TECHNICAL SUPPORT DOCUMENT

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

SUBMITTED BY

NEVADA POWER COMPANY

for

HARRY ALLEN STATION

Part 70 Operating Permit Number: 533
(Renewal)

SIC Code - 4911: Electric Utility Services

Clark County
Department of Air Quality and Environmental Management
Permitting Section

October, 2009

This Technical Support Document (TSD) accompanies the proposed Part 70 Operating Permit for Harry Allen Station.

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I. ACRONYMS

Table I-1: Acronyms

Acronym	Term
AQIA	Air Quality Impacts Analysis
AQR	Clark County Air Quality Regulations
ATC	Authority to Construct
ATC/OP	Authority to Construct/Operating Permit
BACT	Best Available Control Technology
CAAA	Clean Air Act, as amended, or Clean Air Act Amendments
CAM	Compliance Assurance Monitoring
CEMS	Continuous Emissions Monitoring System
CFR	United States Code of Federal Regulations
CO	Carbon Monoxide
CTG	Combustion Turbine-Generator
DAQEM	Clark County Department of Air Quality & Environmental Management
DLN	Dry Low-NO_x
dscf	Dry Standard Cubic Foot
EPA	United States Environmental Protection Agency
EU	Emission Unit
HAP	Hazardous Air Pollutant
HHV	Higher Heating Value
HP	Horse Power
kW	kilowatt
LHV	Lower Heating Value
MACT	Maximum Achievable Control Technology
MMBtu	Millions of British Thermal Units
M/N	Model Number
MW	Megawatt
NAICS	North American Industry Classification System
NO_x	Nitrogen Oxides
NRS	Nevada Revised Statutes
NSR	New Source Review
PM_{10}	Particulate Matter less than 10 microns
ppm	Parts per Million
ppmvd	Parts per Million, Volumetric Dry
PSD	Prevention of Significant Deterioration
PTE	Potential to Emit
QA	Quality Assurance
QA/AC	Quality Assurance/Quality Control
RATA	Relative Accuracy Test Audits
SCC	Source Classification Codes
SIC	Standard Industrial Classification
SIP	State Implementation Plan
S/N	Serial Number
SO_x	Sulfur Oxides
ULN	Ultra Low-NO_x
UTM	Universal Transverse Mercator
VOC	Volatile Organic Compound

II. EXECUTIVE SUMMARY

Nevada Power Company's Harry Allen Station operates two combustion turbines in the simple cycle mode in Clark County, Nevada. Turbine Unit 3 operates on natural gas and is limited in operations to 6,135 hours per year. Turbine Unit 4 also operates on natural gas and is limited in operations to 3,300 hours per year. Other operating emission units include three emergency generators and a diesel emergency fire pump. In addition to these operating units, ATC permits have been issued to two additional turbine units and a fire pump engine. Harry Allen Station is a major source for PM_{10}, NO_x, CO, and TCS and is minor for SO_x, VOC and HAP.

The following table summarizes the source potential to emit for each regulated air pollutant from all emission units for which an ATC has been issued:

PM_{10}	NO_X	CO	SOx	VOC	TCS (NH_3)	HAP
150.57	**303.07**	**277.03**	**14.24**	**64.47**	**215.60**	**5.64**

An ATC was issued on June 10, 2001, for two combined cycle CTGs and an ammonia storage tank. These units are ATC only and not incorporated into the Part 70 Operating Permit. The following table summarizes the source PTE for each regulated air pollutant for all emission units addressed by this Part 70 operating permit:

PM_{10}	NO_X	CO	Sox	VOC	TCS (NH_3)	HAP
50.17	**131.27**	**187.67**	**5.44**	**8.27**	**0.00**	**1.04**

The combustion turbine units are subject to the requirements of 40 CFR 60, Subparts A and GG; 40 CFR 72, 73 and 75. The emission units are exempt from 40 CFR 64.

Harry Allen Station was originally issued an ATC on September 18, 1992 for "an electric power plant consisting of eight General Electric Frame PG 7111-EA CTGs with rated capacity of 75 MW each at 90 ^{o}F." Only two of the eight units (Units 3 and 4) were installed and are in service at the source.

Unit 3 is in service under original Operating Permit A00533 issued 07/18/03. A DLN combustor was selected as BACT for Unit 3. Additionally, low sulfur fuels and natural gas as the primary fuel are utilized to comply with the BACT requirements for CO, PM_{10}, VOCs, and SO_x. Low sulfur diesel (fuel oil) is being removed from use in Unit 3 with this permitting action.

An ATC/OP A00533 Modification 6, Revision 2, issued 02/13/06, authorized the operation of Unit 4 which operates on natural gas only. CO and VOC emissions from Unit 4 are controlled by oxidation catalyst, while NO_x emissions are controlled by ULN combustors. SO_2 exhaust emissions are controlled by exclusive use of pipeline quality natural gas and good combustion practice. This revision also authorized the operation of the emergency fire pump (EU: A10).

Additional support equipment onsite at the Harry Allen Station include:
Three emergency generators and
One diesel emergency fire pump.

This document was prepared in accordance with the latest interpretation of DAQEM guidelines, policies, supervisory and managerial instructions, verbal and/or written, issued on or before June 15, 2009. The permitting action described in this document and reflected in the associated permit is the renewal of the existing Part 70 permit for EUs 53301, 53302, A07 and A08; the addition of EU A09 (Turbine Unit 4) and EU A10 (emergency fire pump); the removal of distillate oil as a fuel from EU 53301 (Turbine Unit 3); and an update to applicable regulations and requirements.

III. SOURCE INFORMATION

A. General

Permittee	Nevada Power Company Harry Allen Station
Mailing Address	P.O. Box 98910, MS 30 Las Vegas, NV 89151
Contacts	Brian Paetzold, (702) 402-8223
	Kevin Geraghty, (702) 402-5662
	Starla Lacy, (702) 402-5669
Phone Number	(702) 402-5662
Fax Number	(702) 402-0835
Source Location	Apex Dry Lake Industrial Park Apex Valley, Nevada
Hydrographic Area	216
Township, Range, Section	T17S, R63E, Sections 23, 35, and 36
SIC Code	4911 – Electric Services
NAICS Code	221112 - Fossil Fuel Electric Power Generation

B. Description of Process

The Harry Allen Station produces electrical power for sale to consumers. The Station's SIC Code is 4911.

The Harry Allen Station consists of one General Electric Frame PG 7111-EA CTG referred to as Unit 3 (EU: 53301) with a nominally rated capacity of 79.2 MW operated in a simple-cycle arrangement. The CTG fires natural gas only. It is permitted as a peaking unit, limited to 20 hours per day and 6,135 annual hours of operation.

The Harry Allen Station also consists of one General Electric PG 7 EA CTG with a nominally rated capacity of 75 MW, referred to as Unit 4 (EU: A09). The CTG operates on natural gas only, and is limited to 1,060 MMBtu per hour, and 3,300 hours per year.

Three emergency generators (350 kW, 900 hp and 400 hp) and a 175 hp diesel emergency fire pump are also on site.

