



DES
DEPARTMENT OF ENVIRONMENT
AND SUSTAINABILITY



air quality



desert conservation
PROGRAM



sustainability

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PART 70

TECHNICAL SUPPORT DOCUMENT

(STATEMENT of BASIS)

APPLICATION FOR:
Minor Revision

SUBMITTED BY:
United States Air Force, Creech AFB, 432nd Wing
1065 Perimeter Road
Creech AFB, Nevada 89018

FOR:
Creech Air Force Base
Source ID: 00473

SIC code 9711, "National Security"
NAICS code 928110, "National Security"

DATE: June 7, 2023

EXECUTIVE SUMMARY

Creech Air Force Base is a federally-owned military installation located within the city limits of Indian Springs, Nevada. The base is divided into two geographic areas: the Main Base and the Southern Ranges of the Nellis Testing and Training Range (NTTR). The Main Base, located adjacent to the township of Indian Springs, Nevada, within the Indian Springs Valley Hydrographic Area (161), consists of the flight line and an associated industrial infrastructure that directly supports flying operations along with a wide variety of commercial and industrial uses which are in support of the base’s mission. The NTTR, located to the south of the Main Base, encompassing Hydrographic Areas 160, 161, 168, 211, and 212, consists of approximately 2.9 million acres of BLM land, a portion of which is situated in Clark County, that has been withdrawn from public domain for military use as an armament and high hazard testing area.

Hydrographic Area 212 is currently designated as attainment for all pollutants except ozone, for which it was classified as a moderate nonattainment area on January 5, 2023. The designation has not imposed any new permit requirements at this time. All other Hydrographic Areas mentioned above are designated as attainment areas for all criteria pollutants.

Creech AFB (Main Base) operates under the authority of the 432nd Wing Commander, located at Creech AFB, whereas; the NTTR operations located on the main base operates under the authority of the 99 Air Base Wing Commander, located at Nellis AFB. The source falls under SIC Code 9711: National Security and NAICS Code 928110: National Security.

Creech AFB is a major stationary source for NO_x and a minor source of PM₁₀, PM_{2.5}, CO, SO₂, VOC, and HAP pollutants. Creech AFB is not a categorical stationary source.

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 (OP).

Pollutant	PM ₁₀	PM _{2.5}	NO _x	CO	SO ₂	VOC	HAPs	GHG ²
Tons/year	20.21	11.94	206.72	49.26	0.95	40.29	9.67	38,249.27
Major Source Thresholds (Title V)	100	100	100	100	100	100	10/25 ¹	-
Major Stationary Source Thresholds (PSD)	250	250	250	250	250	250	10/25 ¹	-
Non-Attainment Thresholds (HA 212)	-	-	100	-	-	100	-	-

¹Ten tons for any individual HAP or 25 tons for combination of all HAPs.

²Metric tons per year CO₂e.

DAQ will continue to require the sources to estimate their GHG potential to emit in terms of each individual pollutant (CO₂, CH₄, N₂O, SF₆, etc.) during subsequent permitting actions, and the TSD includes these PTEs for informational purposes.

This national security facility is subject to 40 CFR Part 60, Subpart OOO, 40 CFR Part 60, Subpart IIII, 40 CFR Part 63, Subpart CCCCC, and 40 CFR Part 63, Subpart ZZZZ. The engines subject to 40 CFR Part 60, Subpart IIII, satisfy the requirements of 40 CFR Part 63, Subpart ZZZZ, through compliance with 40 CFR Part 60, Subpart IIII.

Air Quality has received delegated authority from the United States Environmental Protection Agency to implement the requirement 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 draft revision to the Part 70 OP to Creech AFB is proposed.

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I. ACRONYMS

Table I-1: List of Acronyms

Acronym	Term
AFB	Air Force base
AQR	Clark County Air Quality Regulation
AST	aboveground storage tank
Avgas	aviation gasoline
BACT	Best Available Control Technology
CAA	Clean Air Act
CE	control efficiency
CF	control factor
CFR	Code of Federal Regulations
CO	carbon monoxide
CO ₂	carbon dioxide
DAQ	Clark County Division of Air Quality
EF	emission factor
EPA	U.S. Environmental Protection Agency
EU	emission unit
GDO	gasoline dispensing operation
GHG	greenhouse gases
HAP	hazardous air pollutant
hp	horsepower
MACT	Maximum Achievable Control Technology
MMBtu	Millions of British Thermal Units
NEI	net emission increase
NO _x	nitrogen oxides
PM ₁₀	particulate matter less than 10 microns
PM _{2.5}	particulate matter less than 2.5 microns
ppm	parts per million
PSD	Prevention of Significant Deterioration
PTE	potential to emit
RACT	Reasonably Available Control Technology
RICE	reciprocating internal combustion engine
SO ₂	sulfur dioxide
TSD	Technical Support Document
UST	underground storage tank
VOC	volatile organic compound

II. SOURCE INFORMATION

A. GENERAL

Permittee Creech Air Force Base
Source Creech Air Force Base
Mailing Address 1065 Perimeter Road
Creech AFB, Nevada 89018
Responsible Official Col. Eric Schmidt, Commander
Phone Number (702) 404-1368
Contacts Cris Melo, Air Quality Program Manager
Phone Number (702) 404-0437
Hydrographic Area 161

B. PERMITTING HISTORY

Table II-B-1: Permit History

Issue Date	Description
02/20/2020	Renewal
04/30/2020	Minor Revision
11/29/2021	Reopen for Cause
06/07/2022	Authority to Construct
12/01/2022	Significant Revision

C. CURRENT PERMITTING ACTION

Minor Revision – March 7, 2023

This permitting action includes the following changes:

External Combustion

1. Like-in-kind replacement of two boilers (EUs: W003 and W008). This change was previously proposed in the Prior Notification Form (PNF) dated November 17, 2022, but was also proposed in the minor revision application for this permitting action. The permittee requested using AP-42 emission factors for NO_x and CO emissions. However, the manufacturer's specifications for the replacement unit for EU: W003 include a maximum burner concentration of 10 ppm for NO_x. Consistent with current DAQ practices, DAQ calculated NO_x emissions for the boiler using the manufacturer's maximum burner concentration.
2. Correcting the model and serial numbers for EUs: W002, W005, and W009. Revisions are shown in Table III-A-2.

Internal Combustion

1. Updating model numbers, serial numbers, and locations of various emergency generators and fire pumps. Revisions are shown in Table III-A-3.
2. The permittee proposed updating the horsepower rating of emergency generator EU: G141. However, EU: G141 was removed from the permit in a significant revision dated December 1, 2022. The permittee confirmed that EU: G141 was removed, and no action was taken on the proposed change.
3. Updating the horsepower rating of emergency generator EU: G145 from 14 hp to 35 hp. The make/model/serial number remain unchanged, indicating this was an error when initially reporting the unit's rating.

Storage Tanks/Loading Arms/Fuel Dispensing

1. Removing Phase II vapor controls. The permittee removed Phase II vapor controls from fuel dispensing equipment on December 12, 2022. The permittee did not submit a permit application prior to removing Phase II controls.

DAQ compliance staff determined that Phase II vapor controls had been removed during an inspection conducted on January 4, 2023. Compliance staff informed the permittee that performance testing of the Phase I vapor controls was required within 180 days of removal of the Phase II vapor controls. The permittee conducted the required performance testing on March 8, 2023 and submitted a performance test report to DAQ on April 19, 2023. DAQ approved the performance test report on April 26, 2023.

Because the permittee has already completed the performance testing required upon Phase II removal, Phase II removal testing requirements have not been included in the permit.

2. The permittee proposed removing pressure vacuum vents (PV vents) conditions for the fuel dispensing ASTs (EUs: J001 and J002) from the permit. However, the aboveground storage tanks have PV vents and are required to comply with the existing requirements for their operation and maintenance. Therefore, DAQ has rejected the proposed change.
3. The permittee proposed revising monitoring conditions for fuel storage and dispensing systems to clarify that inspections of the fuel storage and dispensing system gasoline spills are only required during normal operating hours (Monday – Friday) and for fuel deliveries received outside of normal operating hours. The permittee also proposed removing the daily frequency required for spill inspections of the fuel storage and dispensing system. DAQ has accepted the proposed revisions clarifying the source's normal operating hours, but has specified that spill inspections are required daily during normal hours of operation and for any fuel deliveries received outside of normal operating hours.
4. Correcting 'spill bucket' to 'spill pallet' in condition 1.1.4.3.a.
5. Adding 21 new insignificant ASTs, removing 5 insignificant ASTs, and updating the capacities, throughputs, and locations of various existing insignificant ASTs.

D. ALTERNATIVE OPERATING SCENARIO

None proposed.

E. DESCRIPTION OF PROCESS

The mission of Creech Air Force Base is to prepare Air Force personnel to participate in military activities around the world. The ground-based facilities at Creech AFB provide for the instruction of combat pilots who operate unmanned aircraft. Military personnel, aircraft, and associated support equipment must be in a continuous state of combat readiness for immediate deployment whenever and wherever needed. Activities include, but are not limited to, aerial gunnery training, rocketry, electronic warfare, tactical maneuvering and air support, and equipment and tactics development and testing. The NTTR is also referred to as the Southern Ranges and includes the Point Bravo facilities and Range 63C (Silver Flag Alpha Ground Combat Training Area).

