



air pollution control district  
SANTA BARBARA COUNTY

SEP 27 2019

Kimberlee Harding  
Vandenberg Air Force Base, 30th Space Wing  
1028 Iceland Avenue  
Vandenberg AFB, CA 93437-6010

FID: 00201  
Permit: P7R 13968 - R2  
SSID: 01195

Re: Draft Part 70 Permit Renewal / Reevaluation 13968 - R2

Dear Ms. Harding:

Enclosed is a draft Part 70 Permit Renewal / Reevaluation (PT-70/Reeval) No. 13968 - R2 for the second triennial reevaluation of the Vandenberg Air Force Base PT-70/Permit to Operate. Please carefully review the enclosed documents to ensure that they accurately describe your facility and that the conditions are acceptable to you. Note that your permitted emission limits may, in the future, be used to determine emission fees.

The estimated permit issuance fee based on our analysis to date is \$ 82,789; you can review our calculation of the fee in the enclosed Permit Evaluation. The final fee amount due will be specified when the final permit is issued. Please do not pay this fee now, as we will invoice you when the final permit is issued.

If you have any comments on this draft permit, submit them in writing to the Air Pollution Control District (District) within 30 days from the date of this letter. We will consider your comments before we issue your final permit. If we receive no comments within this period, we will issue a final permit with the enclosed conditions.

Please include the facility identification (FID) and permit numbers as shown at the top of this letter on all correspondence regarding this permit. If you have any questions, please contact me at (805) 961-8888.

Sincerely,

William Sarraf, Air Quality Engineer III  
Engineering Division

enc: Draft PT-70/Reeval 13968 - R2  
Draft Permit Evaluation

cc: Vandenberg AFB 30th Space Wing 00201 Project File  
Engr Chron File  
21-Day Suspense File  
William Sarraf (Cover letter only)

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**air pollution control district**  
SANTA BARBARA COUNTY

**DRAFT**

**PERMIT TO OPERATE 13968-R2  
AND  
PART 70 OPERATING PERMIT 13968**

**Vandenberg Air Force Base, 30th Space Wing**

**OWNERS**

United States Air Force, National Aeronautics and Space Administration  
Missile Defense Agency, National Reconnaissance Office,  
Army Air Force Exchange Service

**OPERATORS**

United States Air Force, RGNNext, a.i. solutions, United Launch Alliance, The Boeing Company,  
EMCOR Government Services, Lockheed Martin, Northrup Grumman, Army Air Force Exchange  
Service, Call Henry, Inc., Katmai Technical Services, United Paradyne Corporation, Alliance  
Technical Services, Inc.

**Santa Barbara County  
Air Pollution Control District**

**September 2019**

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## ABBREVIATIONS/ACRONYMS

AP-42	USEPA's <i>Compilation of Emission Factors</i>
A-50	Aerozine-50
AQMM	Air Quality and Meteorological Monitoring
ASTM	American Society for Testing Materials
ATC	Authority to Construct
ATCM	Air Toxic Control Measure
ATEIP	Air Toxics Emission Inventory Plan
ATEIR	Air Toxics Emission Inventory Report
BACT	Best Available Control Technology
BTDC	Below top dead center
Btu	British thermal unit
CAAA	California Clean Air Act Amendment
CARB	California Air Resources Board
CAM	compliance assurance monitoring
CEMS	Continuous Emissions Monitoring System
CAP	Clean Air Plan
CFR	Code of Federal Regulations
CO	Carbon Monoxide
CO <sub>2</sub>	Carbon Dioxide
CO <sub>2e</sub>	Carbon Dioxide Equivalent
CPI	Consumer Price Index
DAS	Data Acquisition System
DICE	Diesel Internal Combustion Engine
District	Santa Barbara County Air Pollution Control District
DLA-E	Defense Logistics Agency-Energy
DOT	Department of Transportation
DPF	Diesel Particulate Filter
DRP/ISC	Demand Response Program/Interruptible Service Contract
EF	Emission factor
ENVVEST	Environmental Investment
E/S	Emergency Service
ERC	Emission Reduction Credit
°F	degree Fahrenheit
FID	facility identification
FUMP	Fuel Use Monitoring Plan
FVSS	Fuel Vapor Scrubbing System
gr	grain
GHG	Greenhouse Gases
HAP	hazardous air pollutant (as defined by CAAA, Section 112(b))
HC	Hydrocarbon
HRA	Health Risk Assessment
HSF	Hypergolic Fuel Storage Facility
H&SC	Health and Safety Code
H <sub>2</sub> S	hydrogen sulfide
I&M	Inspection & Maintenance
IPA	Iso-Propyl Alcohol
ISD	In-Station Diagnostics
k	kilo (thousand)
l	liter
lb	pound
lbs/day	pounds per day
lbs/hr	pounds per hour
LPG	Liquefied Petroleum Gas
LFG	Landfill Gas

M	mega (million)
MACT	Maximum Achievable Control Technology
MM	million
MMH	Mono-Methyl Hydrazine
MRS	Microwave Reactor System
M&T	Maintenance and Testing
MVFF	Motor Vehicle Fueling Facility
MW	molecular weight
N <sub>2</sub> H <sub>4</sub>	Hydrazine
NAR	Nonattainment Review
NSPS	New Source Performance Standards
NESHAP	National Emissions Standards for Hazardous Air Pollutants
NFPA	National Fire Protection Association
NMOC	Non-methane Organic Compounds
NOV	Notice of Violation
ORVR	Onboard Refueling Vapor Recovery
OVSS	Oxidizer Vapor Scrubbing System
O <sub>2</sub>	oxygen
PM	particulate matter
PM <sub>10</sub>	particulate matter less than 10 microns
PM <sub>2.5</sub>	particulate matter less than 2.5 µm in size
ppm(vd or w)	parts per million (volume dry or weight)
PSD	Prevention of Significant Deterioration
psia	pounds per square inch absolute
psig	pounds per square inch gauge
PTE	Potential to Emit
PTO	Permit to Operate
PUC	Public Utility Commission
P/V	Pressure/Vacuum
QA/QC	Quality Assurance/Quality Control
RACT	Reasonably Available Control Technology
RICE	Reciprocating internal combustion engine
RPM	Revolutions per Minute
RSV	Ready Storage vessel
ROC	reactive organic compounds, same as “VOC” as used in this permit
SO <sub>2</sub>	Sulfur Dioxide
scf	standard cubic foot
scfd (or scfm)	standard cubic feet per day (or per minute)
SIP	State Implementation Plan
SO <sub>x</sub>	Oxides of Sulfur
SSID	stationary source identification
SVPP	South Vandenberg Power Plant
TPQ	Tons per quarter
TPY	Tons per Year
TVP	true vapor pressure
UDMH	Unsymmetrical Dimethylhydrazine
ULA	United Launch Alliance
USEPA	United States Environmental Protection Agency
VAFB	Vandenberg Air Force Base
VRS	vapor recovery system

## **1.0 Introduction**

### **1.1. Purpose**

General. The Santa Barbara County Air Pollution Control District (District) began issuing permits to Vandenberg Air Force Base (VAFB) in the 1980s for boilers, water heaters, and miscellaneous equipment for abrasive blasting, solvent use and fuel storage operations. Due to the loss of rule exemptions and new rules and regulations, an increased number of external combustion units and internal combustion engines have since become subject to permit. This Part 70 permit consolidates all active permits associated with the facilities that comprise the VAFB stationary source. Most of the permitted equipment consists of emergency standby generators, small boilers, and water heaters.

Santa Barbara County is designated as an ozone non-attainment transitional area for the state ambient air quality standards. The County is also designated a non-attainment area for the state PM<sub>10</sub> ambient air quality standard.

