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air quality desert conservation PROGRAM sustainability

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PART 70 OPERATING PERMIT TECHNICAL SUPPORT DOCUMENT
(STATEMENT of BASIS)

APPLICATION FOR:
Significant Revision

SUBMITTED BY:
Trinity Consultants.

FOR:
NV Energy – Sun Peak Generating Station
Source: 00423

LOCATION:
6360 Vegas Valley Drive
Las Vegas, Nevada 89142

SIC code 4911, "Electric Services"
NAICS code 221112, "Fossil Fuel Electric Power Generation"

Application Received: August 24, 2022

TSD Date: July 18, 2023

EXECUTIVE SUMMARY

NV Energy's Sun Peak Generating Station (Sun Peak) is an electrical power generating station located at 6360 Vegas Valley Drive in Las Vegas, Nevada. The legal description of the source location is as follows: portions of Township 21S, Range 62E, Section 10 in Las Vegas Valley, County of Clark, State of Nevada. The source is situated in Hydrographic Area 212 (Las Vegas Valley). Las Vegas Valley is currently designated attainment for all regulated pollutants except ozone. Hydrographic Area 212 has been designated moderate nonattainment area on January 5, 2023 for the 2015 ozone NAAQS.

Sun Peak is a Title V major stationary source for NO_X; a synthetic minor source for SO_2, and minor for all other pollutants. It is also a major stationary source for GHG emissions. It is also an affected source under the Acid Rain Rules. The generating station operates three GE Frame PG 7111-EA, 84.5 MW stationary turbines in the simple cycle mode, one 81-hp diesel-powered emergency generator, and one 54,064,081-gallon aboveground diesel storage tank. Sun Peak is not a categorical stationary source.

The turbines are subject to the requirements of 40 CFR Part 60, Subparts A and GG, and the facility is subject to 40 CFR Parts 72 and 75, and 40 CFR Part 63, Subpart ZZZZ.

The source potential to emit (PTE) is shown in the table below.

Table 1: Source-wide Potential to Emit

Pollutant	PM_{10}	$PM_{2.5}$	NO_X	CO	SO_2	VOC	HAP	H_2S	Pb	GHG[1]
PTE (Tons/Year)	11.00	11.00	249.42	33.17	49.39	7.26	3.71	0	0	176,237
Major Source Thresholds (Title V)	100	100	100	100	100	100	10/25[2]			
Major Stationary Source Thresholds (PSD)	250	250		250	250		10/25[2]			
Major Stationary Source Threshold (Nonattainment)			100			100				

[1]Expressed as metric tons of CO_2e.
[2]Ten tons for any individual hazardous air pollutant, or 25 tons for the combination of all hazardous air pollutants.

DAQ issued a Title V renewal on November 5, 2020. There have been no equipment or operational changes since the last Part 70 Operating Permit. DAQ received a significant revision application on August 24, 2022. Based on information submitted by the applicant and a technical review performed by DAQ staff, DAQ is issuing a revised Part 70 Operating Permit to Nevada Power Company, dba NV Energy.

DAQ will continue to require permittees to estimate their GHG potential to emit in terms of each individual pollutant (CO_2, CH_4, N_2O, SF_6, etc.), and the TSD includes these PTEs for informational purposes.

DAQ has received delegated authority from the U.S. Environmental Protection Agency to implement the requirements of the Part 70 OP. Based on the information submitted by the applicant, supplemental information provided to the application, and a technical review performed by DAQ staff, the Part 70 OP revision is proposed.

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I. ACRONYMS

Table I-1: List of Acronyms

Acronym	Term
AQR	Clark County Air Quality Regulation
ATC	Authority to Construct
CF	control factor
CFR	Code of Federal Regulations
CO	carbon monoxide
CO_2	carbon dioxide
CO_2e	carbon dioxide equivalent
CD	control device
DAQ	Division of Air Quality
DES	Clark County Department of Environment and Sustainability
DOM	date of manufacture
EF	emissions factor
EPA	U.S. Environmental Protection Agency
EU	emission unit
GHG	greenhouse gas
HA	Hydrographic Area
HAP	hazardous air pollutant
hp	Horsepower
kW	Kilowatts
MMBtu/hr	Million British Thermal Units per Hour
NAAQS	National Ambient Air Quality Standard
NAICS	North American Industry Classification System
NO_X	nitrogen oxide(s)
$PM_{2.5}$	particulate matter less than 2.5 microns in aerodynamic diameter
PM_{10}	particulate matter less than 10 microns in aerodynamic diameter
PSD	prevention of significant deterioration
PTE	potential to emit
RACT	Reasonably Achievable Control Technology
SCC	Source Classification Code
SIC	Standard Industrial Classification
SIP	State Implementation Plan
SO_2	sulfur dioxide
SOP	standard operating procedure
VOC	volatile organic compound

