

TECHNICAL SUPPORT DOCUMENT

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

SUBMITTED BY

Broadbent & Associates, Inc.

for

NEVADA COGENERATION ASSOCIATES #1

Part 70 Operating Permit Number: 360
SIC Code - 4931: Electric Cogeneration



Clark County
Department of Air Quality and Environmental Management
Permitting Section

December, 2010

EXECUTIVE SUMMARY

Nevada Cogeneration Associates #1 (NCA #1) is a major source for NO_x, CO and NH₃ and a minor source for PM₁₀, SO_x, VOC, and HAP. The source is under SIC 4931: Electric Cogeneration (NAICS 221112: Fossil Fuel Electric Power Generation) and is located in the Apex Industrial Park (next to Georgia Pacific gypsum wallboard production facility) Apex, NV (T18S, R63E, Section 34) in the Garnet Valley hydrographic area 216. Garnet Valley is classified as attainment for all criteria pollutants.

The NCA #1 is an 85 MW topping cycle cogeneration plant; operating three natural gas-fired GE Turbine Generator Packages with GE LM-2500 gas turbines that exhaust into heat recovery steam generators (HRSG) equipped each with a 77 MMBtu/hr supplemental duct burner. Additionally, a nominal 29.74 MW steam turbine generator is operated to produce electrical power. The potential emissions for the source are shown in Table 1:

Table 1: Maximum Source PTE (tons per year)

PM ₁₀	NO _x	CO	SO _x	VOC	HAP	NH ₃
67.24	168.26	145.42	9.30	26.76	6.41	83.48

The Clark County Department of Air Quality and Environmental Management (DAQEM) has delegated authority to implement the requirements of the Part 70 operating permit program. The NCA #1 emits particulate matter (PM₁₀), carbon monoxide (CO), oxides of nitrogen (NO_x), oxides of sulfur (SO_x), volatile organic compounds (VOCs), hazardous air pollutants (HAP), and ammonia (NH₃).

The initial Part 70 Operating Permit was issued on August 20, 2002, and ATC/OP Modification 9, Revision 0, was issued on April 5, 2007. DAQEM received the renewal application for the Part 70 OP on January 10, 2007. On May 7, 2008, NCA #1 requested an administrative change to the current Part 70 OP. Based on the information submitted by the applicant and a technical review performed by the DAQEM staff, the DAQEM proposes the renewal of a Part 70 Operating Permit to Nevada Cogeneration Associates #1.

This Technical Support Document (TSD) accompanies the proposed Part 70 Operating Permit for Nevada Cogeneration Associates # 1.

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I. SOURCE INFORMATION

A. General

Permittee	Nevada Cogeneration Associates #1
Mailing Address	420 North Nellis Blvd., # A3-117, Las Vegas, Nevada 89110
Contacts	Genevieve E. Marengo and Christopher Kimmich
Phone Number	(702) 651-1224 or (702) 651-1217
Fax Number	(702) 644-1249
Source Location	Apex Industrial Complex (Next to Georgia Pacific), Apex, NV
Hydrographic Area	216
Township, Range, Section	T18S, R63E, Section 34
SIC Code	4931: Electric Cogeneration
NAICS Code	221112: Fossil Fuel Electric Power Generation

B. Description of Process

Nevada Cogeneration Associates #1 (NCA #1), Garnet Valley Generating Station, is located in the Apex Industrial Park, approximately 20 miles north of the Las Vegas adjacent to Georgia Pacific. The facility is located in a PSD area which is in attainment of the National Ambient Air Quality Standards for all criteria pollutants.

NCA #1 is an 85 megawatt combined cycle natural gas power plant. This cogeneration plant produces electric power for sale on the grid, and thermal energy and chilled water which is supplied to Georgia Pacific for use in its gypsum wallboard production facility located adjacent to NCA #1. Approximately 275,000 pounds per hour of turbine exhaust gas (process gas) is piped to Georgia Pacific through an insulated, stainless steel duct. This process gas is not ducted through the SCR system because the resulting ammonia in the exhaust stream would be deleterious to the wallboard plant product and workers. An absorption liquid chiller cools 125 gallons of water per minute, which is piped to Georgia Pacific for wallboard process use. Low-pressure steam extracted from the steam turbine is used to drive the chiller.

NCA #1 operates three GE Turbine Generation Packages fitted with heat recovery steam generators (HRSG), Selective Catalytic Reduction (SRC), and oxidation catalysts producing approximately 85 MW under base load conditions. The Turbine Generation Package consists of GE LM-2500 gas turbine system, a 9,500-rpm gas generator and a 3,600-rpm power turbine which is coupled to an air-cooled Brush AC generator rated at 21,711 kW. Each turbine uses a maximum of 4,800 scfm (standard cubic feet per minute) of natural gas and 181,000 cfm of ambient air. The inlet air has two stages of filtration and can be cooled using an evaporative cooling section or heated with steam coils. A nominal 17,000 pounds per hour of superheated steam at 555°F and 450 psig is injected to the combustion chamber to reduce the formation of

NO_x to less than 25 parts per million. The turbine exhausts at approximately 500,000 pounds per hour of flue gases at 958°F.

As a result of a 1999 EPA consent decree and ATC/OP Modification 4 issued by DAQEM in 1999, the SCR must operate 85 percent of the time the turbine unit is operating. This allows for 15 percent of operating time without SCR controls. Since NCA #1 is a true cogeneration facility, low temperature excursions are more common than in base load facilities that only produce electricity. Conditions in the permit from the EPA consent decree include startup and shutdown limitations, the allowable operation of the turbine units without SCR but with steam injection during SCR downtimes, and operationally specific NO_x concentration levels. Best Available Control Technology (BACT) for the existing turbine units includes steam injection, SCR, CO catalysts, and natural gas combustion.

The HRSG acquires heat from the exhaust of the gas turbines. A duct burner supplies supplemental heat. Each HRSG consists of a high-pressure evaporator and super-heater, and an intermediate pressure evaporator and super-heater, an economizer section, and a low-pressure evaporator integrated with a deaerator.

The GE steam turbine generator is rated for 29,740 kW. It has an 11 stage condensing unit, a TEWAC generator and is operated at 3,600 rpm. The steam turbine is designed for 236,000 pounds per hour of superheated steam at 840 psig inlet pressure, 900°F inlet temperature, and three inches mercury of exhaust pressure.

The three Turbine Generation Packages are currently permitted for 8,760 hours per year of natural gas operation and up to 216 hours per year of emergency No. 2 fuel oil combustion, to be used only in the event of a natural gas emergency, defined as a loss of gas from the pipeline. Only the turbines may operate on fuel oil. The HRSGs are only fired on natural gas and will not be operated during the natural gas emergency.

An Ecodyne cooling tower with double drift eliminators provides cooling for the turbine units. The manufacturer guaranteed maximum drift is 0.0007 percent (through the use of a double drift eliminator) of the circulating water rate of 24,500 gallons per minute. This unit is permitted to operate 8,760 hours per year. As air passes through the water in the tower, some of the water containing total dissolved solids (TDS) is entrained in the air and carried out of the tower as drift. This drift is a source of PM₁₀ emissions. PM₁₀ emissions are calculated as a function of TDS, water circulation rates and operating hours. By a permit condition, TDS levels must not exceed 38,500 ppm on an annual average nor 57,750 ppm at any time.

Other equipment on site includes a 300 hp Detroit emergency fire pump, a 250,000 gallon diesel fuel tank, a substation with two transformers which step up the electricity from 13,800 volts to 138,000 volts for use by NV Energy, and a 167 ton Carrier hermetic absorption liquid chiller which chills water to 48°F for export to Georgia Pacific. An 81.8 hp (61-kW) diesel-fired water pump was added in 2007 to fill third-party water trucks used for off-site dust control and to drain annually the cooling tower basin for inspection and repairs. A portable diesel 1,676-hp (1250-kW) power generator was also added in 2007. The generator will operate during periods when the source undergoes annual maintenance shutdown.

The NCA #1 NO_x and CO emissions are monitored with continuous emission monitoring system (CEMS). The ammonia (NH₃) parametric emissions monitoring system (PEMS) is used to demonstrate compliance with ammonia emission limits. The monitoring system generates a log

of data and provides alarm signals to the control room when the level of emissions exceeds preselected limits.

C. Permitting History

- a. The NCA #1 is regulated by DAQEM, has a Title V permit and is a major source for NO_x, CO, and NH₃. The initial Part 70 Operating Permit was issued on August 20, 2002, and ATC/OP Modification 9, Revision 0, was issued on April 5, 2007. DAQEM received the renewal Title V application on January 10, 2007. On May 7, 2008, NCA #1 requested an administrative change to the current Part 70 OP. On August 3, 2010, the source submitted amendment to the Part 70 renewal application to include the routine maintenance, repair and replacement (RMMR) language for the combustion turbine emission units. The proposed change includes change to the combustion turbine description to General Electric Turbine Generator Package. The Package components include: generator, gas turbine, ignition exciter system, air inlet silencer, gas fuel flow metering system, water injection system, turbine ventilation fans, generator ventilation fans, hydraulic starter, lubricating oil system, and fire protection system. Additionally, there were NSR permits issued after the renewal application submission and changes implemented in these permits have to be incorporated into the Part 70 OP.

Table I-C-1: NSR Permits Issued to NCA #1

Date Issued	Permit Number	Description
04/05/2007	ATC/OP Modification 9 Revision 0	Addition of new 1,678-hp (1,250 kW) diesel power generator to be operated up to 168 hours per year.
01/03/2007	ATC/OP Modification 8	Addition of a new 81.8-hp (61-kW) diesel-fired water pump, to be operated up to 720 hours per year.
03/01/2006	ATC/OP Modification 7	Temporary ATC/OP for a diesel electric generator. The ATC/OP expired on March 24, 2006.
03/14/2005	ATC/OP Modification 6	Temporary ATC/OP for a portable diesel electric generator. The ATC/OP expired on March 20, 2005.
02/27/2002	ATC/OP Modification 5	Reduction of sampling frequency of cooling tower blowdown water from six times a day to daily. No physical or operational changes resulted from this action.
06/30/2000	ATC/OP Modification 4	ATC/OP A360, Modification 4, for replacing the HAPs heading with "Formaldehyde" and correcting the formaldehyde ratio of emission in the permit same as before.
04/20/1999	ATC Modification 4	ATC (A360), Modification 4, for installation of a Selective Catalyst Reduction (SCR) Unit on two Heat Recovery Steam Generators was re-issued. The permit was identical to the one issued on March 09, 1999.
07/10/1998	ATC Modification 4	ATC (A360), Modification 4 for installation of an SCR Unit on two Heat Recovery Steam Generators was re-issued.
09/04/1996	ATC	ATC (A360), Administrative Modification was issued to NCA #1. The modification reflected the change in the ATC expiration to March 4, 1998.
10/24/1995	Section 16 OP Modification 2	Operating Permit (A360) Modification 2, for operation of Ecodyne 2CFF-60595L2610-20 Cooling Tower with Drift Eliminators.
09/22/1995	ATC Modification 2	ATC A360, Modification 2, Installation of Ecodyne 2CFF-60595L2610-20 Cooling Tower with Drift Eliminator.