Part 70 Permitting. This is the second renewal of the Part 70 permit for the VAFB stationary source (SSID 1195), which is a major source for NO<sub>x</sub>, CO, and GHGs, based on a federal potential to emit greater than 100 tons per year of NO<sub>x</sub> and CO and 100,000 tons per year GHGs. The District triennial permit reevaluation has been combined with this Part 70 Permit renewal. This permit incorporates previous Part 70 revision permits (ATC/PTOs, PTOs, PTO Modifications, and Administrative Modifications) that have been issued since June 23, 2017. These permits are listed in Section 1.2.2 of this permit. The conditions listed in this permit are based on federal, state or local rules and requirements. Sections 9.A, 9.B and 9.C of this permit are enforceable by the District, the United States Environmental Protection Agency (USEPA) and the public since these sections are federally enforceable under Part 70. Where any reference contained in Sections 9.A, 9.B or 9.C refers to any other part of this permit, that part of the permit referred to is federally enforceable. Conditions listed in Section 9.D are only enforceable by the District.

Pursuant to the stated aims of Title V of the CAAA (Clean Air Act Amendment) of 1990 (i.e., the Part 70 operating permit program), this permit has been designed to meet two objectives. First, compliance with all conditions in this permit would ensure compliance with all federally-enforceable requirements for the facility. Second, the permit would be a comprehensive document to be used as a reference by the permittee, the regulatory agencies and the public to assess compliance.

Greenhouse Gases - Rule 810. This reevaluation incorporates greenhouse gas emission calculations for the stationary source. These emissions establish baseline conditions under Rule 810, *Federal Prevention of Significant Deterioration*.

### **1.2. Stationary Source/Facility Overview**

1.2.1 Stationary Source/Facility Overview: VAFB is located on the south-central coast of California (Figure 1.1) and is headquarters for the 30th Space Wing (30 SW). The Air Force's primary missions at VAFB are launching and tracking satellites in space, testing and evaluating America's intercontinental ballistic missile systems, and supporting aircraft and space operations in the Western Range. The 30 SW hosts several other Federal agencies that conduct activities independent of 30 SW operations.

Military installations are intrinsically more organizationally complex than traditional industrial facilities and include a wider variety of functions and activities, such as residential housing, schools, churches, recreational parks, shopping centers, industrial operations, training ranges, airports, gas stations, utility plants, police and fire departments, and hospitals and clinics. Additionally, they host various tenants, including other Department of Defense (DoD) services, non-DoD Federal agencies, contractors, and leased areas for commercial activities. These entities own and operate their own separate industrial processes. The DoD and other federal agency operations on VAFB are considered part of the VAFB stationary source. The commercial space activities located at VAFB are not owned and operated by the federal government, therefore they are not considered part of the VAFB stationary source.

Figure 1.1.



1.2.2 Facility New Source Overview: Since the first renewal of the Part 70 permit was issued for this facility in June 2017, the following permitting actions have taken place:

PERMIT TYPE	ISSUE DATE	DESCRIPTION
PTO 14362	8/24/2018	Conversion of Tank 1701 from a diesel Tank to a RP-1 Tank.
PTO 15012	9/7/2018	Replace clean air separator at Bldg 14400.
PTO 14969	9/18/2018	Installation of a new diesel-fired emergency fire water pump at Building 23209. 2016. 324 bhp Cummins.
PTO Mod 13968-02	2/28/2019	Revise ambient air monitoring language
PTO 14246	5/17/2019	Convert existing exempt diesel tank to E-85 and install a new dispenser at Building 10726.
PTO 15181	5/24/2019	Operation of a new diesel-fired emergency backup generator at Building 8401. 2017, Cummins Model QSX15-G9 rated at 755 bhp
PTO 15175	5/29/2019	Installation of two new diesel-fired emergency backup generator at Building 3000. 2017, Cummins Model QST30-G% NR2 rated at 1,490 bhp each.
PTO 14926	7/1/2019	Operation of a new diesel-fired emergency backup generator at Building 10525. 2016. 324 bhp Cummins.
PT-70 ADM 15437	9/18/2019	Change Title V Responsible Official from Colonel Michael S. Hough to Colonel Anthony J. Mastalir.
PTO 14968	**	Installation of a new paint spray booth and exempt booth heater at Building 1731.
PTO 15043	**	Operation of a new diesel-fired emergency backup generator at Building 1581. 2016. 69 bhp Cummins. Replaces Device ID 10737.
PTO 15065	**	Replace boilers with two new hot-water boilers in building 7000.
PTO 15141	**	Operation of a new diesel-fired emergency backup generator at Building 21150. 2017 382 bhp Volvo Penta.
PTO 15258	**	Identical replacement of a burner in one of two boilers located in building 13850.
PTO 15283	**	Convert emissions from the existing paint booth at Bldg 7137 (Device #384072) to a surface coating operation used to coat oversized and mobile equipment outside of a paint booth.

\*\* = Final PTOs issued at issuance of this permit.

1.2.3 Project Ownership: The equipment at the stationary source is owned by the following entities: United States Air Force, National Aeronautics and Space Administration, Missile Defense Agency, National Reconnaissance Office, Army Air Force Exchange Service.

The equipment at the source is operated by the following entities: United States Air Force, RGNext, a.i. solutions, United Launch Alliance, The Boeing Company, EMCOR Government Services, Lockheed Martin, Northrup Grumman, Army Air Force Exchange Service, Call Henry, Inc., Corporate Allocation Services, Inc., United Paradyne Corporation, Alliance Technical Services, Inc.

### **1.3 Emission Sources**

- 1.3.1 External Combustion Units: Multiple hot water boilers and heaters provide space heating and hot water service for base operations. See Attachment 10.2 for a list of these units.
- 1.3.2 Stationary Internal Combustion Engines. Multiple internal combustion engines provide emergency standby power for the operating systems at VAFB or water for fire suppression. One prime engine is used for training. See Attachment 10.3 for a list of these units.
- 1.3.3 South Vandenberg Power Plant (SVPP): The SVPP consists of five turbine generators that produce a total of 15,000 kW of electricity and serves as an alternate source of power for VAFB. Each turbine is equipped with a diesel powered pony starter engine. Grid power is the primary source of power at VAFB.
- 1.3.4 Bulk Fuel Storage:  
**RP-1 Storage**: RP-1 is delivered to the internal floating roof storage tank 1701 at the bulk storage facility by tanker trucks or trailers. The tank provides additional RP-1 storage capacity for the facility.  
**JP-8/Jet-A Storage**: JP-8 or Jet-A is delivered to aboveground storage tanks 1702 and 1703 at the bulk storage facility by tanker trucks or trailers. An unloading rack is used to transfer the fuel into the tanks. The fuel is metered from the tanks through fillstands into mobile delivery vehicles for delivery to the flight line. The fillstands are equipped with filter separators and bottom loading arms.
- 1.3.5 Abrasive Blasting: Abrasive blasting equipment is utilized for abrasive blasting needs at the base, such as repair, maintenance, and construction activities.
- 1.3.6 Coating Operations: Spray booths are utilized for various spray painting needs conducted at the base.
- 1.3.7 Solvent Usage: Wipe cleaning and miscellaneous reactive organic compounds (ROC) containing solvent use occurs at the base. As used in this permit, the term solvent is defined to include solvents, adhesive, sealants and all other ROCs used with this equipment and processes. Cold solvent cleaners and degreasing equipment and processes that are subject to Rule 321 or other applicable District rules are permitted as separate emission units.
- 1.3.8 Landfill: The landfill has been in operation since 1941. Waste can be accepted 9 hours per day and 6 days per week. Landfill gas (LFG) emissions result from anaerobic biological decomposition of organic matter deposited in the landfill escaping to the surface. LFG consists primarily of methane (CH<sub>4</sub>) and carbon dioxide (CO<sub>2</sub>) with smaller amounts of non-methane organic compounds (NMOC). Some NMOCs are ROC.
- 1.3.9 Gasoline Dispensing Facilities: There are two gasoline dispensing facilities subject to this permit that provide fuel for the automobiles and trucks servicing the base. One station provides gasoline and E-85 fuel for vehicles serving the base. The other (AAFES) provides fuel for the privately owned vehicles of military members, dependents, and retirees. Government vehicles may be fueled at AAFES on rare occasions.