II. SOURCE DESCRIPTION

A. DESCRIPTION OF SOURCE

Sun Peak Generating Station (Sun Peak) is an electrical power generating station located at 6360 Vegas Valley Drive in Las Vegas, Nevada. The source is situated in Hydrographic Area 212 (Las Vegas Valley). Las Vegas Valley is currently designated moderate nonattainment area for the 2015 ozone NAAQS. Sun Peak is a Title V major stationary source for NO_X. The generating station operates three GE Frame PG 7111-EA, 84.5 MW stationary turbines in the simple cycle mode. Natural gas is the primary fuel fired by the turbines though they have the ability to fire diesel fuel. NO_X emissions for EUs: A01 - A03 are controlled by use of a water injection system. Continuous emissions monitoring systems (CEMS) for O_2, NO_X and CO are installed on all turbines.

B. ALTERNATE OPERATING SCENARIO(S)

The turbines are permitted to combust natural gas or #2 diesel oil.

C. PERMITTING HISTORY

This is a significant revision to the Part 70 OP issued on November 5, 2020. The following represents permitting activities prior to this permitting action since the last renewal:

Table II-C-1: Permit History

Issue Date	Description
11/05/2020	Part 70 OP Renewal
12/15/2020	Administrative Revision
11/17/2021	Reopen for Cause
3/10/2022	Prior Notification
8/24/2022	Part 70 OP Significant Revision Application

D. CURRENT PERMITTING ACTION

This is a significant revision to the Part 70 OP. The permittee is requesting the following changes:

Currently the three simple-cycle turbines (EUs: A01 - A03) are limited to 846 MMBtu/hr when firing natural gas and 833 MMBtu/hr when firing #2 diesel oil, which are less than the maximum firing rates of the turbines. Due to current circumstances, NV Energy is focusing attention on the natural gas-fired hourly heat input limit in this permitting action.

As described in TSDs of the previous permitting actions, the 846 MMBtu hourly natural gas heat input limit corresponds to turbine performance at 80°F ambient temperature. As the units are currently capable of reaching a higher hourly heat input rate under various ambient and operating conditions, NV Energy operationally restricts the hourly heat input to the turbines in order to comply with the 846 MMBtu hourly heat input permit limit. The maximum electricity production rate of the units is thereby constrained by an hourly heat input limit that does not correspond to the unit's maximum hourly heat input rate capability.

NV Energy is proposing to replace the hourly heat input limit for the Sun Peak turbines with an annual heat input limit that is based on the current hourly limit of 846 MMBtu/hr multiplied by the permit's annual operating hour limit of 3,484 hours per year when firing natural gas, as shown below:

846 MMBtu/hr * 3,484 hr/yr = 2,947,464 MMBtu/yr per turbine.

Following implementation of the project, NV Energy may fire the turbines at an hourly heat input rate higher than 846 MMBtu/hr under certain ambient and operating conditions. However, the hourly emission limits for NO_X and CO are not proposed to change because:

- The turbines are equipped with an emission control device for NO_X;
- CO emissions are below permitted levels; and
- Compliance with the emission limits for these pollutants is continually demonstrated through use of a CEMS.

However, as the hourly emission limits listed in the current permit for the non-CEMS pollutants (SO_X, VOC, and PM_{10}) correspond to the heat input rate of 846 MMBtu/hr, NV Energy is therefore seeking to increase the hourly emission limits for these non-CEMS pollutants based on a maximum projected heat input rate of 967 MMBtu/hr (LHV) for natural gas fuel. The lb/MMBtu emission factors for these non-CEMS pollutants will remain constant before and after the project.