In order to accurately quantify and document pollutant emission rates, various source categories have been identified. Each source category represents a subset of common emission units. The source categories are as follows:

1. **Storage Tanks/Fuel Dispensing/Fuel Loading:** This category encompasses all types of fuel that is consumed by the Base (general automotive gasoline, aviation gasoline, diesel, and jet fuels). The calculated PTE from this category includes emissions from storage tanks as well as for fuel dispensing activities.
2. **External Combustion:** This category includes boilers, water heaters, and furnaces that generate heat, steam, and hot water to support various industrial, institutional, or commercial activities. All of the external combustion emission units are now operating on propane. The two propane-fired spray booth heaters, used for the surface coating operation, are also included in this category. A natural gas source has not been established in, or near, the township of Indian Springs.
3. **Internal Combustion:** This category consists of stationary internal combustion engines that are used to power electric generators, fire pumps, aerospace ground equipment, and a variety of activities on the NTTR. The generators are divided between those used to provide electricity to areas where grid power is not available and those used solely for emergency purposes. The diesel engine that powers the portable crushing unit, used for the mineral processing operation, is included in this category. All engines are operated on diesel fuel.
4. **Mineral Processing:** The NTTR operates multiple gravel sites throughout the range complex. The equipment is capable of producing a wide range of aggregate products, but the most common product is Type II aggregate used for road base and target construction. The permitted emission unit is portable, and may be used anywhere within the NTTR which covers three different counties. For purposes of this OP, the crusher is permitted, and the PTE is calculated, only for those operations that take place within Clark County.
5. **Surface Coating:** Surface coating operations at Creech AFB are performed in two spray booths at the facility. The paint booth located at Building 230 is used for painting of vehicles and miscellaneous parts. The paint booth at Bldg. 1004 is used for painting composite materials which comprise the body components of the unmanned aircraft.
6. **Miscellaneous Chemical Usage:** Any miscellaneous VOC and HAP containing operation except the surface coating operations are captured in this process.

7. **Woodworking:** Woodworking activities that occur at Creech are minimal and are restricted to one building on the Base. Woodworking activities are considered insignificant.
8. **Degreasers:** Degreasers are used to remove lubricants, greases, and other unwanted materials from metal parts before servicing, surface coating, or installing into equipment. All of the degreasers are cold cleaner units which consist of an area to spray, brush, flush or immerse the metal parts to be cleaned with the solvent. For permitting purposes, this process is considered an insignificant activity.
9. **Fuel Cell Maintenance:** Each unmanned aircraft is equipped with four separate fuel cells. Maintenance and repair of these cells is part of scheduled maintenance for the aircraft. A fuel-purging process is required before any repairs can be made. For permitting purposes, this process is considered an insignificant activity.
10. **Blasting:** Media blasting units that are used for cleaning of small parts. For permitting purposes, this process is considered an insignificant activity.

III. EMISSION UNITS AND SOURCEWIDE PTE

A. AFFECTED EMISSION UNITS

The footnotes for new and modified emission units in Table III-A-2 and Table III-A-3 indicate which emission units are being added or modified in this action.

Table III-A-1: Tanks

EU	Description	Capacity (gallons)	Fuel	Location	SCC
J001	Aboveground Storage Tank	5,000	Gasoline	Building 687	40600302
J002	Aboveground Storage Tank	10,000	Gasoline	Building 688	40600302

Table III-A-2: Modified External Combustion Units

EU	Description	Manufacturer	Fuel	Rating (MMBtu/hr)	Model #	Serial #	Location	SCC
W002 ^M	Boiler	Ajax	Propane	1.25	WFP-1250	56872	Bldg. 718	10301002
W003 ^R	Boiler	RBI	Propane	2.00	Futera III 2000	56024	Bldg. 1000	10301002
W005 ^M	Boiler	Unilux	Propane	1.05	DZ 100W	3820	Bldg. 1005	10301002
W008 ^R	Boiler	Weil McClain	Propane	2.046	788	TBD	Bldg. 1009	10301002
W009 ^M	Boiler	Weil McClain	Propane	1.08	880	CP5451287	Bldg. 120	10301002

^MAdministrative modification, such as change of boiler rating, building location, manufacture name, serial number, or model number (modification highlighted with bold text).

^RLike-in-kind replacement.

Table III-A-3: Modified Internal Combustion Units

EU	Description	Manufacturer	Rating	Model #	Serial #	Location	SCC
G118 ^M	Genset – Emergency	Cummins	1,500 kW	DQGAB-4902071	H100K17846	Bldg. 1009	20200102
	Engine – Diesel; DOM: 2010		2,220 hp	QSK50-G4	33181757		
G124 ^M	Genset – Emergency	Caterpillar	100 kW	D100-6	CAT00C44ED4B0 1775	Bldg. 820	20200102
	Engine – Diesel; DOM: 2010		157 hp	C4.4	E5N019314		

EU	Description	Manufacturer	Rating	Model #	Serial #	Location	SCC
G136 ^M	Genset – Emergency	Cummins	350 kW	DFEG-6195497	L100178507	Bldg. 1003	20200102
	Engine – Diesel; DOM: 12/2010		755 hp	QSX15-G9	79452962		
G145 ^M	Genset – Emergency	Cummins	7.5 kW	DNAC-5664495	B048598967	Bldg. 279	20200102
	Engine – Diesel; DOM: 2004	Onan	35 hp	LPW2	03020639		
G151 ^M	Fire Pump	Clarke	311 hp	JW6H-UFADF0	RG6090L100155	Bldg. 799	20200102
	Engine – Diesel; DOM: 2010	John Deere		6090HFC47A.B.			
G152 ^M	Fire Pump	Clarke	311 hp	JW6H-UFADF0	RG6090L100152	Bldg. 799	20200102
	Engine – Diesel; DOM: 2010	John Deere		6090HFC47A.B.			
G164 ^M	Genset – Emergency	Cummins	600 kW	DQCA-1995210	H190619133	Bldg. 1011	20200102
	Engine – Diesel; DOM: 06/2019		1,220 hp	QSK23-G7	85006244		
G166 ^M	Genset – Emergency	Cummins	125 kW	C125D6C-1870134	L180463376	Bldg. 93	20200102
	Engine – Diesel; DOM: 2018		208 hp	QSB5-G6 NR3	74421187		
G167 ^M	Genset – Emergency	Cummins	450 kW	DEFJ-1870133	I18046246	Bldg. 279	20200102
	Engine – Diesel; DOM: 04/2021		755 kW	QSX15-G9	80126465		
G168 ^M	Emergency Generator	Cummins	750 kW	DQCB	F210936351	Bldg. 1061	20200102
	Engine, 2021		1,100 hp	QSK23-G7	85009371		
G169 ^M	Emergency Generator	Cummins	750 kW	DQCB	F210936352	Bldg. 1057	20200102
	Engine, 2021		1,100 hp	QSK23-G7	85009381		
G170 ^M	Emergency Generator	Cummins	800 kW	DQCC	F210939357	Bldg. 1057	20200102
	Engine, 2021		1,183 hp	QSK23-G7	85008963		
G171 ^M	Emergency Generator	Cummins	800 kW	DQCC	F210936353	Bldg. 1061	20200102
	Engine, 2021		1,183 hp	QSK23-G7	85009372		

^MAdministrative modification, such as change of engine rating, building location, manufacture name, serial number, or model number (modification highlighted with bold text).

B. EXEMPTIONS

The following units or activities are exempt and will be maintained on-site:

- Aircraft Arrestors: A letter issued to Creech dated June 13, 2014, granted an exemption under the National Security Exemption for these engines.
- DoD engines.
- Non-road engines.

C. SOURCE-WIDE PTE

Creech AFB is a major Title V source for NO_x and a minor source for all other air pollutants including GHG.

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

PM ₁₀	PM _{2.5}	NO _x	CO	SO ₂	VOC	HAPs	GHG ¹
20.21	11.94	206.72	49.26	0.95	40.29	9.67	38,249.27

¹Metric tons per year

D. SOURCE APPLICABILITY/STATUS DETERMINATION EMISSIONS

Table III-D-1: Applicability/Source Determination PTE (tons per year)

Activity	PM ₁₀	PM _{2.5}	NO _x	CO	SO ₂	VOC	HAPs	H ₂ S	Pb	GHG
Storage Tanks/Loading Arms/ Fuel Dispensing	0	0	0	0	0	26.34	2.42	0	0	0
External Combustion Units	1.47	1.47	25.71	15.52	0.14	2.06	0.14	0	0	26,204.57
Internal Combustion Units	9.43	9.43	196.93	33.94	0.83	17.23	0.70	0	0	12,044.70
Mineral Processing	21.79	3.87	0	0	0	0	0	0	0	0
Surface Coating	0	0	0	0	0	6.60	4.62	0	0	0
Miscellaneous Chemical Usage	0	0	0	0	0	5.00	2.5	0	0	0
Subtotal:	32.69	14.77	222.64	49.46	0.97	57.23	7.96	0	0	38,249.27
Insignificant Activities¹										
Diesel Storage Tanks/Loading Racks/ Fuel Dispensing	0	0	0	0	0	1.69	0.12	0	0	0
Abrasive Blasting	0.01	0.01	0	0	0	0	0	0	0	0
Degreasers	0	0	0	0	0	0.41	0	0	0	0
Woodworking	0.44	0.33	0	0	0	0	0	0	0	0
Fuel Cell Maintenance	0	0	0	0	0	0.02	0.02	0	0	0
Subtotal:	0.45	0.34	0	0	0	2.12	0.14	0	0	0
Total:	33.14	15.11	222.64	49.46	0.97	59.35	8.10	0	0	38,249.27

¹ The emissions from insignificant activities are not included in the PTE. There are no regulatory requirements for these units.

