer emissions that are in excess of an applicable requirement or emission limit that pose a potential imminent and substantial danger to public health, safety or the environment as soon as possible, but in no case later than twelve (12) hours after the deviation is discovered, with a written report submitted within two (2) days of the occurrence. *[AQR 25.6.2]*

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 Air Quality 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 (4701 West Russell Road, Suite 200, Las Vegas, NV 89118) not less than 45, nor more than 90 days prior to the anticipated date of the performance test, unless otherwise specified in Section III.D. *[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, to demonstrate compliance with a requirement under 40 CFR Part 60. *[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. *[12.5.2.8]*

III. EMISSION UNITS AND APPLICABLE REQUIREMENTS

A. Emission Units

The stationary source covered by this Part 70 Operating Permit (OP) is defined to consist of the emission units and associated appurtenances summarized in Table III-A-1. [AQR 12.5.2.3]

Table III-A-1: List of Emission Units

EU	Description	Rating	Make	Model No.	Serial No.
A01	Combustion Turbine Generator #1 with a fired HRSG	35 MW	GE	PG6541B	295525
A02	Combustion Turbine Generator #2 with a fired HRSG	35 MW	GE	PG6541B	295524
A03	Detroit Diesel Starter Engine, Combustion Turbine Generator #1	520 hp	Detroit	71237300	12VA083956
A04	Detroit Diesel Starter Engine, Combustion Turbine Generator #2	520 hp	Detroit	71237300	12VA083901
A05	Auxiliary Boiler #1	218 MMBtu/h	Indeck/Volcano	0-7-2000	
A06	Auxiliary Boiler #2	86 MMBtu/hr	Nebraska	NOS 2A/S-55	032-88
A08	Fuel Oil Storage Tank	750,000 gallon			
A09	Cooling Tower	22,998 gpm	Thermal-Dynamics Towers Inc.	TD-3030-3-2424CF	
A13	Diesel-powered Emergency Air Compressor	140 hp	Sullair	375HAFDP OJD	004-145169
F05	Supplemental Duct Burner, Skid # 1	25 MMBtu/hr	John Zink	LDR-11-LE	S82733
F05a	Supplemental Duct Burner, Skid # 1	25 MMBtu/hr	John Zink	LDR-11-LE	S82733
F06	Supplemental Duct Burner, Skid # 2	25 MMBtu/hr	John Zink	LDR-11-LE	S82733
F06a	Supplemental Duct Burner, Skid # 2	25 MMBtu/hr	John Zink	LDR-11-LE	S82733
F11	Ammonia Storage and Injection	12,000 gallons			

B. EMISSION LIMITATIONS AND STANDARDS

1. Emission Limits

- a. Neither the actual nor the allowable emissions shall exceed the calculated PTE for each emission unit listed in Tables III-B-1, III-B-2, III-B-3 and III-B-4. [NSR ATC 393, Modification 7, Revision 2, (12/15/2008) and Application for minor revision of Part 70 OP (11/24/2015)]

Table III-B-1: Source PTE, Including Startup and Shutdown (tons per year)

EU	Rating	PM ₁₀	PM _{2.5}	NO _x	CO	SO ₂	VOC	HAP
A01 ¹	447 MMBtu/hr	14.43	14.43	69.24	39.42	6.31	4.29	2.03
A02 ¹	447 MMBtu/hr	14.43	14.43	69.24	39.42	6.31	4.29	2.03
A03	520 hp	0.07	0.07	1.01	0.22	0.07	0.08	0.01
A04	520 hp	0.07	0.07	1.01	0.22	0.07	0.08	0.01
A05	218 MMBtu/hr	6.66	6.66	13.94	0.86	0.57	4.47	4.47
A06	86 MMBtu/hr	1.29	1.29	9.33	9.99	0.15	1.08	0.48
A08	750,000 gal	0.00	0.00	0.00	0.00	0.00	0.05	0.01