C. Permitting History

Table III-C-1: Permits Issued to Harry Allen Station

Date Issued	Permit Number	Description
07/18/03	Part 70 Operating Permit	Issuance of Part 70 Operating Permit Renewal
12/29/04	ATC/OP Modification 6	ATC with a limited Operating Permit for turbine Unit 4 (EU: A09) and ATC for a fire pump (EU: A10)
10/20/05	ATC/OP Modification 6, Revision 1	Provided full operational authority for the fire pump (EU: A10).
02/13/06	ATC/OP Modification 6, Revision 2	Provided full operation authority for the fuel oil tank and Turbine Unit 4 (EU: A09).
04/16/09	ATC Modification 6, Revision 3	Removed the option of fuel-oil firing for Turbine Unit 3 (EU: 55301).

DAQEM received the Part 70 operating permit renewal application on February 20, 2007. DAQEM received an application for Part 70 operating permit revision on March 30, 2007.

Table III-C-2: BACT Determinations for Turbine Units

EU	Description	BACT Technology	BACT Limit
55301	79.2 MW natural gas-fired electric turbine generator (Unit 3)	DLN burner,	9.0 ppmvd NO_x on a 3-hour average at 15% O2;
A09	75 MW natural gas-fired electric turbine generator (Unit 4)	ULN burner, oxidation catalyst, natural gas combustion	5.0 ppmvd NO_x on a 1-hour average at 15% O2;

D. Operating Scenario

Turbine Unit 3: Harry Allen Unit 3 is authorized to fire natural gas for a limited amount of time per year. Unit 3's maximum permitted heat input rate is 873.1 MMBtu/hr based on the fuel's LHV at the standard conditions of 90^o F and 1 atmosphere pressure. A General Electric DLN Combustor is used to control NO_x emissions from Unit 3.

Turbine Unit 4: Harry Allen Unit 4 is authorized to fire natural gas only. Unit 4 may operate up to 3,300 hours annually. Unit 4 is limited to a heat input rate of 1,060 MMBtu/hr HHV and may only combust pipeline quality natural gas. CO and VOC emissions are controlled using oxidation catalyst, while NO_x emissions are controlled using ULN combustors. SO_2 exhaust emissions are controlled by exclusive use of pipeline quality natural gas and good combustion practice.

Emergency Generators: Each of the three engines is permitted to operate up to 150 hours per year for testing and maintenance purposes. Emergency operation, as defined in AQR Section 0, is excluded from operational or emission limit constraints.

Emergency Fire Pump: The diesel emergency fire pump is permitted to operate up to 26 hours per year for testing and maintenance purposes. Emergency operation, as defined in AQR Section 0, is excluded from operational or emission limit constraints.

E. Proposed Exemptions

There are no restrictions for the operation of the three diesel emergency generators or the fire pump during emergency situations as defined in AQR Section 0.

IV. EMISSIONS INFORMATION

A. Total Source Potential to Emit

The source PTE for pollutants (Table IV-A-1), as presented in the Part 70 Operating Permit application, is the sum of enforceable emission limits of the individual emission units addressed by this Part 70 operating permit

Table IV-A-1: Maximum Source PTE (tons per year)

PM_{10}	NO_x	CO	SO_2	VOC	HAP
50.17	**131.27**	**187.67**	**5.44**	**8.27**	**1.04**

There has been some confusion, based upon the language in the ATC, regarding the intent to establish a source-wide cap on the PTE. The source has not applied for a source-wide emissions cap, nor does the applicable Clark County SIP regulations require one be established. The source-wide PTE is intended to establish the status of the source as Major for NO_x and CO. This status is made enforceable by the enforceable emissions limits placed upon the individual emissions units.

B. Equipment Description

The air emission source equipment and associated major equipment are listed below.

Power Block Equipment

1. General Electric PG7111-EA, 79.2 MW CTG unit (Unit 3):
    a. Natural gas firing,
    b. Inlet air filters with filter cleaning system,
    c. DLN combustors,
    d. Fire detection and protection system,
    e. EU Identification 53301.
2. General Electric 7PGEA, 75 MW CTG unit:
    a. Natural gas firing,
    b. Inlet air filters with filter cleaning system,
    c. ULN combustors,
    d. Fire detection and protection system,
    e. Hydrogen cooled electric generator,
    f. Oxidation catalyst,
    g. EU Identification A09.

Common Support Equipment

1. Three emergency generators, diesel fired:
    a. Onan Cummins 900 hp, Katolight 400 hp, Caterpillar 350 kW,
    b. EU Identification 53302, A07, and A08.
2. Fire pump, diesel fired:
    a. Clark-Detroit 175 hp,
    b. EU Identification A10.

Miscellaneous ancillary equipment

1. Ancillary equipment as necessary to ensure efficient, safe and reliable operation:
    a. Administration and control room building,
    b. Warehouse and maintenance building,
    c. Various water storage tanks,
    d. Electrical switchyard,
    e. Fire pump house,
    f. Storage structure,
    g. Water storage tank, 5 million gallons.

C. Emission Units, Emission Limitations and PTE

The stationary source covered by this Part 70 Operating Permit is defined to consist of the emission units summarized in Table IV-C-1.

Table IV-C-1: Source Emission Units

EU	Description	SCC	Type[1]
A07[2]	Perkins Engine, Katolight Diesel Emergency Generator; M/N: N37881, 400 hp	20200102	DM
A08[3]	Caterpillar Diesel Emergency Generator; M/N: 3406, S/N: 4ZR08055, 350 kW	20200102	DM
A09	General Electric 75 MW natural gas only turbine; M/N: MS7001EA (PG7121), S/N: 298532, MEQ = 28	20100201	TR1, MEQ
A10	Clarke-Detroit Diesel Emergency Fire Pump; M/N: 50348312, 175 hp	20200102	DM
53301	GE CTG 79.2 MW natural gas only turbine; M/N: MS7001EA, S/N: 296449, MEQ = 53	20100201	TR1, MEQ
53302	Cummins Diesel Emergency Generator; M/N: CTA-28-65, S/N: 25195586, 900 hp	20200102	EE1

[1] Billing code is a designation for emission unit billing purposes: TR1 = turbine; MEQ = megawatt equivalent; EE1 = emergency engine under 1,500 hp; DM = Deminimus. Fees are listed in AQR Section 18.

[2] Located at the Harry Allen substation.

[3] Located at the Harry Allen switchyard.

The following tables (Tables IV-C-2 through IV-C-4) summarize the allowable short-term and long-term emission limits for each emission unit.