E. ALLOWABLE EMISSIONS

The following tables summarize the Allowable PTE for the source:

Table III-E-1: PTE by Process (tons per year)

Activity	PM ₁₀	PM _{2.5}	NO _x	CO	SO ₂	VOC	HAPs	H ₂ S	Pb	GHG
Storage Tanks/Loading Arms/ Fuel Dispensing	0	0	0	0	0	13.60	1.76	0	0	0
External Combustion Units	1.47	1.47	25.71	15.52	0.14	2.06	0.14	0	0	26,204.57

Internal Combustion Units	8.93	8.93	181.01	33.74	0.81	13.03	0.65	0	0	12,044.70
Mineral Processing	9.81	1.54	0	0	0	0	0	0	0	0
Surface Coating	0	0	0	0	0	6.60	4.62	0	0	0
Miscellaneous Chemical Usage	0	0	0	0	0	5.00	2.50	0	0	0
Total:	20.21	11.94	206.72	49.26	0.95	40.29	9.67	0	0	38,249.27

Table III-E-2: Tanks/Loading Arms (tons/year)

EU	Building #	Description	Fuel	Capacity (gallons)	Throughput (gallons/year)	VOC PTE	HAP PTE
Tanks							
J001	687	Horizontal Fixed Roof AST/Rectangular	Gasoline	5,000	3,640,000	10.92	0.57
J002	688	Horizontal Fixed Roof AST/Rectangular	Gasoline	10,000			
Loading Arms							
J014	691	Loading Arms (one loading; one unloading)	Gasoline	N/A	500,000	2.68	1.19
Total:						13.60	1.76

Table III-E-3: External Combustion (tons per year)

EU	Condition	gallons/year	PM ₁₀	PM _{2.5}	NO _x	CO	SO ₂	VOC	HAP	GHG
W001	8,760 hours/year	143,607	0.05	0.05	0.93	0.54	0.01	0.07	0.01	910.63
W002	8,760 hours/year	119,672	0.04	0.04	0.78	0.45	0.01	0.06	0.01	758.86
W003	8,760 hours/year	191,475	0.07	0.07	0.11	0.72	0.01	0.10	0.01	1,214.18
W005	8,760 hours/year	196,262	0.04	0.04	0.65	0.38	0.01	0.05	0.01	637.44
W006	8,760 hours/year	100,525	0.04	0.04	0.82	0.47	0.01	0.06	0.01	795.28
W007	8,760 hours/year	218,282	0.08	0.08	1.42	0.82	0.01	0.11	0.01	1384.16
W008	8,760 hours/year	195,879	0.07	0.07	1.27	0.73	0.01	0.10	0.01	1,242.10
W009	8,760 hours/year	103,397	0.04	0.04	0.67	0.39	0.01	0.05	0.01	655.65
W010	8,760 hours/year	143,607	0.05	0.05	0.93	0.54	0.01	0.07	0.01	910.63
W011	8,760 hours/year	143,607	0.05	0.05	0.93	0.54	0.01	0.07	0.01	910.63
W012	8,760 hours/year	1,132,577	0.40	0.40	7.36	4.25	0.01	0.56	0.01	7178.88
W013	8,760 hours/year	956,240	0.34	0.34	6.22	3.59	0.01	0.48	0.01	6065.59
C003	8,760 hours/year	279,171	0.10	0.10	1.81	1.05	0.01	0.14	0.01	1770.27
C004	8,760 hours/year	279,171	0.10	0.10	1.81	1.05	0.01	0.14	0.01	1770.27
Total:			1.47	1.47	25.71	15.52	0.14	2.06	0.14	26,204.57

Table III-E-4: Internal Combustion (tons per year)

EU	Rating	Condition	PM ₁₀	PM _{2.5}	NO _x	CO	SO ₂	VOC	HAP	GHG
G003	170 hp	500 hours/year	0.09	0.09	1.32	0.28	0.01	0.11	0.01	48.88
G005	250 hp	500 hours/year	0.01	0.01	0.41	0.05	0.02	0.01	0.01	71.88
G006	145 hp	500 hours/year	0.01	0.01	0.19	0.04	0.01	0.01	0.01	41.69
G013	364 hp	500 hours/year	0.20	0.20	2.82	0.61	0.01	0.23	0.01	104.65
G014	470 hp	500 hours/year	0.01	0.01	0.67	0.02	0.01	0.02	0.01	135.13
G015	610 hp	500 hours/year	0.11	0.11	3.66	0.84	0.01	0.11	0.01	176.90
G016	755 hp	500 hours/year	0.02	0.02	1.80	0.12	0.01	0.12	0.01	218.95

EU	Rating	Condition	PM ₁₀	PM _{2.5}	NO _x	CO	SO ₂	VOC	HAP	GHG
G017	1,490 hp	500 hours/year	0.10	0.10	3.26	0.38	0.01	0.07	0.01	432.10
G019	465 hp	500 hours/year	0.26	0.26	3.60	0.78	0.01	0.29	0.01	133.69
G020	207 hp	500 hours/year	0.11	0.11	1.60	0.35	0.01	0.13	0.01	59.51
G021	207 hp	500 hours/year	0.11	0.11	1.60	0.35	0.01	0.13	0.01	59.51
G022	207 hp	500 hours/year	0.11	0.11	1.60	0.35	0.01	0.13	0.01	59.51
G025	51 hp	500 hours/year	0.01	0.01	0.13	0.05	0.01	0.02	0.01	14.66
G026	130 hp	500 hours/year	0.07	0.07	1.01	0.22	0.01	0.08	0.01	37.38
G027	207 hp	500 hours/year	0.06	0.06	0.78	0.26	0.01	0.02	0.01	59.51
G057	2,953 hp	500 hours/year	0.03	0.03	9.44	0.62	0.18	0.15	0.01	856.37
G058	48 hp	500 hours/year	0.03	0.03	0.37	0.08	0.01	0.03	0.01	13.80
G117	470 hp	500 hours/year	0.01	0.01	0.67	0.02	0.01	0.02	0.01	135.13
G118	2,220 hp	500 hours/year	0.07	0.07	5.28	1.09	0.01	0.28	0.01	643.80
G123	250 hp	500 hours/year	0.01	0.01	0.41	0.05	0.02	0.01	0.01	71.88
G124	157 hp	500 hours/year	0.01	0.01	0.24	0.07	0.01	0.10	0.01	45.07
G127	364 hp	500 hours/year	0.03	0.03	0.60	0.52	0.01	0.23	0.01	104.65
G130	175 hp	500 hours/year	0.10	0.10	1.36	0.29	0.01	0.11	0.01	50.31
G131	175 hp	500 hours/year	0.10	0.10	1.36	0.29	0.01	0.11	0.01	50.31
G133	183 hp	500 hours/year	0.10	0.10	1.42	0.31	0.01	0.12	0.01	52.61
G134	183 hp	500 hours/year	0.10	0.10	1.42	0.31	0.01	0.12	0.01	52.61
G136	755 hp	500 hours/year	0.05	0.05	1.62	0.37	0.01	0.04	0.01	218.95
G137	364 hp	500 hours/year	0.03	0.03	0.60	0.52	0.01	0.23	0.01	104.65
G138	470 hp	500 hours/year	0.01	0.01	0.67	0.02	0.01	0.02	0.01	135.13
G139	56 hp	500 hours/year	0.03	0.03	0.43	0.09	0.01	0.04	0.01	16.10
G140	68 hp	500 hours/year	0.04	0.04	0.53	0.11	0.01	0.04	0.01	19.55
G142	364 hp	500 hours/year	0.01	0.01	1.22	0.05	0.01	0.02	0.01	104.65
G143	81 hp	500 hours/year	0.01	0.01	0.18	0.02	0.01	0.02	0.01	23.29
G145	35 hp	500 hours/year	0.02	0.02	0.27	0.06	0.01	0.02	0.01	10.06
G148	250 hp	500 hours/year	0.01	0.01	0.28	0.07	0.02	0.01	0.01	71.88
G149	399 hp	500 hours/year	0.02	0.02	0.59	0.38	0.01	0.03	0.01	114.71
G150	145 hp	500 hours/year	0.01	0.01	0.23	0.03	0.01	0.01	0.01	41.69
G151	311 hp	500 hours/year	0.02	0.02	0.45	0.14	0.01	0.02	0.01	89.41
G152	311 hp	500 hours/year	0.02	0.02	0.45	0.14	0.01	0.02	0.01	89.41
G153	145 hp	500 hours/year	0.01	0.01	0.23	0.03	0.01	0.01	0.01	41.69
G154	145 hp	500 hours/year	0.01	0.01	0.23	0.03	0.01	0.01	0.01	41.69
G156	1,354 hp	500 hours/year	0.02	0.02	3.25	0.26	0.01	0.24	0.01	392.66
G157	69 hp	500 hours/year	0.01	0.01	0.13	0.06	0.01	0.04	0.01	19.84
G158	324 hp	500 hours/year	0.03	0.03	0.54	0.35	0.01	0.20	0.01	93.15
G159	2,220 hp	500 hours/year	0.07	0.07	5.28	1.09	0.01	0.28	0.01	643.80
G162	470 hp	500 hours/year	0.01	0.01	0.67	0.02	0.01	0.02	0.01	135.13
G163	36 hp	500 hours/year	0.01	0.01	0.04	0.01	0.01	0.01	0.01	10.36
G164	1,220 hp	500 hours/year	0.05	0.05	2.89	0.27	0.01	0.22	0.01	353.80

EU	Rating	Condition	PM ₁₀	PM _{2.5}	NO _x	CO	SO ₂	VOC	HAP	GHG
G165	69 hp	500 hours/year	0.01	0.01	0.11	0.06	0.01	0.04	0.01	19.84
G166	208 hp	500 hours/year	0.11	0.11	1.61	0.35	0.01	0.13	0.01	59.80
G167	755 hp	500 hours/year	0.01	0.01	2.14	0.17	0.01	0.03	0.01	218.95
G168	1,100 hp	500 hours/year	0.03	0.03	3.56	0.17	0.01	0.07	0.01	309.81
G169	1,100 hp	500 hours/year	0.03	0.03	3.56	0.17	0.01	0.07	0.01	309.81
G170	1,183 hp	500 hours/year	0.03	0.03	4.24	0.22	0.01	0.07	0.01	333.18
G171	1,183 hp	500 hours/year	0.03	0.03	4.24	0.22	0.01	0.07	0.01	333.18
G172	107 hp	500 hours/year	0.01	0.01	0.11	0.01	0.01	0.01	0.01	30.14
B001	500 hp	2,080 hours/year	0.15	0.15	4.96	0.68	0.01	1.31	0.01	598.00
NTTR1	600 hp	280,000 gal/year	6.08	6.08	86.44	18.62	0.03	6.86	0.07	3,214.40
NTTR2	1,000 hp	10,000 gal/year	0.07	0.07	2.24	0.60	0.01	0.06	0.01	115.50
Total:			8.93	8.93	181.01	33.74	0.80	13.03	0.65	12,044.70