The increased hourly heat input rate of the turbines can be accomplished with no physical modification to the turbine, but rather with a change in the method of operation. The 967 MMBtu/hr maximum turbine heat input value is based on data from the original manufacturer's Gas Turbine Service Manual for these turbines operating at peak power and 25 °F compressor inlet temperature.

The annual emission limits for SO_X, VOC, and PM_{10} will be increased proportionally as well in order to maintain consistency with CCAQR Section 12.9 Emission Inventory requirements. Thus, annual emission permit limits will be calculated based on the new lb/hr emission limits and 3,484 hours of operation. Emission inventory reports will be based on the new lb/hr emission limits and the actual hours of operation during the year.

NV Energy is not proposing any changes to the #2 diesel fuel combustion in the turbines. Therefore, the source-wide PTEs which were based on the worst case operating scenario are not affected.

In addition to changes proposed by the applicant, DAQ made the following changes:

a. Updating emergency engine language.

b. Inserting language about diesel fuel sulfur content.

III. EMISSIONS INFORMATION

A. EMISSION UNITS LIST

Table III-A-1 lists the emission units covered by this Part 70 OP. There are no changes to the EU list based on this revision.

Table III-A-1: Summary of Emission Units

EU	Description	Rating	Make	Model #	SCC
A01	Gas-Fired Turbine (#3); Simple Cycle; natural gas fired; MEQ = 11.20	84.5 MW	General Electric	PG7111-EA	20100201
	Gas-Fired Turbine (#3); Simple Cycle; #2 diesel oil fired; MEQ = 7.05				
A02	Gas-Fired Turbine (#4); Simple Cycle; natural gas fired; MEQ = 11.20	84.5 MW	General Electric	PG7111-EA	20100201
	Gas-Fired Turbine (#4); Simple Cycle; #2 diesel oil fired; MEQ = 7.05				
A03	Gas-Fired Turbine (#5); Simple Cycle; natural gas fired; MEQ = 11.20	84.5 MW	General Electric	PG7111-EA	20100201
	Gas-Fired Turbine (#5); Simple Cycle; #2 diesel oil fired; MEQ = 7.05				
B01	Emergency Genset	50 kW	Taylor Power	P60DS S/N: 10039	20300101
	Diesel Engine; DOM: 1991	81 hp	Perkins	T4.236 S/N: U414484U	
T01	Diesel Tank, AST	5,064,081-gallon capacity	Chicago Bridge and Iron Co.		30600802

The following units or activities listed in in Table III-A-2 are present at this source, but are deemed insignificant. There are no changes to the insignificant activities list based on this revision.

Table III-A-2: Insignificant Activities

Description
Mobile Combustion Sources
Station Maintenance Activities
Genset Diesel Tank, AST, 55 gallons
Maintenance Shop Activities (parts washers, sand blasters, etc.)
Steam Cleaning Operations
3 Lube Oil Vents and Sumps

B. SOURCE-WIDE PTE

The annual and hourly emissions of SO_X, VOC, and PM_{10} when combusting natural gas have been revised with this permitting action. However, the source-wide PTE will not be changed because it was based on the worst operating scenario between natural gas and #2 diesel fuel combustion.

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

Pollutant	PM_{10}	$PM_{2.5}$	NO_X	CO	SO_2	VOC	HAP	H_2S	Pb	GHG[1]
Tons/Year	11.00	11.00	249.42	33.17	49.39	7.26	3.71	0	0	176,237

[1]Expressed as metric tons of CO_2e.

C. EMISSIONS CALCULATIONS

The applicability PTE was not affected by this permitting action. Sun Peak remains a Title V major stationary source for NO_X, a synthetic minor source for SO_2, and minor for all other pollutants.

The following table summarizes the PTE of individual EUs after the project.

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

EU	Condition	PM_{10}	$PM_{2.5}$	NO_X	CO	SO_2	VOC	HAP	H_2S	Pb
A01	3,484 hrs/yr (Natural Gas)	9.96[1]	9.96[1]	249.11[1]	33.10[1]	1.02[1]	3.59[1]	0.35[1]	0[1]	0[1]
A02										
A03										
A01	2,194 hrs/yr (Diesel)	10.98[2]	10.98[2]	249.02[2]	20.85[2]	49.37[2]	4.94[2]	3.55[2]	0[2]	0[2]
A02										
A03										
B01	250 hrs/yr	0.02	0.02	0.32	0.07	0.02	0.03	0.01	0	0
T01	50,400,000 gal/yr	0.00	0.00	0.00	0.00	0.00	2.29	0.15	0	0

[1] Emission limits are based on 3,484 hours per any consecutive 12-month period for all three turbine units combined using natural gas.
[2] Emission limits are based on 2,194 hours per any consecutive 12-month period for all three turbine units combined.