EU	Rating	PM ₁₀	PM _{2.5}	NO _x	CO	SO ₂	VOC	HAP
A09	22,998 gpm	1.80	1.08	0.00	0.00	0.00	0.00	0.00
A13	140 hp	0.02	0.02	0.34	0.23	0.01	0.09	0.01
F05, F05a	25 MMBtu/hr	0.00	0.00	0.00	0.00	0.00	0.00	0.00
F06, F06a	25 MMBtu/hr	0.00	0.00	0.00	0.00	0.00	0.00	0.00
F11	12,000 gal	0.00	0.00	0.00	0.00	0.00	0.00	0.00

¹ Annual emissions based on worst-case scenario of 480 hours/rolling 12-months of fuel oil combustion and 8,280 hours/rolling 12-months of natural gas combustion.

Table III-B-2: Source Potential to Emit (pounds per hour)

EU	PM ₁₀	PM _{2.5}	NO _x	CO	SO ₂	VOC	HAP
A01 ¹	2.50	2.50	15.20	9.00	0.27	0.92	0.46
A01 ²	17.00	17.00	26.30	9.00	21.64	2.00	0.54
A02 ¹	2.50	2.50	15.20	9.00	0.27	0.92	0.46
A02 ²	17.00	17.00	26.30	9.00	21.64	2.00	0.54
A05	1.52	1.52	3.18	0.20	0.13	1.02	1.02
A06	0.43	0.43	3.11	3.33	0.05	0.36	0.16

¹ Emissions based on worse-case scenario between natural gas and diesel fuel combustion in the turbines (EUs: A01 and A02).

² Emissions from the combustion of diesel fuel only.

Table III-B-3: Emissions Concentration Limitations (ppmvd)

EU	O ₂ Standard	NO _x (ppmvd)		CO (ppmvd)	
		Natural Gas	Fuel Oil	Natural Gas	Fuel Oil
A01 ¹	15%	10	17	10	10
A02 ¹	15%	10	17	10	10
A05	3%	12	N/A	1.2	N/A
A06	3%	30	N/A	400	N/A

¹ Emissions from the combustion of natural gas or distillate are calculated using a four-hour rolling average, except for CO for EU A05, not to include startup or shutdown. CO for EU A05 is based on 24 hours.

- b. The Permittee shall not allow visible emissions from each turbine/HRSG stack, starter engine exhaust and boiler stacks to exceed 20 percent opacity when viewed in accordance with EPA Method 9. [AQR 26.1.1]
- c. The Permittee shall operate each turbine and duct burner combination such that they do not emit NO_x in concentrations greater than 17 ppmvd NO_x at 15 percent O₂ while combusting fuel oil or greater than 10 ppmvd NO_x at 15 percent O₂ while combusting natural gas during a four-hour rolling average not to include startup or shutdown. [NSR ATC 393, Modification 7, Revision 2, (12/15/2008)]
- d. The Permittee shall operate each turbine and duct burner combination such that they do not emit CO in concentrations greater than 10 ppmvd CO at 15 percent O₂ while combusting either fuel oil or natural gas during a four-hour rolling average not to include startup or shutdown. [NSR ATC 393, Modification 7, Revision 2, (12/15/2008)]
- e. The Permittee shall not exceed emission limits listed in Table III-B-2 for NO_x and CO for the turbines (EUs: A01 and A02) for any four-hour rolling averaging period as determined by the CEMS as described in Section IV-E, excluding any startup or shutdown periods. [NSR ATC 393, Modification 7, Revision 2, (12/15/2008)]
- f. The Permittee shall not exceed emission limits listed in Table III-B-3 for NO_x, for any four-hour rolling averaging period, and CO, for any twenty four-hour rolling averaging period, for the Indeck/Volcano boiler (EU: A05) as determined by the CEMS as described in

Section IV-E, excluding any startup or shutdown periods. *[NSR ATC 393 Modification 6, Amendment 1, (10/04/2006)]*