Date Issued	Permit Number	Description
11/28/1994	Section 16 OP	Operating Permit # A36004 for Emergency Generator, Detroit Diesel; 330 BHP was issued.
04/29/1994	Section 16 OP	Revised Agreement to Permit Conditions for Permit Nos. A36001 through A36003, inclusive for three GE LM-2500 Combustion Gas Turbines (CGT) was issued to NCA #1. The permit revision was similar to the revised agreement issued on September 30, 1993.
09/30/1993	Section 16 OP	Revised Agreement to Permit Conditions for Permit Nos. A36001 through A36003, inclusive for three GE LM-2500 Combustion Gas Turbines (CGT) was issued to NCA #1. The permit revision was similar to the revised agreement issued on May 25, 1993.
05/25/1993	Section 16 OP	Revised Agreement to Permit Conditions for Permit Nos. A36001 through A36003, inclusive for three GE LM-2500 Combustion Gas Turbines (CGT) was issued to NCA #1.
10/01/1992	ATC Modification 1	Authority to Construct, Modification 1, increase of permitted emission limit for PM from 0.1 to 0.5 lb/hr/CTG.
04/30/1992	Section 16 OP	Operating Permit (A360) with conditions for the operation of the natural gas-fired cogeneration plant near Georgia Pacific Gypsum Board Plant was issued to NCA #1.
04/17/1992	Section 16 OP (yellow ticket)	Section 16 OP (A36001) GE LM-2500 – PE-MEE-06, 29,500 BHP; S/N: 481-639, natural gas combustion gas turbine, indicates no conditions; no record keeping, and no reporting.
04/17/1992	Section 16 OP (yellow ticket)	Section 16 OP (A36002) GE LM-2500 – PE-MEE-06, 29,500 BHP; S/N: 481-649, natural gas combustion gas turbine, indicates no conditions; no record keeping, and no reporting.
04/17/1992	Section 16 OP (yellow ticket)	Section 16 OP (A36003) GE LM-2500 – PE-MEE-06, 29,500 BHP; S/N: 481-640, natural gas combustion gas turbine, indicates no conditions; no record keeping, and no reporting.
04/07/1992	Section 16 OP	Operating Permit A360 was issued to NCA #1.
01/17/1991	ATC	Authority to Construct permit ATC (A360), was issued to NCA #1 Cogeneration Plant consisting of: Three (3) GE LM-2500 Turbine Generators; Three (3) Heat Recovery Steam Generators; and One (1) Steam Turbine.
12/16/1990	CON/COO	Request to change of name from Bonneville Nevada Corporation (BNC) (A030) to Nevada Cogeneration Associates (NCA #1) (A360).
04/02/1990	ATC	Authority to Construct permit ATC (A360) was issued to Bonneville Nevada Corporation - Cogeneration Plant consisting of: Three (3) GE LM-2500 Turbine Generators; Three (3) Heat Recovery Steam Generators; and One (1) Steam Turbine.

An agreement to conditions of the initial ATC (01/17/1991) was first proposed by the Air Quality Division (now DAQEM) on June 12, 1990. EPA Region IX reviewed the issuance of this ATC and determined that the proposed ATC failed to comply with the requirements of Part C of the Clean Air Act and applicable Clark County SIP. NCA #1 did not perform an adequate BACT analysis and the District did not make an adequate BACT determination for the control of NO_x emissions.

The Health District and EPA identified SCR as the only technology which could potentially achieve a NO_x emission limit of 9 ppm. NCA #1 questioned the reliability of the technology. An agreement was reached for a two year SCR field test. A condition for the issuance of the ATC required that an SCR unit shall be installed on one of the gas turbines and the performance over a two-year field test would be used to demonstrate the efficiency of the technology.

According to the conditions of the ATC, the determination of BACT for NO_x would be made pending the results of the two-year test. The results of the test demonstrated that the SCR unit attained the acceptable criteria and NCA #1 was required to retrofit SCR on the remaining two turbine/HRSG units at the facility. If the SCR unit did not meet the criteria, NCA would be able to remove the SCR test unit and the NO_x emission limits would remain at 25 ppmvd.

Three Section 16 Operating Permits with conditions were issued to NCA #1 for the operation of the three gas turbines on April 30, 1992. The permit conditions were issued on April 30, 1992. The PTE for criteria pollutants and the conditions for the two-year SCR field test were the same as listed in the initial ATC.

The Authority to Construct, Modification 1, issued on October 1, 1992, and Operating Permit Conditions, issued on April 30, 1992, increased the PM₁₀ PTE from 1.00 pound per hour and 13.14 tons per year to 5 pounds per hour and 65.70 tons per year to account for the formation of ammonia salt due to the operation of the SCR.

The Authority to Construct/Operating Permit, issued on November 28, 1994, allowed for the installation and operation of a 300-hp Detroit Emergency Generator. The generator was limited to 150 hours per year of operation for testing and maintenance purposes only. The sulfur content of the diesel fuel was limited to less than 0.05 percent by weight. The conditions relating to this emission unit and its corresponding PTE have remained the same and were carried forward in the Part 70 OP.

The Authority to Construct, Modification 2, issued on September 22, 1995, and ATC/OP, Modification 2, issued on October 24, 1995, added an existing cooling tower as a new emission unit for PM₁₀ subject to AQR Sections 12 and 16. Based on the results of the performance testing, NCA #1 agreed to a reduction of the permitted PM₁₀ PTE of the three existing gas turbines and to install a drift eliminator (0.0007%) on the cooling tower for a zero net emissions increase. The total PM₁₀ PTE for the facility remained unchanged.

The Authority to Construct was issued on August 29, 1996, and Operating Permit with Conditions was issued on September 4, 1996. The original ATC required an SCR unit to be installed on the turbine at the facility and field tested for two years. On November 17, 1995, the APDC determined that the SCR field test was successful. NCA #1 filed an appeal of this determination with Clark County Air Pollution Control Hearing Board. On July 18, 1996, the District Hearing Board accepted and approved a settlement agreement. Consequently, neither permit required installation of SCR or other equivalent systems as BACT for NO_x. In addition, the ATC/OP issued was not proposed through public notice or the EPA review as required in the SIP approved Section 12.6.3.2 – 15.6.3.5. This ATC/OP was issued as a settlement agreement between NCA #1 and the Health District APCD and was not recognized by the EPA. Region IX deemed the ATC/OP invalid and a NOV was issued to NCA #1 on February 9, 1999.

Under the Clean Air Act and local air regulations, all emission units must meet Best Available Control Technology (BACT) emission limits. As a result of the NOV issued to NCA #1 for failing to install SCR on the turbines, and the agreements reached between EPA and the facility in the Final Consent Decree, APCD proposed an ATC/OP that met the requirements of the Consent Decree, including installation of SCR units on each turbine by April 30, 1999. On April 13, 1998, following a January 12, 1998, Public Notice in the *Review Journal*, APCD issued ATC Modification 4 to NCA #1. NCA #1 did not sign the permit as required in Section 12, and filed an appeal of the issuance on May 6, 1998, regarding concerns with certain conditions. Several

meetings between the EPA, the local regulatory authority and the applicant ensued, with a final ATC/OP, Modification 4, being issued on April 20, 1999.

Issues surrounding the issuance of this ATC were as follows:

- Two conditions were related to NSPS 40 CFR 60, Subpart D. The heat input generated by the HRSG, which is sometimes called a waste heat boiler, was determined to be 29.5 MMBtu/hr. The 40 CFR 60, Subpart Dc was determined to apply to the HRSG. The conditions were dropped.
- Start-up and shutdown conditions from the Consent Decree were added to the ATC/OP with the requirement of record keeping as the means of periodic monitoring.
- A limit of 57,570 ppm total dissolved solids (TDS) in the cooling tower water was added, with the corresponding daily PM₁₀ emission not to exceed 128.6 pounds per day.
- The facility PM₁₀ PTE was corrected to 67.1 tons per year from 65.7 tons per year. The change was deemed a mathematical error that had been carried through from older permits.
- Emergency use of No. 2 diesel fuel was limited to 216 hours with further recording and reporting requirements.

On March 16, 2001, NCA #1 proposed the addition of a peaking unit to its facility as Modification 5. On August 7, 2001, as part of the modification, NCA #1 requested a reduction in the sampling frequency of the cooling tower blowdown water from six times per day to once a day citing the frequency as excessive and burdensome. NCA #1 withdrew its application to expand the facility on September 18, 2001, but requested DAQEM to continue processing the change in the sampling frequency condition in its existing ATC/OP. This action was not a modification by definition in Clark County Air Quality Regulation Section 0 or Section 1 as there is no change in operations that may result in an increase in emissions of any criteria pollutant. Also through this permitting action, DAQEM reviewed the ATC/OP for NCA #1 to ensure compliance with all applicable regulations and requirements in preparation to complete the Title V permit. Permitting deficiencies and changes addressed in this modification were:

- Record keeping and reporting requirements updated to meet current standards and language;
- Increment consumption included in the ATC/OP as required by AQR Section 12;
- Hourly PTEs added to replace the existing pounds per day limits;
- PTE for turbine NOx emissions broken down to reflect specific operational limits with SCR and operational limits without SCR as allowed by the previous permit and the 1999 EPA Consent Decree with no actual change in facility NOx PTE;
- Enforceable emission limits for 216 hours of turbine only diesel operation for emergency purposes listed separately; and
- Hazardous Air Pollutants (HAP) delineated and corrected in the ATC/OP.

As a result of the permit review DAQEM issued on February 27, 2002, Authority to Construct/Operating Permit, Modification 5. The permit did not add any new emission units, change any previously permitted operating scenarios or increase any emission limits.

On March 14, 2005, DAQEM issued an ATC/OP, Modification 6, for a temporary diesel electric generator set. The permit expired on March 21, 2005.