1. Project Emissions Increase (PEI) Analysis

A PSD program evaluation is not required to be completed as the facility is an existing PSD minor source and the facility's NO_X PTE will not increase as a result of the project (all other pollutants are below the PSD major source threshold). The facility is a NNSR major source for NO_X and has analyzed the NO_X emissions increase on an actual-to-projected actual emissions basis as described in CCAQR Rule 12.3.1.4(d) for existing units.

Baseline Actual Emissions (BAE)

The baseline actual emissions (BAE) are defined in CCAQR Section 12.3.2(b)(2), for any existing emission unit that is not an electric utility steam generating unit, as the average rate in tons per year at which the unit actually emitted the pollutant during any consecutive 24-month period selected within the 10-year baseline period immediately preceding the beginning of construction of the project.

The assumptions and data used in the calculation of the BAE are listed below:

Hourly plant data from August 1, 2012, to December 1, 2021, was used to determine the turbine's monthly heat input as well as the monthly NO_X emissions.

- NO_X emissions are based on hourly Continuous Emissions Monitoring System (CEMS) data from August 2012 to December 2021.
- The CEMS data was summed to determine the 24-month rolling emissions.
- The monthly emissions were summed for each consecutive 24-month period to determine the baseline period.

Projected Actual Emissions (PAE)

The next step in evaluating the proposed project is to calculate the projected actual emissions (PAE). The PAE is defined in CCAQR Section 12.3.2(z) as the maximum annual rate at which an existing emission unit is projected to emit a NNSR pollutant in any one of the 5 years following the date the unit resumes regular operation after the project or in the following 10 years following that date, if the project involves increasing the emission unit's design capacity or its PTE of that NNSR pollutant, and full utilization of the unit would result in a significant emissions increase or a significant net emissions increase at the major stationary source.

The assumptions and data used in the calculation of the PAE are listed below:

- The projected fuel use data is estimated using energy production and fuel use projections from NV Energy's resource planning software (877,282 MMBtu/yr total for all three turbines).
- This value is then used to estimate PAE.

For NO_X, the lb/MMBtu emission factor used in the PAE calculation is derived from current permit limits.

- Specifically, the factor is determined by:
  - Multiplying the PTE in tons/year contained in Table III-C-1 of the Permit (249.11 tpy NO_X)
  - by 2,000 pounds per ton; then
  - Dividing by the hours of operation (3,484 hr/yr per Condition III-C.2.d of the Permit); and
  - Dividing by the max heat input (846 MMBtu/hr per Condition III-C.2.a of the Permit).
- The NO_X emission factor is multiplied by the projected actual heat input to determine the PAE.
- This NOx emission factor derived from the current hourly and annual permit limits is a conservatively high estimate, because it is basing pounds of emissions on 846 MMBtu/hr rather than the proposed value of 967 MMBtu/hr, and the operation of the turbine is not expected to operate continuously at the permit limits.

NV Energy did not include an evaluation of "could have accommodated" (CHA) emissions in this analysis as allowed by CCAQR Section 12.3.2(z)(l)(D), since the change in actual emissions was below the SER.

Table III-C-2: Summary of the Project Emissions Increase (PEI) EUs A01, A02 and A03

Pollutant	PAE (tpy)	BAE (tpy)	Emission Increase[1] (tpy)	PTE[2] (tpy)	Significant Emission Rate[3] (tpy)	NNSR Triggered?
NO_X	74.15	76.13	0	249.11	40	No

1. The project emissions increases are calculated by subtracting BAE from PAE for each affected PSD or NNSR pollutant associated with the project. Negative values are rounded to zero to reflect that the project is not expected to result in creditable emission reductions.
2. EU A01 (Unit 3), A02 (Unit 4), and A03 (Unit 5) PTE is determined from the Part 70 Operating Permit.
3. SER as defined in AQR 12.3.2(dd).