Table IV-C-2: Source PTE, Including Startup and Shutdowns (tons per year)

EU	PM_{10}	NO_x	CO	SO_x	VOC	HAP
A07	0.07	0.94	0.20	0.06	0.08	0.01
A08	0.21	0.69	0.72	0.12	0.01	0.01
A09 (Turbine Unit 4)	19.21	39.06	33.94	2.45	3.47	0.37
A10	0.01	0.05	0.01	0.01	0.01	0.01

EU	PM_{10}	NO_x	CO	SO_x	VOC	HAP
55301 (Turbine Unit 3)	30.60	88.60	152.50	4.01	4.60	0.63
55302	0.07	1.93	0.30	0.02	0.10	0.01
Total Source PTE	**50.17**	**131.27**	**187.67**	**6.67**	**8.27**	**1.04**

Table IV-C-3: Source PTE, Excluding Startup and Shutdowns (pounds per hour)[1]

EU	PM_{10}	NO_x	CO	SO_x	VOC	HAP
A07	0.93	12.53	2.67	0.80	1.07	0.13
A08	2.81	9.23	9.62	1.60	0.13	0.13
A09 (Turbine Unit 4)	9.98	19.50	8.90	1.48	1.80	1.09
A10	0.09	3.67	1.08	0.31	0.13	0.01
55301 (Turbine Unit 3)	10.00	28.80	49.70	1.31	1.50	--
55302	0.90	25.73	4.00	0.27	1.33	0.13
Total Source PTE	**24.71**	**99.46**	**75.97**	**5.77**	**5.96**	**1.49**

[1] The exclusion for startups and shutdowns apply only to NO_x, CO, and SO_x for Turbine Units 3and 4. There are no other exclusions from the pound-per-hour emission limits listed in the above table.

Table IV-C-4: Enforceable Emission Limitations Excluding Startup and Shutdown

EU	NO_x @ 15% O_2
53301 (Turbine Unit 3)[1]	9.0 ppmvd
A09 (Turbine Unit 4)[2]	5.0 ppmvd

[1] Limits based on a 3-hour averaging period.

[2] Limits based on a 1-hour averaging period.

The following tables (Tables IV-C-5 and IV-C-6) summarize the startup and shutdown PTE for each emission unit.

Table IV-C-5: Startup and Shutdown Emissions for Turbine Unit 4 (EU: A09)

EU	PM_{10}	NO_x	CO	SO_x	VOC
Startup (pounds per event)	9.98	40.00	80.00	0.64	1.80
Shutdown (pounds per event)	9.98	10.00	60.00	0.64	1.80
Total startup/shutdown (tons per year)	2.70	6.90	19.30	0.20	0.50

[1] Actual emissions will be included in the annual mass emission reporting. Estimated tonnages of startup emissions are included in the operational PTE in Table IV-C-2.

Table IV-C-6: Hourly Startup and Shutdown Emissions for Turbine Unit 4 (EU: A09)

EU	NO_x	CO	SO_x
Startup (pounds per hour)	51.05	85.04	1.00
Shutdown (pounds per hour)	23.98	66.38	1.10
Combined startup/shutdown (pounds per hour)	55.53	1.46	142.52

[1] Actual emissions will be included in the annual mass emission reporting. Estimated tonnages of startup emissions are included in the operational PTE in Table IV-C-2.

Table IV-C-7: Estimated HAP PTE per Turbine Unit

HAP	EU:53301	EU:A09
	Unit 3 at 6135 hrs[1] (tpy)	Unit 4 at 3300 hrs[1] (tpy)
1,3-Butadiene	1.28E-03	7.52E-04

HAP	EU:53301	EU:A09
	Unit 3 at 6135 hrs[1] (tpy)	Unit 4 at 3300 hrs[1] (tpy)
Acetaldehyde	1.19E-01	7.00E-02
Acrolein	1.90E-02	1.12E-02
Benzene	3.86E-03	2.27E-03
Ethylbenzene	9.51E-02	5.60E-02
Formaldehyde	4.55E-02	2.68E-02
Naphthalene	3.86E-03	2.27E-03
PAH	6.54E-03	3.85E-03
Propylene Oxide	8.62E-02	5.07E-02
Toluene	6.24E-02	3.67E-02
Xylenes	1.90E-01	1.12E-01
Hexane	--	--
Dichlorobenzene	--	--
Totals	**0.63**	**0.37**

[1] Based on heat inputs of 873.1 MMBtu/hr (LHV) for Unit 3 and 1,060 MMBtu/hr (HHV) for Unit 4.

These factors are being used by DAQEM to more accurately determine HAP emissions and possible source subjectivity to MACT standards per the April 2001 promulgated rule. No single source-wide HAP emission shall exceed ten tons per year and total source-wide HAP emissions shall not exceed 25 tons per year. Therefore, this source is not subject to MACT for combustion turbines. In addition, no other emission units at this source are subject to MACT.

D. Performance Testing

Initial performance tests for Turbine Unit 3 were conducted in 1995. Initial performance tests for Turbine Unit 4 were conducted in 2006. Any additional required testing will be performed using the following methods:

Table IV-D-1: Performance Testing Protocol Requirements for Turbines

Test Point	Pollutant	Method (40 CFR 60, Appendix A)
Turbine Exhaust Outlet Stack	VOC	EPA Method 18 or 25a
Turbine Exhaust Outlet Stack	PM_{10}	EPA Method 201/202 or 201A/202
Turbine Exhaust Outlet Stack	Opacity	EPA Method 9
Stack Gas Parameters	---	EPA Methods 1, 2, 3, 4

Annual RATA testing must be performed on each NO_x, CO, and diluent O_2 or CO_2.

All performance tests on the turbine units must conform to 40 CFR 60 Subparts A and GG and 40 CFR 72 and 75.

E. Continuous Emissions Monitoring

Harry Allen Station is operating a NO_x and CO CEMS on each turbine unit. The CEMS monitor and record the following parameters for each individual CTG:

1. exhaust gas concentrations (in ppm) of NO_x, CO, and diluent O_2 or CO_2 for all turbine units (EUs: 53301 and A09) at least once every 15 minutes when required by 40 CFR 60 or 40 CFR 75, as appropriate;
2. exhaust gas flow rate (by direct or indirect methods);
3. fuel flow rate;
4. hours of operation;

5. 3-hour rolling averages of each NO_x and CO concentrations (in ppm) for Turbine Unit 3 (EU: 53301);
6. 1-hour rolling averages of each NO_x and CO concentrations (in ppm) for Turbine Unit 4 (EU: A09);
7. hourly rolling 12-month accumulated mass emissions (in pounds) of NO_x and CO; and
8. hours of downtime of the CEMS.

V. REGULATORY REVIEW

DAQEM has determined that the following public law, statutes and associated regulations apply:
1. CAAA, Authority: 42 U.S.C. § 7401, et seq.;
2. Title 40 of the CFR;
3. NRS, Chapter 445B;
4. Portions of the AQR included in the SIP for Clark County, Nevada. SIP requirements are federally enforceable. All requirements from ATC permits issued by DAQEM are federally enforceable because these permits were issued pursuant to SIP-included sections of the AQR; and
5. Portions of the AQR not included in the SIP. These locally applicable requirements are locally enforceable only.

A. Local Regulatory Requirements

The NRS and the 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 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/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 SIP. Requirements and conditions that appear in the Part 70 Operating Permit which are related only to non-SIP rules are notated as locally enforceable only.

Table V-A-1: AQR Section 12 and 55 Summary Table for This Source (As Addressed by This Part 70 Permit)

	PM_{10}	NO_x	CO	SO_2	VOC	HAP
Air Quality Area	PSD	Basic nonattainment (ozone)	PSD	PSD	Basic nonattainment (ozone)	N/A
Source PTE (tpy)	50.17	131.27	187.67	6.67	8.27	1.04
Major Source	≥ 100 tpy	≥ 100 tpy	≥ 100 tpy	≥ 100 tpy	≥ 100 tpy	≥ 10 tpy for each HAP, or ≥ 25 tpy for combined HAPs

Discussion: Harry Allen Station is a major source of NO_x and CO. As part of the original NSR Analysis all of these emissions triggered notice of proposed action.

