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: 393
Issued in accordance with the
Clark County Air Quality Regulations (AQR)

ISSUED TO: SAGUARO POWER COMPANY

SOURCE LOCATION:
8000 West Lake Mead Parkway
Henderson, NV 89015
T22S, R62E, Section 11, 12, 13, 14
Hydrographic Basin Number: 212

SOURCE ADDRESS:
8000 West Lake Mead Parkway,
Henderson, NV 89015

NATURE OF BUSINESS:
SIC Code 4911 - Electric Services
NAICS: 22111 - Electric Power Generation

RESPONSIBLE OFFICIAL:
Name: Monte Ash
Title: Plant Manager
Phone: (702) 558-1311
Fax Number: (702) 564-2753

Permit Issuance: August 10, 2009 **Expiration Date:** August 9, 2014

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

Tina Gingras
Assistant Director, Clark County DAQEM

EXECUTIVE SUMMARY

Saguaro Power Company (SPC) is a major source of NO_X, CO, and TCS (NH_3) and a minor source for PM_{10}, SO_x, VOC, and HAP. SPC is located at 8000 West Lake Mead Parkway, Henderson, Nevada 89015, in the Las Vegas Valley airshed, hydrographic basin number 212. Hydrographic basin 212 is basic nonattainment for CO, PM_{10}, and ozone, and PSD for all other regulated air pollutants. Saguaro Power Company (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) 4911 – Electric Services (NAICS: 22111 - Electric Power Generation).

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

PM_{10}	NO_X	CO	SOx	VOC	HAP	NH_3
37.94	**165.46**	**90.23**	**11.30**	**13.86**	**8.95**	**45.01**

All general and specific conditions in the permit are federally enforceable unless explicitly denoted otherwise *[AQR 19.4.2].*

TABLE OF CONTENTS

I. ACRONYMS

Table I-1: List of Acronyms

Acronym	Term
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
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
DAQEM	Clark County Department of Air Quality & Environmental Management
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
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 terms and conditions of this permit. Any permit noncompliance constitutes a violation of the Clean Air Act (Act) and is grounds for enforcement action; for permit termination, revocation and reissuance or modification; or for denial of a permit renewal application. *[AQR 19.4.1.6.a]*
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 19.4.1.5]*
3. The Permittee shall pay all permit fees pursuant to AQR Section 18. Failure to pay Part 70 permit fees may result in citations or suspensions or revocation of the Part 70 Permit. *[AQR 19.4.1.7]*
4. The permit does not convey any property rights of any sort, or any exclusive privilege. *[AQR 19.4.1.6.d]*
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]*
6. 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]*
7. The Permittee shall continue to comply with applicable requirements for which the Permittee is in compliance. *[AQR 19.3.3.8.b]*
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 19.3.2]*
9. The Permittee may request confidential treatment of any records in accordance with AQR Section 19. Emission data, standards or limitations [all terms as defined in 40 CFR 2.301(a)] or other information as specified in 40 CFR 2.301 shall not be considered eligible for confidential treatment. The Administrator and the Control Officer shall each retain the authority to determine whether information is eligible for confidential treatment on a case-by-case basis. *[AQR 19.3.1.3 and 40 CFR 2.301]*

B. MODIFICATION, REVISION, RENEWAL REQUIREMENTS

1. The Permittee shall not make a modification, as defined in AQR Section 0, to the existing source prior to receiving an ATC from the Control Officer. *[AQR 12.1.1.1]*
2. The permit may be modified, revoked, reopened and reissued, or terminated for cause. The filing of a request by the Permittee for the permit modification, revocation, reissuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any permit condition. *[AQR 19.4.1.6.c]*
3. Any request for a permit revision must comply with the requirements of AQR Section 19. *[AQR 19.5]*

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, provided the Permittee conforms to the applicable requirements of AQR Sections 12 and 58. *[AQR 19.4.1.11]*

6. For purposes of permit renewal, the Permittee shall submit a timely and complete application. A timely application is one submitted between six (6) months and 18 months prior to the date of permit expiration. *[AQR 19.3.1.1.c]*

7. Permit expiration terminates the Permittee's right to operate unless a timely and complete renewal application has been submitted consistent with AQR Subsections 19.3.1.1.c and 19.5.2 in which case the permit shall not expire and all terms and conditions of the permit shall remain in effect until the renewal permit has been issued or denied. *[AQR 19.5.3.2]*