2. Potential to Emit (PTE)

NV Energy is proposing to use its existing hourly and annual permit limits to limit PTE for NO_X and CO emissions from the project. Therefore, there will be no increase in annual facility PTE for NO_X and CO as a result of the project.

The project will require increases in the hourly and annual emission limits for pollutants not monitored by a CEMS (VOC, PM_{10}, $PM_{2.5}$, and SO_X). NV Energy is proposing to increase these hourly and annual emission limits by an amount that is proportional to the increase in maximum hourly turbine firing rate (967/846 MMBtu/hr = 1.143). Therefore, the lb/MMBtu emission factors for these non-CEMS pollutants will remain the same before and after the project. A summary of proposed hourly and annual emission limit increases is included in Table III-C-3 below. Hourly emissions presented are per emission unit while annual emissions presented are a total of the three turbines (EUs A01, A02 and A03).

Table III-C-3: Summary of the Projected Emissions Increase (PEI) for EUs A01, A02 and A03

Pollutant	Current Permit Limit (lb/hr)	Proposed Permit Limit (lb/hr)	Emission Increase (lb/hr)	Current Permit Limit (tpy)	Proposed Permit Limit (tpy)	Emission Increase (tpy)
PM_{10}	5.00	5.72	0.72	8.71	9.96	1.25
$PM_{2.5}$	5.00	5.72	0.72	8.71	9.96	1.25
NO_X	143.00	143.00	0	249.11	249.11	0
CO	19.00	19.00	0	33.10	33.10	0
SO_2	0.51	0.58	0.07	0.89	1.02	0.13
VOC	1.80	2.06	0.26	3.14	3.59	0.45

Table III-C-4: Emissions Increase Calculation and Significance Evaluation (tons per year)

	PM_{10}	$PM_{2.5}$	NO_X	CO	SO_2	VOCs	HAPs
Emissions Increase of Modified Units (EUs: A01-A03)	1.25	1.25	0	0	0.13	0.45	0.05
AQR 12.4.2.1(d) Significant levels	7.5	5.00	20	50	20	20	-
Significant Levels AQR 12.2.2(uu)/12.3.2(dd)	15	10	40	100	40	40	-
Emissions > AQR 12.4.2.1(d) Significant levels	**No**	**No**	**No**	**No**	**No**	**No**	**No**
Emissions > AQR 12.2.2(uu) Significant Levels	**No**	**No**	**No**	**No**	**No**	**No**	**No**

The emission increase for any pollutant did not exceed any significant levels. Therefore, a control technology analysis is not triggered under AQR 12.4.

D. OPERATIONAL LIMITS

All previous operational limits for turbines (EUs: A01, A02, and A03) remain in effect except the following that were changed with this permitting action:

The heat input for each stationary gas turbine, based on the LHV of the fuel, is limited to 2,947,464 MMBtu per year for natural gas and 833 MMBtu per hour for #2 diesel oil (EUs: A01, A02, and A03).

The emergency generator operation limit condition was changed to match the current regulatory language (40 CFR Part 63.6640).

E. CONTROL TECHNOLOGY

All previous control equipment and measures for turbines (EUs: A01, A02, and A03), emergency generator (EU: B01) and the diesel tank (EU: T01) remain in effect. No new control conditions have been added with this revision.

F. MONITORING

All monitoring requirements from the last permit remain in effect. No new monitoring conditions have been added with this revision.

CAM applicability, CAM Units, CAM methodology

The Compliance Assurance Monitoring (CAM) program is codified in 40 CFR Part 64. CAM requirements apply to any pollutant specific emissions unit with uncontrolled potential emissions above the major source threshold (100 tons/year) that uses a control device to achieve compliance with an emission limitation or standard.

This project will not trigger CAM applicability under the provisions of 40 CFR Part 64 at Sun Peak. As previously demonstrated, the CAM Rule is not applicable to any pollutants for the emission units at the facility due to the lack of control devices, except for NO_X for the combustion turbines. NO_X emissions are controlled by water injection which is exempt due to the presence of Part 70 permit required CEMS. Therefore, none of the emission units at SUN Peak is subject to CAM.