On March 01, 2006, DAQEM issued an ATC/OP, Modification 7, for a temporary diesel electric generator set. The generator was permitted to operate continuously up to 120 hours while the facility's number two power transformer was replaced. The permit expired on March 24, 2006.

On November 2, 2006, the source applied for an ATC/OP for an 81.8-hp (61-kW) diesel-fired water pump to be operated up to 720 hours per year. The unit was utilized to extract water from the evaporation pond to fill third-party water trucks used for off-site dust control, and to drain annually the cooling tower basin for inspection and repairs. The ATC/OP, Modification 8, was issued on January 03, 2007.

On March 19, 2007, the source applied for an ATC/OP for a portable diesel 1,676-hp (1250-kW) power generator to be operated up to 168 hours per year. The generator will operate during periods when the source undergoes annual maintenance shutdown. The ATC/OP, Modification 9, Revision 0, was issued on April 05, 2007.

Table I-C-2: BACT Determinations for NCA #1

EU	Description	BACT Technology	BACT Limit
A001, A001a, A002, A002a, A003, A003a	22.2 MW natural gas-fired electric turbine generator packages, and HRSG with supplemental duct-firing	SCR, steam injection, CO oxidation catalyst, natural gas combustion	12 ppmvd NO _x on 3-hour average at 15% O ₂ (with SCR); 25 ppmvd NO _x on 3-hour average at 15% O ₂ (no SCR); 23 ppmvd CO on 3-hour average at 15% O ₂ ; 20 ppmvd NH ₃ on 3-hour average at 15% O ₂ (with SCR); Pipeline quality natural gas (0.75 gr/dscf of sulfur).
A004	Detroit Diesel Emergency Fire Pump, 300 hp	Turbocharger, Aftercooler, low sulfur diesel fuel (< 0.05%)	No limit imposed.
A005a, A005b	Ecodyne Cooling Tower	Limit of TDS; drift loss eliminators	57,750 ppm TDS limit, 0.0007% drift loss.
A006	Perkins Diesel-fired Water Pump, 81.8 hp.	Turbocharger, Aftercooler, low sulfur diesel fuel (< 0.05%)	No limit imposed.
A008	Aggreko Diesel Electric Generator, 1,676 hp	Turbocharger, Aftercooler, low sulfur diesel fuel (< 0.05%)	No limit imposed.

D. Operating Scenario

Turbine Generator Packages

NCA #1 operates three General Electric (GE) Turbine Generator Packages with GE LM-2500 gas turbines and one GE Steam Turbine to produce 85 megawatts (MW) of electricity. The facility uses approximately 17,000 MMBtu/day of approximately 420 psig natural gas. The El Paso pipeline provides a secondary source of natural gas and a 250,000 gallon fuel oil (Diesel No.2) storage tank provides a back-up for possible interruptions in the gas supply. Each turbine is limited to the manufacturer's maximum heat input rating of 285 MMBtu/hr low heat value (LHV) at 67°F. Each turbine/HRSG unit (EU A001, A001a, A002, A002a, A003, and A003a) may operate 8,760 hours per year. The three turbine units without HRSG (EU A001, A002, and A003) may operate up to 216 hours per year on No. 2 fuel oil in the event of natural gas emergency.

Turbine Generator Packages are equipped with Selective Catalytic Reduction (SCR) to control NO_x (EU A001, A002, and A003). The SCR systems installed on the gas HRSGs are operational, at a minimum, 85% of the plant operating hours over a 12-month rolling average with an allowance of no more than 15% downtime due to low temperature excursions. Low-temperature excursions are defined as temporary temperature drops below 570°F. Operating hours are determined by averaging across the three units at the facility. During periods when SCR is not operational due to startup/shutdown cycling or low temperature excursions, NO_x emissions shall not exceed 25 ppmvd @ 15% oxygen as measured on a 3-hour rolling average. During all times when the SCRs are in use, the NO_x stack exhaust concentration shall not exceed 12 ppmvd @ 15% oxygen as measured on a 3-hour rolling average. Steam injection operates continuously as long as the temperature in a gas turbine's associated heat recovery boiler remains at or above 550°F and the pressure of the recovery boiler remains at or above 450 psi as measured by gauge (psig).

Turbine Generator Packages (EUs: A001, A002, and A003) are equipped with oxidation catalysts in order to reduce carbon monoxide (CO) emissions. Oxidation catalysts for the control of CO are installed on each HRSG and are maintained and operated in accordance with manufacturer's specifications. The catalysts are operated at all times that the associated turbine units are operating. SO₂ exhaust emissions from each combined cycle system (EUs: A001, A002, and A003) is controlled by exclusive use of pipeline quality natural gas (0.75 gr/100 scfm) and good combustion practice. PM₁₀ exhaust emissions from each combined cycle system (EUs: A001, A002, and A003) is controlled by properly maintaining the inlet air filters preceding each turbine.

Diesel Engines

The Detroit diesel emergency fire pump (EU: A004) is limited to 150 hours per 12-month rolling and the emergency standby generator (EU: A008) is limited to 168 hours of operation per rolling 12-month for testing and maintenance purposes only. The diesel-fired water pump (EU: A006) is limited to 720 hours per year of operation per rolling 12-month. All diesel engines employ turbo-charging, after-cooling, and combust only low sulfur diesel fuel (< 0.05% sulfur by weight).

Diesel storage tank

A 250,000 gallon vertical diesel storage tank is on site (EU: A007). Potential emissions are based upon the permitted use of No. 2 fuel oil by the turbines for 216 hours (9 days) per year, which equates to 810,000 gallons per year. EPA's TANK program was used to determine VOC emissions. No HAPs are emitted from the tank. PTE of the tank: Standing loss = 16 lb/yr
Withdrawal loss = 0.32 lb/yr for a total of 16.32 lb/yr (0.0082 tpy).

Cooling Tower

The NCA #1 cooling tower circulates 9,600,000 pounds per hour of water with a drift rate of 0.0007% of the cooling capacity (EU: A005). The total dissolved solids (TDS) concentration in the cooling tower process water is maintained at or below 57,750 ppm at all times. The annual average concentration shall not exceed 38,500 ppm. It is assumed that TDS will become particulate matter when the water mist or drift is emitted from the cooling tower. The cooling tower operates 8,760 hours per year.

Ammonia Storage and Injection System

The SCR system uses anhydrous ammonia to control NO_x emissions from the CTGs (EU: A090). This ammonia is stored in a 1000-gallon pressure vessel (common to three CTGs) and is transported to the SCR control and injection skids via welded piping. Estimated throughput of

anhydrous ammonia is based on the projected ammonia consumption and number of operating hours. The projected ammonia consumption is 850 gallons per week and the estimated annual throughput is 44,200 gallons. Most of the anhydrous ammonia is delivered in 6,000 gallon truck shipments. Therefore, 52 deliveries per year are required to provide sufficient quantity of ammonia for the SCR system. Fugitive emissions during loading are based on number of deliveries and the volume of liquid potentially contained in the hose between the valve of the storage tank and the valve on the delivery truck. The fueling nozzle is 1 foot long and 2 inches in diameter, with the volume of 0.16 gallons. Consequently, 0.16 gallons of anhydrous ammonia (100%) is released with each loading cycle and 8.32 gallons a year (52 deliveries). The density of anhydrous ammonia is 5.69 lbs per gallon and the ammonia emissions are 47.34 pounds per year (0.024 tons/yr).

Gasoline Storage and Dispensing

The 1000-gallon horizontal above-ground gasoline storage tank is on site for dispensing fuel into company vehicles (EU: A010). There are no Stage II recovery systems on the nozzles. Annual throughput is estimated at 9,000 gallons per year.

Generator Lube Oil Tanks

Three 215-gallon generator lube oil tanks are on site. All three vent to the atmosphere as a fugitive source of VOCs. Using TANKS, both actual and maximum emissions are estimated at less than 0.004 pounds per year per tank. The total PTE from all three tanks is less than 1 pound per year.

Steam Turbine Lube Oil Tank

This tank has a reported throughput of 330 gallons per year. The emissions from this source are less than 1 pound per year.

Steam Turbine Lube Oil Conditioner Tank

This is a 270-gallon tank used for filtering the steam turbine lube oil. It has the same throughput as the tank above and emits less than 1 pound per year.

Oil/Water Sump

This 1,000-gallon sump contains an average of 12 percent lube oil and 88 percent water. Because of the small amount of oil and relatively low volatility of the lube oil, emissions are expected to be less than 1 pound per year.

Gas Turbine Lube Oil Tanks

There are three 150 gallon tanks on site. Actual throughput was reported at 715 gallons per year per tank with a maximum throughput of 1,000 gallons per year per tank. These tanks are equipped with demisters to control oil mist.

Fire Water Pump Diesel Storage Tank:

This is a 350 gallon aboveground, horizontal, diesel storage tank. Estimated throughput is 338 gallons per year with maximum throughput of 1,950 gallons per year. Emissions as calculated via TANKS are 0.33 lb of VOC per year.

Steam and Water Treatment

Although there are many sources of steam at the facility, the only substance the steam will contain are those added to the water for treatment. A review of the MSDS sheets showed only

Hydroquinone as VOC or HAPs. Actual and maximum use of the Betz product is 834 pounds per year (100 gallons per year). With a hydroquinone content of 2.5 percent, assuming 100 percent evaporation rate, a minimum solution absorption rate of 90 percent, the PTE of VOC and HAPs as hydroquinone is 21 pounds per year.

Evaporation Pond

NCA #1 is permitted as a zero discharge facility. The evaporation pond is used to contain all the liquid discharged from the cooling tower and water treatment systems. The pond is approximately 8 acres in surface area and 5 feet deep with a double lined system of hypalon and PVC layers. Emissions from the spray system consist of PM₁₀ but are considered de minimus. No HAPs or VOCs are emitted.

Maintenance Operations

The NCA #1 facility conducts maintenance operations requiring the use of a variety of materials and products. These materials include paints, lubricants, cements/adhesives, greases, hydraulic fluids, cutting oils, spray foam, welding rods, fuel oil, contact cleaners, and antifreeze. These materials are purchased from local vendors and typically range in size from several ounces to gallon size containers. Lubricating oils used in the CTG's and other equipment are stored in larger sized containers (55-gallon drums). Emissions estimates associated with these materials were not performed.