- g. The Permittee shall operate the Indeck/Volcano boiler (EU: A05) such that it emits neither more than 12 ppmvd NO_x, during a four-hour rolling average, nor 1.2 ppmvd CO, during a twenty four-hour rolling average, corrected to three (3) percent O₂, not to include startup or shutdown. *[NSR ATC 393, Modification 7, Revision 2, (12/15/2008)]*
- h. The Permittee shall operate the Nebraska boiler (EU: A06) such that it emits neither more than 30 ppmvd NO_x nor 400 ppmvd CO, corrected to three (3) percent O₂, not to include startup or shutdown. *[NSR ATC 393, Modification 7, Revision 2, (12/15/2008)]*

9. Production Limits

- a. 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. *[AQR 12.5.2]*
- b. The Permittee shall limit the fuel inputs to the values listed in Table III-B-5: *[NSR ATC 393 Modification 7, (03/19/2008) and Title V Renewal (00393_20131020_APP) incorporated into the Title V]*

Table III-B-5: Enforceable Fuel Limitations for Combustion Equipment

Equipment	Fuel Type	Max. Hourly MMBtu	Max. Rolling 12-months MMBtu
Each Combustion turbine ¹	Natural gas	447	3,915,720
Each Duct burner	Natural gas	25	219,000
Indeck/Volcano Boiler ²	Natural gas	218	1,909,680
Indeck/Volcano Boiler ²	Hydrogen gas	218	1,909,680
Nebraska Auxiliary Boiler	Natural gas	86	510,000

¹Based upon 8,760 hours at 100 percent load at 105 °F.

² Fuel limitations for Indeck/Volcano boiler (EU: A05).

- c. The natural gas fuel rate shall be limited to 447 MMBtu/hour for each combustion turbine based on an annual average, the lower heating value (LHV), and standard conditions. Standard conditions shall be defined as 105 degrees F, 13.78 psia at 16 percent relative humidity. *[NSR ATC 393 Modification 6, Amendment 1, (10/04/2006)]*
- d. The Permittee is allowed to operate each turbine unit (EUs: A01 and A02) while combusting low sulfur diesel fuel (<0.05 percent sulfur by weight). *[NSR ATC 393 Modification 6, Amendment 1, (10/04/2006)]*
- e. Upon demonstration of compliance with the emission standards, the Permittee may operate each turbine unit (EUs: A01 and A02) up to 480 hours per year based on rolling 12-months while combusting low sulfur diesel fuel (<0.05 percent sulfur by weight). Diesel fuel consumption shall be limited to 3,035 gallons per hour for each turbine. *[NSR ATC 393 Modification 6, Amendment 1, (10/04/2006)]*
- f. The Permittee shall limit heat input of each duct burner to 25 MMBtu/hour. *[NSR ATC 393 Modification 6, Amendment 1, (10/04/2006)]*