C. REPORTING/NOTIFICATIONS/PROVIDING INFORMATION REQUIREMENTS

1. 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 modifying, 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 Control Officer along with a claim of confidentiality. *[AQR 19.4.1.6]*

2. The Permittee shall allow the Control Officer or an authorized representative, upon presentation of credentials:

   a. entry upon the Permittee's premises where the source is located, or emissions-related activity is conducted, or where records must be kept under the conditions of the permit;

   b. access to inspect and copy, at reasonable times, any records that must be kept under conditions of the permit;

   c. access to inspect, at reasonable times, any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under the permit; and

   d. access to sample or monitor, at reasonable times, substances or parameters for the purpose of assuring compliance with the permit or applicable requirements. *[AQR 4.3 and 19.4.3.2]*

3. 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 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 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]*

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 to maintain compliance with the terms and conditions of this permit. *[AQR 19.4.1.6.b]*
2. Any person who violates any provision of this operating permit, 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/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 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 13.1.7]*
5. Requirements for compliance certification with terms and conditions contained in the operating permit, including emission limitations, standards, or work practices, are as follows:
   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 the previous calendar year will be due on January 30 of each year;
   b. compliance shall be determined in accordance with the requirements detailed in AQR 19.4.1.3, record of periodic monitoring, or any credible evidence; and
   c. the compliance certification shall include:
      i. identification of each term or condition of the permit that is the basis of the certification;
      ii. the Permittee's compliance status and whether compliance was continuous or intermittent;
      iii. methods used in determining the compliance status of the source currently and over the reporting period consistent with Subsection 19.4.1.3; and
      iv. other specific information required by the Control Officer to determine the compliance status of the source. *[AQR 19.4.3.5]*
6. The Permittee shall report, in writing, to the Control Officer (500 Grand Central Parkway, Box 555210, Las Vegas, NV 89155) deviations from permit requirements as soon as practicable but not to exceed ten (10) calendar days from discovery of the deviation. Such reports shall include the probable cause of such deviations and any corrective actions or preventative measures taken. *[AQR 19.4.1.3]*
7. The Permittee shall report to the Control Officer any upset, breakdown, malfunction or emergency, as defined in Section 0, 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 25.2]*:
   a. within one (1) hour of the onset of the event, the report shall be communicated by phone (702) 455-5942, or by fax (702) 383-9994.

b. within 72 hours of the onset of the event, the detailed written report shall be submitted. Such reports shall include the probable cause of the excess emissions, emission calculations and any corrective actions taken.

8. The Permittee shall include a certification of truth, accuracy, and completeness by a responsible official when submitting any application form, report, or compliance certification pursuant to this operating permit. This certification and any other certification required shall state, "Based on the information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete." This statement shall be followed by the signature and printed name of the responsible official certifying compliance and the date of signature. *[AQR 19.3.4]*

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 14.10]*

4. The Permittee shall provide all requests for any alternative test methods to EPA for approval. *[AQR 14.1 and 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 14.12]*

6. Pursuant to AQR Section 10, the Permittee of any stationary source or emission unit that fails to demonstrate compliance with the emissions standards or limitations during any subsequent performance test shall submit a compliance plan to the Control Officer within 90 days from the end of the performance test. *[AQR 10.1]*

7. The Control Officer may require additional or more frequent performance testing. *[AQR 4.5]*

III. SOURCE-WIDE POTENTIAL TO EMIT (PTE) SUMMARY

[Authority for all values, limits, and conditions in this section: NSR ATC 393 Modification 6, Amendment 1, (10/04/2006) and NSR ATC 393, Modification 7, Revision 2, (12/15/2008)]

Saguaro Power Company is a major source for NO_x, CO, and TCS (NH_3) and a minor source for PM_{10}, SO_x, VOC, and HAP:

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

Pollutant	PM_{10}	NO_x	CO	SO_x	VOC	HAP	NH_3
PTE Totals	**37.94**	**165.46**	**90.23**	**11.30**	**13.86**	**8.95**	**45.01**
Major Source Thresholds	**70**	**50**	**70**	**100**	**50**	**25[2]**	**1.0**

[1]Total emissions are based on the worst-case scenario between natural gas combustion and fuel oil combustion in the turbines.
[2]25 tons for combination of all HAPs (no single HAP exceeds 10 tons).