Other Activities

Other activities at the NCA #1 have the potential to generate air emissions. Some of these activities are metal cutting and welding (arc, gas, and plasma), use of pressure washing systems, the water chemistry laboratory, gasoline-powered (less than 5 hp) water pumps, parts cleaning, and glove booth abrasive cleaning. Most of these activities are intermittent in nature and occur infrequently with the exception of the water chemistry lab. The lab uses standard test kits developed by chemical supply companies containing buffer solutions and standardized reagents in small quantities (typically less than one gallon and generally less than one quart). These chemical solutions are all aqueous solutions.

E. Proposed Exemptions

There are no exemptions.

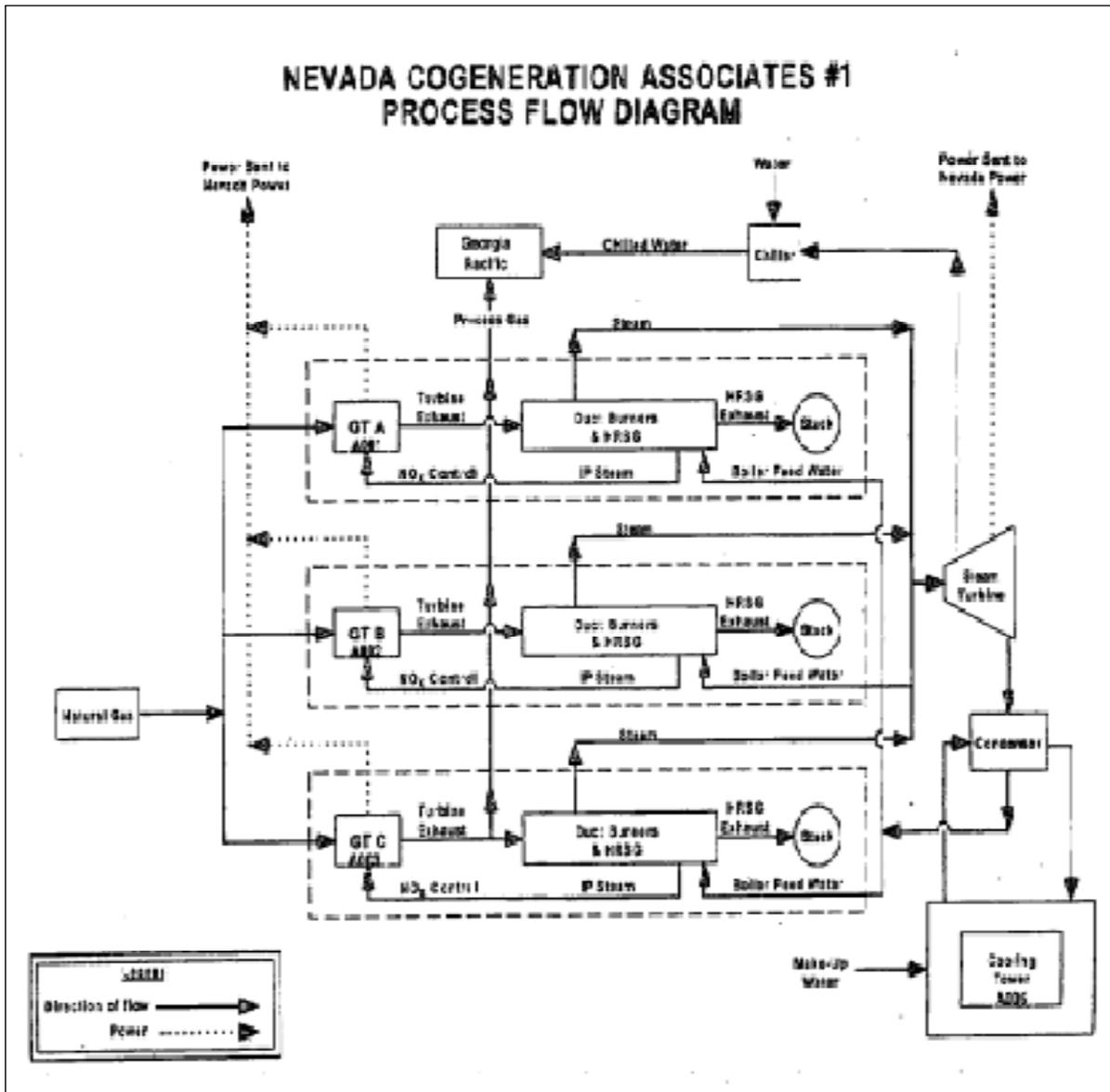


Figure 1. Process flow diagram of NCA #1.

II. EMISSIONS INFORMATION

A. Source-wide Potential to Emit

NCA #1 is a major source for NO_x, CO, and TCS (NH₃) and a minor source for PM₁₀, SO_x, VOC, and HAP:

Table II-A-1: Source-wide PTE (tons per year)

Pollutant	PM ₁₀	NO _x	CO	SO _x	VOC	HAP	NH ₃
PTE Totals	67.24	168.26	145.42	9.30	26.76	6.41	83.48
Major Source Thresholds	100	100	100	100	100	25 ¹	1.0

¹25 tons for combination of all HAPs (no single HAP exceeds 10 tons).

B. Emission Units and PTE

Table II-B-1: List of Emission Units

EU	Description	Rating	Make	Model #	Serial #	SCC
A001	Turbine Generator Package #1	22.2 MW nameplate	General Electric	LM-2500 PE-MEE-06	260157-1	20100203
A001a	Supplemental Duct Burner	77 MMBtu/hr	Coen	N/A	GV ALPHA	20100203
A002	Turbine Generator Package #2	22.2 MW nameplate	General Electric	LM-2500 PE-MEE-06	260157-2	20100203
A002a	Supplemental Duct Burner	77 MMBtu/hr	Coen	N/A	GV BRAVO	20100203
A003	Turbine Generator Package #3	22.2 MW nameplate	General Electric	LM-2500 PE-MEE-06	260157-3	20100203
A003a	Supplemental Duct Burner	77 MMBtu/hr	Coen	N/A	GV CHARLIE	20100203
A004	Diesel Emergency Fire Pump	300 hp	Detroit	DDFPL6AT	46910	20100201
A005a	Cooling Tower, Cell 1	26,600 gpm total	Ecodyne	2CFF-60595L2610	DO0-15665-A	20100101
A005b	Cooling Tower, Cell 2	26,600 gpm total	Ecodyne	2CFF-60595L2610	DO0-15665-A	10100601
A006	Diesel-Fired Water Pump	81.8 hp	Perkins	3PKXL04.2A R1	AR36677U 586299K	10100601
A007	Diesel Fuel Storage Tank	250,000-gallons	SchuffSteel	N/A	N/A	
A008	Diesel Electric Generator	1,676 hp	Aggreko	N/A	N/A	20100107
A009	Ammonia Storage and Injection	1,000-gallons storage tank	N/A	N/A	N/A	40781699
A010	Gasoline Dispensing	1000-gallons aboveground storage tank	Air Boy	N/A	N/A	40600306

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

Table II-B-2: Insignificant Units or Activities

Emission Unit Description
Generator Lube Oil Tank A, 215 gallons
Generator Lube Oil Tank B, 215 gallon
Generator Lube Oil Tank C, 215 gallon
Steam Turbine Lube Oil Tank,
Steam Turbine Lube Oil Conditioner Tank, 270 gallon
Oil/Water Sump
Gas Turbine Lube Oil Tank 1, 150 gallon
Gas Turbine Lube Oil Tank 2, 150 gallon
Gas Turbine Lube Oil Tank 3, 150 gallon
Diesel aboveground storage tank, 350 gallons (Fire Water Pump)
Steam and Water Treatment

Emission Unit Description
Evaporation Pond
Maintenance Operations

Table II-B-3: PTE, Including Startup and Shutdowns (tons per rolling 12-months)¹

EU	PM ₁₀	NO _x (SCR)	NO _x (no SCR)	CO	SO _x	VOC	HAP	NH ₃
A001, A001a	17.00	40.77	14.13	46.71	3.03	8.75	2.08	27.82
A002, A002a	17.00	40.77	14.13	46.71	3.03	8.75	2.08	27.82
A003, A003a	17.00	40.77	14.13	46.71	3.03	8.75	2.08	27.82
A004 ²	0.10	0.00	1.00	0.35	0.09	0.02	0.01	0.00
A005a, A005b	15.96	0.00	0.00	0.00	0.00	0.00	0.00	0.00
A006 ³	0.06	0.00	0.43	0.20	0.06	0.07	0.11	0.00
A007	0.00	0.00	0.00	0.00	0.00	0.06	0.03	0.00
A008 ⁴	0.12	0.00	2.13	4.74	0.06	0.30	0.01	0.00
A009	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02
A010	0.00	0.00	0.00	0.00	0.00	0.06	0.01	0.00
Total	67.24	122.31	45.95	145.42	9.30	26.76	6.41	83.48

¹ 7,446 hours of turbine operation with SCR (85 percent) and 1,314 hours of turbine operation with steam injection only (15 percent) pursuant to 1999 EPA consent decree.

² Limited to 150 hours per year.

³ Limited to 720 hours per year.

⁴ Limited to 168 hours per year.

Table II-B-4: Emission Unit PTE, Excluding Startup and Shutdowns (pounds per hour)¹

EU	PM ₁₀	NO _x (SCR)	NO _x (no SCR)	CO	SO _x	VOC	HAP	NH ₃
A001, A001a	3.88	10.30	21.50	10.70	0.69	2.00	0.46	6.35
A002, A002a	3.88	10.30	21.50	10.70	0.69	2.00	0.46	6.35
A003, A003a	3.88	10.30	21.50	10.70	0.69	2.00	0.46	6.35
A004	1.33	0.00	13.33	4.62	1.20	0.27	0.13	0.00
A006a, A006b	3.64	0.00	0.00	0.00	0.00	0.00	0.00	0.00
A006	0.18	0.00	1.18	0.55	0.17	0.21	0.31	0.00
A007	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.00
A008	1.49	0.00	25.35	56.48	0.68	3.58	0.36	0.00
A009	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
A010	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.00
Total	18.28	30.90	104.36	93.75	4.12	10.08	2.20	19.06

¹ Pounds per hour emissions for turbine units #1-3 calculated at 108^oF to reflect worst-case scenario (with duct burner firing). Annualized emissions calculated at 67^o F.