- g. The Permittee shall not fire fuel oil in the turbines during the summer months (June 1 - August 31) except when there is a loss of natural gas, or testing is required. *[NSR ATC 393 Modification 6, Amendment 1, (10/04/2006)]*
- h. The Permittee shall operate each turbine starter engine (EUs: A03 and A04) no more than 125 hours per year based on rolling 12-months. The engines shall combust only low sulfur (<0.05 percent sulfur by weight) diesel fuel. *[NSR ATC 393 Modification 6, Amendment 1, (10/04/2006)]*
- i. A startup period is defined as the period of time of no more than one (1) hour immediately following the application of a load. Startup periods shall be included in determining compliance with rolling 12-months emissions limits for the emission units being started. *[NSR ATC 393 Modification 6, Amendment 1, (10/04/2006)]*
- j. A shutdown period shall begin when heat input falls below 50 percent of nameplate capacity and ends when combustion has ceased, the duration of the shutdown period should not exceed 60 minutes. Shutdown periods shall be included in determining compliance with rolling 12-months emissions limits for the emission units being shutdown. *[NSR ATC 393 Modification 6, Amendment 1, (10/04/2006)]*
- k. Emissions from startup and shutdown events when combined with the turbine emissions during normal operations, shall not exceed the rolling 12-months limits outlined in Table III-B-1. *[NSR ATC 393 Modification 6, Amendment 1, (10/04/2006)]*
- l. The Permittee shall use emission factors presented in the TSD, for any clock hour in which a startup/shutdown event occurs, if the CEMS data does not include the actual startup/shutdown emissions. *[NSR ATC 393 Modification 6, Amendment 1, (10/04/2006)]*
- m. The Permittee shall combust only natural gas, hydrogen gas, or a combination of natural gas and hydrogen fuel in the Indeck/Volcano boiler (EU: A05). *[NSR ATC 393 Modification 6, Amendment 1, (10/04/2006)]*
- n. The Permittee shall limit the operation of the Indeck/Volcano boiler (EU: A05) to 1,909,680 MMBtu per year of natural gas and hydrogen fuel. *[NSR ATC 393, Modification 7, Revision 2, (12/15/2008)]*
- o. A startup period of the Volcano boiler (EU: A05) is defined as the period of time of no more than one hundred (100) minutes immediately following the firing of the burner. Startup periods shall be included in determining compliance with rolling 12-months emissions for the Volcano boiler. *[NSR ATC 393, Modification 7, Revision 2, (12/15/2008)]*
- p. A shutdown period of the Volcano boiler (EU: A05) shall begin when heat input falls below 15 percent of nameplate capacity and ends when combustion has ceased and shall not exceed 1 hour. Shutdown periods shall be included in determining compliance with rolling 12-months emissions limits for the Volcano boiler. *[NSR ATC 393, Modification 7, Revision 2, (12/15/2008)]*
- q. The Permittee shall operate the Nebraska boiler (EU: A06) no more than 510,000 MMBtuu per rolling 12-months. Only natural gas fuel shall be combusted in the boiler. *[NSR ATC 393 Modification 6, Amendment 1, (10/04/2006)]*
- r. The Permittee shall limit the throughput of fuel oil through the storage tank (EU: A08) to 3,083,214 gallons per rolling 12-months. *[NSR ATC 393 Modification 6, Amendment 1, (10/04/2006)]*

- s. The Permittee shall limit the operation of the emergency engine (EU: A13) for testing and maintenance purposes to 100 hours per year. The Permittee may operate the emergency engine up to 50 hours per year for nonemergency situations, but those hours count towards the 100 hours provided for testing and maintenance. The 50 hours per year for nonemergency situations can be used for emergency demand response up to 15 hours per year in accordance with 40 CFR 63.6585. The 50 hours per year cannot be used for peak shavings or non-emergency demand response, or to generate income for a facility to an electric grid or otherwise supply power as part of a financial arrangement with another entity. *[40 CFR 63.6585 and 63.6640]*

3. Emission Controls

- a. The Permittee shall install, maintain and operate SCR on each of the turbine units (EUs: A01 and A02). The Permittee shall operate SCR at all times the associated turbine unit is operating excluding periods of startup and shutdown. Each SCR system on all turbine units shall be operated in accordance with manufacturer's specifications. *[NSR ATC 393 Modification 6, Amendment 1, (10/04/2006)]*
- b. The Permittee shall further control NO_x emissions from turbine units (EUs: A01 and A02) with steam injection. The steam injection is not available during the startup period, since the temperature and pressure required for steam injection are not reached until the end of the startup period. The startup period has a maximum duration of one hour. Steam injection commences once the startup period is over. *[NSR ATC 393 Modification 6, Amendment 1, (10/04/2006) and Title V Renewal (00393_20131020_APP) incorporated into the Title V]*
- c. The Permittee shall operate the turbine units applying good combustion practices. *[AQR 12.5.2.6(a)]*
- d. The Permittee shall operate each SCR system such that NO_x emissions do not exceed the limitations listed in Tables III-B-2 and III-B-3 excluding startups and shutdowns. *[AQR 12.5.2.6(a)]*The Permittee shall control SO_x exhaust emissions from each combined cycle system by the exclusive use of pipeline quality natural gas with a maximum total sulfur content of 0.50 grains/100 dscf and good combustion practice. *[NSR ATC 393 Modification 6, Amendment 1, (10/04/2006)]*
- e. The Permittee shall control PM₁₀ exhaust emissions from each combined cycle system by properly maintained and periodically replaced inlet air filters preceding each turbine, per manufacturer's specifications and good operating practice. *[NSR ATC 393 Modification 6, Amendment 1, (10/04/2006)]*
- f. The Permittee shall operate and maintain the cooling tower in accordance with the manufacturer's recommendations. No chromium-containing compounds shall be used for water treatment; therefore, 40 CFR 63 Subpart Q is not applicable to this source. *[AQR 12.5.2.6(a)]*
- g. The Permittee shall equip each cooling tower with drift eliminators with a manufacturer's maximum drift rate of 0.002 percent (EU: A09). *[Title V Renewal (00393_20131020_APP) incorporated into the Title V]*
- h. The Permittee shall maintain the cooling water such that the maximum TDS content shall not exceed 3,800 ppm (EU: A09). *[NSR ATC 393 Modification 6, Amendment 1, (10/04/2006)]*

