DES
DEPARTMENT OF ENVIRONMENT AND SUSTAINABILITY
air quality desert conservation PROGRAM sustainability

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

APPLICATION FOR:
Part 70 Operation Permit Renewal

SUBMITTED BY:
Broadbent & Associates, Inc.

FOR:
Saguaro Power Company LP
Source: 00393

LOCATION:
435 Fourth Street
Henderson, Nevada 89015

SIC code 4931, "Electric and Other Services Combined"
NAICS code 221112, "Fossil Fuel Electric Power Generation"

Application Received: January 30, 2025

TSD Date: December 4, 2025

EXECUTIVE SUMMARY

Saguaro Power Company LP (Saguaro) is an electricity and steam generating operation located in the Las Vegas Valley (Hydrographic Area 212), which is currently designated as an attainment area for all regulated air pollutants except ozone. Hydrographic Area 212 was designated a moderate nonattainment area for ozone on January 5, 2023. The designation did not impose any new requirements at that time. Hydrographic Area 212 was designated a serious nonattainment area for ozone on January 21, 2025. Clark County has drafted or imposed new requirements to address this designation. The source is a categorical source as defined in AQR 12.2.2(j) under AQR 12.2.2(j)(1): Fossil fuel-fired steam electric plants of more than 250 million Btu per hour heat input. Therefore, fugitive emissions are included in the source status determination.

Saguaro is a major stationary source for NO_x, and a minor source for PM_{10}, $PM_{2.5}$, CO, SO_2, VOCs, and HAPs. The source is also a source of greenhouse gases (GHG).

The source consists of two 35-MW natural gas combined cycle combustion turbine generators (CTGs); two diesel starter engines; four 25 MMBtu/hr supplemental-firing duct burners; and a three-cell cooling tower. The source also includes a 29.1 MW extraction/condensing steam turbine generator system and an ammonia storage and injection system designated as insignificant activities.

The source is subject to 40 CFR Part 60, Subpart GG; 40 CFR Part 63, Subpart ZZZZ; and 40 CFR Parts 72, 73, 75, and 77.

The following table summarizes the source potential to emit for each regulated air pollutant from all emission units addressed by this Part 70 Operating Permit:

Table 1: Emission Units PTE Summary (TPY)

Pollutant	PM_{10}	$PM_{2.5}$	NO_X	CO	SO_2	VOC	HAPs[1]	GHG[2]
Source PTE	24.29	23.39	135.18	79.28	2.38	8.22	4.04	415,988
Major Stationary Source Thresholds (Categorical)	100	100	100	100	100	100	10/25[1]	-
Major Stationary Source Threshold (Nonattainment)	-	-	50	-	-	50	-	-

[1]Ten tons for any individual HAP or 25 tons for the combination of all HAPs.
[2]Metric tons per year of CO_2e.

DAQ will continue to require the sources to estimate their GHG potential to emit in terms of each individual pollutant (CO_2, CH_4, N_2O, SF_6 etc). 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 renewal to Saguaro 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
BLM	Bureau of Land Management
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
g/dscm	gram per dry standard cubic meter
gr/dscf	grains per dry standard cubic feet
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

Acronym	Term
TDS	Total Dissolved Solids
TPH	tons per hour
UTM	Universal Transverse Mercator
VOC	volatile organic compound

II. SOURCE DESCRIPTION

A. PROCESS DESCRIPTION

Saguaro operates two natural gas combined cycle combustion turbines (EUs: A01 and A02) each producing up to 35 MW of electric power. Both turbine exhaust systems are equipped with a heat recovery steam generator that uses heat from exhaust gases to produce steam. Supplemental heat is provided for steam generation by natural gas-fired duct burners (EUs: F05, F05a, F06, and F06a). The steam is diverted to turbines for NO_x control and a 29.1 MW steam turbine generator. The steam turbine generator is classified as an insignificant activity. Two 520 hp starter diesel engines (EUs: A03 and A04) turn turbines until the combustion process is self-sustaining. The starter engines are only employed during startups. Saguaro operates a three-celled cooling tower (EUs: A09a – A09c) to maintain process equipment temperatures by circulating water throughout the facility.

B. ALTERNATE OPERATING SCENARIO(S)

None proposed.

C. PERMITTING HISTORY

This is a Part 70 OP for an existing major source. The following represents permitting activities prior to this permitting action since the last renewal:

Table II-C-1: Permit History

Issue Date	Description
1/21/2021	Administrative Revision
11/17/2021	Reopen for Cause
11/10/2022	Prior Notice Form
2/16/2023	Prior Notice Form
9/18/2023	Part 70 OP Significant Revision

D. CURRENT PERMITTING ACTION

This is a renewal of the Part 70 OP. The permittee is requesting the following revisions:

1. Removal of a 21.8 hp water pump engine classified as an insignificant activity.

2. Revision of GHG emissions based on revised global warming potential factors in 40 CFR Part 98.

DAQ has included requirements for Saguaro included in AQR 121, adopted on February 4, 2025. AQR 121 establishes Reasonably Available Control Technology (RACT) requirements for existing major stationary sources of NO_x and/or VOCs as required by Section 182(b)(2) of the CAA under Title 42, Section 7511a of the U.S. Code (42 U.S.C. 75111a).

AQR 121 applies to existing major stationary sources of NO_x as defined in AQR 12.3.2 located in HA 212 that are affected sources that contain affected units, as defined in AQR 121.3, and for which a case-by-case RACT analysis was conducted after EPA reclassified HA 212 to moderate nonattainment status for ozone.

Saguaro is required to comply with major source RACT control, monitoring, testing, recordkeeping, and reporting requirements under AQR 121.9. AQR 121 requirements that were added to the permit in this permitting action are described in the applicable sections in this TSD. DAQ has included citations to applicable AQR 121 requirements for existing permit requirements that satisfy the requirements of AQR 121.

In the Full Compliance Evaluation conducted on July 8, 2025, DAQ staff found that the tags on the cooling tower (EUs: A09a, A09b, and A09c) were observed to read 9,600 gpm versus the 7,666 gpm in previous permits. The rating has been updated in the emission unit descriptions and calculations.

In the AQR 120 Major Source RACT submittal on July 17, 2025, the source requested the removal of two boilers (EUs: A05 and A06) that have been permanently shut down. These units will be removed from the permit and the source is not required to include them in the RACT analysis.

E. EMISSION UNITS LIST

Table II-E-1 lists the emission units covered by this Part 70 OP.