G. PERFORMANCE TESTING

The previous permit required performance testing for PM_{10}, VOC and opacity when combusting fuel oil. Additional initial performance testing requirements have been added for PM_{10} and VOC. This initial test requirements have been added for because the proposed revision of the permit increased the PTE of $PM_{10}/PM_{2.5}$ and VOCs.

IV. REGULATORY REVIEW

A. LOCAL REGULATORY REQUIREMENTS

DAQ has determined that the following public laws, statutes, and associated regulations are applicable:

- AQR 12.4, "Authority to Construct Application and Permit Requirements for Part 70 sources"
- AQR 12.5, "Part 70 Operating Permit Requirements"
- AQR 26, "Emission of Visible Air Contaminants"
- AQR 40, "Prohibitions of Nuisance"
- AQR 43, "Odors in the Ambient Air"
- AQR 70, "Emergency Procedures"
- AQR 80, "Circumvention"
- AQR 92, "Fugitive Dust From Unpaved Parking Lots and Storage Areas"
- AQR 94, "Permitting and Dust Control for Construction Activities"

B. FEDERALLY APPLICABLE REGULATIONS

Prevention of Significant Deterioration.

The facility is located in Las Vegas Valley, which is currently designated attainment for all regulated pollutants except ozone. Hydrographic Area 212 has been designated moderate nonattainment area on January 5, 2023, for the 2015 ozone NAAQS.

Nonattainment New Source Review.

Permitting requirements under CCAQR Section 12.3 are triggered if a facility proposes a major modification to an existing major stationary source for a NSR pollutant designated as nonattainment or upon construction of a new project which itself exceeds major stationary source thresholds, for each nonattainment pollutant. The facility is located in Hydrographic Area 212 which is designated as moderate nonattainment for the 2015 8-hour ozone standard.

CCAQR Section 12.3.1.6 includes requirements for projects that (1) are not part of a major modification, (2) may result in a significant emissions increase, and (3) the source used the actual-to-projected-actual test for determining major modification applicability. NV Energy will comply with the requirements of this section, including Section 12.3.1.6(c) and (e). NV Energy will monitor and record emissions and submit the required reports, if necessary.

New Source Performance Standards

NSPS require new, modified, or reconstructed sources to control emissions to the level achievable by the best demonstrated technology as specified in the applicable provisions. Moreover, any source subject to an NSPS is also subject to the general provisions of NSPS Subpart A, unless specifically excluded.

NSPS Subpart A — General Provisions

All affected sources subject to source-specific NSPS are subject to the general provisions of NSPS Subpart A unless specifically excluded by the source-specific NSPS. Subpart A requires initial notification, performance testing, recordkeeping and monitoring, provides reference methods, and mandates general control device requirements for all other subparts as applicable.

NSPS Subpart GG — Stationary Gas turbines

NSPS Subpart GG applies to all stationary gas turbines with a heat input at peak load equal to or greater than 10 MMBtu/hr based on the lower heating value of the fuel fired. The subpart applies to units for which construction, reconstruction, or modification commenced after October 3, 1977. EUs A0l-A03 were constructed after October 3, 1977, and as a result are subject to the requirements of NSPS Subpart GG. NV Energy will continue to comply with the requirements of NSPS Subpart GG and there are no new requirements as a result of the project, NV Energy expects continued compliance with NSPS Subpart GG post-project.

NSPS Subpart KKKK – Stationary Combustion Turbines

NSPS Subpart KKKK is applicable to stationary combustion turbines with a heat input greater than or equal to 10 MMBtu/hr (based on higher heating value of the fuel) that commenced construction, modification, or reconstruction after February 18, 2005. The three simple cycle turbines, EUs A0l – A03, were constructed prior to February 18, 2005, and as discussed in this TSD will not undergo an NSPS modification as part of the project.

Per 40 CFR 60.14, a modification is defined as: "any physical or operational change to an existing facility which results in an increase in the emission rate to the atmosphere of any pollutant to which a standard applies. Upon modification, an existing facility shall become an affected facility for each-pollutant to which a standard applies and for which there is an increase in the emission rate to the atmosphere." A physical change or change in the method of operation may meet the definition of modification only if that change also increases the hourly emissions of any pollutant.