1.3.10 Hypergolic Propellant Storage and Handling.

**Hypergolic Storage Facility (HSF):** The HSF is a consolidated area for Vandenberg AFB to store and handle Defense Logistics Agency - Energy (DLA-E) hypergolic fuels and oxidizers. The facility is divided into two separate facilities, one used to store fuels (hydrazines) and the other to store oxidizer (nitrogen tetroxide). The fuel and oxidizer are used to propel launch vehicles and payloads at various launch facilities on VAFB and other launch facilities throughout the country/world.

The primary hypergolic fuels stored at the facility are Aerozine-50 (A-50), a 50/50 blend of unsymmetrical dimethyl hydrazine (UDMH) and anhydrous "neat" hydrazine ( $N_2H_4$ ), and mono-methyl hydrazine (MMH), and monopropellant (hydrazine). Additionally, small amounts of fuel, typically hydrazine ( $N_2H_4$ ) and high purity/ultra-pure hydrazine and various grades of hydrazine used for spacecraft/aircraft propulsion systems is stored in Department of Transportation (DOT) drums and cylinders.

The primary hypergolic oxidizers stored at the facility are different concentrations of nitrogen tetroxide called Mixed Oxides of Nitrogen (MON) referenced with the level of nitric oxide by percentage. These are primarily MON-1 and MON-3 with smaller quantities contained in cylinders of MON-10 or MON-25.

Bulk quantities of product are delivered to the HSF's 28,000 gallon capacity tanks via commercial trailer. Trailers arrive at the respective facility with their cargo under a pressure blanket of gaseous nitrogen. The operator connects the trailers by flexible hose to the loading/unloading transfer "hardstand" piping system at the facility. Nitrogen gas is used to pressurize and maintain a higher pressure in the trailer during transfer operations to the facility bulk storage tanks. All product transfer operations are performed by pressurizing the supply tank and pushing product into the receiving tank.

At the completion of unloading operations, the operator purges the transfer lines into the liquid/vapor separators and back into the 28,000 gallon capacity tanks with nitrogen gas.

The trailer, storage tank and piping system are vented through each facilities unique vapor scrubber system and then re-blanketed with nitrogen to bring the transfer system to an inert condition. Trailers may also be purged with nitrogen gas. Trailers transfer commodity as needed from the storage tanks to space launch complexes on VAFB and other launch facilities throughout the country/world. The same procedure used for trailer unloading is followed for trailer loading, except the flow is reversed. A higher pressure is maintained in the storage tank relative to the trailer during fuel transfer operations. After the fuel is delivered to the space launch complexes, the trailers are returned to the HSF and may be unloaded of excess fuel and/or purged with nitrogen gas.

A relatively small amount of hypergolic product is delivered to the HSF in DOT approved cylinders and stored for use by the space launch community. These cylinders are transported to the various launch complexes and various VAFB locations and other launch complexes throughout the country/world. Some of the commodity in these cylinders will be transferred between cylinders using the facility venting and scrubbing systems in the process. This source will contribute a negligible rate of emissions. All bulk fuels at the HSF are stored under a nitrogen blanket.

The following activities may produce ROC emissions at the HSF:

1. transfer between storage tanks,
2. storage tank purging,
3. trailer loading/unloading,
4. trailer purging, and
5. miscellaneous events that include:
  - a. liquid/vapor separator vessel drainage,
  - b. filter change,
  - c. pressure relief valve change,
  - d. pressure gauge change,
  - e. commodity sampling,
  - f. scrubber waste emptying,
  - g. flexhose purging,
  - h. sample bottle draining/flushing, and
  - i. system decontamination procedure.

The system decontamination procedure utilizes Isopropyl Alcohol (IPA) for flushing out pipes and lines on trailers and associated fixed and portable propellant handling equipment. The operator pumps IPA from a 55 gallon capacity drum into the various portable equipment, pressurizes the equipment using nitrogen, thereby moving the IPA through the closed loop system piping, into a waste drum. The procedure involves the following three steps:

1. Initial opening and dispensing from the 55 gallon (capacity) IPA drum into the piping system.
2. Moving IPA through the pipes by means of pressurized nitrogen and dispensing into a waste drum.
3. Venting/purging of the equipment lines with nitrogen. To remove residual IPA, the operator vents the equipment piping, followed by purging with gaseous nitrogen and/or helium, and/or vacuum pump evacuation. The system controls emissions from the venting, purging or vacuum evacuation procedure using each side's vapor scrubber system.

**Microwave Reactor Systems (MRS):** Portable MRS are also used to safely control vapors generated during the unloading of hypergolic propellant from launch/re-entry vehicles. Each MRS consists of a microwave reactor, cooling water handling system, gaseous helium or nitrogen pressurization system, and associated lines, valves, and in-line sensors and monitors. Each MRS is skid mounted so it can be used at various locations on VAFB. After propellant off-loading, the MRS is used to decontaminate the propellant transfer equipment and the vehicles so that they can be further processed without the need for a high level of personal protective equipment.

#### **1.4 Emission Control Overview**

- 1.4.1 **External Combustion Units:** Many of the external combustion units are equipped with Low-NO<sub>x</sub> burners. These units are identified in Attachment 10.2. (i.e., NO<sub>x</sub> concentration limit of 30 ppm @ 3% O<sub>2</sub> or less).

- 1.4.2 Internal Combustion Engines: Emissions from diesel-fired emergency-standby internal combustion engines are controlled by limiting the hours of maintenance and testing operations. Newly installed emergency standby IC engines must also be certified to meet current USEPA Tier standards. Diesel particulate filters are installed on the following IC engines: Device, #114491 (Bldg 511), #111765 (Bldg 929), #384066 (Bldg 2520) and #109236 (Bldg 21203). The DPFs are verified by the California Air Resources Board (CARB) and must be operated consistent with the requirements of the verification executive orders.
- 1.4.3 South Vandenberg Power Plant: Stainless steel alloy precious metal oxidation catalysts are used on each turbine. These catalysts operate within the temperature range of the turbine exhaust gases and oxidize carbon monoxide (CO) and non-methane hydrocarbon (NMHC) to water and carbon dioxide (CO<sub>2</sub>). A fugitive hydrocarbon inspection and maintenance (I&M) program is used for additional ROC control. NO<sub>x</sub> emissions are controlled through the use of water injection. The five diesel-fired starter engines associated with the turbines are controlled by limiting the hours of operations.
- 1.4.4 Bulk Fuel Storage: The POL Bulk Storage Facility stores JP-8 and Jet-A fuel in tanks #1702 and #1703. The facility also stores RP-1 propellant in tank #1701. These tanks are equipped with floating roofs with primary and secondary seals and geodesic dome fixed roofs. The loading and unloading racks at the facility are not equipped with vapor recovery.
- 1.4.5 Abrasive Blasting: A dust filtration system with a minimum control efficiency of 95.0 percent is utilized at Building 2007. Operations at Building #7438 are conducted in a tented structure to control particulate matter (PM, PM<sub>10</sub>, and PM<sub>2.5</sub>). There are two abrasive blasting operations in Building #9320. The VACU-Blast abrasive blasting operation (Device ID 9890) employs a direct-pressure blast generator and a pneumatic recovery and reclaiming system. The dust collector has a minimum control efficiency of 98.0 percent and uses a mechanical shaker mechanism to clean the filters. The ABS Blast abrasive blasting operation in Building #9320 (Device ID 110229) has a dust collector with a minimum control efficiency of 99.0 percent. It uses a pulse cleaning system and mechanical recovery system with a rotary screen and aspirator to separate recyclable media from debris. It is equipped with a digital photohelic gauge to monitor the differential pressure across the dust collector.
- 1.4.6 Coating Operations: Spray booths are equipped with overspray filters and water curtains. ROC emissions are controlled by using compliant coatings required by District Rules 322, 323.1, 330, 337 and 351. Some reduction in particulates is achieved via filters in the spray booth and with use of water curtains.
- 1.4.7 Solvent Usage: Add on emission controls are not utilized. The solvents used must comply with District prohibitory rules.
- 1.4.8 Landfill: The landfill is not equipped with a landfill gas control system.
- 1.4.9 Gasoline Dispensing Facilities: The gasoline dispensing facilities are equipped with CARB-certified Phase I and Phase II Vapor Recovery Systems. The E-85 system is not equipped with a Phase II Vapor Recovery system because all vehicles served by the E-85 system are equipped with onboard refueling vapor recovery (ORVR).