IV. 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 IV-A-1 and Table IV-A-2. *[AQR 19.2.1 and 19.3.3.3]*

Table IV-A-1: List of Emission Units (EU)

EU	Description
A01	GE Combustion Turbine Generator #1; M/N: PG6541B with a fired HRSG, S/N: 295525, 35 MW; 35 MEQ
A02	GE Combustion Turbine Generator #2; M/N: PG6541B with a fired HRSG, S/N: 295524, 35 MW; 35 MEQ
A03	Detroit Diesel Starter Engine, Model 71237300, S/N: 12VA083956, Combustion Turbine Generator #1 (445 hp)
A04	Detroit Diesel Starter Engine, Model 71237300, S/N: 12VA083901, Combustion Turbine Generator #2 (445 hp)
A05	Indeck/Volcano Auxiliary Boiler #1; 249 MMBtu/hr; M/N: 0-7-2000; S/N: N/A
A06	Nebraska Auxiliary Boiler #2; 86 MMBtu/hr; M/N: NOS 2A/S-55; S/N: 032-88
A08	Fuel Oil Storage Tank (750,000 gallon)
A09a	Thermal-Dynamics Towers Inc., Cooling Tower; M/N: TD-3030-3-2424CF; S/N: N/A; 19,185 gpm total, 3,800 mg/L TDS, 0.0006% drift, Cell 1
A09b	Thermal-Dynamics Towers Inc., Cooling Tower; M/N: TD-3030-3-2424CF; S/N: N/A; 19,185 gpm total, 3,800 mg/L TDS, 0.0006% drift, Cell 2
A09c	Thermal-Dynamics Towers Inc., Cooling Tower; M/N: TD-3030-3-2424CF; S/N: N/A; 19,185 gpm total, 3,800 mg/L TDS, 0.0006% drift, Cell 3
F01	Fuel Oil Transfer Pumps
F02	Fuel Oil Unloading
F03	Natural Gas Metering Station
F04	Natural Gas Coalescing Filters
F05	John Zink Model LDR-11-LE Supplemental Duct Burner, S/N: S82733, 25 MMBtu/hr, Skid # 1
F05a	John Zink Model LDR-11-LE Supplemental Duct Burner, S/N: S82733, 25 MMBtu/hr, Skid # 1
F06	John Zink Model LDR-11-LE Supplemental Duct Burner, S/N: S82733, 25 MMBtu/hr, Skid # 2
F06a	John Zink Model LDR-11-LE Supplemental Duct Burner, S/N: S82733, 25 MMBtu/hr, Skid # 2

EU	Description
F07	Lube Oil System – CTG-01
F08	Lube Oil System – CTG-02
F09	Lube Oil System – STG-03
F11	Ammonia Storage and Injection, 12,000 gallons

Table IV-A-2: Insignificant Activities

EU	Description
F10	Facility Maintenance (Painting)

B. EMISSION LIMITATIONS AND STANDARDS

[Authority for all values, limits, and conditions in this section: NSR ATC 393 Modification 6, Amendment 1, (10/04/2006) and NSR ATC 393, Modification 7, Revision 2, (12/15/2008)]

1. Emission Limits

a. Neither the actual nor the allowable emissions shall exceed the calculated PTE for each emission unit listed in Tables IV-B-1, IV-B-2, IV-B-3 and IV-B-4.

Table IV-B-1: Source PTE, Including Startup and Shutdown (tons per 12-month rolling)