Table III-E-5: Mineral Processing (tons per year)

EU	Description	Condition	PM ₁₀	PM _{2.5}
A001	Loading/Hopper		0.01	0.01
A003	Crusher	520,000	0.14	0.03
	Conveyor		0.01	0.01
	Screen		0.19	0.01
	Side Discharge Conveyor		0.01	0.01
	Front Discharge Conveyor		0.01	0.01
	Front Oversize Conveyor		0.01	0.01
	Discharge Conveyor		0.01	0.01
A003a	Stacker (Front Extend)		0.01	0.01
A003b	Stacker (Side Extend)		0.01	0.01
A017	Truck Loading		0.01	0.01
A015	Storage Piles - 2 Acres	2 Acres	0.61	0.09
A016	Unpaved Haul Roads	23,112 VMT	8.75	1.32
Total:			9.81	1.54

Table III-E-6: Surface Coating (tons per year)

Building Number	EU	Description	Coatings Usage (gallons/year)	Solids Content (lb/gallon)	VOC Content (lb/gallon)	HAP Content (lb/gallon)	Filter Control Efficiency	HVLP Transfer Efficiency	VOC PTE	HAP PTE
230	C001	Spray Booth	940	11.57	7.49	5.24	99%	65%	3.52	2.46
1004	C002	Spray Booth	822	11.57	7.49	5.24	99%	65%	3.08	2.15
Total:									6.60	4.62

IV. OPERATIONAL LIMITS, CONTROLS AND COMPLIANCE DEMONSTRATION

A. OPERATIONAL LIMITS

Storage Tanks/Loading Arms/Fuel Dispensing:

- All operational limits remain in effect.

External Combustion Units:

- All operational limits remain in effect.

Internal Combustion Units:

Emergency engines shall be limited to operating 100 hours per year for testing and maintenance purposes, including nonemergency limitations. On May 1, 2015, the U.S. Court of Appeals for the District of Columbia Circuit issued a decision to vacate provisions in 40 CFR Part 60, Subpart IIII and 40 CFR Part 63, Subpart ZZZZ that allowed emergency engines to operate for demand response and when there is a deviation of voltage or frequency.

DAQ prohibited sources from operating emergency generators for those activities, consistent with the court decision and EPA's April 15, 2016, implementation memo. On August 10, 2022, EPA published a notice in the *Federal Register* (87 FR 48603) formally promulgating changes to the three CFR subparts listed above. Now, except as provided in 40 CFR Part 60.4211(f)(3)(i) and/or 40 CFR Parts 63.6640(f)(4)(i) and (ii), emergency generators cannot by definition be used for peak shavings or demand response, or to generate income for a facility by supplying power to an electric grid or to otherwise supply power as part of a financial arrangement with another entity. In order to operate a generator for peak shavings, demand response, or to generate income for a facility by supplying power to an electric grid or to otherwise supply power as part of a financial arrangement with another entity, the permittee must request the engine be treated as a nonemergency engine. The conditions in the permit were updated to address the updated regulations for the affected emission units in the permit.

Mineral Processing:

- All operational limits remain in effect.

Surface Coating:

- All operational limits remain in effect.

Miscellaneous Chemicals:

- All operational limits remain in effect.

B. CONTROL TECHNOLOGY

The permittee is required to operate Phase I controls for the gasoline dispensing operations. The permittee decommissioned Phase II controls for the gasoline dispensing operation prior to submittal of the application for this permitting action.

This permitting action does not trigger any additional changes to control requirements. All other existing control requirements are being retained.

C. MONITORING

No visible emissions checks are required for gasoline dispensing operations, spray booths, and propane fired external combustion units.

Daily visible emission checks required for the crushing processes and quarterly visible emission checks required for all engines.

Monitoring of hours of operation and fuel usage are included in the permit for units with operational limits.

General maintenance is required for all emergency engines.

Revisions to the monitoring requirements for the fuel storage and dispensing system (conditions 1.1.4.1.2 and 1.1.4.1.2.a) specify the source's normal hours of operation (Monday – Friday). The permittee is still required to conduct inspections for fuel deliveries received outside of normal operating hours.

D. PERFORMANCE TESTING

Initial performance testing for the crushing equipment in accordance with 40 CFR Part 60, Subpart OOO, was conducted on October 17, 2012, and passed.

Initial performance testing for the 335 hp engine for the crushing equipment in accordance with 40 CFR Part 63, Subpart ZZZZ, was conducted on February 12, 2015, and passed.

Another initial testing was required with the change to 500 hp for EU: B001. Testing was conducted on August 7, 2020, in accordance with 40 CFR Part 63, Subpart ZZZZ and passed.

Initial performance testing for the gasoline dispensing operations in accordance with 40 CFR Part 63, Subpart CCCCC, has been conducted and successfully passed. Subsequent testing is required every three years.

Performance testing upon removal of the Phase II recovery controls for the gasoline dispensing operations in accordance with 40 CFR Part 63, Subpart CCCCC, was conducted on March 8, 2023, and passed.

E. CONTROL TECHNOLOGY ANALYSIS

As shown in Table III-F-4, this permitting action does not trigger minor NSR significance thresholds. There are no significant changes to monitoring, reporting, or recordkeeping requirements. Therefore, this action does not trigger any control technology analysis. All existing control requirements remain in effect.

F. PUBLIC PARTICIPATION

Pursuant to AQR 12.5.2.17, the Control Officer shall provide for public notice, comment, and an opportunity for a hearing on initial permit issuances, significant revisions, reopenings for cause, and renewals in accordance with the procedures outlined in the regulation. As this action is a minor revision of the Title V permit, this permitting action does not meet the criteria for public participation. Therefore, the public participation process has not been conducted for this minor revision.

V. REGULATORY REVIEW

A. LOCAL REGULATORY REQUIREMENTS

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

- Section 26, “Emission of Visible Air Contaminants”
- Section 40, “Prohibitions of Nuisance”
- Section 43, “Odors in the Ambient Air”
- Section 70, “Emergency Procedures”
- Section 80, “Circumvention”

B. FEDERALLY APPLICABLE REGULATIONS

The modified emergency generator (EU: G145) is subject to 40 CFR Part 63, Subpart ZZZZ.

The aboveground gasoline storage tanks (EUs: J001 and J002) are subject to 40 CFR Part 63, Subpart CCCCC.

The applicable 40 CFR Part 63 Subpart ZZZZ and Subpart CCCCC requirements are included in the existing permit.

This permitting action does not trigger additional federally applicable regulations for the source.

VI. COMPLIANCE

A. COMPLIANCE CERTIFICATION

Recordkeeping requirements are to be kept for all limitations specified in the permit.

1. Reporting Requirements

a. Requirements for compliance certification under AQR 12.5.2.8:

- i. Regardless of the date of issuance of this Part 70 OP, the schedule for the submittal of reports to DAQ shall be that in Table VI-A-1.

Table VI-A-1. : Reporting Schedule

Required Report	Applicable Period	Due Date
Semiannual Report for 1st half of the year.	January, February, March, April, May, June	July 30 th each year ¹
Semiannual Report for 2nd half of the year. Any additional annual records required.	July, August, September, October, November, December	January 30 th each year ¹
Annual Compliance Certification	Calendar year	January 30 th each year ¹
Annual Emission Inventory Report	Calendar year	March 31 st each year ¹
Annual Emission Statement ²	Calendar year	March 31 st each year ¹
Excess Emission Notification	As required	Within 24 hours of the onset of the event

Excess Emission Report	As required	As soon as practicable but not to exceed 72 hours from notification
Deviation Report	As required	Along with semiannual reports ¹
Excess Emissions that Pose a Potential Imminent and Substantial Danger	As required	Within 12 hours of the permittee learns of the event
Performance Testing Protocol	As required	No less than 45 days, but no more than 90 days, before the anticipated test date ¹
Performance Testing	As required	Within 60 days from the end of the test ¹

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

²Required only for stationary sources that emit 25 tons or more of NO_x and/or 25 tons or more of VOCs during a calendar year.

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

The permittee is required to report the serial numbers of the like-in-kind replacement boiler (EU: W008) within 15 days of commencing operation of the replacement units.

B. COMPLIANCE SUMMARY

Table VI-B-1: Applicable Regulations

Citation	Title	Applicability	Applicable Test Method	Compliance Status
AQR 0	Definitions	Applicable – Creech AFB will comply with all applicable definitions as they apply.	Creech AFB will meet all applicable test methods should new definitions apply.	Creech AFB complies with applicable requirements.
AQR 4	Control Officer	Applicable – The Control Officer or his representative may enter into Creech AFB property, with or without prior notice, at any reasonable time for purpose of establishing compliance.	Creech AFB will allow Control Officer to enter Station property as required.	Creech AFB complies with applicable requirements.
AQR 5	Interference with Control Officer	Applicable – Creech AFB shall not hinder, obstruct, delay, resist, or interfere with the Control Officer.	Creech AFB will allow Control Officer to operate as needed.	Creech AFB complies with applicable requirements.
AQR 8	Persons Liable for Penalties	Applicable – Creech AFB and employees will be individually and collectively liable to any penalty or punishment from Air Quality.	Creech AFB will adhere to the rules stipulated in applicable AQR.	Creech AFB complies with applicable requirements.
AQR 9	Civil Penalties	Applicable – The rule stipulates penalties for AQR violations.	Creech AFB will adhere to the rules stipulated in applicable AQR.	Creech AFB complies with applicable requirements.