#### 1.4.10 Hypergolic Propellant Storage and Handling:

**HSF:** The HSF is used for the transfer, handling and bulk storage of liquid propellant fuels and oxidizers. Fuel emissions are controlled with a 350 gallon capacity, stainless steel Illinois Institute of Technology/Research Institute Fuel Vapor Scrubbing System (FVSS). Oxidizer emissions are controlled with an 850 gallon capacity, stainless steel Kennedy Space Center model S70-1095 Oxidizer Vapor Scrubbing System (OVSS). The OVSS is rated at 400 standard cubic feet per minute (SCFM) and consists of a four tower packed bed scrubbing system, 850 gallon capacity recirculating sump tank, conductivity monitor, and electrical and mechanical control systems.

**MRS:** Two MRSs are used to safely control hypergolic propellant vapors generated during the unloading of hypergolic propellant from satellites and launch/re-entry vehicles. One MRS controls hypergolic fuel and the second controls hypergolic oxidizer. For the hypergolic oxidizer, the MRS is connected to the vent on the oxidizer propellant tank of the vehicle and the propellant receiving cylinder. The tank on the vehicle is pressurized and valves are opened to allow the liquid propellant to flow from the vehicle into the receiving cylinder. Once the propellant transfer is complete, excess pressure in the tank on the vehicle is vented along with the receiving cylinder. After the tank and cylinder are vented, the propellant lines are aspirated to remove both liquid and vapor propellant in the transfer lines. To further remove propellant, the propellant lines are purged with gaseous helium or nitrogen. At this point, the propellant tank is purged dry to remove the residual propellant until the concentration of the propellant vapors in the tank is essentially zero. To complete the decontamination process, the propellant lines are purged dry until the concentration of the propellant vapors in the lines is essentially zero. Afterward during the ground equipment decontamination process, the aspiration tank is subjected to a series of tank pressurization/vacuum cycles using the helium/nitrogen source and the aspirator. This series of pressurization/vacuum cycles removes the majority of the residual propellant.

For the hypergolic fuel, the MRS is used to clean the tank on the vehicle but IPA is introduced into the tank to flush the tank after the propellant lines are aspirated and purged following propellant off-load. The IPA flush removes most of the residual hypergolic fuel from the system. The IPA contaminated with hypergolic fuel is transferred back into drums and sent off-base for disposal as hazardous waste. After removal of the bulk IPA from the tank, the above process is used to decontaminate the propellant tank and transfer equipment.

### 1.5 *Offsets/Emission Reduction Credit Overview*

This stationary source triggers offsets for NO<sub>x</sub>, ROC, SO<sub>x</sub> and PM/PM<sub>10</sub>. See Section 7.0 for a detailed description of offset liabilities and corresponding emission reduction credits.

### 1.6 *Part 70 Operating Permit Overview*

- 1.6.1 Federally-Enforceable Requirements: All federally enforceable requirements are listed in 40 CFR Part 70.2 (Definitions) under “applicable requirements.” These include all SIP-approved District Rules, all conditions in District-issued Authority to Construct permits issued pursuant to SIP-approved District Rules, and all conditions applicable to major sources under federally promulgated rules and regulations. All these requirements are enforceable by the public under CAAA. (See Section 3 for a list of the federally enforceable requirements).

- 1.6.2 Insignificant Emissions Units: Insignificant emission units are defined under District Rule 1301 as any regulated air pollutant emitted from the unit, excluding HAPs, that are less than 2 tons per year based on the unit's potential to emit and any HAP regulated under section 112(g) of the Clean Air Act that does not exceed 0.5 ton per year based on the unit's potential to emit. Insignificant activities were listed in the Part 70 application with supporting calculations. Applicable requirements may apply to insignificant units.
- 1.6.3 Federal Potential to Emit: The federal potential to emit (PTE) of a stationary source does not include fugitive emissions of any pollutant, unless the source is: (1) subject to a federal NSPS/NESHAP requirement which was in effect as of August 7, 1980, or (2) included in the 29-category source list specified in 40 CFR 51.166 or 52.21. The federal PTE does include all emissions from any insignificant emissions units. See Table 5.3 for the federal PTE for this source.
- 1.6.4 Permit Shield: The operator of a major source may be granted a shield: (a) specifically stipulating any federally-enforceable conditions that are no longer applicable to the source and (b) stating the reasons for such non-applicability. The permit shield must be based on a request from the source and its detailed review by the District. Permit shields cannot be indiscriminately granted with respect to all federal requirements. VAFB made no requests for a permit shield.
- 1.6.5 Alternate Operating Scenarios: A major source may be permitted to operate under different operating scenarios, if appropriate descriptions of such scenarios are included in its Part 70 permit application and if such operations are allowed under federally-enforceable rules. VAFB made no requests for alternative operating scenarios.
- 1.6.6 Compliance Certification: Part 70 permit holders must certify compliance with all applicable federally-enforceable requirements including permit conditions. Such certification must accompany each Part 70 permit application and be re-submitted annually before March 1st or on a more frequent schedule specified in the permit. A "responsible official" of the owner/operator company whose name and address is listed prominently in the Part 70 permit signs each certification. (See Section 1.6.9 below)
- 1.6.7 Permit Reopening: Part 70 permits are re-opened and revised if the source becomes subject to a new rule or new permit conditions are necessary to ensure compliance with existing rules. The permits are also re-opened if they contain a material mistake or the emission limitations or other conditions are based on inaccurate permit application data.
- 1.6.8 Hazardous Air Pollutants (HAPs): The requirements of Part 70 permits also regulate emission of HAPs from major sources through the imposition of maximum achievable control technology (MACT), where applicable. The federal PTE for HAP emissions from a source is computed to determine MACT or any other rule applicability. (See Section 5.5)
- 1.6.9 Responsible Official: The designated responsible official and his/her mailing address is:

Colonel Anthony J. Mastalir, Commander, 30<sup>th</sup> Space Wing  
U.S. Air Force  
747 Nebraska Ave.  
Vandenberg Air Force Base, CA 93437

## 2.0 Description of Project and Process Description

The VAFB Stationary Source contains numerous permitted and non-permitted stationary and mobile individual emission units and processes that affect air quality. Most VAFB stationary emission units consist of boilers, internal combustion engines, and paint spray booths. Processes include using solvents and storing and transferring various fuels. Mobile sources include aircraft, commercial lawn mowers, motor vehicles (on and off-road), spacecraft launch equipment, aerospace vehicles, and portable units registered under the State's Portable Equipment Program (PERP).

## 3.0 Regulatory Review

All enforceable requirements are listed in this section, and include all District Rules, all conditions in the District-issued Authority to Construct permits and applicable federally promulgated rules and regulations.

### 3.1. *Permit Exemptions Claimed*

VAFB is not required to obtain a permit to operate for the following equipment:

District Rule 202.D (General Provisions): Pursuant to Section D.14, applying architectural coating for repair and maintenance is exempt.

District Rule 202.F (Internal Combustion Engines):

Pursuant to Sections F.1.a engines used in aircraft and in locomotives are exempt.

Pursuant to Sections F.1.b Engines used to propel marine vessels, except vessels associated with a stationary source which shall be regulated as specified under the provisions of Regulation VIII are exempt.