Table II-B-5: Emergency Operating Scenario PTE for Turbines on Diesel Fuel¹

EU	PM ₁₀		NO _x		CO		SO ₂		VOC		HAP	
	lbs/hr	tpy	lbs/hr	tpy	lbs/hr	tpy	lbs/hr	tpy	lbs/hr	tpy	lbs/hr	tpy
A001, A001a	5.40	0.58	37.93	4.10	10.52	1.14	12.11	1.31	3.40	0.37	0.74	0.08
A002, A002a	5.40	0.58	37.93	4.10	10.52	1.14	12.11	1.31	3.40	0.37	0.74	0.08
A003, A003a	5.40	0.58	37.93	4.10	10.52	1.14	12.11	1.31	3.40	0.37	0.74	0.08
Total	16.20	1.74	113.79	12.30	31.56	3.42	36.33	3.93	10.20	1.11	2.22	0.24

¹ Diesel usage is limited to 216 hours per year for each Turbine. All emissions from emergency diesel operations must be recorded and reported, and are considered part of the facility's PTE.

Table II-B-6: Source PTE for Anhydrous Ammonia (NH₃)¹

EU	lb/hr	tpy	ppm
A001, A001a	6.35	27.82	20
A002, A002a	6.35	27.82	20
A003, A003a	6.35	27.82	20
Total	19.05	83.46	---

¹ Based upon 7,446 hours of SCR operation (85 percent of operating time) pursuant to 1999 EPA consent decree.

Table II-B-7: Enforceable Emission Limitations Excluding Startup and Shutdown in ppmvd @ 15 percent O₂

	PM ₁₀	NO _x	CO	VOC	NH ₃
With SCR	20.4 lb/hr	12	23	0.0077 lb/MMBtu	20
Without SCR	14.1 lb/hr	25	23	0.0028 lb/MMBtu	0

¹ Limits based on a 3-hour averaging period.

The source proposed re-calculation of the VOC lb/MMBtu limits to reflect accurate correlation between lb/hr and lb/MMBtu limits. In order to calculate the lb/MMBtu limit, the permitted lb/hr limit was used to calculate VOC concentration. The VOC ppm concentration was then utilized to calculate lb/MMBtu limit:

$$2.0 \text{ lb/hr} = (8.223\text{E-}05 \times Q \times MW \times ppm) / (T_{std} = 460 + 68)$$

$$2.0 \text{ lb/hr} = (8.223\text{E-}05 \times 114,056 \times 44.09 \times ppm) / 528$$

$$ppm = 2.56$$

The following calculation was performed to obtain relation between VOC lb/hr and lb/MMBtu limits. The RATA data and propane MW was used.

$$lb/MMBtu = ((F - factor \times MW \times 1.3711\text{E-}06) / (T_{std} + 460) \times (20.9 / (20.9 - O_2)) \times ppm$$

$$lb/MMBtu = ((8,633.51 \times 44.09 \times 1.3711\text{E-}06) / (528 \times (20.9 / (20.9 - 14.02))) \times 2.56$$

$$lb/MMBtu = 0.0077 \text{ (with SCR)}$$

$$lb/MMBtu = 0.0028 \text{ (no SCR)}$$

Table II-B-8: Total HAP Delineation¹

HAP	Turbine with HRSG Units Natural Gas tpy	Emission Factor lbs/MMBtu	Turbines Only on Diesel Fuel tpy	Emission Factor lbs/MMBtu
Formaldehyde	0.627	7.1 x 10 ⁻⁴	0.070	2.8 x 10 ⁻⁴
Benzene	0.069	1.2 x 10 ⁻⁵	0.001	5.5 x 10 ⁻⁵
Acrolein	0.006	6.4 x 10 ⁻⁶	---	---
Naphthalene	0.003	1.3 x 10 ⁻⁶	<0.001	3.5 x 10 ⁻⁵
Toluene	0.465	1.3 x 10 ⁻⁴	---	---
Propylene Oxide	0.661	2.9 x 10 ⁻⁵	---	---
Acetaldehyde	0.063	4.0 x 10 ⁻⁵	0.003	5.4x10 ⁻⁴
Xylenes	0.108	6.4 x 10 ⁻⁵	---	---
PAH	---	---	0.002	4.0 x 10 ⁻³
Per Turbine	2.00	---	0.08	---
Three Turbines	6.24			
Emergency Generators	0.02			
81.8 hp Water Pump	0.11			
Diesel Tank	0.03			

HAP	Turbine with HRSG Units Natural Gas tpy	Emission Factor lbs/MMBtu	Turbines Only on Diesel Fuel tpy	Emission Factor lbs/MMBtu
Gasoline Dispensing	0.01			
Total	6.41 tpy			

¹ Emission factors for turbines from AP-42, Tables 3.1-3 and 3.3-2 (Rev. April, 2000). Only those HAPs with a PTE of at least one pound per year are listed.

Table II-B-9: Startup Emissions per EU (pounds per hour)^{1,2}

EU	PM ₁₀	NO _x (SCR)	NO _x (no SCR)	CO	SO _x	VOC	NH ₃
A001, A001a	3.88	13.31	21.50	32.69	0.69	2.75	6.35
A002, A002a	3.88	13.31	21.50	32.69	0.69	2.75	6.35
A003, A003a	3.88	13.31	21.50	32.69	0.69	2.75	6.35
Total	11.64	39.93	64.50	98.07	2.07	8.25	19.05

¹ Pounds per hour emissions for turbine units #1-3 are based on 40 minutes startup and 20 minutes of normal operation (with duct burner firing).

² NO_x, CO, and VOC emission factors were provided by the manufacturer.

Table II-B-10: Shutdown Emissions per EU (pounds per hour)^{1,2}

EU	PM ₁₀	NO _x (SCR)	NO _x (no SCR)	CO	SO _x	VOC	NH ₃
A001, A001a	3.88	11.01	21.50	17.33	0.69	2.32	6.35
A002, A002a	3.88	11.01	21.50	17.33	0.69	2.32	6.35
A003, A003a	3.88	11.01	21.50	17.33	0.69	2.32	6.35
Total	11.64	33.03	64.50	51.99	2.07	6.96	19.05

¹ Pounds per hour emissions for turbine units #1-3 are based on 8 minutes shutdown and 52 minutes of normal operation (with duct burner firing).

² NO_x, CO, and VOC emission factors were provided by the manufacturer.

C. Testing

Performance testing is subject to 40 CFR 60 Subpart A; 40 CFR 60 Subpart GG; and DAQEM Guideline on Performance Testing. Initial performance testing for the turbines was completed (EUs: A001, A002, and A003). Any additional required testing will be performed using the following methods:

Table II-C-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 analyzer
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
Stack Gas Parameters	---	EPA Methods 1, 2, 3, 4

Annual Relative Accuracy Test Audits (RATA) testing must be performed on each NO_x, CO, and O₂ Continuous Emissions Monitoring Systems (CEMS).

D. Continuous Emissions Monitoring

The pollutant-specific emission units at the facility are three GE natural gas-fired combined-cycle combustion turbine/generators, each equipped with low-NO_x burners (EUs: A001 through

A003). These units are permitted to fire on natural gas. The exhaust gases will exit to the atmosphere after leaving the turbine, having already passed through an oxidation catalyst for CO control and selective catalytic reduction (SCR) system for NO_x control.

According to EPA AP-42, Section 3.1.3.1, NO_x emissions are strongly dependent on the high temperatures developed in the combustor. The NO_x is formed by three different mechanisms. Thermal NO_x is formed during thermal dissociation and subsequent reaction of N₂ and O₂ molecules in the combustion air. Most thermal NO_x is formed in the high temperature stoichiometric flame pockets downstream of the fuel injections where combustion air has mixed sufficiently with the fuel to produce peak temperature at fuel/air interface. Prompt NO_x, which is formed from early reactions of N₂ molecules, is usually negligible when compared to the amount of thermal NO_x formed. The third mechanism, fuel NO_x, is negligible when natural gas is burned. Consequently, during natural gas combustion essentially all NO_x formed is thermal NO_x. Maximum reduction of thermal NO_x can be achieved by control of temperature, for given stoichiometry.

To demonstrate continuous, direct compliance with the hourly and annual emission limitations for NO_x and CO for the three turbine units (EUs: A001, A002 and A003) NCA #1 calibrates, maintains, and operates a Continuous Emissions Monitoring System (CEMS) for NO_x, CO and O₂ on each turbine/HRSG pair in accordance with 40 CFR 60 and 40 CFR 75, Appendix B. Each system includes an automated data acquisition and handling system. Each CEMS monitors and records at least the following data:

- a. exhaust gas concentration of NO_x, CO, and diluent O₂ for all turbine units (EUs: A001 through A003) at least once every 15 minutes when required by 40 CFR 60 or 40 CFR 75, as appropriate;
- b. exhaust gas flow rate (by direct or indirect methods);
- c. fuel flow rate;
- d. hours of operation;
- e. three-hour rolling averages for both NO_x, and CO concentrations;
- f. hourly and quarterly accumulated mass emissions of NO_x, and CO; and
- g. hours of downtime of the CEMS;
- h. catalyst inlet temperature at each SCR unit;(consent decree, 2/99), and
- i. temperature and pressure of each heat recovery boiler which produces steam (consent decree 2/99).

Emissions of NH₃ are monitored either by use of an NH₃ CEMS or NH₃ parametric emission monitoring system (PEMS) based on ammonia flow rate to the SCR and NO_x emissions monitoring data as approved by the DAQEM Control Officer. Required periodic audit procedures and QA/QC procedures for CEMS shall conform to the provisions of 40 CFR 60. Relative Accuracy Test Audits (RATA) of the CO, NO_x and O₂ CEMS and NH₃ PEMS will be conducted at least annually.

III. REGULATORY REVIEW

A. Local Regulatory Requirements

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

1. Nevada Revised Statutes (NRS), Chapter 445; Sections 401 through 601;
2. Portions of the AQR included in the State Implementation Plan (SIP) for Clark County, Nevada. SIP requirements are federally enforceable. All requirements from Authority to Construct permits and Section 16 Operating Permits issued by DAQEM are federally enforceable because these permits were issued pursuant to SIP-included sections of the AQR; and
3. Portions of the AQR not included in the SIP. These locally applicable requirements are locally enforceable only.

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

The DAQEM Part 70 (Title V) Program received Final Approval on November 30, 2001, with publication of that approval appearing in the Federal Register December 5, 2001 Vol. 66, No. 234. AQR Section 19 - Part 70 Operating Permits [Amended 07/01/04] details the Clark County Part 70 Operating Permit Program. These regulations may be accessed on the Internet at: <http://www.accessclarkcounty.com/depts/daqem/aq/rules/pages/regs.aspx>

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

Table III-A-1: AQR Section 12 and 55 Summary Table

Pollutant	PM ₁₀	NO _x	CO	SO _x	VOC	HAP	NH ₃
PTE Totals	67.24	168.26	145.42	9.30	26.76	6.41	83.48
Major Source Thresholds	100	100	100	100	100	25¹	1.0

¹25 tons for combination of all HAPs (no single HAP exceeds 10 tons).