EU	PM_{10}	NO_x	CO	SO_x	VOC	HAP	NH_3
A01[1]	14.43	69.20	39.40	6.30	4.01	1.98	21.81
A02[1]	14.43	69.20	39.40	6.30	4.01	1.98	21.81
A03	0.09	0.90	0.23	0.06	0.03	0.01	0.00
A04	0.09	0.90	0.23	0.06	0.03	0.01	0.00
A05[2]	1.33	7.96	10.08	0.13	0.89	0.48	0.00
A05[3]	6.65	15.92	0.98	0.65	4.47	4.47	0.00
A06	1.29	9.34	9.99	0.15	1.08	0.48	0.00
A08	0.00	0.00	0.00	0.00	0.05	0.01	0.00
A09a, A09b, A09c	0.96	0.00	0.00	0.00	0.00	0.00	0.00
F01	0.00	0.00	0.00	0.00	0.01	0.00	0.00
F02	0.00	0.00	0.00	0.00	0.01	0.00	0.00
F03	0.00	0.00	0.00	0.00	0.05	0.00	0.00
F04	0.00	0.00	0.00	0.00	0.04	0.00	0.00
F05	0.00	0.00	0.00	0.00	0.00	0.00	0.00
F05a	0.00	0.00	0.00	0.00	0.00	0.00	0.00
F06	0.00	0.00	0.00	0.00	0.00	0.00	0.00
F06a	0.00	0.00	0.00	0.00	0.00	0.00	0.00
F07	0.00	0.00	0.00	0.00	0.02	0.01	0.00
F08	0.00	0.00	0.00	0.00	0.02	0.01	0.00
F09	0.00	0.00	0.00	0.00	0.02	0.01	0.00
F11	0.00	0.00	0.00	0.00	0.00	0.00	1.39

[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.
[2]Emissions from Indeck/Volcano boiler (EU: A05) prior to installation of the low-NO_x burners and CO oxidation catalyst.
[3]Emissions from Indeck/Volcano boiler (EU: A05) after installation of the low-NO_x burners and CO oxidation catalyst.

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

EU	PM_{10}	NO_x	CO	SO_x	VOC	HAP	NH_3
A01 [1,2]	2.50	15.20	9.00	0.27	0.92	0.46	4.98
A01 [1,3]	17.00	26.30	9.00	21.64	2.00	0.54	4.98
A02 [1,2]	2.50	15.20	9.00	0.27	0.92	0.46	4.98
A02 [1,3]	17.00	26.30	9.00	21.64	2.00	0.54	4.98
A03	1.43	14.38	3.75	0.92	0.41	0.03	0.00
A04	1.43	14.38	3.75	0.92	0.41	0.03	0.00
A05[4]	1.52	9.09	11.50	0.15	1.02	0.46	0.00
A05[5]	1.52	3.64	0.22	0.15	1.02	1.02	0.00
A06	0.43	3.11	3.33	0.05	0.05	0.16	0.00
A09a, A09b, A09c	0.22	0.00	0.00	0.00	0.00	0.00	0.00
F11	0.00	0.00	0.00	0.00	0.00	0.00	0.32

[1]Short-term emissions based on worst-case scenario between natural gas combustion and fuel oil combustion in the turbines
[2]Emissions from the combustion of natural gas in the turbine, the emissions from the duct burners are included.
[3]Emissions from the combustion of distillate oil in the turbine.
[4]Emissions from Indeck/Volcano boiler (EU: A05) prior to installation of the low-NO_x burners and CO oxidation catalyst.
[5]Emissions from Indeck/Volcano boiler (EU: A05) after installation of the low-NO_x burners and CO oxidation catalyst.

Table IV-B-3: Emissions Concentration Limitations in 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[2]	3%	30	N/A	400	N/A
A05[3]	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 not to include startup or shutdown.
[2] Emission concentration limits for Indeck/Volcano boiler (EU: A05).
[3] Emission concentration limits for Indeck/Volcano boiler (EU: A05) after completion of the boiler modification.

Table IV-B-4: Startup and Shutdown Emissions per Emission Unit (pounds/hour) [4]

EU	PM_{10}	NO_X	CO	SO_x	VOC	HAP	NH_3
A01[1,3]	2.5	65.00	9.00	0.27	0.94	0.46	2.04
A02[1,3]	2.5	65.00	9.00	0.27	0.94	0.46	2.04
A01[2,3]	17.00	104.00	9.00	21.64	0.17	0.54	2.04
A02[2,3]	17.00	104.00	9.00	21.64	0.17	0.54	2.04
A05	1.87	9.11	9.24	0.15	1.34	0.47	---

[1]Emissions from the combustion of natural gas in the turbine.
[2]Emissions from the combustion of distillate oil in the turbine.
[3]Startup has duration of one hour.
[4]Start-up and shut-down emission rates are to be used to calculate compliance with annual emissions limits. Emission factors will be used when CEMS data is not available.

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.

2. 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.