Pursuant to Sections F.1.c engines used to propel vehicles, as defined in Section 670 of the California Vehicle Code, but not including any engine mounted on such vehicles that would otherwise require a permit under the provisions of these Rules and Regulations are exempt.

Pursuant to Section F.1.d, spark ignited engines used exclusively for emergency electrical power generation or emergency pumping of water are exempt if the engine operates less than 200 hours per year.

Pursuant to Sections F.1.e and f, compression ignition and spark ignition engines rated less than 50 brake horsepower are exempt.

Pursuant to Section F.2, portable internal combustion engines registered in the Statewide Registration Program are exempt.

Pursuant to Section F.4 a permit shall not be required for engines with a rated brake horsepower of less than 50 used:

- a. for military tactical support operations including maintenance and training for such operations;

- b. to power temperature and humidity control systems on cargo trailers used to transport satellites and space launch equipment;
- c. exclusively for space launch facility support and which power hoists, jacks, pulleys, and other cargo handling equipment permanently affixed to motor vehicles or trailers pulled by motor vehicles.

District Rule 202.G (Combustion Equipment): Pursuant to Section G.1, combustion equipment with a maximum rated heat input of less than or equal to two MMBtu/hr is exempt.

District Rule 202.H (Abrasive Blasting Equipment): Pursuant to Section H.1, abrasive blast cabinet-dust filter integral combination units where the total internal volume of the blast section is 50 ft<sup>3</sup> or less are exempt. Pursuant to Section H.3, all portable abrasive blast equipment, excluding any internal combustion engine associated with such equipment which must comply with the requirements of Rule 202.F.

District Rule 202.P (Explosive Ordnance Detonation): Pursuant to Section P.13, explosive ordnance detonation is exempt.

District Rule 202.U (Solvent Application Equipment and Operations): Pursuant to Section U.4, solvent cleaning to disinfect and decontaminate surfaces and equipment at health care activities is exempt. Pursuant to Section U.5, solvent cleaning associated with janitorial cleaning is exempt.

Federal Facility Site Remediation Agreement: Soil Vapor Extraction Systems at Vandenberg Air Force Base conducted under the Federal Facilities Site Remediation Agreement.

See Attachment 10.11 for a list of permit exempt equipment at the facility.

### **3.2. Compliance with Applicable Federal Rules and Regulations**

- 3.2.1 40 CFR Parts 51/52 {New Source Review (Nonattainment Area Review and Prevention of Significant Deterioration)}: VAFB was originally permitted in the 1980s under District Rule 205.C. That rule was superseded by District Regulation VIII (*New Source Review*) in April 1997, which was revised in August 2016. Compliance with Regulation VIII ensures that this facility will comply with federal NSR requirements.
- 3.2.2 40 CFR Part 60 {New Source Performance Standards} Subpart GG: This subpart applies to stationary gas turbines with a heat input at peak load equal to or greater than 10 million Btu per hour that commence construction, modification, or reconstruction after October 3, 1977. The turbines at the SVPP are subject to this NSPS. Compliance with the stricter NSR emission limits ensures compliance with the emission limits of the NSPS. The SVPP is equipped with Continuous Emissions Monitors (CEMS) to ensure ongoing compliance with the NSPS.
- 3.2.3 40 CFR Part 60 {New Source Performance Standards} Subpart IIII: This Subpart applies to owners and operators of stationary compression ignition engines that are constructed, modified, or reconstructed after July 11, 2005. Engines subject to this subpart are required to meet 6.9 g/bhp NO<sub>x</sub> and 0.40 g/bhp PM emission standards. New engines at the source are subject to this subpart and meet these standards.
- 3.2.4 40 CFR Part 60 {New Source Performance Standards} Subpart WWW: This Subpart applies to landfills that commenced construction, reconstruction, or modification on or after May 30, 1991.

The landfill subject to this permit was initially opened in 1941 and has not undergone any construction, reconstruction, or modification, as defined by the regulation, since May 30, 1991. Therefore, this Subpart is not applicable.

- 3.2.5 40 CFR Part 63 {National Emission Standards for Hazardous Air Pollutants} Subpart ZZZZ: This Subpart applies to owners and operators of stationary reciprocating internal combustion engines (RICE). For area sources of HAP emissions, stationary RICE are “existing” if construction or reconstruction commenced before June 12, 2006. Engines that are not categorized as existing are considered “new”. The VAFB stationary source is an area source of HAP emissions.

Existing emergency standby compression ignition RICE at area sources of HAP emissions must comply with the applicable emission and operating limits. The following operating requirements apply:

- (1) change the oil and filter every 500 hours of operation or annually, whichever comes first;
- (2) inspect the air cleaner every 1,000 hours of operation or annually, whichever comes first;
- (3) inspect all hoses and belts every 500 hours of operation or annually, whichever comes first.

Emission limits are not established for existing emergency-standby CI RICE at area sources of HAP emissions.

The pony starter engines at the SVPP are existing stationary black start RICE. A black start engine is an engine whose only purpose is to start up a combustion turbine. Existing stationary black start compression ignition RICE at area sources of HAP emissions must comply with the applicable emission and operating limits. The following operating requirements apply:

- (1) change the oil and filter every 500 hours of operation or annually, whichever comes first;
- (2) inspect the air cleaner every 1,000 hours of operation or annually, whichever comes first;
- (3) inspect all hoses and belts every 500 hours of operation or annually, whichever comes first.

In lieu of changing the oil, VAFB may instead conduct an oil analysis. The analysis measures the Total Base Number, the oil viscosity, and the percent water content. The oil and filter will be changed if any of the following limits are exceeded:

- (1) The tested Total Base Number is less than 30 percent of the Total Base Number of the oil when new;
- (2) The tested oil viscosity has changed by more than 20 percent from the oil viscosity when new;
- (3) The tested percent water content (by volume) is greater than 0.5 percent.

The Total Base Number is the amount acid necessary to neutralize the base reserve in one gram of oil. It is expressed in the equivalent number of milligrams of potassium hydroxide. It is a measure of the ability of the oil to neutralize acids created during combustion. If VAFB chooses to change the oil at the specified frequencies, no analysis is required.

Per Section 63.6625(e) the engines must be operated and maintained according to the manufacturer's written instructions, or VAFB must develop their own maintenance plan to minimize emissions.

Per Section 63.6645, existing stationary RICE that are not subject to numerical emission standards do not have to submit an initial notification. No reporting requirements are identified in Section 63.6650 for these units. Per Section 63.6655, VAFB must keep records of maintenance on the engines.

- 3.2.6 40 CFR Part 63 Subpart HHHHHH: On January 9, 2008, the EPA adopted National Emission Standards for Hazardous Air Pollutants: Paint Stripping and Miscellaneous Surface Coating Operations at Area Sources (Subpart HHHHHH). This Subpart does not apply to surface coating or paint stripping performed on site at VAFB pursuant to 40 CFR 63.11169(d)(1).
- 3.2.7 40 CFR Part 70 {Operating Permits}: This Subpart is applicable to VAFB. In its Part 70 permit application (Form I), VAFB certified compliance with all existing District rules and permit conditions. This certification is also required of VAFB semi-annually. Issuance of this permit and compliance with all its terms and conditions will ensure that VAFB complies with the provisions of all applicable Subparts.

### **3.3. *Compliance with Applicable State Rules and Regulations***

- 3.3.1 Airborne Toxic Control Measure (ATCM) for Stationary Compression Ignition (CI) Engines (CCR Section 93115, Title 17): Except for the requirements of Section 93115.9, this ATCM applies to all stationary diesel-fueled engines rated greater 50 brake horsepower (bhp) at this facility. Section 93115.9 applies to the sale or lease of engines rated 50 bhp and less.
  - 3.3.1.1 Emergency Standby Diesel Engines: Owners of in-use stationary diesel internal combustion engines (DICE) for emergency use are subject to the requirements of Table 3 of the ATCM. In-use emergency fire pump engines may operate the number of hours necessary to comply with the testing requirements of the National Fire Protection Association standards (NFPA-25). By limiting annual maintenance and testing hours, these engines are not required to meet any new emission standards (e.g. engine retrofits are not required). The ATCM does require that the hours of operation be monitored with a non-resettable hour meter, that CARB Diesel Fuel be used (or approved alternative) and that detailed records of use be recorded and reported.