- i. 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. *[AQR 12.5.2.6(a)]*
- j. The Permittee shall maintain the emergency engine (EU: A13) as follows, unless the manufacturer's specifications are more stringent: *[40 CFR 63.6640]*
 1. Change oil and filter every 500 hours of operation or annually, whichever comes first;
 2. Inspect air cleaners every 1,000 hours of operation or annually, whichever comes first; and
 3. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.
 4. the Permittee may utilize an oil analysis program as described in Subpart 63.6625(i) in order to extend the specified oil change requirement and can petition the Control Officer pursuant to the requirements of 40 CFR 63.6(g) for alternative work practices.

C. MONITORING

1. The Permittee shall install, calibrate, maintain, operate, and certify CEMS for NO_x, CO, and O₂ on each turbine (EUs: A01 and A02) in accordance with 40 CFR 60. Each 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)]*
 - a. four-hour rolling averages of exhaust gas concentration for each of NO_x, CO, and diluent O₂;
 - b. exhaust gas flow rate (by direct or indirect methods);
 - c. fuel flow rate;
 - d. hours of operation;
 - e. hourly, daily and quarterly accumulated mass emissions of NO_x and CO; and
 - f. hours of downtime of the CEMS.
2. The Permittee shall install, calibrate, maintain, operate, and certify CEMS for NO_x, CO, and O₂ on the Indeck/Volcano boiler unit (EU: A05) in accordance with 40 CFR 60. Each 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)]*
 - a. four-hour rolling averages of exhaust gas concentration for NO_x and diluent O₂;
 - b. 24-hour rolling averages of exhaust gas concentration for CO and diluent O₂;
 - c. exhaust gas flow rate (by direct or indirect methods);
 - d. fuel flow rate;
 - e. hours of operation;
 - f. hourly, daily and quarterly accumulated mass emissions of NO_x and CO; and
 - g. hours of downtime of the CEMS.

3. The Permittee shall submit all periodic audit procedures and QA/QC procedures for CEMS to conform to the provisions of 40 CFR 60 Subpart B, Appendix F.
4. The Permittee shall conduct annual relative accuracy test audits (RATA) of the CO, NO_x and O₂ CEMS. [AQR 12.5.2.6(d)]
5. The Permittee shall install a fuel flow meter for each combined cycle turbine, each duct burner, and the auxiliary Indeck/Volcano boiler, and shall monitor the natural gas fuel flow rate of each emission unit with a continuous monitoring system. The primary method for demonstrating compliance with this requirement is demonstrated by a Data Acquisition System (DAS). [AQR 12.5.2.6(d)]
6. The Permittee shall monitor emissions of NH₃ by use of an ammonia parametric emission monitoring system (PEMS). The PEMS calculates the mass emissions by multiplying an ammonia emission factor (AEF) by each turbine's annual actual operating hours. The AEF, in pounds per hour, is determined for each turbine during its required periodic performance test. This factor shall be used until the next performance test. [AQR 12.5.2.6(d)]
7. The Permittee shall continue to monitor the TDS in the cooling tower circulating water monthly using Air Quality approved method. [AQR 12.5.2.6(d)]
8. The Permittee shall operate the emergency engine (EU: A13) with a non-resettable hour meter and monitor its duration of operation in hours. [AQR 12.5.2.6(d)]
9. The Permittee shall perform visual emissions checks each calendar quarter on a plant-wide level for each emission unit. If visible emissions are observed, then corrective actions shall be taken to minimize the emissions and the opacity of emissions shall be visually determined in accordance with 40 CFR 60 Appendix A: Reference Method 9. [AQR 12.5.2.6(d) and 40 CFR 70.6]