Table V-A-2: Clark County DAQEM – AQR with Source Compliance or Requirement

Applicable Section	Applicable Subsection – Title	SIP	Affected Emission Unit
0. Definitions	applicable definitions	yes	entire source
1. Definitions	applicable definitions – "Affected Facility", "Air Contaminant", "Air Pollution Control Committee", "Area Source", "Atmosphere", "Board", "Commercial Off-Road Vehicle Racing", "Dust", "Existing Facility", "Existing Gasoline Stations", "Fixed Capital Cost", "Fumes", "Health District", "Hearing Board", "Integrated Sampling", "Minor Source", "Mist", "New Gasoline Stations", "New Source", "NIC", "Point Source", "Shutdown", "Significant", "Single Source", "Smoke", "Source of Air Contaminant", "Special Mobile Equipment", "Standard Commercial Equipment", "Standard Conditions", "Start Up", "Stop Order", "Uncombined Water", and "Vapor Disposal System"	yes	entire source
4. Control Officer	all subsections	yes	entire source
5. Interference with Control Officer	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
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 (except AQR 12.2.18 and 12.2.20)	entire source
14. New Source Performance Standards	CCAQR Section 14.1.56: Subpart GG Standards of Performance for Gas Turbines	no	Applicable – CTG units

Applicable Section	Applicable Subsection – Title	SIP	Affected Emission Unit
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
21. Acid Rain Permits	all subsections	no	entire source
22. Acid Rain Continuous Emission Monitoring	all subsections	no	entire source
24. Sampling and Testing - Records and Reports	24.1 Requirements for installation and maintenance of sampling and testing facilities 24.2 Requirements for emissions record keeping 24.3 Requirements for the record format 24.4 Requirements for the retention of records by the emission sources	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)	yes	entire source
28. Fuel Burning Equipment	Emission Limitations for PM	yes	entire source
29. Sulfur Contents of Fuel Oil	Sulfur content shall be equal to or less than 0.05 percent sulfur by weight	no	Generators and Fire Pump
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

Applicable Section	Applicable Subsection – Title	SIP	Affected Emission Unit
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

AQR SECTION 11 - AMBIENT AIR QUALITY STANDARDS *(in part)*

Discussion: As modeled using ISCST3, the post-baseline increment assigned to Harry Allen Station is outlined in Table V-A-3.

Table V-A-3: PSD Increment Consumption

Pollutant	Averaging Period	PSD Increment Consumption by the Source (µg/m^3)	Location of Maximum Impact	
			UTM X (m)	UTM Y (m)
SO_2	3-hour	38.87[1]	688536	4033264
SO_2	24-hour	8.47[1]	688122	4033261
SO_2	Annual	0.11	688350	4033916
PM_{10}	24-hour	5.15[2]	688312	4033884
PM_{10}	Annual	0.49	688350	4033916
NO_X	Annual	1.18	688122	4033261

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

B. Federally Applicable Regulations

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

Subpart A – General Provisions

40 CFR 60.7 – Notification and record keeping

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

40 CFR 60.8 – Performance tests

Discussion: These requirements are found in the Part 70 Operating Permit in Section IV-D. 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 AQR 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: Compliance with various applicable standards will be demonstrated by performance tests unless otherwise specified in the standard. The source is subject to 40 CFR 60 Subparts GG and 40 CFR 72 and 75. Subpart GG also requires fuel monitoring and sampling to meet a standard. Subpart GG requirements are addressed in the Part 70 Operating Permit. AQR Section 26 is more stringent than the federal opacity standards, setting a maximum of 20 percent opacity. Harry Allen Station shall operate in a manner consistent with this section of the regulation.

40 CFR 60.12 – Circumvention

Discussion: This prohibition is Condition II-16 in the Part 70 Operating Permit. This is also local rule AQR 80.1.

40 CFR 60.13 – Monitoring requirements

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

Subpart GG – Standards of Performance for Stationary Gas Turbines

40 CFR 60.330 – Applicability and designation of affected facility

Discussion: Subpart GG applies to the two turbines at this source.

40 CFR 60.332 – Standard for nitrogen oxides (NO_x limits using the F formula)

Discussion: See Table VI-C-1 of this document.

40 CFR 60.333 – Standard for sulfur dioxide

Discussion: See Table VI-C-1 of this document.

40 CFR 60.334 – Monitoring of operations

Discussion: The sole use of pipeline-quality natural gas satisfies this requirement.

40 CFR 60.335 – Test methods and procedures

Discussion: These requirements are found in the conditions for performance testing found in Section IV-D of the Part 70 Operating Permit.

Subpart KKKK – Standards of Performance for Stationary Combustion Turbines

Subpart KKKK does not apply to the two turbines at this source because the turbines did not commence construction, modification, or reconstruction after February 18, 2005.

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

Subpart IIII does not apply to the three emergency generators at this source because the emergency generators did not commence construction, modification, or reconstruction after July 11, 2005. Subpart III does not apply to the fire pump at this source because the fire pump was not manufactured after July 1, 2006.

40 CFR 64 – COMPLIANCE ASSURANCE MONITORING

40 CFR 64.2 – Applicability

Discussion: The only emission units that emit pollutants above the major source threshold are 53301 and A09 – Turbine Units 3 and 4; therefore, CAM does not apply for any other emission units included in this Part 70 Operating Permit. CAM does not apply to Turbine Unit 3 because a control device (as defined in 40 CFR 64) is not used for any pollutant. Turbine Unit 4 is exempt from the CAM Rule for NO_x and CO based on the exemption at 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 40 CFR 60 and 75 compliance. The CAM Rule does not apply to this unit for SO_x, PM_{10}, or HAPs based on the applicability statement at 40 CFR 64.2(a)(2): no control device is used to achieve compliance for any of these pollutants. The CAM Rule does not apply to this unit for VOC based on the applicability statement at 40 CFR 64.2(a)(3): the unit does not have potential pre-control device VOC emissions that are equal to or greater than the major source threshold. This unit is also exempt from the CAM Rule for NO_x and SO_x based on the exemption at 40 CFR 64.2(b)(1)(iii) for Acid Rain Program Requirements.

40 CFR 72 – ACID RAIN PERMITS REGULATION

Subpart A – Acid Rain Program General Provisions

40 CFR 72.6 – Applicability

Discussion: Harry Allen Station is defined as a utility unit in the definitions for 40 CFR 72; therefore, the provisions of this regulation apply.

40 CFR 72.9 – Standard Requirements

Discussion: Harry Allen Station has applied for all of the proper permits under this regulation.

Subpart B – Designated Representative

Discussion: Harry Allen Station has a Certificate of Representation for Designated Representative on file. They have fulfilled all requirements under this subpart.

Subpart C – Acid Rain Permit Applications

Discussion: Harry Allen Station has applied for an acid rain permit.

Subpart D – Acid Rain Compliance Plan and Compliance Options

Discussion: This subpart discusses the individual requirements necessary for a complete compliance plan. A compliance plan exists for each combustion turbine.