Owners and operators of new stationary DICE engines for emergency use are subject to the emission standards of Table 1 of the ATCM and the operating requirements of Section 93115.6. Owners and operators of new stationary DICE fire pump engines are subject to the emission standards of Table 2 of the ATCM and the operating requirements of Section 93115.6.
  - 3.3.1.2 Prime Diesel Engines: The generator providing primary power to the Launch Facility Electrical Power and Air Conditioning Systems Trainer (Device #112253) qualifies for the exemption in §93115.3(f) of the State's ATCM for Stationary Compression Ignition Engines. This exemption excludes this engine from the requirements of §93115.5 Fuel and Fuel Additive Requirements and §93115.7 Stationary Prime Diesel-fueled CI Engine Emission Standards of the ATCM.
  - 3.3.1.3 Pony Starter Engines: The operation of each pony starter engine is limited to no more than 20 hours/year and therefore the engines qualify for the Low-Use Prime Engines Outside of School Boundaries exemption in Section 93115.3 (j) in the DICE ATCM. The sulfur content for diesel burned in prime engines, such as the pony starter engines, is 15 ppm on a weight basis

based on the requirements of Section 93115.5 in the DICE ATCM. This requirement became effective in January 2006.

- 3.3.2 Hexavalent Chromium and Cadmium Airborne Toxic Control Measure (ATCM) -- Motor Vehicle and Mobile Equipment Coatings (17 CCR § 93112): This regulation became effective on September 19, 2002. Each air pollution control and air quality management district was required to implement and enforce the ATCM by no later than January 19, 2003. Among other things, this ATCM prohibits the use of automotive coatings containing cadmium and hexavalent chromium. This prohibition does not include coatings such as Amerlock 2/400 resin and Amerlock 400 Cure which contain trace amounts of hexavalent chromium and/or cadmium because the hexavalent chromium or cadmium was not introduced as a pigment or as an agent that imparts any property or characteristic to the coating during manufacturing, distribution, or use of the applicable coating. A CARB email pertaining to this exclusion is located in District permit files.
- 3.3.3 Title 17 California Code of Regulations, Subchapter 10, Article 4, Subarticle 6, §95460 to §95476: The California Methane Emissions from Municipal Solid Waste Landfills regulation applies to active, inactive and closed MSW landfills which have 450,000 tons or greater of waste-in-place and received waste after January 1, 1977. The landfill subject to this permit is an active landfill with more than 450,000 tons of waste in place. Per §95463(b), landfills with a calculated gas heat input capacity of less than 3.0 million Btu per hour are not required to install and operate landfill gas capture and control systems. The landfill gas heat input capacity shall be calculated annually using the procedures specified in this regulation to ensure this threshold is not exceeded.

If any annual landfill gas heat input calculation shows that that the 3.0 million Btu per hour threshold is exceeded, the permittee shall comply with Sections 95464 through 95476 of the regulation, or demonstrate to the Executive Officer that a collection and control system are not need based on the criteria specified in the regulation.

The landfill gas heat input for the landfill subject to this permit has not exceeded the 3.0 million Btu per hour threshold based on the submitted annual calculations as of the issuance of this permit. The requirements for this regulation are found in Section 9.D.

### **3.4. *Compliance with Applicable Local Rules and Regulations***

Applicability Tables: These tables are based on data available from the District's administrative files and from the VAFB Part 70 Operating Permit application. Table 3.1 lists the federally-enforceable District promulgated rules that are "generic" and apply to the facility. Table 3.2 lists the federally-enforceable District promulgated rules that are "unit-specific". Table 3.3 lists non federally-enforceable District rules.

The District NSR rule which has been approved into the State Implementation Plan (SIP) is Rule 205.C. The current District NSR rule is 802. Rule 802 has been submitted to the EPA, but it has not yet been approved into the SIP. The EPA's guidance in situations such as this, where a rule has been updated but not yet approved into the SIP, is to rely on the current rule as long as it is more stringent than the previous rule. Since Rule 802 is an updated NSR rule that was adopted 18 years after Rule 205.C, the district relies on Rule 802 when issuing permits.

- 3.4.1 Rules Requiring Further Discussion: This section provides a more detailed discussion regarding the applicability and compliance of certain rules for VAFB:

*Rule 201 - Permits Required:* This rule applies to any person who builds, erects, alters, replaces, operates or uses any article, machine, equipment, or other contrivance which may cause the issuance of air contaminants. The equipment included in this permit is listed in Attachment 10.1. An Authority to Construct is required to return any de-permitted equipment to service.

The external combustion equipment subject to this permit was originally permitted (a) due to the loss in exemption and (b) to implement the July 29, 2008 Environmental Investment (ENVVEST) Compliance Plan and any subsequent District-approved updates thereof. On January 17, 2008, the District Board of Directors revised Rule 202 (Exemptions to Rule 201) to lower the exemption threshold for utility grade natural gas fired units from 5.000 MMBtu/hr to 2.000 MMBtu/hr. This change was necessitated by the concurrent adoption of Rule 361 (Small Boilers, Process Heaters and Steam Generators). On September 2, 2008, the District approved the Air Force's July 29, 2008 ENVVEST Compliance Plan. This Plan implements the final stage of the ENVVEST process and closes out that program. All affected units were required to maintain emissions at Rule 360/361 standards, install temperature and pressure corrected fuel meters, obtain air permits, and offset the NO<sub>x</sub> increase from the baseline ENVVEST levels. With the close of the program, permits are no longer required for units that qualify for an exemption under Rule 202, but they must comply with Rule 360.

*Rule 210 - Fees:* Pursuant to Rule 201.G, District permits are reevaluated every three years. This includes the re-issuance of the underlying PTO. Also included are the PTO fees. The fees for this facility are based on District Rule 210, Fee Schedule A; however Part 70 specific costs are based on cost reimbursement provisions (Rule 210.C). The fee calculations for this permit are included as an attachment to the permit.

*Rule 301- Circumvention:* This rule prohibits the concealment of any activity that would otherwise constitute a violation of Division 26 (Air Resources) of the California Health and Safety Code (H&SC) and the District rules and regulations. To the best of the District's knowledge, VAFB is operating in compliance with this rule.

*Rule 302 - Visible Emissions:* This rule prohibits the discharge from any single source any air contaminants for a period or periods aggregating more than three minutes in any one hour which is as dark or darker in shade than a reading of 1 on the Ringelmann Chart or of such opacity to obscure an observer's view to a degree equal to or greater than a reading of 1 on the Ringelmann Chart.

*Rule 303 – Nuisance:* Rule 303 prohibits any source from discharging such quantities of air contaminants or other material in violation of Section 41700 of the Health and Safety Code which cause injury, detriment, nuisance or annoyance to any considerable number of persons or to the public or which endanger the comfort, repose, health or safety or any such persons or the public or which cause or have a natural tendency to cause injury or damage to business or property. Compliance with this rule is assessed through the District's enforcement staff's complaint response program. Based on the source's location, the potential for public nuisance is small.

*Rule 304 - Particulate Matter, Northern Zone:* VAFB is considered a Northern Zone source. This rule prohibits the discharge into the atmosphere from any source particulate matter in excess of 0.3 grain/scf. Sources subject to this rule include all diesel-fired IC engines. Improperly maintained diesel engines have the potential to violate this rule. Compliance will be assured by requiring all engines to be maintained according to manufacturer maintenance schedules or Air Force mandated maintenance schedule.

*Rule 309 - Specific Contaminants:* Under Section "A", no source may discharge sulfur compounds and combustion contaminants in excess of 0.2 percent as SO<sub>2</sub> (by volume) and 0.3 gr/scf (at 12% CO<sub>2</sub>) respectively. All diesel powered piston IC engines have the potential to exceed the combustion contaminant limit if not properly maintained.