Table II-E-1: Summary of Emission Units

EU	Rating	Description	Manufacturer	Model No.	Serial No.	SCC
A01	35 MW	Combustion Turbine Generator #1 with a fired HRSG	GE	PG6541B	295525	20100201
A02	35 MW	Combustion Turbine Generator #2 with a fired HRSG	GE	PG6541B	295524	20100201
A03	520 hp	Detroit Diesel Starter Engine, Combustion Turbine Generator #1	Detroit	71237300	12VA083956	20300202
A04	520 hp	Detroit Diesel Starter Engine, Combustion Turbine Generator #2	Detroit	71237300	12VA083901	20300202
A09a	9,600 gpm (each)	Cooling Tower, 3 cells	Thermal-Dynamics Towers Inc.	TD-3030-3-2424CF		38500101
A09b						
A09c						
F05	25 MMBtu/hr	Supplemental Duct Burner, Skid #1	John Zink	LDR-11-LE	S82733	20100101
F05a	25 MMBtu/hr	Supplemental Duct Burner, Skid #1	John Zink	LDR-11-LE	S82733	20100101
F06	25 MMBtu/hr	Supplemental Duct Burner, Skid #2	John Zink	LDR-11-LE	S82733	20100101
F06a	25 MMBtu/hr	Supplemental Duct Burner, Skid #2	John Zink	LDR-11-LE	S82733	20100101

The following units or activities listed in Table II-E-2 are present at this source, but are deemed insignificant.

Table II-E-2: Insignificant Activities

Rating	Description
	Facility Maintenance (Painting)
	Sandblaster
	Fuel Oil Transfer Pumps
	Fuel Oil Unloading
	Natural Gas Metering Station
	Natural Gas Coalescing Filters
	Lube Oil System-CTG-01
	Lube Oil System-CTG-02
	Lube Oil System-CTG-03
12,000 gallons	Ammonia Storage/Injection (12,000 gallons)
29.1 MW	Extraction/condensing steam turbine generator system[1]

[1]This unit has been identified as process equipment with no emissions.

III. EMISSIONS INFORMATION

A. SOURCE-WIDE PTE

Saguaro is a Title V source for NO_x and a minor source for all other air pollutants, including greenhouse gases (GHGs).

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

PM_{10}	$PM_{2.5}$	NO_X	CO	SO_2	VOCs	HAPs[1]	GHGs[2]
24.29	23.39	135.18	79.28	2.38	8.22	4.04	415,988

[1]A major source is defined as 10 tons for any individual HAP or 25 tons for combination of all HAPs.
[2]Metric tons per year of CO_2e. GHG = greenhouse gas pollutants.

B. EMISSIONS CALCULATIONS

Applicability

Permitting applicability is determined by calculating the emissions for all proposed emission units using 8,760 hours of operation (except for emergency generators or fire pumps, which use 500 hours), any inherent controls, any inherent throughput limitations, and the emission factors provided by the manufacturer, by source test results, by EPA AP-42, or by other approved methods.

Applicability emissions include emissions from insignificant emission units and activities, but do not include fugitive emissions (except for categorical sources listed in AQR 12.2.2(j) or any other stationary source category that, as of August 7, 1980, is being regulated under Sections 111 or 112 of the Act). This source is a categorical source under AQR 12.2.2(j), so fugitive emissions are included in applicability.

Table III-B-1 summarizes the source applicability emissions.

Table III-B-1: Source Applicability Emissions

EU	Condition	PM_{10}	$PM_{2.5}$	NO_x	CO	SO_2	VOC	HAP
A01	8,760 hr/yr	10.95	10.95	66.58	39.42	1.18	4.03	2.01
A02	8,760 hr/yr	10.95	10.95	66.58	39.42	1.18	4.03	2.01
A03	125 hr/yr	0.07	0.07	1.01	0.22	0.01	0.08	0.01
A04	125 hr/yr	0.07	0.07	1.01	0.22	0.01	0.08	0.01
A09a	8,760 hr/yr	0.75	0.45	0.00	0.00	0.00	0.00	0.00
A09b	8,760 hr/yr	0.75	0.45	0.00	0.00	0.00	0.00	0.00
A09c	8,760 hr/yr	0.75	0.45	0.00	0.00	0.00	0.00	0.00
F05	8,760 hr/yr	Emissions included with A01						
F05a	8,760 hr/yr	Emissions included with A01						
F06	8,760 hr/yr	Emissions included with A02						
F06a	8,760 hr/yr	Emissions included with A02						
IA		0.01	0.01	0	0	0	0	0
IA		0	0	0	0	0	0.01	0
IA		0	0	0	0	0	0.01	0
IA		0	0	0	0	0	0.01	0
IA		0	0	0	0	0	0.05	0
IA		0	0	0	0	0	0.04	0
IA		0	0	0	0	0	0.02	0
IA		0	0	0	0	0	0.02	0
IA		0	0	0	0	0	0.02	0
Applicability Emissions		**24.30**	**23.40**	**135.18**	**79.28**	**2.38**	**8.40**	**4.07**

IA = insignificant activity

PTE

PTE is calculated to include any controls or limits, whether voluntarily proposed by the source or required. PTE does not include insignificant emission units and activities, but does include fugitive emissions.

Table III-B-2 shows the PTE associated with this source. Hourly emission rates used to calculate emission unit PTE and additional emission unit calculations are included as attachments. Startup and shutdown emission rates for the combustion turbines (EUs: A01 and A02), which are used to assess compliance with annual emission limits, are also included as attachments.

Table III-B-2: Source PTE (tons per year)

EU	Condition	PM_{10}	$PM_{2.5}$	NO_x	CO	SO_2	VOC	HAP	GHGs
A01	8,760 hr/yr	10.95	10.95	66.58	39.42	1.18	4.03	2.01	207,982
A02	8,760 hr/yr	10.95	10.95	66.58	39.42	1.18	4.03	2.01	207,982
A03	125 hr/yr	0.07	0.07	1.01	0.22	0.01	0.08	0.01	12
A04	125 hr/yr	0.07	0.07	1.01	0.22	0.01	0.08	0.01	12

EU	Condition	PM_{10}	$PM_{2.5}$	NO_x	CO	SO_2	VOC	HAP	GHGs
A09a	8,760 hr/yr	0.75	0.45	0.00	0.00	0.00	0.00	0.00	0
A09b	8,760 hr/yr	0.75	0.45	0.00	0.00	0.00	0.00	0.00	0
A09c	8,760 hr/yr	0.75	0.45	0.00	0.00	0.00	0.00	0.00	0
F05	8,760 hr/yr	Emissions included with A01							
F05a	8,760 hr/yr	Emissions included with A01							
F06	8,760 hr/yr	Emissions included with A02							
F06a	8,760 hr/yr	Emissions included with A02							
Source PTE		**24.29**	**23.39**	**135.18**	**79.28**	**2.38**	**8.22**	**4.04**	**415,988**

Table III-B-3 shows the change in PTE associated with this permitting action.

Table III-B-3: Emissions Changes Calculation and Significance Evaluation (tons per year)

Affected EU	PM_{10}	$PM_{2.5}$	NO_X	CO	SO_2	VOC	HAP	GHGs
Proposed PTE	24.29	23.39	135.18	79.28	2.38	8.22	4.04	**415,988**
Permitted PTE	31.79	31.07	158.45	90.13	3.10	12.84	9.00	**544,830**
∆ Emissions	-7.50	-7.68	-23.27	-10.85	-0.72	-4.62	-4.96	-128,842
Minor NSR Significance Threshold	**7.5**	**5.0**	**20**	**50**	**20**	**20**	**NA**	**NA**
RACT analysis required	No	No	No	No	No	No	NA	NA

C. RACT ANALYSIS

As shown in Table III-B-3, this permitting action does not include any increases in emissions. Therefore, no RACT or other control analysis is required. Major Source RACT requirements included during this permitting action in accordance with AQR 121 were previously determined based on a RACT analyses conducted by the permittee for affected emission units. The RACT determinations were approved by DAQ and included in AQR 121.