Subpart E – Acid Rain Permit Contents

Discussion: Harry Allen Station has applied for an acid rain permit, and it will contain all information to demonstrate compliance with this subpart.

40 CFR 73 – ACID RAIN SULFUR DIOXIDE ALLOWANCE SYSTEM

Discussion: Harry Allen Station is an affected source pursuant to 40 CFR 72.6 of this chapter because it fits the definition of a utility unit; therefore, this regulation shall apply.

Subpart B – Allowance Allocations

Discussion: Harry Allen Station is listed on the Phase II table, however, no allowance amount is listed in the table; therefore, it will not have an initial allocation per 40 CFR 73.10.

Subpart C – Allowance Tracking System

Discussion: Harry Allen Station shall follow all guidelines and instructions presented in this subpart while maintaining its allowance account.

Subpart D – Allowance Transfers

Discussion: When an allowance transfer is necessary, Harry Allen Station shall follow all procedures in this subpart.

Subpart E – Auctions, Direct Sales, and Independent Power Producers Written Guarantee

Discussion: This subpart outlines the auction process for allowance credits.

Subpart F – Energy Conservation and Renewable Energy Reserve

Discussion: There are no qualified conservation measures or renewable energy generation processes at this source; therefore, this subpart does not apply.

40 CFR 75 – CONTINUOUS EMISSION MONITORING

Discussion: Harry Allen Station is subject to the Acid Rain emission limitations of 40 CFR 72; therefore, the source is subject to the monitoring requirements of this regulation.

Each turbine unit has been equipped with both a NO_x CEMS and diluent oxygen monitors. Each turbine unit is also equipped with a fuel flow monitor. Each turbine unit also has a CO CEMS. The data from the CEMS are used to provide quarterly acid rain reports to both EPA and DAQEM.

All required monitoring plans, RATA testing protocols, and certification testing reports have been provided to EPA and DAQEM. CEMS certification testing to include Unit 4 (EU: A09) was completed on June 1, 2006. The CEMS Quality Assurance Plan was submitted to DAQEM on February 21, 2006 and approved on July 17, 2006.

VI. COMPLIANCE

A. Compliance Certification

19.3.3.9 Requirements for compliance certification:

(a) Regardless of the date of issuance of this Part 70 Operating Permit, the schedule for the submittal of reports to the DAQEM shall be as follows:

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, any additional annual records required, and Annual Certification of Compliance
4	Calendar Year	January 30 each year	Annual Compliance Certification Report
4	Calendar Year	March 31 each year	Annual Emission Inventory Report

[1] Each report shall be received by DAQEM on or before the due date listed. If the due date falls on a Saturday, Sunday or a Federal or Nevada holiday, then the submittal is due on the next regularly scheduled business day.

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

B. Compliance Summary

Table V-B-1: AQR Applicable to Harry Allen Station

Citation	Title	Applicability	Applicable Test Method	Compliance Status
AQR Section 0	Definitions	Applicable – Harry Allen Station will comply with all applicable definitions as they apply.	Station will meet all applicable test methods should new definitions apply.	Harry Allen Station complies with applicable requirements.
AQR Section 4	Control Officer	Applicable – The Control Officer or his representative may enter into Harry Allen Station property, with or without prior notice, at any reasonable time for purpose of establishing compliance with permit regulations	Nevada Power Company will allow Control Officer to enter Station property as required.	Harry Allen Station complies with applicable requirements.
AQR Section 11	Ambient Air Quality Standards	Applicable – Harry Allen Station is a source of air pollutants.	Harry Allen Station demonstrated compliance in the ATC permit application with air dispersion modeling.	Harry Allen Station complies with applicable requirements.
AQR Section 12.1	General application requirements for construction of new and modified sources of air pollution	Applicable – Harry Allen Station applied for and the ATC certificate was issued before commencing construction.	Harry Allen Station received the ATC permit to construct.	Harry Allen Station complies with applicable requirements.
AQR Section 12.2.5	Requirements for specific air pollutants: PM_{10} emission source located in the PSD area	Not a Major Source – Harry Allen Station has PM_{10} PTE< 70 TPY. Turbine Units 3 and 4 meet BACT requirements.	The Harry Allen Station Turbine Units 3 and 4 meet BACT requirements by combusting natural gas as a primary fuel.	Harry Allen Station complies with applicable requirements.
AQR Section 12.2.6	Requirements for specific air pollutants: CO sources located in the PSD area	Applicable – Harry Allen Station has CO PTE> 100 TPY.	The Harry Allen Station Turbine Units 3 and 4 meet BACT requirements.	The Harry Allen Station complies with applicable requirements.
AQR Section 12.2.13	Requirements for specific air pollutants: VOC sources located in the PSD area	Not a Major Source – Harry Allen Station has VOC PTE < 50 TPY	The Turbine Units 3 and 4 meets BACT requirements.	The Harry Allen Station complies with applicable requirements.

Citation	Title	Applicability	Applicable Test Method	Compliance Status
AQR Section 12.2.15	Requirements for specific air pollutants: NO_x sources located in the PSD area	Applicable – Harry Allen Station has NO_x PTE> 40 TPY.	The Harry Allen Station Turbine Units 3 and 4 meet BACT requirements. For Unit 3, NO_x control shall be affected by the use of dry low-NO_x combustors. For Unit 4, NO_x control shall be affected by the use of the ultra low NO_x combustors. Turbine Units 3 and 4 combusts only natural gas.	The Harry Allen Station NO_x emissions from the Turbine Unit 3 shall not exceed 9 ppmv (dry, corrected to 15 percent oxygen on a three-hour average). NO_x emissions from Unit 4 shall not exceed 5 ppmv (dry, corrected to 15 percent oxygen) on a one-hour average, during normal operation. The Harry Allen Station complies with applicable requirements.
AQR Section 12.2.16	Requirements for specific air pollutants: SO_2 sources located in the PSD area	Not a Major Source – SO_2 PTE< 40 TPY.	Turbine Units 3 and 4 meet BACT requirements based on the use of pipeline quality natural gas fuel and good combustion practices.	Harry Allen Station complies with applicable requirements. Sulfur content of natural gas combusted in Turbine Units 3 and 4 will not exceed 0.5 grains per one hundred standard cubic feet. Harry Allen Station complies with applicable requirements.
AQR Section 12.2.19	Requirements for specific air pollutants: TCS sources in Clark County	Not Applicable – Harry Allen Station does not have any NH_3 emissions	Harry Allen Station does not have any NH_3 emissions.	Harry Allen Station complies with applicable requirements.
AQR Section 12.5	Air Quality Models	Applicable – Dispersion modeling performed in ATC permit application in accordance with provisions of 40 CFR 51, Appendix W.	As applicable, if any future dispersion modeling is performed in response to a request for any ATC permit modifications, it will be in accordance with provisions of 40 CFR 51, Appendix W.	Harry Allen Station complies with applicable requirements.