Table IV-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	249	218,124
Indeck/Volcano Boiler [2]	Hydrogen gas	249	218,124
Indeck/Volcano Boiler [3]	Natural gas	249	2,181,240
Indeck/Volcano Boiler [3]	Hydrogen gas	249	2,181,240
Nebraska Auxiliary Boiler	Natural gas	85	510,000

[1] Based upon 8,760 hours at 100 percent load at 105 ^{0}F.
[2] Fuel limitations for Indeck/Volcano boiler (EU: A05).
[3] Fuel limitations for Indeck/Volcano boiler (EU: A05) after completion of the boiler modification (Mod 7, Rev 2).

b. 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.

c. The Permittee is allowed to operate each turbine unit (EU: A01 and A02) while combusting low sulfur diesel fuel (<0.05 percent sulfur by weight), after each turbine unit has demonstrated compliance with the emission standards by conducting performance testing in accordance with Section D of this permit.

d. Upon demonstration of compliance with the emission standards, the Permittee may operate each turbine unit (EU: A01 and A02) up to 480 hours per 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.

e. The Permittee shall limit heat input of each duct burner to 25 MMBtu/hour.

f. 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.

g. The Permittee shall operate each turbine starter engine (EU: A03 and A04) no more than 125 hours per rolling 12-months. The engines shall combust only low sulfur (<0.05 percent sulfur by weight) diesel fuel.

h. 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.

i. 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.

j. Emissions from startup and shutdown events, as provided in Table-IV-B-3, when combined with the turbine emissions during normal operations, shall not exceed the rolling 12-months limits outlined in Table IV-B-1.

k. 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).

l. The Permittee shall limit the operation of the Indeck/Volcano boiler (EU: A05) to 218,124 MMBtu/12-month rolling average of natural gas and 218,124 MMBtu/12-month rolling average of hydrogen fuel in any calendar year.

m. After modification of the Indeck/Volcano boiler (EU: A05), the operation shall be limited to 2,181,240 MMBtu/rolling 12-months of natural gas and hydrogen fuel for any calendar year.

n. 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.

o. 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.

p. The Permittee shall use emission factors presented in Table IV-B-4, for any clock hour in which a start-up/shut-down event occurs and valid CEMS data is not available.

q. The Permittee shall operate the Nebraska boiler (EU: A06) no more than 6,000 hours per rolling 12-months. Only natural gas and/or hydrogen fuel shall be combusted in the boiler.

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.

3. Emission Controls

a. The Permittee shall install, maintain and operate SCR on each of the turbine units (EU: 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

b. The Permittee shall further control NOx emissions from turbine units (EU: A01 and A02) with steam injection.

c. The Permittee shall operate the turbine units applying good combustion practice.

d. The Permittee shall operate each SCR system such that NO_X and NH_3 emissions do not exceed the limitations listed in Tables IV-B-2 and IV-B-3 excluding startups and shutdowns.

e. 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 O_2 while combusting fuel oil or greater than 10 ppmvd NO_x at 15 percent O_2 while combusting natural gas during a four-hour rolling average not to include startup or shutdown.

f. 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 O_2 while combusting either fuel oil or natural gas during a four-hour rolling average not to include startup or shutdown.

g. The Permittee shall not exceed emission limits listed in Table IV-B-2 for NO_X and CO for 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.

h. The Permittee shall not exceed emission limits listed in Table IV-B-2 for NO_X and CO for Indeck/Volcano boiler (EU: A05) for any three-hour rolling averaging period as determined by the CEMS as described in Section IV-E, excluding any startup or shutdown periods.

i. 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.

j. The Permittee shall control PM_{10} 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.

k. The Permittee shall operate the Indeck/Volcano boiler (EU: A05) such that it emits neither more than 30 ppmvd NO_x nor 400 ppmvd CO, corrected to three (3) percent O_2 during a three-hour rolling average not to include startup or shutdown.

l. After installation of the low-NO_x burner coupled with CO Oxidation Catalyst, the Permittee shall operate the Indeck/Volcano boiler (EU: A05) such that it emits neither more than 12 ppmvd NO_x nor 1.2 ppmvd CO, corrected to three (3) percent O_2 during three-hour rolling average not to include startup or shutdown.

m. 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 O_2, not to include startup or shutdown.

n. 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.

o. The Permittee shall equip each cooling tower with drift eliminators with a manufacturer's maximum drift rate of 0.0006 percent.

p. The Permittee shall maintain the cooling water such that the maximum TDS content shall not exceed 3,800 ppm (EU: A09a, A09b, and A09c).

q. 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.