Discussion: NCA #1 is a major source of NO_x, CO, and NH₃. As part of the original New Source Review Analysis all of these emissions triggered notice of proposed action.

Table III-A-2: Clark County DAQEM – Air Quality and State Implementation Plan with Facility Compliance or Requirement

Applicable Section – Title	Applicable Subsection - Title	SIP	Affected Emission Unit
0. Definitions	applicable definitions	yes	entire source
1. Definitions	applicable definitions	yes	entire source
2. Air Pollution Control Board	all subsections	yes	entire source
4. Control Officer	all subsections	yes	entire source
5. Interference with Control Officer	all subsections	yes	entire source
6. Injunctive Relief	all subsections	yes	entire source
8. Persons Liable for Penalties - Punishment: Defense	all subsections	yes	entire source
9. Civil Penalties	all subsections	yes	entire source
10. Compliance Schedule	when applicable; applicable subsections	yes	entire source
11. Ambient Air Quality Standards	applicable subsections	yes	entire source

Applicable Section – Title	Applicable Subsection - Title	SIP	Affected Emission Unit
12. Preconstruction Review for New or Modified Stationary Sources	All subsections <u>except</u> the following: 12.2.18 HAP Sources in Clark County. 12.2.20 Additional Requirements for STATIONARY SOURCES with Beryllium, Mercury, Vinyl Chloride, or Asbestos EMISSIONS in Clark County	yes	
13. Emission Standards for Hazardous Pollutants	Condition A-37 is the EPA-required standard condition concerning asbestos.	no	entire source
14. New Source Performance Standards	AQR Section 14.1.56: Subpart GG Standards of Performance for Gas Turbines	no	Turbines
16. Operating Permits	all subsections	yes	entire source
17. Dust Control Permit and Construction Activities	all subsections	yes	entire source
18. Permit and Technical Service Fees	18.1 Operating Permit Fees 18.2 Annual Emission Unit Fees 18.4 New Source Review Application Review Fee 18.5 Part 70 Application Review Fee 18.6 Annual Part 70 Emission Fee 18.14 Billing Procedures	yes	entire source
19. Part 70 Operating Permit Federal Approval (11/25/01)	19.2 Applicability 19.3 Part 70 Permit Applications 19.4 Part 70 Permit Content 19.5 Permit Issuance, Renewal, Re-openings, and Revisions 19.6 Permit Renewal by the EPA and Affected States 19.7 Fee Determination and Certification	N/A	entire source
20. Emission Standards for Hazardous Air Pollutants for Source Categories	all subsections	yes	Gasoline Dispensing
21. Acid Rain Permits	all subsections	yes	An acid rain permit is not required.
22. Acid Rain Continuous Emissions Monitoring	all subsections	yes	An acid rain permit is not required.
24. Sampling and Testing - Records and Reports	24.1 Requirements for installation and maintenance of sampling and testing facilities 24.2 Requirements for emissions record keeping 24.3 Requirements for the record format 24.4 Requirements for the retention of records by the emission sources	yes	entire source
25.1 Upset/Breakdown, Malfunctions	25.1 Requirements for the excess emissions caused by upset/breakdown and malfunctions	no	entire source
25.2 Upset/Breakdown, Malfunctions	25.2 Reporting and Consultation	yes	entire source
26. Emission of Visible Air Contaminants	26.1 Limit on opacity (\leq 20 percent for 3 minutes in a 60-minute period)	yes	entire source
28. Fuel Burning Equipment	Emission Limitations for PM	yes	entire source

Applicable Section – Title	Applicable Subsection - Title	SIP	Affected Emission Unit
29. Sulfur Contents of Fuel Oil	Sulfur content shall be equal to or less than 0.05 percent sulfur by weight	no	Diesel Engines
35. Diesel Engine Powered Electrical Generating Equipment	all subsections	yes	The Part 70 permit limits use of the emergency generator to testing, maintenance, and emergencies, and prohibits its use for dispatchable peak shaving.
40. Prohibitions of Nuisance Conditions	40.1 Prohibitions	no	entire source
41. Fugitive Dust	41.1 Prohibitions	yes	entire source
42. Open Burning	42.2	no	entire source
43. Odors In the Ambient Air	43.1 Prohibitions coded as Section 29	no	entire source
55. Preconstruction Review for New or Modified Stationary Sources in the 8-hour Ozone Nonattainment Area	all subsections	no	entire source
60. Evaporation and Leakage	all subsections	yes	entire source
70. Emergency Procedures	all subsections	yes	entire source
80. Circumvention	all subsections	yes	entire source
81. Provisions of Regulations Severable	all subsections	yes	entire source
90. Fugitive Dust from Open Areas and Vacant Lots	all subsections	no	entire source
91. Fugitive Dust from Unpaved Roads, Unpaved Alleys, and Unpaved Easement Roads	all subsections	no	entire source
92. Fugitive Dust from Unpaved Parking Lots	all subsections	no	entire source

AQR SECTION 11 - AMBIENT AIR QUALITY STANDARDS [Amended 07/01/04] (*in part*)

Discussion: NCA #1 is a major source in the Garnet Valley hydrographic area. Permitted emission units include three CTGs, one generator, one fire pump, one water pump and a cooling tower. Because minor source baseline dates for NO_x (July 19, 1989) and PM₁₀ (June 18, 1983) have been triggered, PSD increment analysis is required for this permitting action.

DAQEM modeled the source using AERMOD to track the increment consumption. The generator, CTGs, fire pump and water pump were modeled for the NO_x and PM₁₀ increment consumption. Stack data submitted by the applicant were used in the model. Five years (1999-03) of meteorological data from the McCarran Station and Desert Rock Station were used in the model. USGS 7.5-minute DEM terrain data was used to calculate elevations. The following table presents the results of the modeling.

Table III-A-3: PSD Increment Consumption

Pollutant	Averaging Period	PSD Increment Consumption by the Source ($\mu\text{g}/\text{m}^3$)	Location of Maximum Impact	
			UTM X (m)	UTM Y (m)
PM ₁₀	24-hour	18.25 ¹	690705	4010836
PM ₁₀	Annual	3.02	690705	4010836
NO _x	Annual	4.41	690800	4011000

¹Modeled 2nd High Concentration

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

B. Federally Applicable Regulations

1. Clean Air Act, as amended (CAAA), Authority: 42 U.S.C. § 7401, et seq.;
2. Title 40 of the Code of Federal Regulations (CFR); including Part 70 and others;

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

Subpart A - General Provisions

40 CFR 60.7 - Notification and record keeping.

Discussion: This regulation requires notification to DAQEM of modifications, opacity testing, records of malfunctions of process equipment and/or continuous monitoring device, and performance test data. These requirements are found in the Part 70 OP. DAQEM requires records to be maintained for five years, a more stringent requirement than the two (2) years required by 40 CFR 60.7.

40 CFR 60.8 - Performance tests.

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

40 CFR 60.11 - Compliance with standards and maintenance requirements.

Discussion: Subpart GG also requires fuel monitoring and sampling to meet a standard. Subpart GG requirements are addressed in the Part 70 permit. Section 26 of the AQR is more stringent than the federal opacity standards, setting a maximum of 20 percent obscuration except for six (6) minutes in any 60-minute period. NCA #1 shall operate in a manner consistent with this section of the regulation.

40 CFR 60.12 – Circumvention.

Discussion: This prohibition is addressed in the Part 70 OP. This is also AQR Section 80.1.

40 CFR 60.13 - Monitoring requirements.

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

Subpart GG - Standards of Performance for Stationary Gas Turbines

40 CFR 60.330 - Applicability and designation of affected facility.

Discussion: Subpart GG applies to three (3) turbines at this source.

40 CFR 60.332 - Standard for nitrogen oxides.

Discussion: See Table IV-C-1.

40 CFR 60.333 - Standard for sulfur dioxide.

Discussion: See Table IV-C-1. The sole use of pipeline-quality natural gas with total sulfur content less than 0.8 percent (8000 ppmw) satisfies this requirement.

40 CFR 60.334 - Monitoring of operations.

Discussion: The source installed, calibrated, maintains, and operates a continuous monitoring system.

40 CFR 60.335 - Test methods and procedures.

Discussion: These requirements are found in the conditions for performance testing found in the Part 70 OP.

Subpart Dc - Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units

40 CFR 60.40c – Applicability and delegation of authority.

Discussion: Subpart Dc is not applicable to supplemental duct burners.

40 CFR 60, Subpart III – Standards of Performance for Stationary Compression Ignition Internal Combustion Engines

40 CFR 60.4200 – Applicability Determination

Discussion: The provisions of this subpart are applicable to manufacturers, owners, and operators of stationary compression ignition (CI) internal combustion engines (ICE) with a displacement less than 30 liters per cylinder where the model year is 2007 or later, for engines that are not fire pumps, and July 1, 2006, for ICE certified by National Fire Protection Association as fire pump engines. This subpart does not apply.

Subpart KKKK - Standards of Performance for Stationary Combustion Turbines

40 CFR 60.4305 – Applicability.

Discussion: The three (3) turbines (EUs: A001 through A003) are not subject to the provisions of this subpart because these turbines commenced construction, modification, or reconstruction before February 18, 2005.

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

Subpart A - General Provisions

40 CFR 63.4 – Prohibited activities and circumvention

Discussion: This prohibition is addressed in the Part 70 OP. This is also local rule AQR Section 80.1.

40 CFR 63, Subpart CCCCCC - National Emission Standards for Hazardous Air Pollutants for Source Category: Gasoline Dispensing Facilities

40 CFR 63.11111 – Applicability and designation of affected facility

Discussion: The provisions of this subpart are applicable to any GDO that is located at an area source. The affected source includes each gasoline cargo tank during the delivery of product to a GDO and also includes each storage tank. The GDO at this source (EU: A010) has a monthly throughput of less than 10,000 gallons of gasoline, and therefore, must comply with the requirements in 40 CFR 63.11116.

40 CFR 63.11113 – Compliance Dates

Discussion: Subpart CCCCCC became effective on January 10, 2008. All existing sources are required to comply with the standard by January 10, 2011.

40 CFR 63.11116 – Requirements for facilities with monthly throughput of less than 10,000 gallons of gasoline

Discussion: The source is required to handle gasoline in a manner that would curb extended periods of vapor releases to the atmosphere. The measures to be taken are described in the Part 70 OP. The source is not required to submit notifications or reports, but must maintain records of gasoline throughput.