Citation	Title	Applicability	Applicable Test Method	Compliance Status
AQR Section 12.7	Continuous Emission Monitoring Systems	Applicable – The Harry Allen Station has NO_x PTE > 40 TPY and CO PTE> 100 TPY. NO_x and CO CEMS installed on all applicable stacks and meets provisions of 40 CFR 60 and 75. In addition, Turbine Unit 4 total startup/shutdown emissions will be recorded and reported by CEMS.	Harry Allen Station submitted all required protocols/test plans per the issued ATC permit prior to CEMS certification. CEMS certification was approved by DAQEM and EPA CAMD.	Harry Allen Station complies with applicable requirements.
AQR Section 14.1.1 Subpart A	NSPS – General Provisions	Applicable – Harry Allen Station is an affected facility under the regulations. Sec. 14 is locally enforceable; however, the NSPS standards they reference are federally enforceable.	Applicable monitoring, recordkeeping and reporting requirements.	Harry Allen Station complies with applicable requirements.
AQR Section 14.1.13 Subpart Da	NSPS – Standards of Performance for Electric Utility Steam Generating Units	Not Applicable.	Not Applicable.	Not Applicable.
AQR Section 14.1.56 Subpart GG	NSPS – Standards of Performance for Stationary Gas Turbines	Applicable – The Harry Allen Station Turbine Units 3 and 4 are natural gas fired units with heat input greater than 10 MMBtu/hr.	Turbine Units 3 and 4 meet the applicable NO_x emission standard. For Unit 3, NO_x, emissions shall not exceed 9 ppmv (dry, corrected to 15 percent oxygen). For Unit 4, NO_x emissions shall not exceed 5 ppmv (dry, corrected to 15 percent oxygen). NO_x emissions determined by EPA Method 7E.	Harry Allen Station complies with applicable requirements.

Citation	Title	Applicability	Applicable Test Method	Compliance Status
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.	Harry Allen Station applied for and received operating permit from DAQEM prior to commercial operation.	Harry Allen Station complies with applicable requirements.
AQR Section 18	Permit and Technical Service Fees	Applicable – Harry Allen Station will be required to pay all required/applicable permit and technical service fees.	Harry Allen Station is required to pay all required/applicable permit and technical service fees.	Harry Allen Station complies with applicable requirements.
AQR Section 19	40 CFR 70 Operating Permits	Applicable – Harry Allen Station is a major stationary source and under Part 70 the initial Title V permit application will be submitted within 12 months of startup. Renewal applications are due between 6 and 18 months prior to expiration. Revision applications will be submitted within 12 months of commencing operation of the new emission unit. Section 19 is both federally and locally enforceable.	Harry Allen Station submitted the initial Part 70 permit application within 12 months of startup. The renewal application was submitted on February 20, 2007. This is the first business day 18 months prior to the expiration of the Part 70 Operating Permit. The revision application for Unit 4 was submitted prior to April 3. 2007 (within 12 months of commencing operation of Unit 4).	Harry Allen Station complies with applicable requirements.
AQR Section 21	Acid Rain Permits	Applicable – Harry Allen Station is an affected facility. The combustion turbine is an applicable under the Acid Rain Program.	Harry Allen Station submitted required acid rain permit forms/applications.	Harry Allen Station complies with applicable requirements.

Citation	Title	Applicability	Applicable Test Method	Compliance Status
AQR Section 22	Acid Rain Continuous Emission Monitoring	Applicable – Harry Allen Station is an affected facility and is required to meet the requirements for the monitoring, recordkeeping, and reporting of flow rate. SO_2, NO_x, and CO_2 emissions.	Harry Allen Station submitted all required protocols/test plans per ATC permit prior to CEMS certification.	Harry Allen Station complies with applicable requirements.
AQR Section 25	Upset/Breakdown, Malfunctions	Applicable – Any upset, breakdown, emergency condition, or malfunction which causes emissions of regulated air pollutants in excess of any permit limits shall be reported to Control Officer. Section 25.1 is locally and federally enforceable.	Any upset, breakdown, emergency condition, or malfunction in which emissions exceed any permit limit shall be reported to the Control Officer within 1-hour of onset of such event.	The Harry Allen Station currently complies with applicable requirements.
AQR Section 26	Emissions of Visible Air Contaminants	Applicable – Opacity for the Harry Allen Station Turbine Units 3 and 4 must not exceed 20 percent for more than 6 consecutive minutes.	Compliance determined by EPA Method 9.	Harry Allen Station complies with applicable requirements.
AQR Section 27	Particulate Matter from Process Weight Rate	Not Applicable.	Not Applicable.	Not Applicable.
AQR Section 28	Fuel Burning Equipment	Applicable – The PM emission rates for Units 3 and 4 are well below those established based on Section 28 requirements.	Maximum allowable PM emission rate determined from equation in Section 28.	Harry Allen Station complies with applicable requirements.

Citation	Title	Applicability	Applicable Test Method	Compliance Status
AQR Section 29	Sulfur Content of Fuel Oil	Not applicable – Turbine Units 3 and 4 combust only natural gas, therefore this regulation does not apply.	Not applicable.	Not applicable.
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.	Harry Allen Station air contaminant emissions controlled by pollution control devices or good combustion and thus will not cause a nuisance.	Harry Allen Station complies with applicable requirements.
AQR Section 41	Fugitive Dust	Applicable – Harry Allen Station shall take necessary actions to abate fugitive dust from becoming airborne.	Harry Allen Station utilizes appropriate best practices to not allow airborne fugitive dust.	Harry Allen Station complies with applicable requirements.
AQR Section 42	Open Burning	Applicable – In event Harry Allen Station 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.	Harry Allen Station will contact the DAQEM and obtain approval in advance for applicable burning activities as identified in the rule.	Harry Allen Station complies with applicable requirements.
AQR Section 43	Odors in the Ambient Air	Applicable – An odor occurrence is a violation if the Control Officer is able to detect the odor twice within a period of an hour, if the odor causes a nuisance, and if the detection of odors is separated by at least 15 minutes. Section 43 is a local enforceable rule only.	Harry Allen Station is a predominantly natural gas-fired facility and is not expected to cause odors.	Harry Allen Station complies with applicable requirements.
AQR Section 49	Emission Standards for Boilers and Steam Generators Burning Fossil Fuels	Not Applicable – Harry Allen Station does not have any boilers or steam generators.	Not Applicable.	Not Applicable.

Citation	Title	Applicability	Applicable Test Method	Compliance Status
AQR Section 55	Preconstruction review for New or Modified Stationary Sources in the 8-Hour Ozone Nonattainment Area	Applicable – Station is located in Garnet Valley (also known as Apex Valley) and will need to meet the applicable emission control requirements in the event the net emission increase is greater than 40 TPY.	In the event Harry Allen Station undertakes a major modification, the facility will have to apply BACT or LAER control requirements.	Harry Allen Station complies with applicable requirements.
AQR Section 70.4	Emergency Procedures	Applicable – Harry Allen Station submitted an emergency standby plan for reducing or eliminating air pollutant emissions in the Section 16 Operating Permit Application.	Harry Allen Station submitted an emergency standby plan and received the Section 16 Operating Permit.	Harry Allen Station complies with applicable requirements.