C. MONITORING

1. The Permittee shall install, calibrate, maintain, operate, and certify CEMS for NO_X, CO, and O_2 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:
   a. four-hour rolling averages of exhaust gas concentration for each of NO_X, CO, and diluent O_2;
   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;
   f. hours of downtime of the CEMS.

2. The Permittee shall install, calibrate, maintain, operate, and certify CEMS for NO_X, CO and O_2 on 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:
   a. three-hour rolling averages of exhaust gas concentration for each of NO_X, CO and diluent O_2;

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;
f. 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 O_2 CEMS.

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).

6. The Permittee shall use an ammonia parametric emission monitoring system (PEMS) to monitor compliance with ammonia pounds-per-hour and tons-per-rolling 12-months limits. The PEMS data shall be reported quarterly and annually. 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.

7. The Permittee shall continue to monitor the TDS in the cooling tower circulating water monthly using a DAQEM approved method. *[AQR 19.4.1.3]*

8. 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 19.4.1.3(a) and 40 CFR 70.6]*

D. TESTING

1. To demonstrate initial compliance with the CO, $NO_{X,}$ PM_{10}, VOC, and NH_3 emissions limitations in this permit, the Permittee shall conduct a performance test on the turbines (EUs: A01 and A02) using natural gas 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 on January 13, 1992.

2. Subsequent performance testing shall be conducted on the turbines (EUs: A01 and A02) at least once every five (5) years thereafter. *[AQR 19.4.1.3]*

3. To demonstrate initial compliance with emissions limitations during use of diesel fuel, the Permittee shall conduct a performance test on any turbine (EUs: A01 and A02) using diesel 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 on January 13, 1992.

4. Compliance with the emission standards for EUs: A01 and A02 in Sections IV-B-3-e & f shall be demonstrated by performance testing prior to operating either turbine using diesel fuel. *[AQR 19.4.1.3]*

5. 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). Subsequent performance testing shall be conducted on the auxiliary boilers (EUs: A05 and A06) at least once every five (5) years thereafter. *[AQR 19.4.1.3]*

6. Table IV-A-1 summarizes performance test methods *[AQR 19.4.1.3]*

Table IV-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	VOC	EPA Method 25a
Turbine Exhaust Stack	NH_3 Slip	Method Preapproved by DAQEM/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 19.4.1.3]*

8. Pursuant to AQR Subsection 49.5, the Permittee shall conduct a burner efficiency test (boiler tune-up) and inspection on the auxiliary boilers (EU: 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 12.8 and AQR 19.4.1.3]*

E. RECORD KEEPING

1. 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*. [AQR 19.4.1.3]*

2. Records and logs shall contain, at minimum, the following information *[AQR 19.4.1.3]*:

   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. daily, monthly, quarterly and rolling 12-months quantity of natural gas and diesel fuel consumed in each gas turbine;

j. quarterly and rolling 12-months quantity of diesel fuel used for each starter engine;

k. quarterly and rolling 12-months quantity of natural gas and hydrogen fuel used for Indeck/Volcano boiler;

l. daily, monthly, quarterly and rolling 12-months quantity of natural gas fuel used for Nebraska boiler;

m. quarterly and rolling 12-months 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. quality assurance plan for all CEMS and

q. 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 19.4.1.3]*

4. Sulfur content of diesel fuel shall be certified by the supplier with each fuel delivery. [*AQR 19.4.1.3]*

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 12.8.1.f]*

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 19.4.1.3]*

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 19.4.1.3]*

F. REPORTING

1. The Permittee shall submit quarterly reports within 30 days after the end of each calendar quarter. *[AQR 12.8 and 19.4.1.3]*

2. Each quarterly report shall *[AQR 12.8 and AQR 19.4.1.3]*:

a. include, as the first page of text, a signed certification containing the sentence, "I certify that, based on information and belief formed after reasonable inquiry, the statements contained in this document are true, accurate and complete." This statement shall be signed and dated by a responsible official of the company;

b.include quarterly summaries of items listed in Conditions IV-E-3-a through m;

c. include quarterly summaries of any permit deviations, their probable cause and corrective actions or preventative actions taken;

d. be based on the calendar quarter (including partial calendar quarters);

e. be submitted within 30 days after the end of the calendar quarter; and

f. be addressed to the attention of the Control Officer.