Saguaro submitted a RACT determination on July 17, 2025, to comply with AQR 120 requirements. Only the existing emissions units with a NO_x or VOC PTE greater than 5 tons per year were included in this determination: the turbines and duct burners (EUs: A01, A02, F05, F05a, F06, and F06a). In 2023, Saguaro submitted the RACT determination to comply with the moderate ozone nonattainment designation for HA 212, shown in Table III-C-1. No control technique guidelines or alternative control techniques have been updated since the 2023 determination, therefore existing controls continue to satisfy RACT.

Table III-C-1: NOx Emission RACT

Emission Group	Total NO_X PTE (tpy)[1]	Emissions Limitations (NO_X, ppm)	Control Technology[2]	Determination
Combustion Turbine Generator #1 (EU: A01) and Supplemental Duct Burner Skid #1 (EU: F05 and F05a)	66.58	10 @ 15% O_2	Steam Injection and Selective Catalytic Reduction (SCR)	RACT
Combustion Turbine Generator #2 (EU: A02) and Supplemental Duct Burner Skid #2 (EU: F06 and F06a)	66.58	10 @ 15% O_2	Steam Injection and SCR	RACT

[1]AQR Section 120 RACT analysis submitted by Broadbent and Associates, Inc, July 16, 2025, page 3.
[2]AQR Section 120 RACT analysis submitted by Broadbent and Associates, Inc, July 16, 2025, page 7.

D. OPERATIONAL LIMITS

The permittee has not proposed any changes to the existing operational limits. All existing operational limits remain in effect. Operational limits for the source are summarized below:

Fuel inputs for emission units are limited to the following values listed in Table III-D-1, included in the permit as Table 3-1:

Table III-D-1: Fuel Limitations for Combustion Equipment

EU	Equipment	Fuel Type	Max. Hourly (MMBtu)	Max. Consecutive 12 months (MMBtu)
A01/A02	Each Combustion Turbine[1]	Natural gas	447	3,915,720
F05/F05a F06/F06a	Each Duct Burner	Natural gas	25	219,000

[1]Based upon 8,760 hours at 100% load at 105^0F.

Turbines/Duct Burners

The turbines (EUs: A01 and A02) and duct burners (EUs: F05, F05a, F06, and F06a) are subject to the hourly and consecutive 12-month heat input limitations listed in Table III-C-1.

Turbine (EUs: A01 and A02) startup and shutdown emissions are combined with normal operation emissions for determining compliance with consecutive 12-month emission limits. A startup period is defined as the period of no more than 1 hour immediately following the application of a load. A shutdown period begins when heat input of the turbine falls below 50% of nameplate capacity and ends when combustion has ceased, and should not exceed 60 minutes.

With the exception of NO_X and VOC, for any clock hour during which a startup or shutdown event occurs, if the CEMS data does not include the actual startup and shutdown emissions, the permittee is required to use the startup/shutdown emission rates presented in Table III-E-1 of this TSD. For NOx, the permittee is required to use an emission rate of 66 lb/hr. For VOC, the permittee is required to use an emission rate of 0.94 lb/hr.

Engines

Each turbine starter engine (EUs: A03 and A04) is limited to 125 hours per consecutive 12-months.

E. CONTROL TECHNOLOGY

The permittee has not proposed any changes to the existing control requirements. All existing control requirements remain in effect and are summarized below:

Turbines/Duct Burners

The permittee is required operate each turbine (EUs: A01 and A02) with an SCR system at all times the turbine is operating, excluding periods of startup and shutdown. The permittee is also required to control NO_x emissions from the turbines with steam injection, except during startup.

The permittee is required to operate each SCR system such that NO_x emissions from the turbines (EUs: A01 and A02) do not exceed the emission rates presented below in Table III-E-1 and emission concentrations presented in Table III-E-2, excluding startup and shutdowns.

Table III-E-1: Emission Rate (pounds per hour) Limitations, Excluding Startup and Shutdowns

EU	PM_{10}	$PM_{2.5}$	NO_X	CO	SO_2	VOC	HAP
A01	2.50	2.50	15.20	9.00	0.27	0.92	0.46
A02	2.50	2.50	15.20	9.00	0.27	0.92	0.46

Table III-E-2: Emission Concentration (ppmvd) Limitations, Excluding Startup and Shutdowns

EU	O_2 Standard	NO_X (ppmvd)	CO (ppmvd)
		Natural Gas	Natural Gas
A01[1]	15%	10	10
F05, F05a			
A02[1]	15%	10	10
F06, F06a			

[1]Emissions from the combustion of natural gas are calculated using a 4-hour rolling average, not to include startup or shutdown.

The permittee is required to control SO_2 emissions from the turbines and duct burners by exclusive use of pipeline quality natural gas with a maximum sulfur content of 0.50 grains/100 dscf and good combustion practices (EUs: A01, A02, F05, F05a, F06, and F06a).

The permittee is required to control PM_{10} emissions from the turbines and duct burners by maintaining and replacing inlet air filters preceding each turbine in accordance with the manufacturer's O&M manuals and good operating practices (EUs: A01, A02, F05, F05a, F06, and F06a).

The permittee is required to operate and maintain the turbines and duct burners in accordance with the manufacturer's O&M manual and use good combustion practices during startup, shutdown, and other non-normal operations (EUs: A01, A02, F05, F05a, F06, and F06a).

Engines

The permittee is required to operate and maintain each turbine starter engine in accordance with the manufacturer's O&M manual and to only combust low sulfur (<0.05 sulfur by weight) diesel fuel in each starter engine (EUs: A03 and A04).

Cooling Tower

The permittee is required to maintain the cooling tower (EU: A09) water so that TDS content does not exceed 3,800 ppm. Use of chromium-containing compounds for water treatment is prohibited. The permittee is required to operate and maintain the cooling tower in accordance with the manufacturer's recommendations.

F. MONITORING

The permittee has not proposed any changes to the existing monitoring requirements. A requirement specifying that the permittee is required to monitor occurrences and durations of startup and shutdown cycles of the turbines and boiler has been included in accordance with AQR 121.9.2(a)(5).

All existing monitoring requirements remain in effect and are summarized below:

CEMS

The permittee is required to operate a CEMS on each turbine unit (EUs: A01 and A02) to demonstrate compliance with NO_x and CO emissions limitations in accordance with 40 CFR Part 60, 40 CFR Part 75, and AQR 121. The CEMS is required to monitor and record NO_x and CO emission data, fuel flow rates, hours of operation, and CEMS down time.

The permittee is required to adhere to the latest Quality Assurance Plan approved by DAQ for all CEMS including auditing and reporting schedules, design specifications, and other quality assurance requirements for each CEMS.

The permittee is required to conduct a relative accuracy test audit (RATA) of each CEMS at least annually, or the frequency specified by 40 CFR 60 and 75 as applicable.