D. TESTING

1. Performance testing is subject to 40 CFR 60, Subpart A, Db, Dc and GG; 40 CFR 72; 40 CFR 75, and the Air Quality Guidelines on Performance Testing. [AQR 12.5.2.6(d) and 40 CFR 60.335]
2. The Permittee shall conduct initial performance tests for NO_x and CO while using natural gas on each of the turbine units (EUs: A01 and A02) to demonstrate compliance with the emission limitations. Table III-D-1 summarizes NO_x and CO performance test methods for turbine package units. [AQR 12.5.2.6(d)]
3. Subsequent performance testing for NO_x and CO while firing natural gas in the turbines (EUs: A01 and A02) may not be conducted unless required by the Control Officer. [AQR 12.5.2.6(d)]
4. To demonstrate initial compliance with the CO and NO_x emissions limitations, the Permittee shall conduct a performance test on the auxiliary boilers (EUs: A05 and A06) no later than 180 days after initial startup and within 60 days after achieving the maximum production rate at which the affected facility will be operated. This testing has been completed for EU A06. An initial performance test shall be performed on EU A05 after installation of the low-NO_x burner coupled with CO Oxidation Catalyst (NSR Mod. 7, Rev 2). [AQR 12.5.2.6(d)]
5. Subsequent performance testing shall be conducted on the auxiliary boilers (EU: A06) at least once every five (5) years thereafter. Subsequent performance testing for NO_x and

CO while firing natural gas in the boiler (EU: A05) may not be conducted unless required by the Control Officer. [AQR 12.5.2.6(d)]

6. Table III-D-1 summarizes performance test methods: [AQR 12.5.2.6(d)]

Table III-D-1: Performance Testing Requirements (40 CFR 60, Appendix A)

Test Point	Pollutant	Method
Turbine Exhaust Stack	NO _x	Chemiluminescence Analyzer (EPA Method 7E)
Turbine Exhaust Stack	CO	EPA Method 10
Turbine Exhaust Stack	NH ₃ Slip	Method Preapproved by DAQ/EPA
Turbine Exhaust Stack	PM ₁₀	EPA Method 201/202 or 201A/202
Turbine Exhaust Stack	Opacity	EPA Method 9
Boiler Exhaust Stack	NO _x	Chemiluminescence Analyzer (EPA Method 7E)
Boiler Exhaust Stack	CO	EPA Method 10
Stack Gas Parameters	---	EPA Methods 1, 2, 3, 4

7. The Permittee shall submit complete and comprehensive final performance test reports to the Control Officer within 60 days from the end of each performance test. [AQR 12.5.2.6(d)]
8. The Permittee shall conduct a burner efficiency test (boiler tune-up) and inspection on the auxiliary boilers (EUs: A05 and A06) semi-annually. The burner efficiency test is to be conducted in accordance with the manufacturer's recommendations and specifications for good combustion practices. The Permittee may use an alternative method to determine burner efficiency upon prior approval from the Control Officer. [AQR 12.5.2.6(d)]