Citation	Title	Applicability	Applicable Test Method	Compliance Status
AQR 10	Compliance Schedule	Applicable – Any existing source not in compliance with emission limitations shall submit a compliance schedule.	Creech AFB will adhere to emission limitations and submit a compliance schedule if those limits are exceeded.	Creech AFB complies with applicable requirements.
AQR 11	Ambient Air Quality Standards	Applicable - Creech AFB is a source of air pollutants.	EPA – approved dispersion modeling.	Creech AFB complies with applicable requirements.
AQR 12.0	Applicability, General Requirements and Transition	Applicable – Creech AFB 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.	Creech AFB applied for and received ATC permits for Air Quality prior to commercial operation. Creech AFB will comply with the requirements of the ATCs.	Creech AFB complies with applicable requirements.
AQR 12.1	Permit Requirements for Minor Sources	Not Applicable.	Creech AFB applied for and received ATC permits for Air Quality prior to commercial operation. Creech AFB will comply with the requirements of the ATCs.	Creech AFB complies with applicable requirements.
AQR 12.2	Permit Requirements for Major Sources in Attainment Areas (PSD)	Not Applicable.	Not Applicable.	Not Applicable.
AQR 12.3	Permit Requirements for Major Sources in Nonattainment Areas	Not Applicable.	Not Applicable.	Not Applicable.
AQR 12.4	ATC application and Permit Requirements for Part 70 Sources	Applicable – Creech AFB applied for an ATC from Air Quality.	Creech AFB applied for, and received, ATC permits from Air Quality. Creech AFB shall comply with the requirements for ATCs.	Creech AFB complies with applicable requirements.
AQR 12.5	Part 70 OP Requirements	Applicable – Creech AFB as a whole is applicable. Renewal applications are due 6 to 18 months prior to expiration. Revision applications will be submitted within 12 months of commencing operation of a new emission unit.	Creech AFB complies with the requirements for Title V permits outlined in this AQR and with the current ATC.	Creech AFB complies with applicable requirements.
AQR 12.9	Annual Emissions Inventory	Applicable – Creech AFB shall complete and submit an annual emissions inventory.	Annual emission inventories shall be submitted by March 31 each year.	Creech AFB complies with applicable requirements.

Citation	Title	Applicability	Applicable Test Method	Compliance Status
AQR 12.10	Continuous Monitoring Requirements	Not Applicable.	Not Applicable.	Not Applicable.
AQR 13.2(b)(1) Subpart A	MACT – General Provisions	Applicable – Creech AFB emits hazardous air pollutants.	Creech AFB complies with the applicable requirements of 40 CFR Part 61 and Part 63.	Creech AFB complies with applicable requirements.
AQR 13.2(b)(82) Subpart ZZZZ	National Emission Standard for Hazardous Air Pollutants – Stationary Reciprocating Internal Combustion Engines	Applicable – as of May 3, 2013, for the affected units in this permit.	Applicable compliance, monitoring, recordkeeping, and reporting requirements.	Creech AFB complies with applicable requirements.
AQR 13.2(109) Subpart CCCCCC	National Emission Standard for Hazardous Air Pollutants – Gasoline Dispensing Facilities	Applicable – Creech AFB is subject to this regulation.	Applicable compliance, monitoring, recordkeeping, and reporting requirements.	Creech AFB complies with applicable requirements.
AQR 14.1(b)(1) Subpart A	NSPS – General Provisions	Applicable – Creech AFB is an affected source under the regulations. AQR Section 14 is locally enforceable; however, the NSPS standards they reference are federally enforceable.	Applicable monitoring, recordkeeping and reporting requirements.	Creech AFB complies with applicable requirements.
AQR 14.1(b)(68) Subpart OOO	NSPS – Standards of Performance for Nonmetallic Processing Plants	Applicable – Creech AFB is subject to this regulation.	Creech AFB is required to comply with the grain loading standard and opacity requirements.	Creech AFB complies with applicable requirements.
AQR 14.1(b)(80) Subpart IIII	NSPS – Standards of Performance for Stationary Reciprocating Internal Combustion Engines	Applicable – Creech AFB is subject to this regulation.	Creech AFB has met the required certification for these engines.	Creech AFB complies with applicable requirements.
AQR 18	Permit and Technical Service Fees	Applicable – Creech AFB will be required to pay all required/applicable permit and technical service fees.	Creech AFB is required to pay all required/applicable permit and technical service fees.	Creech AFB complies with applicable requirements.
AQR 21	Acid Rain Permits	Not Applicable.	Not Applicable.	Not Applicable.
AQR 22	Acid Rain Continuous Emission Monitoring	Not Applicable.	Not Applicable.	Not Applicable.

Citation	Title	Applicability	Applicable Test Method	Compliance Status
AQR 25	Upset/Breakdown, Malfunctions	Applicable – Any upset, breakdown, emergency condition, or malfunction which causes emissions of regulated air pollutants in excess of any permit limits shall be reported to Control Officer. Section 25.1 is locally and federally enforceable.	Any upset, breakdown, emergency condition, or malfunction in which emissions exceed any permit limit shall be reported to the Control Officer within twenty (24) hours of the time that the permittee learns of the event.	Creech AFB complies with applicable requirements.
AQR 26	Emissions of Visible Air Contaminants	Applicable – Opacity for the Creech AFB combustion turbines must not exceed 20 percent for more than 6 consecutive minutes.	Compliance determined by EPA Method 9.	Creech AFB complies with applicable requirements.
AQR 27	Particulate Matter from Process Weight Rate	Applicable – Creech AFB emission units are required to meet the maximum process weight rate based emission limit based on maximum design and rate of equipment.	Compliance determined by meeting maximum particulate matter discharge rate based on process rate.	Creech AFB complies with applicable requirements.
AQR 28	Fuel Burning Equipment	Applicable – The PM emission rate for the combustion the turbines is well below those established based on Section 28 requirements.	Maximum allowable PM emission rate determined from equation in Section 28.	Creech AFB complies with applicable requirements.
AQR 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.	Creech AFB air contaminant emissions controlled by pollution control devices or good combustion in order not to cause a nuisance.	Creech AFB complies with applicable requirements.
AQR 41	Fugitive Dust	Applicable – Creech AFB shall take necessary actions to abate fugitive dust from becoming airborne.	Creech AFB utilizes appropriate best practices to not allow airborne fugitive dust.	Creech AFB complies with applicable requirements.
AQR 42	Open Burning	Applicable – In event Creech AFB 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.	Creech AFB will contact the Air Quality and obtain approval in advance for applicable burning activities as identified in the rule.	Creech AFB complies with applicable requirements.
AQR 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.	Creech AFB will not operate its source in a manner which will cause odors.	Creech AFB complies with applicable requirements.

Citation	Title	Applicability	Applicable Test Method	Compliance Status
AQR 70.4	Emergency Procedures	Applicable – Creech AFB submitted an emergency standby plan for reducing or eliminating air pollutant emissions in the Section 12.5 OP Application.	Creech AFB submitted an emergency standby plan and received the Section 12.5 OP.	Creech AFB complies with applicable requirements.
AQR 80	Circumvention	Applicable – Creech AFB shall not conceal emissions in any way.	Creech AFB will disclose all emissions as required by state and federal regulations.	Creech AFB complies with applicable requirements.
AQR 92	Fugitive Dust	Applicable – Creech AFB shall take necessary actions to abate fugitive dust from becoming airborne.	Creech AFB utilizes appropriate best practices to not allow airborne fugitive dust.	Creech AFB complies with applicable requirements.
AQR 94	Permitting and Dust Control for Construction Activities.	Applicable – Creech AFB shall apply for a dust control permit in the event of engaging in a construction activity greater than 0.25 acre.	Applicable – Creech AFB shall apply for a dust control permit in the event of engaging in a construction activity greater than 0.25 acre.	Creech AFB complies with applicable requirements.
NRS Ch. 445B	Nevada Revised Statutes, Air pollution	Applicable – Creech AFB shall comply with applicable regulations.	Creech AFB complies with applicable regulations.	Creech AFB complies with applicable requirements.
40 CFR Part 52.21	Prevention of Significant Deterioration	Applicable – Creech AFB is a minor source for PSD.	Creech AFB complies with the regulations of the Section.	Creech AFB complies with applicable requirements.
40 CFR Part 52.1470	State Implementation Plan Rules	Applicable – Creech AFB is subject to the Nevada SIP.	Creech AFB shall continue to comply with the federally enforceable monitoring, testing, recordkeeping, and reporting requirements stipulated in the SIP.	Creech AFB complies with applicable requirements.
40 CFR Part 60 Subpart A	Standards of Performance for New Stationary Sources – General provisions	Applicable – Creech AFB is an affected facility under NSPS Subpart GG. Therefore, Subpart A provisions are applicable.	Creech AFB shall continue to adhere to applicable monitoring, testing, recordkeeping, and reporting regulations.	Creech AFB complies with applicable requirements.
40 CFR Part 60 Subpart OOO	Standards of Performance for Nonmetallic Processing Plants	Applicable – Creech AFB is subject to this regulation.	Creech AFB is required to comply with the grain loading standard and opacity requirements.	Creech AFB complies with applicable requirements.

Citation	Title	Applicability	Applicable Test Method	Compliance Status
40 CFR Part 60 Subpart IIII	Standards of Performance for	Applicable – Creech AFB is subject to this regulation.	Creech AFB shall continue to adhere to applicable monitoring, testing, recordkeeping, and reporting regulations.	Creech AFB complies with applicable requirements.
40 CFR Part 63 Subpart ZZZZ	National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines	Applicable – The continuous-duty generators/water pump is subject to this subpart.	Creech AFB shall continue to adhere to the applicable emission limitations, operating and maintenance requirements, recordkeeping, reporting, and general provisions.	Creech AFB complies with applicable requirements.
40 CFR Part 63 Subpart CCCCC	National Emission Standard for Hazardous Air Pollutants – Gasoline Dispensing Facilities	Applicable –Creech AFB is subject to this regulation.	Creech AFB shall continue to adhere to the applicable emission limitations, operating and maintenance requirements, recordkeeping, reporting, and general provisions.	Creech AFB complies with applicable requirements.
40 CFR Part 64	Compliance Assurance Monitoring	Not Applicable.	Not Applicable.	Not Applicable.
40 CFR Part 68	Chemical Accident Prevention Provisions	Not Applicable.	Not Applicable.	Not Applicable.
40 CFR Part 70	Federally Mandated OPs	Applicable – The regulations provide for the establishment of State air quality permitting systems consistent with the requirements of Title V of the Clean Air Act.	Creech AFB complies with this regulation by maintaining an updated Title V federal operating permit.	Creech AFB complies with applicable requirements.
40 CFR Part 72	Acid Rain Permit Regulations	Not Applicable.	Not Applicable.	Not Applicable.
40 CFR Part 73	Acid Rain Sulfur Dioxide Allowance System	Not Applicable.	Not Applicable.	Not Applicable.
40 CFR Part 75	Acid Rain Continuous Emission Monitoring	Not Applicable.	Not Applicable.	Not Applicable.
40 CFR Part 82	Protection of Stratospheric Ozone	Applicable – Creech AFB is subject to the applicable rules regarding protection of stratospheric ozone.	Creech AFB does not use or sell a substitute material for a device designated to use a CFC or HCFC and keeps records applicable to the rule onsite.	Creech AFB complies with applicable requirements.