40 CFR PART 64 - COMPLIANCE ASSURANCE MONITORING

40 CFR 64.2 – Applicability.

Discussion: The gas turbines are exempt from the CAM Rule for NO_x and CO based on the exemption outlined in 40 CFR 64.2(b)(1)(vi). The permit specifies a continuous compliance determination method for the NO_x and CO limitations in the form of a CEMS, required for Part 60 compliance. The CAM Rule is not applicable to these units for SO_x based on the applicability statement outlined in 40 CFR 64.2(a)(2). The CAM Rule is not applicable to these units for PM₁₀, HAPs or NH₃ based on the applicability statement outlined 40 CFR 64.2(a)(2). Combustion turbines/duct heaters (EUs: A001 through A003) are also not CAM-applicable for VOC emissions based on the exemption outlined in 40 CFR 64.2(a)(3), i.e., the potential pre-control emissions are less than the major threshold.

40 CFR PART 72 - ACID RAIN PERMITS REGULATION

Subpart A – Acid Rain Program General Provisions

40 CFR 72.6 – Applicability.

Discussion: NCA #1 is a cogeneration facility and is exempted based on the applicability criteria defined in Part 72.6(b)(4)(ii); therefore, the provisions of this regulation do not apply. Each emission unit at the cogeneration facility commenced construction after November 15, 1990, and supplies equal to or less than one-third its potential electrical output capacity or equal to or less than 219,000 MWe-hrs actual electric output on an annual basis to any utility power distribution system for sale (on a gross basis). However, if in any three calendar year period

after November 15, 1990, such unit sells to a utility power distribution system an annual average of more than one-third of its potential electrical output capacity and more than 219,000 MWe-hrs actual electric output (on a gross basis), that unit shall be an affected unit, subject to the requirements of the Acid Rain Program.

40 CFR PART 73 – ACID RAIN SULFUR DIOXIDE ALLOWANCE SYSTEM

Discussion: NCA #1 is not a subject of 40 CFR Part 72; therefore, the provisions of this regulation do not apply.

40 CFR PART 75 - CONTINUOUS EMISSION MONITORING

Discussion: NCA #1 is not subject to the Acid Rain emission limitations of 40 CFR Part 72; therefore, the facility is not subject to the monitoring requirements of this regulation. However, EPA Consent Decree requires facility to comply with provisions of 40 CFR 75, Appendix B.

IV. COMPLIANCE

A. Compliance Certification

19.3.3.9 Requirements for compliance certification:

- a. Regardless of the date of issuance of this Part 70 OP, the schedule for the submittal of reports to the Control Officer shall be as follows:

Table IV-A-1: Reporting Schedule

Required Report	Applicable Period	Due Date ¹
Semi-annual Report for 1st half of the year.	January, February, March, April, May, June	July 30 each year
Semi-annual Report for 2nd half of the year. Any additional annual records required.	July, August, September, October, November, December	January 30 each year
Annual Compliance Certification Report	12 Months	30 days after the Operating Permit issuance anniversary date
Annual Emission Inventory Report	Calendar Year	March 31 each year
Excess Emission Notification	As Required	Within one (1) hour of the onset of the event
Excess Emission Report	As Required	As soon as practicable but not to exceed ten (10) calendar days from onset of the event
Deviation Report	As Required	Along with semi-annual reports
Performance Testing	As Required	Within 60 days from the end of the test

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

- b. A statement of methods used for determining compliance, including a description of monitoring, recordkeeping, and reporting requirements and test methods.
- c. A statement indicating the source's compliance status with any applicable enhanced monitoring and compliance certification requirements of the Act.

B. Compliance Summary

Table IV-B-1: Compliance Summary Table - AQR

Citation	Title	Applicability	Applicable Test Method	Compliance Status
AQR Section 0	Definitions.	Applicable – NCA #1 will comply with all applicable definitions as they apply.	NCA #1 will meet all applicable test methods should new definitions apply.	NCA #1 complies with applicable requirements.
AQR Section 4	Control Officer.	Applicable – The Control Officer or his representative may enter into NCA #1 property, with or without prior notice, at any reasonable time for purpose of establishing compliance.	NCA #1 will allow Control Officer to enter Station property as required.	NCA #1 complies with applicable requirements.
AQR Section 11	Ambient Air Quality Standards.	Applicable – NCA #1 is a source of air pollutants.	NCA #1 demonstrated compliance in the ATC permit application with air dispersion modeling.	NCA #1 complies with applicable requirements.
AQR Section 12.1	General application requirements for construction of new and modified sources of air pollution.	Applicable – NCA #1 applied for and the ATC permit was issued before commencing construction.	NCA #1 received the ATC permit to construct.	NCA #1 complies with applicable requirements.
AQR Section 12.2.2	Requirements for specific air pollutants: PM ₁₀ emission source located in the Serious Non-Attainment Area.	Applicable – NCA #1 has PM ₁₀ PTE < 70 TPY.	All new or modified emission units at the NCA #1 will meet LAER requirement.	NCA #1 complies with applicable requirements.
AQR Section 12.2.7	Requirements for specific air pollutants: CO sources located in the Serious Non-Attainment Area.	Applicable – NCA #1 has CO PTE > 70 TPY.	All new or modified emission units at the NCA #1 will meet LAER requirement.	NCA #1 complies with applicable requirements.
AQR Section 12.2.12	Requirements for specific air pollutants: VOC sources located in the VOC Management Area.	Not Applicable – NCA #1 is located in Hydrographic Area 216.	Not Applicable.	Not Applicable.
AQR Section 12.2.14	Requirements for specific air pollutants: NO _x sources located in the NO _x Management Area.	Applicable – NCA #1 has NO _x PTE > 50 TPY.	All new or modified emission units at the NCA #1 will meet BACT requirement.	NCA #1 complies with applicable requirements.

Citation	Title	Applicability	Applicable Test Method	Compliance Status
AQR Section 12.2.16	Requirements for specific air pollutants: SO ₂ sources located in the PSD area.	Applicable – NCA #1 has SO ₂ PTE > 40 TPY.	All new or modified emission units at the NCA #1 will meet BACT requirement.	NCA #1 complies with applicable requirements. Sulfur content of natural gas will not exceed 0.75 grains per 100 dscf (based on 12-month rolling average).
AQR Section 12.2.19	Requirements for specific air pollutants: TCS sources in Clark County	Applicable – NCA #1 does have ammonia (NH ₃) emissions at 45.01 TPY and NH ₃ is a locally regulated TCS. The BACT requirement for NH ₃ is 20 ppm or less for ammonia slip, and acceptable monitoring.	The BACT requirement for NH ₃ is 20 ppm or less NH ₃ slip, and acceptable monitoring. The CTGs/HRSGs meet BACT requirements based on meeting the 10-ppm NH ₃ slip limit with PEMS monitoring.	NCA #1 complies with applicable requirements.
AQR Section 12.5	Air Quality Models	Applicable – Dispersion modeling will be performed as required for any future major modifications.	As applicable, future dispersion modeling will be performed in ATC permit modifications will be in accordance with provisions of 40 CFR Part 51, Appendix W.	NCA #1 complies with applicable requirements.
AQR Section 12.7	Continuous Emission Monitoring (CEM) Systems	Applicable – NCA #1 has NO _x and CO PTE > 100 TPY. NO _x and CO CEMS installed on all stacks and meets provisions of 40 CFR Parts 60 and 75.	NCA #1 submitted all required protocols/test plans per ATC permit prior to CEMS certification. CEMS certification was approved by DAQEM.	NCA #1 complies with applicable requirements.
AQR Section 14.1.1 Subpart A	New Source Performance Standards (NSPS) General Provisions	Applicable – NCA #1 is an affected facility under the regulations. Section 14 is locally enforceable; however, the NSPS standards referenced are federally enforceable.	Applicable monitoring, recordkeeping and reporting requirements.	NCA #1 complies with applicable requirements.
AQR Section 14.1.56 Subpart GG	Standards of Performance for New Stationary Sources (NSPS) – Stationary Gas Turbines	Applicable – The three (3) NCA #1 turbines are natural gas-fired units with heat input greater than 10 MMBtu/hr.	The three (3) turbines meet the applicable NO _x emission standard. NO _x emissions determined by EPA Method 7E.	NCA #1 complies with applicable requirements.
AQR Section 16	DAQEM Operating Permits	Applicable – Any emission unit of stationary source must apply for and obtain a DAQEM operating permit Station applied for the operating permit from DAQEM.	NCA #1 applied for and received operating permit from DAQEM prior to commercial operation.	NCA #1 complies with applicable requirements.

Citation	Title	Applicability	Applicable Test Method	Compliance Status
AQR Section 17	Dust Control Permit for Construction Activities Including Surface Grading and Trenching	Applicable – NCA #1 will need to apply for dust control permit in event construction activity greater than ¼ acre (aggregate) or trench at least 100 ft in length (and aggregate acreage greater than ¼ acre).	NCA #1 applied for permits as needed during initial construction and conformed to required best management practices in dust control permit. NCA #1 will continue to do so in future as needed.	NCA #1 complies with applicable requirements.
AQR Section 18	Permit and Technical Service Fees	Applicable – NCA #1 will be required to pay all required/applicable permit and technical service fees.	NCA #1 is required to pay all required/applicable permit and technical service fees.	NCA #1 complies with applicable requirements.
AQR Section 19	40 CFR Part 70 Operating Permits	Applicable – NCA #1 is a major stationary source and under Part 70 the initial Title V permit application was submitted as required. Renewal applications are due between 6 and 18 months prior to expiration. Revision applications will be submitted within 12 months or commencing operation of any new emission unit. Section 19 is both federally and locally enforceable	NCA #1 reviewed the initial Part 70 permit dated January 15, 2003. This renewal application was submitted before June 15, 2007. Applications for new units will be submitted within 12 months of startup.	NCA #1 complies with applicable requirements.
AQR Section 21	Acid Rain Permits	Not Applicable – NCA #1 is exempt from acid rain regulations based on 40 CFR 72.6 (b)(5).	Not Applicable.	Not Applicable.
AQR Section 22	Acid Rain Continuous Emission Monitoring	Not Applicable – NCA #1 is exempt from acid rain regulations based on 40 CFR 75.2 (b)(2).	Not Applicable.	Not Applicable.
AQR Section 25	Upset/Breakdown, Malfunctions	Applicable – Any upset, breakdown, emergency condition, or malfunction which causes emissions of regulated air pollutants in excess of any permit limits shall be reported to Control Officer. Section 25.1 is locally and federally enforceable.	Any upset, breakdown, emergency condition, or malfunction in which emissions exceed any permit limit shall be reported to the Control Officer within one (1) hour of onset of such event.	NCA #1 complies with applicable requirements.
AQR Section 26	Emissions of Visible Air Contaminants	Applicable – Opacity for the NCA #1 combustion turbine must not exceed 20 percent for more than six (6) minutes in any 60-minute period.	Compliance determined by EPA Method 9.	NCA #1 complies with applicable requirements.