E. RECORD KEEPING

1. The Permittee shall keep on-site all records and logs, or a copy thereof, for a minimum of five (5) years from the date the measurement or data was entered. [AQR 12.5.2.6(d)]
2. Records and logs shall contain, at minimum, the following information: [AQR 12.5.2.6(d)]
- a. the magnitude and duration of excess emissions, notifications, monitoring system performance, malfunctions, corrective actions taken, etc., as required by 40 CFR 60.7;
 - b. CEMS audit results or accuracy checks, corrective actions, etc., as required by 40 CFR 60, Appendix F, and the CEMS quality assurance plan;
 - c. certificates of representation for the designated representative and the alternate designated representative;
 - d. hours of operation for each turbine with diesel and natural gas separately and, as applicable, each duct burner;
 - e. dates, times, and duration of each startup and shutdown cycle;
 - f. startup and shutdown short-term total emissions per turbine in pounds per hour and rolling 12-months emissions in tons per year;
 - g. sulfur content of natural gas as certified by the supplier;
 - h. supplier name of diesel fuel, sulfur content of diesel fuel and the method used to determine to sulfur content of the diesel fuel;

- i. monthly and rolling 12-month quantity of natural gas and diesel fuel consumed in each gas turbine in MMBtu;
 - j. monthly and rolling 12-month quantity of diesel fuel used for each starter engine;
 - k. monthly and rolling 12-month quantity of natural gas and hydrogen fuel used for the Indeck/Volcano boiler in MMBtu;
 - l. monthly and rolling 12-month quantity of natural gas fuel used for the Nebraska boiler in MMBtu;
 - m. monthly and rolling 12-month amount of diesel fuel loaded into the storage tank;
 - n. quantity of ammonia consumed per rolling 12-months;
 - o. TDS content of tower circulation water;
 - p. date and duration of operation of emergency engine for testing, maintenance, and non-emergency use (EU: A13);
 - q. date and duration of operation of emergency engine for emergency use, including documentation justifying use during the emergency (EU: A13);
 - r. quality assurance plan for all CEMS; and
 - s. results of the last performance test conducted in addition to any other performance tests conducted within the last five (5) years.
3. Sulfur content of natural gas fuel shall be verified by the Permittee at least quarterly and verifications shall be based on reports or written data from the gas supplier, as required by 40 CFR 60. *[AQR 12.5.2.6(d)]*
 4. Sulfur content of diesel fuel shall be certified by the supplier with each fuel delivery. *[AQR 12.5.2.6(d)]*
 5. 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)]*
 6. Records and data required by this permit to be maintained by the Permittee may, at the Permittee's expense, be audited at any time by a third party selected by the Control Officer. This third party shall be subject to the same business confidentiality terms binding DAQEM during investigations and data gathering. *[AQR 12.5.2.6(d)]*
 7. The Permittee shall maintain a Risk Management Plan (RMP) for the storing, handling, and use of ammonia or any chemicals subject to accidental release prevention regulations pursuant to 40 CFR 68. The Permittee shall submit an RMP to the Administrator by the date specified in 40 CFR 68.10 and shall certify compliance with the requirements of Part 68 as part of the annual compliance certification. *[AQR 12.5.2.6(d)]*

F. REPORTING

1. The Permittee shall comply with all applicable notifications and reporting requirements of 40 CFR 60.7, 40 CFR 60, Subparts Db, Dc and GG and 40 CFR 63 Subpart ZZZZ. [AQR 12.5.2.6(d)]
2. All report submissions shall be addressed to the attention of the Control Officer. [AQR 12.5.2.8(e)(4)]
3. All reports shall contain the following: [AQR 12.5.2.6(d)]
 - a. a certification statement on the first page, i.e., "I certify that, based on information and belief formed after reasonable inquiry, the statements contained in this document is true, accurate and complete." (A sample form is available from Air Quality); and
 - b. a certification signature from a responsible official of the company and the date certification.
4. The Permittee shall submit semi-annual reports to the Control Officer. [AQR 12.5.2.6(d)]
5. The following requirements apply to semi-annual reports: [AQR 12.5.2.6(d)]
 - a. The report shall include a semi-annual summary of each item listed in Section III-E-2(a) through (q).
 - b. The report shall include semi-annual summaries of any permit deviations, their probable cause, and corrective or preventative actions taken.
6. Regardless of the date of issuance of this permit, the source shall comply with the schedule for report submissions outlined in Table III-G-1 [AQR 12.5.2.6(d)].