Table VI-B-2: Federal Air Quality Regulations Applicable to the Harry Allen Station

<table>
<tr><td>Regulation</td><td>40 CFR 52.21 Prevention of Significant Deterioration</td><td>Compliance Method</td></tr>
<tr><td>Rule Requires</td><td>BACT, AQIA, and Additional impacts analyses.</td><td>Completed NSR ATC 00533 and modifications from 1992 to 2005.</td></tr>
<tr><td></td><td>Turbine Unit 3 BACT for NO_x. DLN combustors and 9 ppm for natural gas. Compliance achieved. Includes BACT for CO, SO_x, PM_{10} and VOCs.
Class I PSD Increment Consumption
<table>
<tr><th>Pollutant</th><th>Ave. Time</th><th>Contributor</th><th>UTME</th><th>UTMN</th><th>Max (g/m^3)</th><th>Sig. (g/m^3)</th></tr>
<tr><td>NO_2</td><td>Annual</td><td>Facility</td><td>773030</td><td>4000950</td><td>0.007</td><td>0.03</td></tr>
<tr><td>PM_{10}</td><td>Annual</td><td>Facility</td><td>773030</td><td>4000950</td><td>0.003</td><td>0.08</td></tr>
<tr><td></td><td>24-Hour</td><td>Facility</td><td>773030</td><td>4000950</td><td>0.05</td><td>0.27</td></tr>
</table>
Class II Increment
<table>
<tr><th>Pollutant</th><th>Ave. time</th><th>Contributor</th><th colspan="2">Location</th><th>Max (g/m^3)</th><th>Sig. (g/m^3)</th></tr>
<tr><td>NO_2</td><td>Annual</td><td>Facility</td><td>688300</td><td>4033700</td><td>0.66</td><td>1</td></tr>
<tr><td>PM_{10}</td><td>Annual</td><td>Facility</td><td>688200</td><td>4033700</td><td>0.19</td><td>50</td></tr>
<tr><td></td><td></td><td>Increment Consumption</td><td>691500</td><td>4033000</td><td>6.02</td><td>17</td></tr>
<tr><td></td><td></td><td>Cumulative</td><td>691500</td><td>4033000</td><td>6.02</td><td>50</td></tr>
<tr><td>PM_{10}</td><td>24-Hour</td><td>Facility</td><td>688136</td><td>4033250</td><td>8.6</td><td>150</td></tr>
<tr><td></td><td></td><td>Increment Consumption</td><td>691500</td><td>4034500</td><td>26.0</td><td>30</td></tr>
<tr><td></td><td></td><td>Cumulative</td><td>691500</td><td>4034500</td><td>26.0</td><td>150</td></tr>
</table>
Turbine Unit 4 BACT for NO_x. Ultra low NO_x combustors and 5 ppm for natural gas. Compliance achieved.
Turbine Unit 4 BACT for CO and VOCs is the use of oxidation catalyst.
Turbine Unit 4 BACT SO_x and PM_{10} is burning only pipeline quality natural gas.</td><td>CEMS
Recordkeeping
Compliance achieved.</td></tr>
</table>

Regulation	40 CFR 52.1470	Compliance
Rule Requires	SIP Rules: Applicable-Harry Allen Station is classified as a Title V source, and SIP rules apply	In compliance with applicable state SIP requirements including monitoring and recordkeeping of emissions data.
Regulation	40 CFR 64 Compliance Assurance Monitoring	Compliance Method
Rule Requires	Requires a CAM Plan for each affected emission unit and controlled pollutant above specified threshold. The CAM Plan specifies the parameters to be monitored, the performance indicators to assure the control device is operating properly, and the corrective action to be taken should the operating conditions drift beyond the stated performance range. The only emissions units that emit pollutants above the major source threshold are emission units 53301 – Turbine Unit 3 and A09 – Turbine Unit 4; therefore, CAM does not apply for all other emission units included in this Part 70 Operating Permit. CAM does not apply to Turbine Unit 3 because a control device (as defined in 40 CFR 64) is not used for any pollutant. Turbine Unit 4 is exempt from the CAM Rule for NO_x and CO based on the exemption at 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 40 CFR 60 and 75 compliance. The CAM Rule does not apply to this unit for SO_x, PM_{10}, or HAPs based on the applicability statement at 40 CFR 64.2(a)(2). No control device is used to achieve compliance for any of these pollutants. The CAM Rule does not apply to this unit for VOC based on the applicability statement at 40 CFR 64.2(a)(3). The unit does not have potential pre-control device VOC emissions that are equal to or greater than the major source threshold. This unit is also exempt from the CAM Rule for NO_x and SO_x based on the exemption at 40 CFR 64.2(b)(1)(iii) for Acid Rain Program Requirements.	Not Applicable.
Regulation	40 CFR 68 Risk Management Program	Compliance Method
Rule Requires	Requires an RMP plan for each listed chemical stored and/or handled in quantities greater than the applicable threshold	Not applicable
Regulation	40 CFR 63 Emission Standards for Hazardous Air Pollutants	Compliance Method
Rule Requires	MACT standards for source categories and for sources emitting greater than 10 tpy of any one listed HAP or an aggregate of HAPS greater than 25 tpy.	Not applicable. Harry Allen Station has a HAPS limit at 7.87 tpy for facility. No single HAP greater than 10 tpy.

Regulation	New Source Performance Standards 40 CFR 60 Subpart A and AQR Section 14	Compliance Method
Rules Requires	Notification of: construction, anticipated date of initial startup, actual date of initial startup, and any physical change or operational change. [60.7(a)]	Reporting
	Maintaining records of any startup, shutdown, or malfunction. [60.7(b)]	
	Reporting of excess emissions and monitoring system performance. [60.7(c, d)]	
	Frequency of reporting can be reduced from quarterly to semiannual depending on the conditions met. [60.7(e)]	Recordkeeping
	Performance test and reporting of results shall be within 60 days of achieving maximum production and no later than 180 days start up. [60.8(a)]	Reporting
	Testing shall be conducted in accordance with applicable subpart under conditions specified by the Administrator. [60.8(b, c)]	
	Provide Administrator at least 30 days prior notice of performance test. [60.8(d)]	Performance testing
	Provide for performance testing facilities. [60.8(e)]	CEMS
	Each performance test shall consist of three separate runs. [60.8(f)]	In compliance
	Compliance with the applicable opacity standard shall be conducted in accordance with the provisions of this section. [60.11]	
	Continuous monitoring systems and monitoring devices shall be used in accordance with the provisions of this section, except the provisions for opacity monitoring do not apply. [60.13]	
	General notification and reporting requirements shall be done in accordance with the provisions of this section. [60.19]	