Citation	Title	Applicability	Applicable Test Method	Compliance Status
AQR Section 27	Particulate Matter from Process Weight Rate	Applicable – NCA #1 emission units are required to meet the maximum weight based on maximum design rate of equipment.	Compliance determined by meeting maximum particulate matter discharge rate based on process rate from AQR Table 27-1.	NCA #1 complies with applicable requirements.
AQR Section 28	Fuel Burning Equipment	Applicable – The PM emission rate for the combustion the turbines and boilers is well below those established based on Section 28 requirements.	Maximum allowable PM emission rate determined from equation in Section 28.	NCA #1 complies with applicable requirements.
AQR Section 29	Sulfur Content of Fuel Oil	Applicable – The diesel fuel that will be burned in the emergency generator engines at the NCA #1 will require low sulfur fuel with sulfur content less than 0.05 percent by weight. Section 29 is locally enforceable only.	Fuel sulfur content verification obtained from fuel oil supplier.	NCA #1 complies with applicable requirements.
AQR Section 40	Prohibition of Nuisance Conditions	Applicable – No person shall cause, suffer or allow the discharge from any source whatsoever such quantities of air contaminants or other material which cause a nuisance. Section 40 is locally enforceable only.	NCA #1 air contaminant emissions controlled by pollution control devices or good combustion in order not to cause a nuisance.	NCA #1 complies with applicable requirements.
AQR Section 41	Fugitive Dust	Applicable – NCA #1 shall take necessary actions to abate fugitive dust from becoming airborne.	Station utilizes appropriate best practices to not allow airborne fugitive dust.	NCA #1 complies with applicable requirements.
AQR Section 42	Open Burning	Applicable – In event NCA #1 burns combustible material in any open areas, such burning activity will have been approved by Control Officer in advance. Section 42 is a locally enforceable rule only.	NCA #1 will contact the DAQEM and obtain approval in advance for applicable burning activities as identified in the rule.	NCA #1 complies with applicable requirements.
AQR Section 43	Odors in the Ambient Air	Applicable – An odor occurrence is a violation if the Control Officer is able to detect the odor twice within a period of an hour, if the odor causes a nuisance, and if the detection of odors is separated by at least fifteen minutes. Section 43 is a locally enforceable rule only.	NCA #1 will not operate its facility in a manner which will cause odors. NCA #1 is a natural gas fired facility and is not expected to cause odors.	NCA #1 complies with applicable requirements.

Citation	Title	Applicability	Applicable Test Method	Compliance Status
AQR Section 49	Emission Standards for Boilers and Steam Generators Burning Fossil Fuels	Not Applicable – The NCA #1 the heat recovery steam generators (HRSG) are exempt under Section 49.3.2.	Not Applicable.	Not Applicable.
AQR Section 70.4	Emergency Procedures	Applicable – NCA #1 submitted an emergency standby plan for reducing or eliminating air pollutant emissions in the Section 16 Operating Permit Application.	NCA #1 submitted an emergency standby plan and received the Section 16 Operating Permit.	NCA #1 complies with applicable requirements.

Table IV-B-2: Compliance Summary Table – Federal Regulations

Citation	Title	Applicability	Applicable Test Method	Compliance Status
40 CFR Part 52.21	Prevention of Significant Deterioration (PSD)	Applicable – NCA #1 PTE > 100 TPY and is listed as one of the 28 source categories.	BACT analysis, air quality analysis using modeling, and visibility and additional impact analysis performed for original ATC permits.	NCA #1 complies with applicable sections as required by PSD regulations.
40 CFR Part 52.1470	SIP Rules	Applicable – NCA #1 is classified as a Title V source, and SIP rules apply.	Applicable monitoring and record keeping of emissions data.	NCA #1 is in compliance with applicable state SIP requirements including monitoring and record keeping of emissions data.
40 CFR Part 60, Subpart A	Standards of Performance for New Stationary Sources (NSPS) – General Provisions	Applicable – NCA #1 is an affected facility under the regulations.	Applicable monitoring, recordkeeping and reporting requirements.	NCA #1 complies with applicable requirements.
40 CFR Part 60, Subpart GG	Standards of Performance for New Stationary Sources (NSPS) – Stationary Gas Turbines	Applicable – The NCA #1 three turbines are natural gas-fired units with heat input greater than 10 MMBtu/hr.	Applicable monitoring, recordkeeping and reporting requirements.	NCA #1 complies with applicable requirements.
40 CFR Part 60	Appendix A, Method 9 or equivalent, (Opacity)	Applicable – Emissions from stacks are subject to opacity standards.	Opacity determined by EPA Method 9.	NCA #1 complies with applicable requirements.
40 CFR Part 63	Emission Standards for Hazardous Air Pollutants	Applicable – NCA #1 has gasoline dispensing 40 CFR 63, Subpart CCCCCC applies.	Applicable recordkeeping and reporting requirements.	NCA #1 complies with applicable requirements.
40 CFR Part 64	Compliance Assurance Monitoring	Not Applicable – NCA #1 has CEMS to monitor NO _x and CO emissions, the NH ₃ emissions are continuously monitored with PEMS. NCA #1 is exempt from CAM regulations based on 40 CFR 64.2 (b) (1) (Vi).	NCA #1 continuously monitors NO _x and CO emissions with CEMS. NH ₃ emissions are monitored with PEMS.	NCA #1 complies with applicable requirements.

Citation	Title	Applicability	Applicable Test Method	Compliance Status
40 CFR Part 68	Chemical Accident Prevention Provisions	Applicable – NCA #1 stores and handles anhydrous ammonia (NH ₃).	Construction approval and a Risk Management Plan (RMP) were required for the Nevada Department of Environmental Protection for storage and use of NH ₃ . NCA #1 adheres to NCA #1 management programs.	NCA #1 complies with applicable requirements.
40 CFR Part 70	Federally Mandated Operating Permits	Applicable – NCA #1 is a major stationary source and under Part 70 the initial Title V permit application was submitted as required. Renewal applications are due between 6 and 18 months prior to expiration. Revision applications will be submitted within 12 months or commencing operation of any new emission unit.	NCA #1 reviewed the initial Part 70 permit dated February 29, 2000. The renewal application was submitted on June 18, 2003. Applications for new units will be submitted within 12 months of startup.	NCA #1 complies with applicable requirements.
40 CFR Part 72	Acid Rain Permits Regulation	Not Applicable – NCA #1 is exempt from acid rain regulations based on 40 CFR 72.6 (b)(4).	Not Applicable.	Not Applicable.
40 CFR Part 73	Acid Rain Sulfur Dioxide Allowance System	Not Applicable – NCA #1 is exempt from acid rain regulations based on 40 CFR 73.2 (a).	Not Applicable.	Not Applicable.
40 CFR Part 75	Acid Rain CEMS	Not Applicable – NCA #1 is exempt from acid rain regulations based on 40 CFR 75.2 (b)(2). However, EPA Consent Decree requires facility to comply with provisions of 40 CFR 75, Appendix B.	Not Applicable.	Not Applicable.
40 CFR Part 82	Protection of Stratospheric Ozone	Applicable – NCA #1 is subject to stratospheric ozone regulations based on 40 CFR 82.4.	Applicable.	Applicable.

C. Summary of Monitoring for Compliance

Table IV-C-1: Compliance Monitoring

EU	Process Description	Monitored Pollutants	Applicable Subsection Title	Requirements	Compliance Monitoring
A001, A001a, A002, A002a, A003, A003a	Turbine Generation Packages/duct burner units	CO, NO _x , SO ₂ , PM ₁₀ , VOC, HAPs, NH ₃	Section 12, Section 19, Section 55 40 CFR Subpart GG	Annual and short-term emission limits.	CEMS for NO _x and CO. PEMS for NH ₃ . Stack testing for NO _x and CO by EPA Methods as outlined in Part 70 Permit. Compliance for PM ₁₀ , SO ₂ , VOC and HAPs shall be based on sole use of pipeline quality natural gas as fuel and emission factors. Compliance for PM ₁₀ , SO ₂ , VOC and HAPs shall be based on sole use of low sulfur diesel fuel and emission factors. Recording is required for compliance demonstration.
A001, A001a, A002, A002a, A003, A003a	Turbine Generation Packages/duct burner units	Opacity	AQR Section 26	Less than twenty percent opacity except for six (6) minutes in any 60-minute period.	Use of natural gas as fuel and good combustion practices as well as EPA Method 9 performance testing upon the request of the Control Officer.
A004, A006, A008	Diesel IC Engines	CO, NO _x , SO ₂ , PM ₁₀ , VOC, HAPs	Section 12, Section 19, Section 55	Annual and short-term emission limits.	Compliance for regulated pollutants shall be based on sole use of low-sulfur diesel fuel and emission factors. Recording is required for compliance demonstration.
A004, A006, A008	Diesel IC Engines	Opacity	AQR Section 26	Less than twenty percent opacity except for six (6) minutes in any 60-minute period.	Sole use of low-sulfur diesel fuel and EPA Method 9 performance testing upon the request of the Control Officer.

V. EMISSION REDUCTION CREDITS (OFFSETS)

The source is not subject to offset requirements in accordance with Section 59 of the Clark County Air Quality Regulations.

VI. ADMINISTRATIVE REQUIREMENTS

Section 19 requires that DAQEM identify the original authority for each term or condition in the Part 70 Operating Permit. Such reference of origin or citation is denoted by [italic text in brackets] after each Part 70 Permit condition.

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

Legal:

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

Factual:

NCA #1 has supplied all the necessary information for DAQEM to draft Part 70 Operating Permit conditions encompassing all applicable requirements and corresponding compliance.

Conclusion:

DAQEM has determined that NCA #1 will continue to determine compliance through the use of CEMS, PEMS, performance testing, quarterly reporting, and daily recordkeeping, coupled with annual certifications of compliance. DAQEM proceeds with the decision that a Part 70 Operating Permit should be issued as drafted to NCA #1 for a period not to exceed five (5) years.