*Rule 310 - Odorous Organic Compounds:* This rule prohibits the discharge of H<sub>2</sub>S and organic sulfides that result in a ground level impact beyond the property boundary in excess of either 0.06 ppmv averaged over 3 minutes and 0.03 ppmv averaged over 1 hour.

*Rule 311 - Sulfur Content of Fuel:* This rule limits the sulfur content of fuels combusted at VAFB to 0.5 percent (by weight) for liquids fuels and 50 gr/100 scf (calculated as H<sub>2</sub>S) {or 796 ppmvd} for gaseous fuels. Section B and Section C of this rule limit the sulfur content of gaseous fuels to no more than 239 ppmv as H<sub>2</sub>S. The permittee uses CARB certified diesel (total sulfur content of 0.0015 percent by weight) and Public Utility Commission (PUC) quality natural gas (total sulfur content of 80 ppmv and H<sub>2</sub>S content of 4 ppmv) which comply with this rule.

*Rule 317 - Organic Solvents:* This rule sets specific prohibitions against the usage of both photo-chemically and non-photo-chemically reactive organic solvents (40 lb/day and 3,000 lb/day respectively). There is the potential to exceed the limits under Section B.2 during significant surface coating activities. VAFB is required to maintain records to ensure compliance with this rule.

*Rule 321 - Solvent Cleaning Operations:* This rule was revised to fulfill the commitment in the Clean Air Plans to implement requirements for solvent cleaning machines and solvent cleaning. The revised rule contains solvent ROCs content limits, revised requirements for solvent cleaning machines, and sanctioned solvent cleaning devices and methods. These provisions apply to solvent cleaning machines and wipe cleaning.

*Rule 322 - Metal Surface Coating Thinner and Reducer:* This rule prohibits the use of photo-chemically reactive solvents for use as thinners or reducers in metal surface coatings.

*Rule 323.1 - Architectural Coatings:* This rule sets the standards for any architectural coating that is supplied, sold, offered for sale, or manufactured for use within the District.

*Rule 324 - Disposal and Evaporation of Solvents:* This rule prohibits any source from disposing more than one and a half gallons of any photo-chemically reactive solvent per day by means that will allow the evaporation of the solvent into the atmosphere.

*Rule 326 - Storage of Reactive Organic Compound Liquids:* This rule applies to equipment used to store reactive organic compound liquids with a vapor pressure greater than 0.5 psia.

*Rule 328 - Continuous Emissions Monitoring:* This rule details the applicability and standards for the use of continuous emission monitoring systems (CEMS). CEMS are required for the SVPP as outlined in Section 4.14. A number of process variables are also continuously monitored to assess compliance with the applicable requirements.

*Rule 329 - Cutback and Emulsified Asphalt Paving Materials:* This rule applies to the manufacture, application and sale of cutback and emulsified asphalt materials for the paving, construction and maintenance of streets, highways, parking lots and driveways.

*Rule 330 - Surface Coating of Metal Parts and Products:* This rule is applicable to any person who manufactures, applies or specifies the use of surface coatings for metal parts and products. VAFB conducts surface coating operations throughout the facility.

*Rule 333 - Control of Emissions from Reciprocating Internal Combustion Engines:* This rule applies to all engines with a rated brake horsepower of 50 or greater. Permit exempt engines are not subject to this rule. The emergency standby IC engines at the facility are compression ignition emergency standby engines and are exempt from the provisions of the Rule per Section B.1.d. The turbine starter engines (pony engines) are exempt per Section B.2. The engine located in Building 7425 is permitted to operate up to 600 hours per year, therefore it is subject to the prime engine requirements of Rule 333. Portable analyzer monitoring is required once per quarter and source tests are required if triggered by 333.I.8.

*Rule 337- Surface Coating of Aerospace Vehicles and Components:* This rule applies to the manufacture of any aerospace vehicle coating or aerospace component coating for use within the District, or the use, application or solicitation of any aerospace vehicle or component coating or associated solvent within the District.

*Rule 339 - Motor Vehicle and Mobile Equipment Coating Operations:* This rule applies to any person who supplies, sells, offers for sale, manufactures, or distributes any automotive coating or associated solvent for use within the District, as well as any person who uses, applies, or solicits the use or application of any automotive coating or associated solvent within the District.

*Rule 346 - Loading of Organic Liquids:* This rule applies to the transfer of organic liquids into an organic liquid cargo vessel. For this rule only, an organic liquid cargo vessel is defined as a truck, trailer or railroad car.

*Rule 349 - Polyester Resin Operations:* This rule shall apply to any person owning or operating any commercial or industrial polyester resin operation.

*Rule 351 - Surface Coating of Wood Products:* This rule applies to the application of coating to, and surface preparation of, wood products. VAFB conducts surface coating operations throughout the facility.

*Rule 352 - Natural Gas-Fired Fan-Type Central Furnaces and Small Water Heaters:* This rule applies to any person who manufactures, supplies, sells, offers for sale, installs, or solicits the installation of any natural gas-fired fan-type central furnaces or water heaters for use within the District.

*Rule 353 - Adhesives and Sealants:* This rule is applicable to any person who supplies, sells, offers for sale, distributes, manufactures, solicits the application of, or uses any adhesive product, sealant product, or associated solvent for use within the District.

*Rule 354 – Graphic Arts:* This rule applies to any person who uses inks, coatings, adhesives, or solvents containing ROCs as part of a graphic arts operation or graphic arts line.

*Rule 360 – Boilers, Water Heaters, and Process Heaters (0.075-2 MMBtu/hr):* This rule applies to any person who supplies, sells, offers for sale, installs, modifies, or solicits the installation or modification of any water heater, boiler, steam generator or process heater for use within the District with a rated heat input capacity greater than or equal to 75,000 British thermal units per hour up to and including 2,000,000 British thermal units per hour. The units subject to this rule are identified in Attachment 10.2.

*Rule 361 – Boilers, Steam Generators, and Process Heaters (Between 2 – 5 MMBtu/hr):* This rule applies to any boiler, steam generator, and process heater with a rated heat input capacity of greater than 2 MMBtu/hr and less than 5 MMBtu/hr. The units subject to this rule are identified in Attachment 10.2.

*Rule 505 - Breakdown Conditions:* This rule describes the procedures that VAFB must follow when a breakdown condition occurs to any emissions unit associated with the VAFB facility. A breakdown condition is defined as an unforeseeable failure or malfunction of (1) any air pollution control equipment or related operating equipment which causes a violation of an emission limitation or restriction prescribed in District Rules and Regulations, or by State law, or (2) any in-stack continuous monitoring equipment, provided such failure or malfunction:

- a. Is not the result of neglect or disregard of any air pollution control law or rule or regulation;
- b. Is not the result of an intentional or negligent act or omission on the part of the owner or operator;
- c. Is not the result of improper maintenance;
- d. Does not constitute a nuisance as defined in Section 41700 of the H&SC;
- e. Is not a recurrent breakdown of the same equipment.

*Rule 810 - Federal Prevention of Significant Deterioration:* This rule was adopted January 20, 2011 to incorporate the federal Prevention of Significant Deterioration rule requirements into the District's rules and regulations. Future projects at the facility will be evaluated to determine whether they constitute a new major stationary source or a major modification.

### **3.5. Compliance History**

This section contains a summary of the compliance history for this facility since the issuance of prior permit renewal and was obtained from documentation contained in the District's Administrative files

- 3.5.1 *Facility Inspections.* Inspections of VAFB are conducted frequently for compliance with permit conditions and ongoing routine activities. A listing of the inspections of the VAFB since the previous permit reevaluation is too extensive to include in this permit but is available in the District files for this source.
- 3.5.2 This section contains a summary of all Notices of Violations (NOVs) issued to VAFB since Part 70/PTO 13968-R1 was issued in June 2017.