Regulation	40 CFR 60 Subpart GG and AQR Section 14 New Source Performance Standards	Compliance Method
Rule Requires	NO_x emissions shall not exceed 75 ppmvd (@15% O_2), multiplied by an upward correction for fuel bound nitrogen and thermal efficiency. [60.332(a)(1)] SO_2 emissions shall not exceed 150 ppmvd (@15% O_2). [60.333(a)] Fuel burned in the CTG shall not contain sulfur in excess of 0.8% by weight. [60.333(b)] Fuel sulfur and nitrogen contents shall be monitored in accordance with the applicable requirements of this subpart. [60.334(b)] Excess emissions shall be reported in accordance with the applicable requirements of this subpart and 60.7(c). [60.334(c)] Conduct initial performance test. [60.335(b)] Evaluating compliance with the applicable standards shall be based on the methods specified in this subpart. [60.335]	For Unit 3, local requirements limit NO_x emissions to 9 ppmvd. For Unit 4, local requirements limit NO_x emissions to 5 ppmvd. No fuel-bound nitrogen allowance claimed. Initial compliance performance test. Tariff and/or quarterly supplier certification for natural gas. No fuel-bound nitrogen allowance used. Reporting Initial compliance achieved. CEMS and compliance performance testing.
Additional comments	Units 3 and 4 are equipped with BACT that exceeds the NO_x emission control requirements of this subpart. The performance data indicates NO_x emissions do not exceed the applicable standard. The performance test required in 60.8 and computing the emissions was done following startup in accordance with the applicable methods specified in this subpart.	
Regulation	40 CFR 70 Federally Mandated Operating Permits	Compliance Method
Rule Requires	Provisions for issuing federal operating permits for new and modified sources in accordance with 40 CFR 70 (Title V).	
	A Title V application is required to be submitted within one-year of the start of facility operation.	The initial Part 70 requirements were met.
	Renewal applications are due between 6 and 18 months prior to expiration.	In compliance.
	Revision applications are due within 12 months after commencing operation of a new emission unit	In compliance.
Regulation	40 CFR 72 Acid Rain Program	Compliance Method
Rule Requires	Acid Rain Permit, Phase I and Phase II Sulfur dioxide allowances when threshold triggered	Acid Rain Permit required applications and notifications up to date. In compliance

Regulation	40 CFR 73 Acid Rain Program	Compliance Method
Rule Requires	The permittee will obtain SO_2 allowances based on the actual emissions recorded annually by the CEMS.	In compliance
Regulation	40 CFR 75 Continuous Emissions Monitoring	Compliance Method
Rule Requires	Requirements for monitoring, recordkeeping, and reporting of SO_2, NO_x, and CO_2 emissions, and flow rate from affected units under the Acid Rain Program	CEMS for NO_x, CO and O_2, Annual RATA, Quarterly reporting, CEMS QA/QC requirements and plans. In compliance

C. Streamlining Demonstration for Shielding Purposes

Table VI-C-1: 40 CFR 60 Subpart GG Streamlining Demonstration

EU	Regulation (40 CFR)	Regulatory Standard	Permit Limit	Value Comparison (in Units of the Permit Limit)			Averaging Period Comparison			Streamlining Statement for Shielding Purposes
				Standard Value	Permit Limit Value	Is Permit Limit Equal or More Stringent?	Standard Averaging Period	Permit Limit Averaging Period	Is Permit Limit Equal or More Stringent?	
55301 (Turbine Unit 3)	60.332 (GG)	75 ppmvd NO_x @ 15% O_2 (1)	9.0 ppmvd NO_x @ 15% O_2	75 (1)	9.0	Yes	4 hour	3 hour	Yes	The permit limits are more stringent than the standard, based upon both concentration and averaging time. Compliance with the permit demonstrates compliance with the standard.
A09 (Turbine Unit 4)	60.332 (GG)	75 ppmvd NO_x @ 15% O_2 (1)	5.0 ppmvd NO_x @ 15% O_2	75 (1)	5.0	Yes	4 hour	1 hour	Yes	
Natural gas fuel (Turbine Units 3 and4)	60.333 (GG)	0.8% sulfur by weight (8000 ppmw)	0.5 gr/ 100 scf	260 (2)	0.5	Yes	N/A	N/A	Yes	The permit limit is more stringent than the standard. Compliance with the permit demonstrates compliance with the standard.

[1] The 60.332 NO_x standard is a formula; the value used here (75 ppmvd) is the minimum possible value of the standard for any emission unit.

Note: Formulas used:

$EF = C_d * C_f * F_d * 20.9 / (20.9 - \%O_2)$ and $E = EF * HI$

where:

EF = emission rate (lb/MMBtu);

C_d = emission concentration (ppmvd);

C_f for NO_x = 1.194E-07 (lb NO_x/dscf ppm);

F_d = 8,710 dscf/MMBtu, dry basis F factor for O_2 dilution for natural gas;

$\%O_2$ = 15% (the oxygen volume at the stated limit;

E = mass emission rate (lb/hr); and

HI = heat input (MMBtu/hr).

[2] Sulfur content was converted from percent by weight to gr per 100 scf as follows: 0.8% sulfur = 56 gr sulfur per lb natural gas. AP-42 defines natural gas as generally more than 85 percent methane and varying amounts of ethane propane, butane, and inerts (typically nitrogen, carbon dioxide, and helium). Assuming an average molecular weight of 18 lb/lb-mol, 1 lb natural gas = 2.14×10^3 scf. Lastly, 56 gr sulfur per 2.14×10^3 scf natural gas = 260 gr/100 scf.

D. Summary of Monitoring for Compliance

Table VI-D-1: Summary of Monitoring for Compliance

Emission Unit	Process Description	Monitored Pollutants	Applicable Subsection Title	Requirements	Compliance Monitoring
55301 A09	Combustion turbines	CO, NO_x, SO_2, PM_{10}, VOC, HAPs	AQR Sections 12, 19, and 55 40 CFR 60 Subpart GG	Annual and short-term emission limits.	CEMS for NO_x and CO. Stack testing for PM_{10} and VOC by EPA Methods as outlined in Part 70 Operating Permit. Compliance for SO_2 and HAPs shall be based on sole use of natural gas as fuel and emission factors. Recording is required for compliance demonstration.
55301 A09	Combustion turbines	Opacity	AQR Section 26	Less than twenty percent opacity.	Sole use of pipeline quality natural gas as fuel and EPA Method 9 performance testing as outlined in Part 70 Operating Permit.
A07, A08, 53302	Emergency generator	CO, NO_x, SO_2, PM_{10}, VOC, HAPs	AQR Sections 12, 19, and 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.
A07, A08, 53302	Emergency generator	Opacity	AQR Section 26	Less than twenty percent opacity.	Sole use of low-sulfur diesel fuel and quarterly visual emission checks as outlined in Part 70 Operating Permit.
A10	Diesel fire pump	CO, NO_x, SO_2, PM_{10}, VOC, HAPs	AQR Sections 12, 19, and 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.
A10	Diesel fire pump	Opacity	AQR Section 26	Less than twenty percent opacity.	Sole use of low-sulfur diesel fuel and quarterly visual emission checks as outlined in Part 70 Operating Permit.

VII. EMISSION REDUCTION CREDITS (OFFSETS)

The source is subject to offset requirements in accordance with AQR Section 59. Offset requirements and associated mitigation are pollutant-specific.

VIII. ADMINISTRATIVE REQUIREMENTS

AQR 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 CAAA and implementing 40 CFR 70.

Factual:
Harry Allen Station 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 Harry Allen Station will continue to determine compliance through the use of CEMS, performance testing, quarterly reporting, daily recordkeeping, coupled with annual certifications of compliance. DAQEM proceeds with the preliminary decision that a Part 70 Operating Permit should be issued as drafted to Harry Allen Station for a period not to exceed five years.