Cooling Tower

The permittee is required to monitor the TDS of the cooling tower recirculation water monthly using a conductivity meter or another device approved by the Control Officer in advance (EU: C01).

G. PERFORMANCE TESTING

The existing performance testing requirements remain in effect.

Initial performance testing for the turbines and duct burners was completed on April 7, 2008. Subsequent performance testing for the turbines is required upon written notification from the Control Officer.

IV. REGULATORY REVIEW

A. LOCAL REGULATORY REQUIREMENTS

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

1. Chapter 445 of the Nevada Revised Statutes, Sections 401 through 601;
2. Portions of the AQRs included in the Nevada State Implementation Plan (SIP). SIP requirements are federally enforceable. All requirements in OPs issued by DAQ are federally enforceable because these are issued under AQR sections included in the Nevada SIP; and
3. Portions of the AQR's not included in the Nevada SIP. These locally applicable requirements are locally enforceable only.

Chapter 445B of the Nevada Revised Statutes and the 1990 Clean Air Act Amendments establish the general authority for the AQRs.

EPA issued final approval of DAQ's Part 70 (Title V) program on November 30, 2001 (vol. 66, p. 63188 of the Federal Register). AQR 19, "Part 70 Operating Permits" [amended 07/01/04], details the program. On September 20, 2010, Clark County submitted a revision to EPA (AQR 12.5) that is still awaiting approval. These regulations are available on DAQ's website at: https://www.clarkcountynv.gov/government/departments/environment_and_sustainability/division_of_air_quality/rules___regulations/current-aq-rules.

The AQRs contain sections that are federally enforceable and sections that are locally enforceable only. Locally enforceable rules have not been approved by EPA for inclusion in the Nevada SIP.

Requirements and conditions in this Part 70 OP related only to non-SIP rules are notated as locally enforceable only.

Table IV-A-1: Applicable Clark County AQRs

Citation	Title
AQR 00	"Definitions"
AQR 04	"Control Officer"
AQR 05	"Interference with Control Officer"
AQR 08	"Persons Liable for Penalties – Punishment: Defense"
AQR 09	"Civil Penalties"
AQR 12.0	"Applicability and General Requirements"
AQR 12.4	"Authority to Construct Application and Permit Requirements for Part 70 Sources"
AQR 12.5	"Part 70 Operating Permit Requirements"
AQR 12.9	"Annual Emissions Inventory Requirement"
AQR 13.2(b)(1)	"Subpart A - General Provisions"
AQR 13.2(b)(82)	"Subpart ZZZZ - National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines"
AQR 14.1(b)(1)	"Subpart A – General Provisions"

Citation	Title
AQR Section 14.1(b)(4)	NSPS – Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units
AQR Section 14.1(b)(40)	NSPS – Standards of Performance for Stationary Gas Turbines
AQR 18	"Permit and Technical Service Fees"
AQR 25	"Affirmative Defense for Excess Emissions due to Malfunctions, Startup, and Shutdown"
AQR 26	"Emission of Visible Air Contaminants"
AQR 28	"Fuel Burning Equipment"
AQR 40	"Prohibitions of Nuisance Conditions"
AQR 41	"Fugitive Dust", AQR 41.1.2 only
AQR 42	"Open Burning"
AQR 43	"Odors in the Ambient Air"
AQR 70	"Emergency Procedures"
AQR 80	"Circumvention"
AQR 120	"Reasonably Available Control Technology Demonstration and Determination Requirements for Major Stationary Sources in Ozone Nonattainment Areas"
AQR 121	"Reasonably Available Control Technology Determinations for Specific Major Stationary Sources in the 2015 8-hour Ozone NAAQS Moderate Nonattainment Area HA 212"

B. FEDERALLY APPLICABLE REGULATIONS

DAQ has determined that the following federal standards listed in Table IV-B-1 are applicable to the source:

Table IV-B-1: Federal Standards

Citation	Title
40 CFR Part 52.21	"Prevention of significant deterioration of air quality"
40 CFR Part 52.1470	"Approval and Promulgation of Implementation Plans, Subpart DD—Nevada"
40 CFR Part 60, Subpart A	"General Provisions"
40 CFR Part 60, Subpart GG	"NSPS – Standards of Performance for Stationary Gas Turbines"
40 CFR Part 60	Appendix A, Method 9 or equivalent, (Opacity)
40 CFR Part 60, Appendix A-3	"Test Methods 4 through 5I" (PM in g/dscm)
40 CFR Part 60, Appendix A-4	"Test Methods 6 through 10B" (opacity)
40 CFR Part 63, Subpart A	"General Provisions"
40 CFR Part 63, Subpart ZZZZ	"National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines"
40 CFR Part 68	"Chemical Accident Prevention Provisions"
40 CFR Part 70	"State Operating Permit Programs"
40 CFR Part 72	"Acid Rain Permits Regulation"
40 CFR Part 73	"Acid Rain Sulfur Dioxide Allowance System"

Citation	Title
40 CFR Part 75	"Acid Rain Continuous Emission Monitoring"
40 CFR Part 77	"Acid Rain Excess Emissions"
40 CFR Part 82	"Protection of Stratospheric Ozone"

DAQ has determined that the following federal regulations are applicable:

1. Clean Air Act, as amended (authority: 42 U.S.C. § 7401, et seq.)

2. Title 40 of the Code of Federal Regulations (CFR).

40 CFR PART 60—STANDARDS OF PERFORMANCE FOR NEW STATIONARY SOURCES

Subpart A—General Provisions

40 CFR Part 60.7 Notification and record keeping

Discussion: This regulation requires the source to notify DAQ of modifications, opacity testing, records of malfunctions of process equipment and/or continuous monitoring device(s), continuous emissions monitoring system data, and performance test data. DAQ requires sources to maintain records for five years, a more stringent requirement than the two years required by 40 CFR Part 60.7. These requirements are found in the Part 70 OP.

40 CFR Part 60.8 Performance tests

Discussion: This regulation outlines notice of intent to test, applicable test methods, acceptable test method operating conditions, and the requirement for three test runs. DAQ requirements for initial performance testing are identical to this regulation. The source has completed all initial performance testing. There are no requirements for subsequent testing due to the fact that the permittee operates CEMS. However, the control officer reserves the right to require performance testing when operating conditions appear inadequate to demonstrate compliance with the emissions and/or limitations in this permit.

40 CFR Part 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 Part 60, Subpart GG, which requires fuel monitoring and sampling. Compliance requirements for these standards are discussed in the corresponding sections.

40 CFR Part 60.12 Circumvention

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

40 CFR Part 60.13: Monitoring requirements

Discussion: This section requires that CEMS meet Appendix B and Appendix F standards of operation, testing, and performance criteria. Section 4.1 of the Part 70 Operating Permit contains the CEMS conditions and citations to Appendix B and F. In addition, the QA plan approved for the CEMS follows the requirements outlined including span time, recording time, RATA waivers and malfunctions.