C. SUMMARY OF MONITORING FOR COMPLIANCE

Table VI-C-1: Compliance Monitoring

EU	Regulation (40 CFR)	Regulatory Standard	Permit Limit	Is Permit Limit Equal or More Stringent?	Averaging Period Comparison			Streamlining Statement
					Standard	Permit Limit	Is Permit Limit Equal or More Stringent?	
A003	60.672(b) and 60.675(c)(3) (OOO)	(Opacity) ≤12%	≤12%	Yes	30 minutes (five 6 minute averages)		Yes	The permit requirements and federal standards are identical
A001, A003a, A003b	60.672(b) and 60.675(c)(3) (OOO)	(Opacity) ≤7%	≤7%	Yes	30 minutes (five 6 minute averages)		Yes	The permit requirements and federal standards are identical
B001	63.6595 (ZZZZ)	CO 49 ppmvd or reduced by 70% or more	CO 49 ppmvd or reduced by 70% or more	Yes	Initial testing		Yes	The permit requirements and federal standards are identical
G005, G006, G014, G016, G017, G027, G057, G117, G118, G123, G124, G127, G136, F137, G138, G141, G142, G143, G145, G148, G149, G150, G153, G154, G156, G157, G158, G159, G162, G163, G164, G165, G166, G167, G168, G169, G170, G171, G172	60.4205(b) and 60.4211 (VIII)	Various limits for NOx, CO, PM, and VOC pollutants based on model year and engine power rating		Yes	Compliance demonstrated by keeping records of engine manufacturer's certified emissions data		Yes	The permit requirements and federal standards are identical
G025, G130, G131, G133, G134, G151, G152	60.4205(c) and 60.4211 (VIII)	Various limits for NOx, CO, PM, and VOC pollutants based on model year and engine power rating		Yes	Compliance demonstrated by keeping records of engine manufacturer's certified emissions data		Yes	The permit requirements and federal standards are identical

EU	Regulation (40 CFR)	Regulatory Standard	Permit Limit	Is Permit Limit Equal or More Stringent?	Averaging Period Comparison			Streamlining Statement
					Standard	Permit Limit	Is Permit Limit Equal or More Stringent?	
G003,G013, G015,G019, G020, G021, G022, G026, G058, G139, G140	63.6640 (ZZZZ)	Various maintenance requirements and CO emission limits based on engine power rating		Yes	Compliance is demonstrated by keeping records of engine manufacturer's certified emission data and maintenance and repair logs.		Yes	The permit requirements and federal standards are identical
J001, J002	63.11116(a) and 63.11117(b) (CCCCC)	<ol style="list-style-type: none"> 1. Cover open gasoline containers 2. Storage tank fill pipes seal with gasket 3. Minimize gasoline sent to open waste collection systems 4. Minimize spills and clean up expeditiously 5. Before 11/09/2006, submerged fill pipe maximum 12" from bottom of tank. 6. After 11/09/2006, submerged fill pipe maximum 6" from bottom of tank. 		Yes	Compliance is demonstrated by maintaining records and submitting reports as specified in 63.11125 and 63.11126		Yes	The permit requirements and federal standards are identical
J001, J002	63.11118(b) (CCCCC)	<ol style="list-style-type: none"> 1.Phase I dual point vapor balance system required (minimum 95% control) 2. Liquid fill connections shall be equipped with vapor tight caps 3. Pressure/vacuum vents shall be installed on storage tank vent pipes. 4. Cargo tankers must be vapor tight 5. Vapor connections and lines on storage tank shall be equipped with closures that seal upon disconnect. 6. Pressure in the tanks shall not exceed 5.9 inches of vacuum during product transfer. 		Yes	Compliance is demonstrated by following the testing requirements of 63.11120 and also by maintaining records and submitting reports as specified in 63.11125 and 63.11126		Yes	The permit requirements and federal standards are identical

EU	Regulation (40 CFR)	Regulatory Standard	Permit Limit	Is Permit Limit Equal or More Stringent?	Averaging Period Comparison			Streamlining Statement
					Standard	Permit Limit	Is Permit Limit Equal or More Stringent?	
J001, J002	63.11118(d)	1. All hoses, couplers, and adapters used to deliver fuel from tanker shall be vapor tight. 2. All hatches on the tanker shall be closed and securely fastened. 3. All hoses in the vapor balance system shall be properly connected prior to fuel delivery.		Yes	Compliance is demonstrated by following the testing requirements of 63.11120 and also by maintaining records and submitting reports as specified in 63.11125 and 63.11126		Yes	The permit requirements and federal standards are identical

VII. EMISSION REDUCTION CREDITS (OFFSETS)

The permittee is not required to obtain offsets in this permitting action.

VIII. ADMINISTRATIVE REQUIREMENTS

AQR Section 12.5 requires that Air Quality identify the original authority for each term or condition in the Part 70 OP. Such reference of origin or citation is denoted by *[italic text in brackets]* after each Part 70 OP condition. Air Quality proposes to issue the Part 70 OP conditions on the following basis:

Legal:

On December 5, 2001, in 66 FR 30097, EPA fully approved the Title V Operating Permit Program submitted by DAQ for the purpose of complying with the Title V requirements of the 1990 CAAA and implementing 40 CFR Part 70.

Factual:

Creech AFB has supplied all the necessary information for Air Quality to draft Part 70 OP conditions, encompassing all applicable requirements and corresponding compliance.

Conclusion:

DAQ has determined that Creech AFB will continue to determine compliance through the use of performance testing, semi-annual reporting, and daily and monthly recordkeeping coupled with annual certifications of compliance. Air Quality proceeds with the decision that a Part 70 OP should be issued as drafted to Creech AFB for a period not to exceed five years.

IX. MODELING

A. INCREMENT ANALYSIS

Creech Air Force Base is a major source in Hydrographic Areas 160, 161, 168, 211 and 212. Since minor source baseline dates for NO_x (October 21, 1988) and SO₂ (June 29, 1979) have been triggered for HA 212, Prevention of Significant Deterioration (PSD) increment analysis is required. Permitted emission units include boilers, generators, fire pumps, mineral processing, surface coating and fuel dispensing.

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 IX-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 IX-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	0.20 ¹	635990	4039604
SO ₂	24-hour	0.03 ¹	635990	4039604
SO ₂	Annual	0.01	638680	4037248
NO _x	Annual	0.01	638680	4037248

¹ Highest Second High Concentration.

X. ATTACHMENTS

Insignificant Activities List

The following units or activities listed in the Tables X-1, X-2, X-3, X-4, and X-5, are present at this source, but are deemed insignificant. These insignificant activities will be updated by the applicant during the renewal process and may be updated sooner if there is an opportunity.

Table X-1: Insignificant Activities – Tanks/Loading Racks

Building Number	Description	Capacity (gal)	Fuel	Throughput (gal/year)
Insignificant Jet Fuel Tanks				
121	AST	1,000	Jet Fuel	365,000
121	AST	120	Jet Fuel	43,800
121	AST	16,336	Jet Fuel	5,962,640
121	AST	16,336	Jet Fuel	5,962,640
121	AST	250	Jet Fuel	91,255
121	AST	75,000	Jet Fuel	2,000,000
121	AST	26,496	Jet Fuel	2,000,000
121	AST	26,496	Jet Fuel	2,000,000

Building Number	Description	Capacity (gal)	Fuel	Throughput (gal/year)
553	AST	1,000	Jet Fuel	365,000
626	AST	120	Jet Fuel	43,800
687	AST	18,175	Jet Fuel	3,640,000
688	AST	18,175	Jet Fuel	3,640,000
Insignificant Jet Fuel Loading Racks and Fuel Dispensing				
121	Loading Arms (one loading; one unloading)	NA	Jet Fuel	2,000,000
682	Loading Arms (one loading; one unloading)	NA	Jet Fuel	2,000,000
1011	Loading Arms (one loading; one unloading)	NA	Jet Fuel	500,000
Insignificant Waste Fuel Tanks				
255-2	AST	5,000	Jet Fuel	1,825,000
Insignificant Diesel Tanks				
64	AST	1,500	Diesel	547,500
83	AST	127	Diesel	46,355
85	AST	1,700	Diesel	620,500
89	AST	308	Diesel	112,420
93	AST	400	Diesel	146,000
93	AST	256	Diesel	93,440
104	AST	700	Diesel	255,500
120	AST	240	Diesel	87,600
120	AST	240	Diesel	87,600
120 or 121	AST	5,000	Diesel	150,000
120 or 121	AST	5,000	Diesel	150,000
120 or 121	AST	5,000	Diesel	1,825,000
120 or 121	AST	5,000	Diesel	1,825,000
222	AST	145	Diesel	52,925
279	AST	428	Diesel	156,220
279	AST	428	Diesel	156,220
279	AST	850	Diesel	310,250
279	AST	428	Diesel	156,220
279	AST	272	Diesel	99,280
279	AST	272	Diesel	99,280
279	AST	272	Diesel	99,280
279	AST	103	Diesel	37,595
279	AST	103	Diesel	37,595