Table III-F-1: Required Report Submission Dates

Required Report	Applicable Period	Due Date
Semi-annual Report for 1st Six-Month Period	January, February, March, April, May, June	July 30 each year ¹
Semi-annual Report for 2 nd Six-Month Period, Any additional annual records required.	July, August, September, October, November, December	January 30 each year ¹
Annual Compliance Certification Report	Calendar Year	January 30 each year ¹
Annual Emission Inventory Report	Calendar Year	March 31 each year ¹
Notification of Malfunctions, Startup, Shutdowns or Deviations with Excess Emission	As Required	Within 24 hours of the Permittee learns of the event
Report of Malfunctions, Startup, Shutdowns or Deviations with Excess Emission	As Required	Within 72 hours of the notification
Deviation Report without Excess Emissions	As Required	Along with semi-annual 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.

7. 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)]*

IV. OTHER REQUIREMENTS

1. 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 chlorofluorocarbon (CFC) or hydrochlorofluorocarbon (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]*
2. The SPC is the cogeneration facility exempted based on the applicability criteria defined in Part 72.6(b)(5); therefore, the provisions Acid Rain regulation do not apply. *[40 CFR 72.6]*

V. PERMIT SHIELD

1. Compliance with the terms contained in this permit shall be deemed compliance with the following applicable requirements in effect on the date of permit issuance: *[AQR 12.5.2.9]*

Table V-1: Applicable Requirements Related to Permit Shield

Citation	Title
40 CFR Subpart Db	Standards of Performance for New Stationary Sources (NSPS) – Industrial-Commercial-Institutional Steam Generating Units
40 CFR Subpart Dc	Standards of Performance for New Stationary Sources (NSPS) – Small Industrial-Commercial-Institutional Steam Generating Units
40 CFR Subpart GG	Standards of Performance for New Stationary Sources (NSPS) – Stationary Gas Turbines

ATTACHMENT 1

APPLICABLE REGULATIONS

1. Nevada Revised Statutes (NRS), Chapter 445B.
2. Clark County Air Quality Regulations (AQR) 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 12.4	Authority to Construct Application and Permits Requirements for Part 70 Sources
AQR Section 12.5	Part 70 Operating Permit Requirements
AQR Section 13	National Emission Standards for Hazardous Air Pollutants for Source Categories
AQR Section 14	Standards of Performance for New Stationary Sources (NSPS)
AQR Section 18	Permit and Technical Service Fees
AQR Section 25	Upset/Breakdown, Malfunctions
AQR Section 26	Emissions of Visible Air Contaminants
AQR Section 28	Fuel Burning Equipment
AQR Section 35	Diesel Engine Powered Electrical Equipment
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. Clean Air Act, as amended (CAAA), Authority: 42 U.S.C. § 7401, et seq.
4. Title 40 of the Code of Federal Regulations (40 CFR) Applicable 40 CFR Subsections:

Citation	Title
40 CFR Part 52.21	Prevention of Significant Deterioration (PSD)
40 CFR Part 52.1470	SIP Rules
40 CFR Part 60, Subpart A	Standards of Performance for New Stationary Sources (NSPS) – General Provisions
40 CFR Part 60, Subpart Db	Standards of Performance for New Stationary Sources (NSPS) – Industrial-Commercial-Institutional Steam Generating Units
40 CFR Part 60, Subpart Dc	Standards of Performance for New Stationary Sources (NSPS) – Small Industrial-Commercial-Institutional Steam Generating Units
40 CFR Part 60, Subpart GG	Standards of Performance for New Stationary Sources (NSPS) – Stationary Gas Turbines
40 CFR 63, Subpart M	Emission Standards for Hazardous Air Pollutants for Asbestos Emission Standards for Hazardous Air Pollutants for Asbestos
40 CFR 63, Subpart Q	Emission Standards for Hazardous Air Pollutants for Industrial Process Cooling Towers

Citation	Title
40 CFR Part 60	Appendix A, Method 9 or equivalent, (Opacity)
40 CFR Part 68	Chemical Accident Prevention Provisions
40 CFR Part 70	Federally Mandated Operating Permits
40 CFR Part 82	Protection of Stratospheric Ozone