Subpart GG—Standards of Performance for Stationary Gas Turbines

40 CFR Part 60.330: Applicability and designation of affected facility

Discussion: The provisions of this subpart are applicable to the following affected facilities: All stationary gas turbines with a heat input at peak load equal to or greater than 10.7 gigajoules per hour, based on the lower heating value of the fuel fired. Any facility under paragraph (a) of this section which commences construction, modification, or reconstruction after October 3, 1977, is subject to the requirements of this part except as provided in paragraphs (e) and (j) of 40 CFR Part 60.332.

The turbines (EUs: A01 and A02) commenced construction after October 3, 1977, and are therefore subject to this subpart.

40 CFR Part 60.332: Standard for nitrogen oxides (NOx limits using the F formula)

Discussion: Saguaro is permitted such that the turbines are limited to 447 MMBtu/hr for each turbine based on the lower heat value of natural gas. The NO_x limit established as BACT for turbines is 10.0 ppmvd and are within the F formula provisions of the subpart. This requirement has been met.

40 CFR Part 60.333: Standard for sulfur dioxide

Discussion: The sole use of pipeline-quality natural gas with total sulfur content less than 0.5 grains per 100 dscf satisfies this requirement.

40 CFR Part 60.334: Monitoring of operations

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

40 CFR Part 60.335: Test methods and procedures

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

Subpart TTTT—Standards of Performance for Greenhouse Gas Emissions for Electric Generating Units

40 CFR Part 60.5508 Purpose of Subpart TTTT

Discussion: This subpart establishes emission standards and compliance schedules for the control of greenhouse gas emissions from a steam generating unit or an integrated gasification combined cycle facility that commences construction after January 8, 2014, commences reconstruction after June 18, 2014, or commences modification after January 8, 2014, but on or before May 23, 2023. This subpart is not applicable to Saguaro as the turbines were installed prior to the applicability date.

40 CFR PART 63—NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS FOR SOURCE CATEGORIES

Subpart ZZZZ—National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines

40 CFR Part 63.6580 Purpose of Subpart ZZZZ

Discussion: Subpart ZZZZ establishes national emission limitations and operating limitations for HAPs emitted from stationary reciprocating internal combustion engines (RICE) located at major and area sources of HAP emissions. This subpart also establishes requirements to demonstrate initial and continuous compliance with emission and operating limitations.

40 CFR Part 63.6585 Applicability

Discussion: The provisions of this subpart are applicable to owners and operators of stationary reciprocating internal combustion engines at major or area sources of HAP. The permittee operates two diesel engines (EUs: A03 and A04) that are subject to this regulation.

40 CFR Part 63.6590 What this subpart covers

Discussion: All existing, new, or reconstructed stationary RICE are subject to this subpart (EUs: A03 and A04).

40 CFR Part 63.6595 Compliance Date

Discussion: This subpart establishes May 3, 2013, as the date to comply with all applicable requirements.

40 CFR Part 63.6603 Emission limitations, operating limitations, and other requirements for existing stationary RICE located at an area source of HAP emissions

Discussion: This section defines inspection and maintenance requirements based on engine horsepower ratings.

40 CFR Part 63.6640 Continuous compliance requirements

Discussion: This section defines acceptable methods for demonstrating continuous compliance with emission limitations, operating limitations, and other requirements.

40 CFR Part 63.6655 Recordkeeping Requirement

Discussion: This section defines the type of records that must be kept to verify compliance.

40 CFR Part 63.6660 Record Retention Requirements

Discussion: All records must be maintained in a suitable form and must be readily accessible, in hard copy or electronic form, for a minimum of five years following the date of each occurrence, measurement, maintenance, corrective action, report, or record.

40 CFR PART 64—COMPLIANCE ASSURANCE MONITORING

40 CFR Part 64.2 Applicability

Discussion: The requirements of this part shall apply to a pollutant-specific emissions unit at a major source that is required to obtain a part 70 permit if the unit satisfies all of the following criteria: (1) The unit is subject to an emission limitation or standard for the applicable regulated air pollutant; (2) The unit uses a control device to achieve compliance with any such emission limitation or standard; and (3) The unit has potential pre-control device emissions of the applicable regulated air pollutant that are equal to or greater than 100 percent of the amount, in tons per year, required for a source to be classified as a major source. The following determination provides rational for the exemption of Saguaro from the requirements of Part 64.

CAM does not apply to the turbines because the permit specifies a continuous compliance determination for the NOx limitation in the form of a CEMS, required for 40 CFR Part 60 and Part 75 compliance. The CAM Rule does not apply to these units for CO, SO_2, PM_{10}, VOC, or HAPs based on the applicability statement in 40 CFR Part 64.2(a)(2): no control device is used to achieve compliance for any of these pollutants. This unit is also exempt from the CAM Rule for NOx and SO_2 based on the exemption at 40 CFR Part 64.2(b)(1)(iii) for Acid Rain Program requirements.

40 CFR PART 72—ACID RAIN PERMIT REGULATIONS

Subpart A—Acid Rain Program General Provisions

40 CFR Part 72.6: Applicability

Discussion: Saguaro turbines are defined as utility units in the definitions for 40 CFR Part 72; therefore, the provisions of this regulation apply.

40 CFR Part 72.9: Standard Requirements

Discussion: Saguaro has applied for all of the proper permits under this regulation.

Subpart B—Designated Representative

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

40 CFR PART 73—SULFUR DIOXIDE ALLOWANCE SYSTEM

40 CFR Part 73.2 Applicability

Discussion: Saguaro is an affected source pursuant to 40 CFR Part 72.6 of this chapter because gas turbines fit the definition of utility units; therefore, this regulation shall apply.

Subpart B—Allowance Allocations

Discussion: Saguaro is not listed on the Phase II table, so it does not have an initial allocation per 40 CFR Part 73.10.

Subpart C—Allowance Tracking System

Discussion: Saguaro shall follow all guidelines and instructions presented in this subpart while establishing and maintaining an allowance account.

Subpart D—Allowance Transfers

Discussion: When an allowance transfer is necessary, Saguaro 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 PART 75—CONTINUOUS EMISSIONS MONITORING

40 CFR Part 75.2 Applicability

Discussion: Saguaro is subject to the acid rain emission limitations of 40 CFR Part 72; therefore, the source is subject to the monitoring requirements of this regulation. Each turbine unit has been equipped with a NO_X and CO CEMS, diluent oxygen monitor, and a fuel flow monitor. The data from the CEMS is used to provide quarterly acid rain reports to both EPA and DAQ.

Acid Rain Program Regulations

The source is subject to the applicable Acid Program regulations contained in 40 CFR Parts 72 – 77. The source is an existing acid rain source and the permittee has submittal a renewal of the source's Acid Rain Permit. The Acid Rain Permit is included as an attachment to the Part 70 OP.

V. COMPLIANCE

A. COMPLIANCE CERTIFICATION

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

Requirements for reporting remain the same as prior Part 70 OP.