However, per 40 CFR 60,14(e)(2), "an increase in production rate of an existing facility, if that increase can be accomplished without a capital expenditure on that facility" is not considered as a modification. Since the facility currently restricts the fuel usage on the turbines to meet the hourly heat input requirements of the permit, any actual increase in hourly heat input as a result of the project can be achieved without a capital expenditure at the facility and therefore does not result in an NSPS modification. Consequently, the turbines will not become an affected facility subject to the requirements of NSPS Subpart KKKK following the project.

NSPS Subpart TTTT —Greenhouse Gas Emissions for Electric Generating Units

NSPS Subpart TTTT is applicable to any steam generating: unit, integrated gasification combined cycle facility (IGGC), or stationary combustion turbine that: commences construction after January 8, 2014, or any steam generating unit or IGCC that commences modification after June 18, 2014, with a base load rating greater than 250 MMBtu/hr of fossil fuels and serves a generator capable of selling greater than 25 MW of electricity. The simple-cycle turbines were constructed before January 8, 2014, and since these turbines are not "steam generating units" or "IGCCs" they are not subject to the modification applicability date. Consequently, EUs A0l - A03 will not become subject to the requirements of NSPS Subpart TTTT following the project.

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

The emergency generator (EU: B01) is manufactured in 1991 and therefore, the generator is not subject to Subpart IIII.

National Emission Standards for Hazardous Air Pollutants

NESHAP are emission standards for HAP and are applicable to major and area sources of HAP. A HAP major source is defined as having potential emissions in excess of 25 tpy for total HAP and/or potential emissions in excess of 10 tpy for any individual HAP. An area source is a stationary source that is not a major source. The facility is an area source of HAP.

NESHAP Subpart A - General Provisions

Any source subject to a NESHAP is also subject to the general provisions of NESHAP Subpart A, unless specifically excluded. Subpart A requires initial notification and performance testing, recordkeeping, monitoring, provides reference methods, and mandates general control device requirements for all other subparts as applicable.

NESHAP Subpart YYYY — Stationary Combustion Turbines

NESHAP Subpart YYYY applies to stationary combustion turbines located at sources that are major sources of HAP emissions. Since the facility is an area source of HAP, the combustion turbines at the facility are not subject to NESHAP Subpart YYYY.

NESHAP Subpart ZZZZ—NESHAP for Stationary Reciprocating Internal Combustion Engines

This subpart is applicable to owners and operators of stationary reciprocating internal combustion engines (RICE) at major or area sources of HAP. Sun Peak is an area source of HAPs that operates an emergency engine (EU: B01). This unit is an industrial unit and is subject to the maintenance requirements in this subpart. As long as the emergency unit continues to operate as defined, there are no emission standards for this engine.

40 CFR Parts 72, 73, and 75 – Acid Rain

The source is an existing acid rain applicable source (Part 72) and therefore, subject to acid rain allowance for SO_2 (Part 73) and continues emissions Monitoring requirements (Part 75). No new requirements have been triggered with this project.

V. COMPLIANCE

A. COMPLIANCE HISTORY

Based on the partial compliance evaluation (PCE) dated September 7, 2022, no deficiencies, no permit deviations, and no other major issues were observed during the evaluation. No enforcement action is pending. The permittee submitted an annual compliance evaluation on January 9, 2023, and DAQ is currently reviewing it.

B. COMPLIANCE CERTIFICATION

Records shall be kept for all limitations specified in the permit.

Requirements for reporting remain the same as prior Part 70 OPs or ATCs.

VI. EMISSION REDUCTION CREDITS (OFFSETS)

The source has no federal offset requirements. *[AQR 12.7]*

VII. MODELING

A. INCREMENT ANALYSIS

DAQ modeled the source using AERMOD to track the increment consumption. Stack data submitted by the applicant were supplemented with information available for similar emission units. Five years (2011 to 2015) of meteorological data from the McCarran Station were used in the model. U.S. Geological Survey National Elevation Dataset terrain data were used to calculate elevations. Table VII-A-1 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.

Table VII-A-1: PSD Increment Consumption

Pollutant	Averaging Period	Source's PSD Increment Consumption (µg/m^3)	Location of Maximum Impact	
			UTM X (m)	UTM Y (m)
SO_2	3-hour	13.62[1]	676700	4001600
SO_2	24-hour	4.76[1]	677100	4001800
SO_2	Annual	1.63	676548	4001353
NO_X	Annual	0.68	676548	4001353

[1] Highest Second High Concentration.