Building Number	Description	Capacity (gal)	Fuel	Throughput (gal/year)
279	AST	103	Diesel	37,595
625	AST	75	Diesel	27,375
625	AST	103	Diesel	37,595
681	AST	5,000	Diesel	150,000
685	AST	5,000	Diesel	1,825,000
686	AST	5,000	Diesel	1,825,000
703	AST	1,700	Diesel	620,500
707	AST	366	Diesel	133,590
718	AST	1,000	Diesel	365,000
718-1	AST	2,000	Diesel	730,000
718-A	AST	4,000	Diesel	1,460,000
719	AST	240	Diesel	87,600
719	AST	240	Diesel	87,600
799	AST	350	Diesel	127,750
799	AST	350	Diesel	127,750
820	AST	650	Diesel	237,250
1000	AST	2,300	Diesel	839,500
1000	AST	50	Diesel	18,250
1001	AST	317	Diesel	115,705
1001	AST	317	Diesel	115,705
1001	AST	317	Diesel	115,705
1001	AST	500	Diesel	182,500
1003	AST	195	Diesel	71,175
1003	AST	195	Diesel	71,175
1004	AST	559	Diesel	204,035
1005	AST	1,808	Diesel	659,920
1005	AST	8,000	Diesel	2,920,000
1006	AST	5,000	Diesel	1,825,000
1009	AST	1,575	Diesel	574,875
1011	AST	2,070	Diesel	755,550
1011	AST	2,460	Diesel	897,900
1019	AST	366	Diesel	133,590
1022	AST	600	Diesel	219,000
1033	AST	195	Diesel	71,175
1050	AST	145	Diesel	52,925
1052	AST	308	Diesel	112,420
1055	AST	4,615	Diesel	1,684,475
1068	AST	2,460	Diesel	897,900
1078	AST	500	Diesel	182,500
1109	AST	43	Diesel	15,695

Building Number	Description	Capacity (gal)	Fuel	Throughput (gal/year)
1130	AST	1,280	Diesel	467,200
1130	AST	10,000	Diesel	3,650,000
1150	AST	1,161	Diesel	423,765
1210	AST	500	Diesel	182,500
1217	AST	145	Diesel	52,925
2417	AST	300	Diesel	109,500
3922	AST	150	Diesel	54,750
3925	AST	140	Diesel	51,100
Box Canyon	AST	500	Diesel	182,500
Box Canyon	AST	250	Diesel	91,250
Point Bravo	AST	1,000	Diesel	365,000
Range - 630	AST	500	Diesel	182,500
Range - 62 Power PI	AST	250	Diesel	91,250
Range	AST	250	Diesel	91,250
Range	AST	250	Diesel	91,250
Range	AST	250	Diesel	91,250
Range	AST	250	Diesel	91,250
Range	AST	250	Diesel	91,250
Range	AST	500	Diesel	182,500
Range	AST	500	Diesel	182,500
Range 63-A	AST	500	Diesel	182,500
Range 63-A CV20	AST	500	Diesel	182,500
Range 63-A UMTE	AST	250	Diesel	91,250
Range 63-B (Center Watch Tower)	AST	500	Diesel	182,500
Range 63-B (NAVAIR)	AST	500	Diesel	182,500
Range 63-B (Pad 3)	AST	1,000	Diesel	365,000
Range 63-B (Pad 4)	AST	1,000	Diesel	365,000
RANGE 64- C (NORTH TOWER)	AST	500	Diesel	182,500
Range 64-E	AST	500	Diesel	182,500
UO5	AST	500	Diesel	182,500

Building Number	Description	Capacity (gal)	Fuel	Throughput (gal/year)
Insignificant Diesel Loading Racks and Fuel Dispensing				
661	Single Product Dispensing Nozzles (4)	NA	Diesel	1,000,000
692	Loading Arms (two loading; two unloading)	NA	Diesel	150,000

Table X-2: Insignificant Activities – Abrasive Blasting

Location	Description	Manufacturer	Model #	Serial #
Bldg. 227	Media Blasting Booth; 10.0' x 25" x 65"	Custom-Made		
Bldg. 227	Media Blasting Booth; 5.0' x 4.0' x 4.0'	Custom-Made		
Bldg. 791	Media Blasting Booth; 5.0' x 4.0' x 3.0'	Pauli Systems	RAM 35-ACGIH	11531
Bldg. 2284	Media Blasting Booth; 5.0' x 4.0' x 4.0'	Abrasive Blasting Systems	MIL-B-83756C	300902-02-2

Table X-3: Insignificant Activities – Degreasers

Location	Description	Manufacturer	Model #	Serial #
Bldg. 52	Parts Washing Unit; 25 Gallons	Spray Master	SM9400	19099187
Bldg. 115	Parts Washing Unit; 17.5 Gallons	Clarus	PCS-15	
Bldg. 225	Parts Washing Unit; 27.5 Gallons	Clarus	PCS-25	5569
Bldg. 225	Parts Washing Unit; Non-VOC solvent	CUDA	H20-2840	10434160-100212
Bldg. 279	Parts Washing Unit; 85 Gallons	Aladin	2085E	71533
Bldg. 1011	Parts Washing Unit; 30 Gallons	Smart washer	28	2106049
Bldg. 3953	Parts Washing Unit; 25 Gallons	Power Master-Kleen Tec	28-1	02145

Table X-4: Insignificant Activities – Woodworking

Location	Description
Bldg. 231	Woodworking Shop; Cyclone/Fabric Filter; 99% control efficiency (formally EU: H001)

Table X-5: Insignificant Activities – Fuel Cell Maintenance

Location	Description
Various	Fuel Cell Maintenance (formally EU: L001)

Insignificant Activities Calculations

Detail calculations are included in the source folder.

Tanks:

VOC PTE (tpy)	HAPs PTE (tpy)
1.69	0.12

Blasting:

PM₁₀ PTE (tpy)	PM_{2.5} PTE (tpy)
0.01	0.01

Degreasers:

VOC PTE (tpy)
0.41

Woodworking:

PM₁₀ PTE (tpy)	PM_{2.5} PTE (tpy)
0.44	0.33

Fuel Cell:

VOC PTE (tpy)	HAPs PTE (tpy)
0.02	0.02

Facility-wide Calculations:

See Calculations in the following pages

Fuel Dispensing:

J001 and J002 Applicability Emissions:

VOC and HAP PTEs for GDOs with ORVR						
Emission Factor (EF) Components			No control	Units		
UST submerged filling*			0.0073	lbs/gallon		
UST breathing & emptying or "working"			0.001	lbs/gallon		
Refueling emission Factors (w/ ORVR)			0.0040	lbs/gallon		
Spillage			0.0007	lbs/gallon		
Total VOC EF			0.0130	lbs/gallon	0.0000065	tons/gallon
HAP Emission Factors						
Constituent	% VOC	EF	Units			
Benzene	0.9	1.17E-04	lbs/gallon	5.85E-08	tons/gallon	
Ethyl Benzene	0.1	1.30E-05	lbs/gallon	6.5E-09	tons/gallon	
Hexane	1.6	2.08E-04	lbs/gallon	1.04E-07	tons/gallon	
Toluene	1.3	1.69E-04	lbs/gallon	8.45E-08	tons/gallon	
Trimethyl Pentane	0.8	1.04E-04	lbs/gallon	5.2E-08	tons/gallon	
Xylenes	0.5	6.50E-05	lbs/gallon	3.25E-08	tons/gallon	
Total	5.2	0.000676	lbs/gallon	3.38E-07	tons/gallon	
HAP Speciation as a Percentage of VOC						
		Gasoline				
Benzene	0.9					
Ethyl Benzene	0.1					
Hexane	1.6		VOC	Throughput	EF	PTE
Toluene	1.3		HAP	3,640,000	0.0000065	23.66
Trimethyl Pentane	0.8					TPY
Xylenes	0.5					
Total (%)	5.2			3,640,000	3.38E-07	1.23
						TPY

¹ HAP Fraction of VOC emissions for gasoline is based on 'Gasoline Marketing (Stage I and Stage II), Volume III: Chapter 11', prepared by Eastern Research Group, Inc, Prepared for Emissions Inventory Improvement Program (EIIP), January 2001.

J001 and J002 PTE:

VOC and HAP PTEs for GDOs with Phase I and ORVR						
Emission Factor (EF) Components			Phase I @ 95 % control Units			
UST balanced submerged filling			0.0003	lbs/gallon		
UST breathing & emptying or "working"			0.001	lbs/gallon		0.000598523
Refueling emission Factors			0.0040	lbs/gallon		
Spillage			0.0007	lbs/gallon		
Total VOC EF			0.0060	lbs/gallon	0.000003	tons/gallon
HAP Emission Factors						
Constituent	% VOC	EF	Units			
Benzene	0.9		5.40E-05	lbs/gallon	2.7E-08	tons/gallon
Ethyl Benzene	0.1		6.00E-06	lbs/gallon	3E-09	tons/gallon
Hexane	1.6		9.60E-05	lbs/gallon	4.8E-08	tons/gallon
Toluene	1.3		7.80E-05	lbs/gallon	3.9E-08	tons/gallon
Trimethyl Pentane	0.8		4.80E-05	lbs/gallon	2.4E-08	tons/gallon
Xylenes	0.5		3.00E-05	lbs/gallon	1.5E-08	tons/gallon
Total	5.2		0.000312	lbs/gallon	1.56E-07	tons/gallon
HAP Speciation as a Percentage of VOC						
		Gasoline				
Benzene	0.9					
Ethyl Benzene	0.1					
Hexane	1.6		VOC	Throughput	EF	PTE
Toluene	1.3			3,640,000	3.00E-06	10.92
Trimethyl Pentane	0.8		HAP	3,640,000	1.56E-07	0.57
Xylenes	0.5					
Total (%)	5.2					
¹ HAP Fraction of VOC emissions for gasoline is based on "Gasoline Marketing (Stage I and Stage II), Volume III: Chapter 11", prepared by Eastern Research Group, Inc, Prepared for Emissions Inventory Improvement Program (EIP), January 2001.						