B. COMPLIANCE SUMMARY

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

Citation	Title	Applicability	Applicable Test Method	Compliance Status
AQR Section 0	Definitions	Applicable – Saguaro will comply with all applicable definitions as they apply.	Saguaro will meet all applicable test methods should new definitions apply.	Saguaro complies with applicable requirements.
AQR Section 4	Control Officer	Applicable – The Control Officer or his representative may enter into Saguaro property, with or without prior notice, at any reasonable time for purpose of establishing compliance.	Saguaro will allow Control Officer to enter Station property as required.	Saguaro complies with applicable requirements.
AQR 5	Interference with Control Officer	Applicable – Saguaro shall not hinder, obstruct, delay, resist, or interfere with the Control Officer.	Saguaro will allow Control Officer to operate as needed.	Saguaro complies with applicable requirements.

Citation	Title	Applicability	Applicable Test Method	Compliance Status
AQR 8	Persons Liable for Penalties	Applicable – Saguaro and employees will be individually and collectively liable to any penalty or punishment from Air Quality.	Saguaro will adhere to the rules stipulated in applicable AQR.	Saguaro complies with applicable requirements.
AQR 9	Civil Penalties	Applicable – The rule stipulates penalties for AQR violations.	Saguaro will adhere to the rules stipulated in applicable AQR.	Saguaro complies with applicable requirements.
AQR 12.0	Applicability, General Requirements and Transition	Applicable – Saguaro as a whole is not subject to these requirements. Rule outlines source applicability requirements for a source to obtain a permit and transition for sources that received a permit prior to rulemaking.	Saguaro applied for and received ATC permits for Air Quality prior to commercial operation. Saguaro will comply with the requirements of the ATCs.	Saguaro complies with applicable requirements.
AQR Section 12.2	Permit Requirements for Major Sources in Attainment Areas (PSD)	Applicable – Saguaro is a major source of NOx and Clark County, Nevada, is an attainment area for PM_{10}, $PM_{2.5}$, CO, and SO_2.	Saguaro emission units met BACT requirements when originally permitted.	Saguaro complies with applicable requirements.
AQR Section 12.3	Permit Requirements for Major Sources in Nonattainment Areas	Applicable – Saguaro is a major source of NOx and Clark County, Nevada, is a nonattainment area for NOx.	Saguaro turbines and duct burners continue to meet BACT requirements.	Saguaro complies with applicable requirements.
AQR Section 12.4	ATC application and Permit Requirements for Part 70 Sources	Applicable – Saguaro has applied and received ATCs from DAQ.	Clark Station applied for, and received, ATC permits from DAQ. Clark Station shall comply with the requirements for ATCs.	Saguaro complies with applicable requirements.
AQR Section 12.5	40 CFR Part 70 Operating Permits	Applicable – Saguaro is a major stationary source and under Part 70 the initial Title V permit application was submitted as required. Renewal applications are due between 6 and 18 months prior to expiration. Revision applications will be submitted within 12 months or commencing operation of any new emission unit. Section 19 is both federally and locally enforceable	Saguaro renewed the Part 70 permit dated December 8, 2020. This renewal application was submitted before June 8, 2025. Applications for new units will be submitted within 12 months of startup.	Saguaro complies with applicable requirements.

Citation	Title	Applicability	Applicable Test Method	Compliance Status
AQR Section 13.2.(b)(82) Subpart ZZZZ	National Emission Standards for Hazardous Air Pollutants (NESHAP) – Stationary Reciprocating Internal Combustion Engines	Applicable – The two (2) starter engines are pre-2006 model year engines.	Applicable monitoring, recordkeeping and reporting requirements.	Saguaro complies with applicable requirements.
AQR Section 14.1.(b)(1) Subpart A	Standards of Performance for New Stationary Sources (NSPS) – General Provisions	Applicable – Saguaro 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.	Saguaro complies with applicable requirements.
AQR Section 14.1.(b)(40) Subpart GG	NSPS – Stationary Gas Turbines	Applicable – The two (2) Saguaro turbines are natural gas-fired units with heat input greater than 10 MMBtu/hr.	The two (2) turbines meet the applicable NO_X emission standard. NO_X emissions determined by EPA Method 7E.	Saguaro complies with applicable requirements.
AQR Section 18	Permit and Technical Service Fees	Applicable – Saguaro will be required to pay all required/applicable permit and technical service fees.	Saguaro is required to pay all required/applicable permit and technical service fees.	Saguaro complies with applicable requirements.
AQR Section 25	Upset/Breakd own, Malfunctions	Applicable – Any upset, breakdown, emergency condition, or malfunction which causes emissions of regulated air pollutants in excess of any permit limits shall be reported to Control Officer. Section 25.1 is locally and federally enforceable.	Any upset, breakdown, emergency condition, or malfunction in which emissions exceed any permit limit shall be reported to the Control Officer within one (1) hour of onset of such event.	Saguaro complies with applicable requirements.
AQR Section 26	Emissions of Visible Air Contaminants	Applicable – Opacity for the Saguaro combustion turbine must not exceed 20 percent for more than six (6) minutes in any 60-minute period.	Compliance determined by EPA Method 9.	Saguaro complies with applicable requirements.
AQR Section 40	Prohibition of Nuisance Conditions	Applicable – No person shall cause, suffer or allow the discharge from any source whatsoever such quantities of air contaminants or other material which cause a nuisance. Section 40 is locally enforceable only.	Saguaro air contaminant emissions controlled by pollution control devices or good combustion in order not to cause a nuisance.	Saguaro complies with applicable requirements.
AQR Section 41	Fugitive Dust	Applicable – Saguaro shall take necessary actions to abate fugitive dust from becoming airborne.	Saguaro utilizes appropriate best practices to not allow airborne fugitive dust.	Saguaro complies with applicable requirements.

Citation	Title	Applicability	Applicable Test Method	Compliance Status
AQR Section 42	Open Burning	Applicable – In event Saguaro 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.	Saguaro will contact DAQ and obtain approval in advance for applicable burning activities as identified in the rule.	Saguaro complies with applicable requirements.
AQR Section 43	Odors in the Ambient Air	Applicable – An odor occurrence is a violation if the Control Officer is able to detect the odor twice within a period of an hour, if the odor causes a nuisance, and if the detection of odors is separated by at least fifteen minutes. Section 43 is a locally enforceable rule only.	Saguaro will not operate its facility in a manner which will cause odors. Saguaro is a natural gas fired facility and is not expected to cause odors.	Saguaro complies with applicable requirements.
AQR Section 70.4	Emergency Procedures	Applicable – Saguaro submitted an emergency standby plan for reducing or eliminating air pollutant emissions in the Section 16 Operating Permit Application.	Saguaro submitted an emergency standby plan and received the Section 16 Operating Permit.	Saguaro complies with applicable requirements.