3. Regardless of the date of issuance of this permit, the schedule for the submittal of reports to the Control Officer shall be as follows *[AQR 12.8 and 19.4.1.3]:*

Table IV-F-1: Reporting Schedule.

Quarter	Applicable Period	Due Date[1]	Required Contents
1	January, February, March	April 30 each year	Quarterly Report for 1st Calendar Quarter
2	April, May, June	July 30 each year	Quarterly Report for 2nd Calendar Quarter
3	July, August, September	October 30 each year	Quarterly Report for 3rd Calendar Quarter
4	October, November, December	January 30 each year	Quarterly Report for 4th Calendar Quarter
4	Calendar Year	January 30 Each year	Annual Compliance Certification Report

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

4. The Permittee shall report Upset/Breakdowns or Emergencies, as defined in Section 0, to the Control Officer within one (1) hour of the onset of the event. *[AQR 12.8 and 19.4.1.3]*

5. The release of one (1) gallon or more of ammonia during transfer operations (from tanker truck to injection port) shall be considered an upset/breakdown. *[AQR 12.8 and 19.4.1.3]*

6. The Control Officer reserves the right to require additional reports and reporting to verify compliance with permit conditions, permit requirements and requirements of applicable regulations. *[AQR 4.4 and 19.4.1.3]*

7. The Permittee shall submit an annual emissions inventory by March 31 to the Control Officer and shall include the emission factors and calculations used to determine the emissions from each permitted emission unit, even if that unit was not operated. *[AQR 12.8 and 19.4.1.3]*

V. OTHER REQUIREMENTS

1. It is the Permittee's responsibility to satisfy all federal requirements to which the source is subject. *[AQR 19.4.1.6a]*

2. 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]*

3. 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]*

VI. PERMIT SHIELD

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:

Table VI-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

VII. ATTACHMENTS

APPLICABLE REGULATIONS

REQUIREMENTS SPECIFICALLY IDENTIFIED AS APPLICABLE:

1. Nevada Revised Statutes (NRS), Chapter 445B.
2. Clark County Air Quality Regulations (CCAQR) Applicable CCAQR Sections:

Citation	Title
CCAQR Section 0	Definitions
CCAQR Section 2	Air Pollution Control Board
CCAQR Section 4	Control Officer
CCAQR Section 5	Interference with Control Officer
CCAQR Section 6	Injunctive Relief
CCAQR Section 8	Persons Liable for Penalties – Punishment: Defense
CCAQR Section 9	Civil Penalties
CCAQR Section 10	Compliance Schedule
CCAQR Section 11	Ambient Air Quality Standards
CCAQR Section 12	Preconstruction Review for New or Modified Stationary Sources
CCAQR Section 12.5	Air Quality Models
CCAQR Section 17	Dust Control Permit for Construction Activities Including Surface Grading and Trenching
CCAQR Section 18	Permit and Technical Service Fees
CCAQR Section 19	40 CFR Part 70 Operating Permits
CCAQR Section 20	Emission Standards for Hazardous Air Pollutants for Source Categories (NESHAP)
CCAQR Section 21	Acid Rain Permits
CCAQR Section 24	Sampling and Testing - Records and Reports
CCAQR Section 25	Upset/Breakdown, Malfunctions
CCAQR Section 26	Emissions of Visible Air Contaminants

Citation	Title
CCAQR Section 28	Fuel Burning Equipment
CCAQR Section 29	Sulfur Contents of Fuel Oil
CCAQR Section 35	Diesel Engine Powered Electrical Generating Equipment
CCAQR Section 40	Prohibition of Nuisance Conditions
CCAQR Section 41	Fugitive Dust
CCAQR Section 42	Open Burning
CCAQR Section 43	Odors in the Ambient Air
CCAQR Section 55.5	Preconstruction review for New or Modified Stationary Sources in the 8-Hour Ozone Nonattainment Area
CCAQR Section 60	Evaporation and Leakage
CCAQR Section 70	Emergency Procedures
CCAQR Section 80	Circumvention
CCAQR Section 90	Fugitive Dust from Open Areas and Vacant Lots
CCAQR Section 91	Fugitive Dust from Unpaved Roads, Unpaved Alleys, and Unpaved Easement Roads
CCAQR Section 92	Fugitive Dust from Unpaved Parking Lots

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 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