B. PRECONSTRUCTION MODELING

No preconstruction monitoring or modeling is required with the proposed project.

VIII. ENVIRONMENTAL JUSTICE

The Sun Peak Generating Station is located in Las Vegas hydrographic area 212. The nearest residences are located just outside the facility boundary. However, the emission increase from the proposed modification of the source is below any significant levels. Therefore, an EJ Screen analysis was not performed for this project.

IX. PERMIT SHIELD

The source has requested a permit shield for applicable requirements under 40 CFR Subpart GG.

X. STREAMLINING

Table X-1: Streamlined Requirements Related to Permit Shield (Natural Gas-Fired)

Regulation (40 CFR)	Pollutant	Regulatory Standard	Permit Limit	Value Comparison			Averaging Comparison			Shield Statement
				Std Value in Units of Permit Limit	Permit Limit Value	Permit Limit Equal or More Stringent	Std Averaging Period	Permit Limit Averaging Period	Permit Limit Equal or More Stringent	
Turbine Units (Natural Gas)										
60.333 (GG)	SO_2	0.015% by volume @15% O_2	0.58 lbs/hr	650[1]	0.58	Yes	4 hour	1 hour	Yes	Permit limit more stringent than standard, because of a prior controls analysis based on both concentration and averaging time.; Therefore, facility should be shielded from standard.

[1]Heat input used to calculate SO_2 standard value (in units of the permit limit) is the maximum capacity of 967 MMBtu/hr.

Table X-2: Streamlined Requirements Related to Permit Shield (#2 Diesel Oil-Fired)

Regulation (40 CFR)	Pollutant	Regulatory Standard	Permit Limit	Value Comparison			Averaging Comparison			Shield Statement
				Standard Value, in Units of the Permit Limit	Permit Limit Value	Is the Permit Limit Equal or More Stringent	Std Averaging Period	Permit Limit Averaging Period	Is the Permit Limit Equal or More Stringent	
Turbines (#2 Diesel Oil)										
60.333 (GG)	SO_2	0.015% by volume @15% O_2	45.0 lbs/hr	650[1]	45.0	Yes	4 hour	1 hour	Yes	The permit limit is more stringent than the standard, because of a prior controls analysis, based on both concentration and averaging time. Therefore, the facility should be shielded from the standard.
AQR 28	PM	0.216 lb/MMBtu[2]	10.0 lbs/hr	179.71	10.0	Yes	1 hour	1 hour	Yes	The permit limit is more stringent than the standard, because of a prior controls analysis, based on both concentration and averaging time. Therefore, the facility should be shielded from the standard.

[1]Heat input used to calculate SO_2 standard value (in units of the permit limit) is the maximum capacity of 833 MMBtu/hr.
[2]Based on AQR 28.2.2 equation $Y=1.02*X^{-0.231}$, where Y = allowable rate of EMISSION in pounds per million BTU and X = maximum heat input in millions of BTU per hour.

XI. PUBLIC PARTICIPATION

Under AQR 12.5.2.17, the public participation requirement is triggered for OP significant revision.

XII. ATTACHMENTS

Emission Unit PTE (tons per year)

EU	Condition	PM_{10}	$PM_{2.5}$	NO_x	CO	SO_2	VOC	HAP
A01-A03	Natural Gas	9.96	9.96	249.11	33.10	1.01	3.59	0.35
A01-A03	Diesel	10.97	10.97	249.02	20.84	49.37	4.94	3.55
B01	250 hrs/yr	0.02	0.02	0.32	0.07	0.02	0.03	0.01
T01	50,400,000 gal/yr	0	0	0	0	0	2.29	0.15

Source PTE (tons per year)

EU	Condition	PM_{10}	$PM_{2.5}$	NO_x	CO	SO_2	VOC	HAP
A01-A03	Highest from Gas/Diesel	10.97	10.97	249.11	33.10	49.37	4.94	3.55
B01	250 hrs/yr	0.02	0.02	0.32	0.07	0.02	0.03	0.01
T01	50,400,000 gal/yr	0	0	0	0	0	2.29	0.15
Source Totals		**10.99**	**10.99**	**249.43**	**33.17**	**49.39**	**7.26**	**3.71**