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

Citation	Title	Applicability	Applicable Test Method	Compliance Status
40 CFR Part 52.21	Prevention of Significant Deterioration (PSD)	Applicable – Saguaro PTE > 100 TPY and is listed as one of the 28 source categories.	BACT analysis, air quality analysis using modeling, and visibility and additional impact analysis performed for original ATC permits.	Saguaro complies with applicable sections as required by PSD regulations.
40 CFR Part 52.1470	SIP Rules	Applicable – Saguaro is classified as a Title V source, and SIP rules apply.	Applicable monitoring and record keeping of emissions data.	Saguaro is in compliance with applicable state SIP requirements including monitoring and record keeping of emissions data.
40 CFR Part 60, Subpart A	NSPS – General Provisions	Applicable – Saguaro is an affected facility under the regulations.	Applicable monitoring, recordkeeping and reporting requirements.	Saguaro complies with applicable requirements.
40 CFR Part 60, Subpart GG	NSPS – Stationary Gas Turbines	Applicable – The Saguaro two turbines are natural gas- fired units with heat input greater than 10 MMBtu/hr.	Applicable monitoring, recordkeeping and reporting requirements.	Saguaro complies with applicable requirements.
40 CFR Part 60	Appendix A, Method 9 or equivalent, (Opacity)	Applicable – Emissions from stacks are subject to opacity standards.	Opacity determined by EPA Method 9.	Saguaro complies with applicable requirements.
40 CFR Part 63, Subpart ZZZZ	NESHAP – Stationary Reciprocating Internal Combustion Engines	Applicable – Saguaro is an affected facility under the regulations.	Applicable monitoring, recordkeeping and reporting requirements.	Saguaro complies with applicable requirements.

Citation	Title	Applicability	Applicable Test Method	Compliance Status
40 CFR Part 64	Compliance Assurance Monitoring	Not Applicable – Saguaro has CEMS to monitor NO_x and CO emissions, the NH_3 emissions are continuously monitored with PEMS. Saguaro is exempt from CAM regulations based on 40 CFR 64.2 (b) (1) (Vi).	Saguaro continuously monitors NO_x and CO missions with CEMS. NH_3 emissions are monitored with PEMS.	Saguaro complies with applicable requirements.
40 CFR Part 70	Federally Mandated Operating Permits	Applicable – Saguaro is a major stationary source and under Part 70 the initial Title V permit application was submitted as required. Renewal applications are due between 6 and 18 months prior to expiration. Revision applications will be submitted within 12 months or commencing operation of any new emission unit.	Saguaro reviewed the initial Part 70 permit. The renewal application was submitted on October 10, 2013. Applications for new units will be submitted within 12 months of startup.	Saguaro complies with applicable requirements.
40 CFR Part 72	Acid Rain Permits Regulation	Applicable – The turbines are subject to acid rain regulations.	Saguaro maintains an Acid Rain Permit.	Saguaro complies with applicable requirements.
40 CFR Part 73	Acid Rain Sulfur Dioxide Allowance System	Not Applicable – The regulations stipulate the allocation, exchange, etc of acid rain SO_2 allowances.	Saguaro verifies SO_2 allowance with US EPA.	Saguaro complies with applicable requirements.
40 CFR Part 75	Acid Rain CEMS	Applicable – Saguaro is an affected facility and must meet the requirements for monitoring, recordkeeping, and reporting of flow rate, SO_2, NO_X, and O_2 emissions.	Saguaro shall continue to adhere to the CEMS requirements for monitoring, recordkeeping, and reporting.	Saguaro complies with applicable requirements.
40 CFR Part 82	Protection of Stratospheric Ozone	Applicable – Saguaro is subject to stratospheric ozone regulations based on 40 CFR 82.4.	Saguaro does not use stratospheric ozone depleting compounds.	Saguaro complies with applicable requirements.

VI. EMISSION REDUCTION CREDITS (OFFSETS)

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

VII. MODELING

A. INCREMENT ANALYSIS

Saguaro is a major source in Hydrographic Area 212 (the Las Vegas Valley). Permitted emission units include two turbine generators, two starter engines, two boilers, one cooling tower and other equipment. Since minor source baseline dates for NO_x (October 21, 1988) and SO_2 (June 29, 1979) have been triggered, Prevention of Significant Deterioration (PSD) increment analysis is required.

DAQ modeled the source using AERMOD to track the increment consumption. Stack data submitted by the applicant was 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	1.03[1]	679136	3990509
SO_2	24-hour	0.68[1]	679136	3990509
SO_2	Annual	0.28	679136	3990509
NO_X	Annual	7.69	679136	3990509

[1] Highest Second High Concentration.

VIII. ENVIRONMENTAL JUSTICE

This permitting action does not include an increase in emissions. Therefore, DAQ has determined that this permitting action will not result in adverse effects on the nearby community or underserved populations.

IX. PERMIT SHIELD

The permittee has not requested any changes to the existing permit shield. The permit shield is in place for the applicable requirements presented in Table IX-1.

Table IX-1: Applicable Requirements Related to Permit Shield

Citation	Title
40 CFR Part 60, Subpart GG	NSPS – Stationary Gas Turbines

The permit shield is presented in Table IX-2. Compliance with the requirements of the permit are deemed compliance with the applicable requirements presented in Table IX-2.

Table IX-2: Permit Shield

				Value Comparison (In Units of the Permit Limits)			Averaging Period Comparison			
EU	Regulation (40 CFR)	Regulatory Standard	Permit Limit	Standard Value	Permit Limit Value	Is the Permit Limit Equal or More Stringent	Standard Averaging Period	Permit Limit Averaging Period	Is the Permit Limit Equal or More Stringent	Streamlining Statement for Shielding Purposes
A01/A02	60.332 (GG)	0.0075% by volume NOx at 15% O_2, dry basis	10 ppmv NOx at 15% O_2	75	10	Yes	4-hour rolling average	4-hour rolling average	Yes	The permit limit is more stringent than the standard. Compliance with the permit demonstrates compliance with the standard.
A01/A02	60.333 (GG)	0.0155% by volume SO_2 at 15% O_2, dry basis	0.27 lb/hr SO_2	345	0.27	Yes	4-hour	1-hour	Yes	

X. PUBLIC PARTICIPATION

This Part 70 OP renewal is subject to public participation requirements under AQR 12.5.2.17.

XI. ATTACHMENTS

Emission calculations and startup and shutdown emission rates are presented in the following tables:

Table XI-1: Source PTE (pounds per hour)

EU	PM_{10}	$PM_{2.5}$	NO_x	CO	SO_2	VOC	HAP
A01[1]	2.50	2.50	15.20	9.00	0.27	0.92	0.46
A02[1]	2.50	2.50	15.20	9.00	0.27	0.92	0.46
A03	1.14	1.14	16.12	3.47	0.01	1.31	0.02
A04	1.14	1.14	16.12	3.47	0.01	1.31	0.02
A09a	0.17	0.10	0.00	0.00	0.00	0.00	0.00
A09b	0.17	0.10	0.00	0.00	0.00	0.00	0.00
A09c	0.17	0.10	0.00	0.00	0.00	0.00	0.00
F05	Emissions included with A01						
F05a	Emissions included with A01						
F06	Emissions included with A02						
F06a	Emissions included with A02						

[1] Emissions from the combustion of natural gas in the turbine and duct burners. PM_{10} emission factor is manufacturer's guarantee of 2.5 lbs/hr. NO_x emission factor is 10 ppmvd @15% O_2. CO emission factor is 10 ppmvd @15% O_2. SO_x emission factor is 0.0006 lbs/MMBtu from the footnotes of AP-42 Table 3.1-2a. VOC emission factor is from AP-42 Table 3.1-2a. = HAP emission factors are from AP-42 Table 3.1-3.