A complete storage tank/loading arms/fuel dispensing calculations are included in the source folder.

External Combustion:

EU#:		W003		Emission Factor (lb/mmBtu)	Potential Emissions		
Make:	Model:	S/N:	lb/hr		lb/day	ton/yr	
			PM10	0.0077	0.02	0.37	0.07
			PM2.5	0.0077	0.02	0.37	0.07
			NOx	0.0122	0.02	0.59	0.11
2.0	mmBtu/hr		CO	0.082	0.16	3.94	0.72
24.0	hr/day		SO ₂	0.0000	0.01	0.01	0.01
8760	hr/yr		VOC	0.0109	0.02	0.52	0.10
			HAP	3.016E-05	0.01	0.01	0.01
BACT:		%O2	Lead	7.31E-10	1.46E-09	3.51E-08	6.40E-09
10	ppm NOx	3.0					
	ppm CO	3.0					
Fuel:	Propane						

EU#:		W008		Emission Factor (lb/mmBtu)	Potential Emissions		
Make:	Model:	S/N:	lb/hr		lb/day	ton/yr	
			PM10	0.0077	0.02	0.38	0.07
			PM2.5	0.0077	0.02	0.38	0.07
			NOx	0.1421	0.29	6.98	1.27
2.046	mmBtu/hr		CO	0.0820	0.17	4.03	0.73
24.0	hr/day		SO ₂	0.0000	0.01	0.01	0.01
8760	hr/yr		VOC	0.0109	0.02	0.54	0.10
			HAP	3.02E-05	0.01	0.01	0.01
BACT:		%O2	Lead	7.31E-10	1.49E-09	3.59E-08	6.55E-09
	ppm NOx	3.0					
	ppm CO	3.0					
Fuel:	Propane						

Internal Combustion:

EU#	G145		Horsepower:	35		Emission Factor (lb/hp-hr)	Potential Emissions			
Make:			Hours/Day:				lb/hr	lb/day	ton/yr	
Model:			Hours/Year	500		PM10	2.20E-03	0.08	0.00	0.02
S/N:						NOx	3.10E-02	1.09	0.00	0.27
Manufacturer Guarantee						CO	6.68E-03	0.23	0.00	0.06
PM10		g/hp-hr ▼				SO ₂	1.21E-05	0.01	0.00	0.01
NOx		g/hp-hr ▼				VOC	2.51E-03	0.09	0.00	0.02
CO		g/hp-hr ▼				HAP	2.71E-05	0.01	0.00	0.01
SO ₂		g/hp-hr ▼								
VOC		g/hp-hr ▼								
Engine Type:		Diesel ▼				Diesel Fuel Sulfur Content is 15 ppm (0.0015%)				

Engine Applicability (tons per year):

EU	Rating	Condition	PM ₁₀	PM _{2.5}	NO _x	CO	SO ₂	VOC	HAP	GHG
G003	170 hp	500 hours/year	0.09	0.09	1.32	0.28	0.01	0.11	0.01	48.88
G005	250 hp	500 hours/year	0.01	0.01	0.41	0.05	0.02	0.01	0.01	71.88
G006	145 hp	500 hours/year	0.01	0.01	0.19	0.04	0.01	0.01	0.01	41.69
G013	364 hp	500 hours/year	0.20	0.20	2.82	0.61	0.01	0.23	0.01	104.65
G014	470 hp	500 hours/year	0.01	0.01	0.67	0.02	0.01	0.02	0.01	135.13
G015	610 hp	500 hours/year	0.11	0.11	3.66	0.84	0.01	0.11	0.01	176.90
G016	755 hp	500 hours/year	0.02	0.02	1.80	0.12	0.01	0.12	0.01	218.95
G017	1490 hp	500 hours/year	0.10	0.10	3.26	0.38	0.01	0.07	0.01	432.10
G019	465 hp	500 hours/year	0.26	0.26	3.60	0.78	0.01	0.29	0.01	133.69
G020	207 hp	500 hours/year	0.11	0.11	1.60	0.35	0.01	0.13	0.01	59.51
G021	207 hp	500 hours/year	0.11	0.11	1.60	0.35	0.01	0.13	0.01	59.51
G022	207 hp	500 hours/year	0.11	0.11	1.60	0.35	0.01	0.13	0.01	59.51
G025	51 hp	500 hours/year	0.01	0.01	0.13	0.05	0.01	0.02	0.01	14.66
G026	130 hp	500 hours/year	0.07	0.07	1.01	0.22	0.01	0.08	0.01	37.38
G027	207 hp	500 hours/year	0.06	0.06	0.78	0.26	0.01	0.02	0.01	59.51
G057	2953 hp	500 hours/year	0.03	0.03	9.44	0.62	0.18	0.15	0.01	856.37
G058	48 hp	500 hours/year	0.03	0.03	0.37	0.08	0.01	0.03	0.01	13.80
G117	470 hp	500 hours/year	0.01	0.01	0.67	0.02	0.01	0.02	0.01	135.13
G118	2,220 hp	500 hours/year	0.07	0.07	5.28	1.09	0.01	0.28	0.01	643.80
G123	250 hp	500 hours/year	0.01	0.01	0.41	0.05	0.02	0.01	0.01	71.88
G124	157 hp	500 hours/year	0.01	0.01	0.24	0.07	0.01	0.10	0.01	45.07
G127	364 hp	500 hours/year	0.03	0.03	0.60	0.52	0.01	0.23	0.01	104.65
G130	175 hp	500 hours/year	0.10	0.10	1.36	0.29	0.01	0.11	0.01	50.31
G131	175 hp	500 hours/year	0.10	0.10	1.36	0.29	0.01	0.11	0.01	50.31
G133	183 hp	500 hours/year	0.10	0.10	1.42	0.31	0.01	0.12	0.01	52.61
G134	183 hp	500 hours/year	0.10	0.10	1.42	0.31	0.01	0.12	0.01	52.61
G136	755 hp	500 hours/year	0.05	0.05	1.62	0.37	0.01	0.04	0.01	218.95
G137	364 hp	500 hours/year	0.03	0.03	0.60	0.52	0.01	0.23	0.01	104.65
G138	470 hp	500 hours/year	0.01	0.01	0.67	0.02	0.01	0.02	0.01	135.13

G139	56 hp	500 hours/year	0.03	0.03	0.43	0.09	0.01	0.04	0.01	16.10
G140	68 hp	500 hours/year	0.04	0.04	0.53	0.11	0.01	0.04	0.01	19.55
G142	364 hp	500 hours/year	0.01	0.01	1.22	0.05	0.01	0.02	0.01	104.65
G143	81 hp	500 hours/year	0.01	0.01	0.18	0.02	0.01	0.02	0.01	23.29
G145	35 hp	500 hours/year	0.02	0.02	0.27	0.06	0.01	0.02	0.01	10.06
G148	250 hp	500 hours/year	0.01	0.01	0.28	0.07	0.02	0.01	0.01	71.88
G149	399 hp	500 hours/year	0.02	0.02	0.59	0.38	0.01	0.03	0.01	114.71
G150	145 hp	500 hours/year	0.01	0.01	0.23	0.03	0.01	0.01	0.01	41.69
G151	311 hp	500 hours/year	0.02	0.02	0.45	0.14	0.01	0.02	0.01	89.41
G152	311 hp	500 hours/year	0.02	0.02	0.45	0.14	0.01	0.02	0.01	89.41
G153	145 hp	500 hours/year	0.01	0.01	0.23	0.03	0.01	0.01	0.01	41.69
G154	145 hp	500 hours/year	0.01	0.01	0.23	0.03	0.01	0.01	0.01	41.69
G156	1354 hp	500 hours/year	0.02	0.02	3.25	0.26	0.01	0.24	0.01	392.66
G157	69 hp	500 hours/year	0.01	0.01	0.13	0.06	0.01	0.04	0.01	19.84
G158	324 hp	500 hours/year	0.03	0.03	0.54	0.35	0.01	0.20	0.01	93.15
G159	2,220 hp	500 hours/year	0.07	0.07	5.28	1.09	0.01	0.28	0.01	643.80
G162	470 hp	500 hours/year	0.01	0.01	0.67	0.02	0.01	0.02	0.01	135.13
G163	36 hp	500 hours/year	0.01	0.01	0.04	0.01	0.01	0.01	0.01	10.36
G164	1,220 hp	500 hours/year	0.05	0.05	2.89	0.27	0.01	0.22	0.01	353.80
G165	69 hp	500 hours/year	0.01	0.01	0.11	0.06	0.01	0.04	0.01	19.84
G166	208 hp	500 hours/year	0.11	0.11	1.61	0.35	0.01	0.13	0.01	59.80
G167	755 hp	500 hours/year	0.01	0.01	2.14	0.17	0.01	0.03	0.01	218.95
G168	1100 hp	500 hours/year	0.03	0.03	3.56	0.17	0.01	0.07	0.01	309.81
G169	1100 hp	500 hours/year	0.03	0.03	3.56	0.17	0.01	0.07	0.01	309.81
G170	1183 hp	500 hours/year	0.03	0.03	4.24	0.22	0.01	0.07	0.01	333.18
G171	1183 hp	500 hours/year	0.03	0.03	4.24	0.22	0.01	0.07	0.01	333.18
G172	107 hp	500 hours/year	0.01	0.01	0.11	0.01	0.01	0.01	0.01	30.14
B001	500 hp	8760 hours/year	0.65	0.65	20.88	2.88	0.03	5.51	0.06	598.00
NTTR1	600 hp	280,000 gallons	6.08	6.08	86.44	16.62	0.03	6.86	0.07	3,214.40
NTTR2	1,000 hp	10,000 gallons	0.07	0.07	2.24	0.60	0.01	0.06	0.01	115.50
Total:			9.43	9.43	196.93	33.94	0.83	17.23	0.70	12,044.70