Table XI-2: Startup and Shutdown Emission Rates (pounds per hour)[1,2]

EU	PM_{10}	$PM_{2.5}$	NO_X	CO	SO_2	VOC	HAP
A01	2.50	2.50	65.00	9.00	0.27	0.94	0.46
A02	2.50	2.50	65.00	9.00	0.27	0.94	0.46

FOR REFERENCE ONLY
[1]Startup and shutdown emission rates are to be used to assess compliance with annual emissions limits. Emission factors will be used when CEMS data is not available (Reference: 00393_20141006_TSD).
[2]Startup or shutdown have a duration of one hour each.

Table XI-3: A03 and A03 PTE

						Emission Factor	Control	Potential Emissions		
EU#	A03 and A04		**Horsepower:**	520		(lb/hp-hr)	Efficiency	lb/hr	lb/day	ton/yr
Make:	Detroit Diesel		**Hours/Day:**	24.0						
Model:	71237300		**Hours/Year**	125	**PM10**	2.20E-03	0.00%	1.14	27.46	0.07
S/N:	Various				**NOx**	3.10E-02	0.00%	16.12	386.88	1.01
					CO	6.68E-03	0.00%	3.47	83.37	0.22
Manufacturer Guarantees					**SO_2**	1.21E-05	0.00%	0.01	0.15	0.01
PM10		g/kW-hr			**VOC**	2.51E-03	0.00%	1.31	31.38	0.08
NOx		g/kW-hr			**HAP**	2.71E-05	0.00%	0.01	0.34	0.01
CO		g/kW-hr								
SO_2		g/kW-hr								
VOC		g/kW-hr								
Engine Type:	Diesel				Diesel Fuel Sulfur Content is 15 ppm (0.0015%)					

Table XI-4: A09 PTE Emissions

EU	Description	Drift Loss %	Flow Rate (gal/min)	TDS (mg/l)	Hours of Operation		PM10 Emissions		PM2.5 Emissions[1]	
					hr/day	hr/yr	lb/hr	ton/yr	lb/hr	ton/yr
A09a	Cooling Tower	0.002%	9600	3800	24	8760	0.17	0.75	0.10	0.45
A09b	Cooling Tower	0.002%	9600	3800	24	8760	0.17	0.75	0.10	0.45
A09c	Cooling Tower	0.002%	9600	3800	24	8760	0.17	0.75	0.10	0.45
							0.51	**2.25**	**0.30**	**1.35**

Table XI-5: GHG Fuel Oil Combustion PTE

EU	Description	Rating	Operational Parameters			Pollutant	Emission Factor	GHG Potential to Emit		
		MMBtu/hr	*hours/year gal/hr*	*Distilled Fuel Oil No. 2 HHV MMBtu/gal*	*Distilled Fuel Oil No. 2 Fuel Usage gal/year[1]*		*kg Pollutant/ MMBtu Dis. Fuel Oil No. 2*	*Pollutant metric tons/year*	*GWP[2]*	*CO_2e metric tons/year*
A03	Detroit Diesel Starter Engine	1.32	125	0.138	1,198	CO_2	73.96	12	1	12
						CH_4	3.0E-03	0	28	0
						N_2O	6.0E-04	0	265	0
A04	Detroit Diesel Starter Engine	1.32	125	0.138	1,198	CO_2	73.96	12	1	12
						CH_4	3.0E-03	0	28	0
						N_2O	6.0E-04	0	265	0

[1] Fuel usage calculation: (hours/year * MMBtu/hr) / 1.38E-01 MMBtu/scf = scf/year.

[2] Global Warming Potential (GWP) is used to compare the abilities of different greenhouse gases to trap heat in the atmosphere. GWP is based on the heat-absorbing ability of each gas relative to that of carbon dioxide (CO_2). Once the individual GHG emissions are calculated, they have to be multiplied by the GWP to obtain the CO_2e value. Values for GWP are presented in Table A-1: Global Warming Potentials. CH_4 and N_2O GWP were updated effective 1/1/25.

GHG Potential to Emit

Pollutant	Individual GHG	CO_2e	Facility-wide CO_2e
	metric tons/year		
CO_2	24	24	24
CH_4	0.00	0	
N_2O	0.00	0	

Table XI-6: GHG Natural Gas Combustion PTE

EU	Description	Rating	Operational Parameters			Pollutant	Emission Factor	GHG Emissions		
		MMBtu/hr	*hours/year*	*Natural Gas HHV MMBtu/scf*	*Natural Gas Fuel Usage scf/year[1]*		*kg Pollutant/ MMBtu Natural Gas*	*Pollutant metric tons/year*	*GWP[2]*	*CO_2e metric tons/year*
A01	GE Combustion Turbine	447	8,760	1.028E-03	3,809,066,148	CO_2	53.06	207,768	1	207,768
						CH_4	1.0E-03	3.916	28	110
						N_2O	1.0E-04	0.392	265	104
A02	GE Combustion Turbine	447	8,760	1.028E-03	3,809,066,148	CO_2	53.06	207,768	1	207,768
						CH_4	1.0E-03	3.916	28	110
						N_2O	1.0E-04	0.392	265	104

[1] Fuel usage calculation: (hours/year * MMBtu/hr) / 1.028E-03 MMBtu/scf = scf/year.

[2] Global Warming Potential (GWP) is used to compare the abilities of different greenhouse gases to trap heat in the atmosphere. GWP is based on the heat-absorbing ability of each gas relative to that of carbon dioxide (CO_2). Once the individual GHG emissions are calculated, they have to be multiplied by the GWP to obtain the CO_2e value. Values for GWP are presented in Table A-1: Global Warming Potentials. CH_4 and N_2O GWP were updated effective 1/1/25.

GHG Potential to Emit

Pollutant	Individual GHG	CO_2e	Facility-wide CO_2e
	metric tons/year		
CO_2	415,536	415,536	415,964
CH_4	7.83	220	
N_2O	0.78	208	

Table XI-7: Insignificant Sandblaster Emission Calculations

Insignificant Activities	Description	Rating	Throughput	Emission Factor	PM_{10} PTE	
		cfm	hours	lbs of PM/ 1,000 lbs of air	lbs/hr	tons/year
IA2	Trinco BP2 Sandblaster	20	8,760	0.0042	< 0.01	< 0.01

**** Trinco BP2 Sandblaster Emission Calculation***

Sandblaster Air Flow Rating:	20	*cfm*
Hourly Air Flow:	1200	*ft^3 /hour*
Air Density at Standard Conditions:	0.0763	*lb/ft^3*
Annual Operation:	8,760	*hours*
Annual Air Flow:	10,512,000	*ft^3 /year*
Annual Air Mass Flow:	802,227	*lbs/year*
Emission Factor	0.0042	*lbs of PM/1,000 lbs of air*
Hourly PM_{10} Emissions:	**0.00038**	***lbs/hour***
Annual PM_{10} Emissions:	**3.37**	***lbs/year***
Assumes PM = PM_{10}		