VIOLATION	NUMBER	ISSUE DATE	DESCRIPTION OF VIOLATION	LOCATION OF VIOLATION
NOV	11433	10/15/2018	Operating equipment without a valid District permit and failing to submit a PTO application within 120 days of test completion (7-6-17) as required by permit condition 13 of ATC Mod 14246-01.	Bldg 10726
NOV	11433	12/10/2018	Operating equipment without a valid District permit (PTO), and failing to submit a Permit to Operate application within 120 days of the start of SCDP as required by Condition 21.c. of ATC-14926.	Bldg 10525

**Table 3.1 Generic Federally Enforceable District Rules**

<b>Generic Requirements</b>	<b>Affected Emission Units</b>	<b>Basis for Applicability</b>	<b>Current Rule Date</b>
<u>RULE 101</u> : Compliance by Existing Installations	All emission units	Emission of pollutants	June 1981
<u>RULE 102</u> : Definitions	All emission units	Emission of pollutants	August 25, 2016
<u>RULE 103</u> : Severability	All emission units	Emission of pollutants	October 23, 1978
<u>RULE 105</u> : Applicability	All emission units	Emission of pollutants	July 30, 1991
<u>RULE 201</u> : Permits Required	All emission units	Emission of pollutants	June 19, 2008
<u>RULE 202</u> : Exemptions to Rule 201	Applicable emission units	Insignificant activities/emissions, per size/rating/function	August 25, 2016
<u>RULE 203</u> : Transfer	All emission units	Change of ownership	April 17, 1997
<u>RULE 204</u> : Applications	All emission units	Addition of new equipment or modification to existing equipment.	August 25, 2016
<u>RULE 205</u> : Standards for Granting Permits	All emission units	Emission of pollutants	April 17, 1997
<u>RULE 205.C</u> : Standards for Granting Permits	All emission units	Emission of pollutants	July 2, 1979
<u>RULE 206</u> : Conditional Approval of Authority to Construct or Permit to Operate	All emission units	Applicability of relevant Rules	October 15, 1991
<u>RULE 208</u> : Action on Applications – Time Limits	All emission units. Not applicable to Part 70 permit applications.	Addition of new equipment or modification to existing equipment.	April 17, 1997
<u>RULE 212</u> : Emission Statements	All emission units	Administrative	October 20, 1992
<u>RULE 301</u> : Circumvention	All emission units	Any pollutant emission	October 23, 1978
<u>RULE 302</u> : Visible Emissions	All emission units	Emissions that can injure, damage or offend.	June 1981
<u>RULE 303</u> : Nuisance	All emission units	Emissions that can injure, damage or offend.	October 23, 1978
<u>RULE 304</u> : Particulate Matter - Northern Zone	All emission units	Emissions that can injure, damage or offend.	October 23, 1978
<u>RULE 306</u> : Dust and Fumes - Northern Zone	All emission units	Emissions that can injure, damage or offend.	October 23, 1978

<b>Generic Requirements</b>	<b>Affected Emission Units</b>	<b>Basis for Applicability</b>	<b>Current Rule Date</b>
<u>RULE 309</u> : Specific Contaminants	All emission units	Emissions that can injure, damage or offend.	October 23, 1978
<u>RULE 310</u> : Odorous Organic Sulfides	All emission units	Emissions that can injure, damage or offend.	October 23, 1978
<u>RULE 311</u> : Sulfur Content of Fuel	All combustion units	Use of fuel containing sulfur	October 23, 1978
<u>RULE 312</u> : Open Fires	Fires	Emissions that can injure, damage or offend.	October 2, 1990
<u>RULE 313</u> : Fires Set Under Public Authority	Fires	Emissions that can injure, damage or offend.	October 23, 1978
<u>RULE 315</u> : Gasoline Specifications	Gasoline distributors, and sellers on VAFB	Emissions that can injure, damage or offend.	October 23, 1978
<u>RULE 316</u> : Storage and Transfer of Gasoline	Gasoline distributors, and sellers on VAFB	Emissions that can injure, damage or offend.	January 15, 2009
<u>RULE 317</u> : Organic Solvents	Materials containing organic solvents	Emissions that can injure, damage or offend.	October 23, 1978
<u>RULE 321.1</u> : Solvent Cleaning Operations	Materials containing organic solvents	Emissions that can injure, damage or offend.	June 19, 2014
<u>RULE 322</u> : Metal Surface Coating Thinner and Reducer	Metal Surface Coating Operations.	Emissions that can injure, damage or offend.	October 23, 1978
<u>RULE 323</u> : Architectural Coatings	Architectural Coating Operations	Emissions that can injure, damage or offend.	November 15, 2001
<u>RULE 324</u> : Disposal and Evaporation of Solvents	Materials containing organic solvents	Emissions that can injure, damage or offend.	October 23, 1978
<u>RULE 330</u> : Surface Coating of Metal Parts and Products	Miscellaneous Units	Surface Coating of Metal Parts and Products	June 21, 2012
<u>RULE 337</u> : Surface Coating of Aircraft or Aerospace Vehicle Parts and Products	Aerospace vehicle coating operations	Emissions that can injure, damage or offend.	June 21, 2012
<u>RULE 339</u> : Motor Vehicle and Mobile Equipment Coating Operations	Miscellaneous Units	Motor Vehicle Surface Coating	June 19, 2008
<u>RULE 349</u> : Polyester Resin Operations	Polyester Resin Operations	Polyester Resin Operations	June 21, 2012
<u>RULE 351</u> : Surface Coating of Wood Products	Miscellaneous Units	Surface Coating of Wood Products	August 20, 1998
<u>RULE 353</u> : Adhesives and Sealants	Miscellaneous Units	Adhesives and Sealants	June 21, 2012

<b>Generic Requirements</b>	<b>Affected Emission Units</b>	<b>Basis for Applicability</b>	<b>Current Rule Date</b>
<u>RULE 354</u> : Graphic Arts	Miscellaneous Units	VOC Limitations	June 28, 1994
<u>RULE 370</u> : Potential to Emit - Limitations for Part 70 Sources	All emission units	Emission of pollutants	January 20, 2011
<u>RULE 505</u> : Breakdown Conditions	All emission units	Breakdowns where permit limits are exceeded or rule requirements are not complied with.	October 23, 1978
<u>RULE 603</u> : Emergency Episode Plans	Stationary sources with PTE greater than 100 tpy	VAFB Project PTE is greater than 100 tpy.	June 15, 1981
<u>Rule 801</u> : New Source Review – Definitions and General Requirements	All emission units	Emission of pollutants	August 25, 2016
<u>Rule 802</u> : New Source Review	All emission units	Emission of pollutants	August 25, 2016
<u>Rule 804</u> : Emission Offsets	All emission units	Emission of pollutants	August 25, 2016
<u>Rule 805</u> : Air Quality Impact and Modeling	All emission units	Emission of pollutants	August 25, 2016
<u>Rule 806</u> : Emission Reduction Credits	All emission units	Applications to generate ERC Certificates.	August 25, 2016
<u>Rule 810</u> : Federal Prevention of Significant Deterioration (PSD)	All emission units	Emission of pollutants	June 20, 2013
<u>Rule 901</u> : New Source Performance Standards (NSPS)	All emission units	New or modified units	September 20, 2010
<u>Rule 1301</u> : General Information	All emission units	VAFB Project is a major source.	September 18, 1997
<u>Regulation XIII (Rules 1302 – 1305)</u> : Part 70 Permitting	All emission units	VAFB Project is a major source.	January 18, 2001

**Table 3.2 Unit Specific Federally Enforceable District Rules**

<b>Unit-Specific Requirements</b>	<b>Affected Emission Units</b>	<b>Basis for Applicability</b>	<b>Current Rule Date</b>
<u>RULE 326</u> : Storage of Reactive Organic Compound Liquids	Storage Tanks	TVP > 0.5 psia	January 18, 2001
<u>RULE 333</u> : Control of Emissions from Reciprocating Internal Combustion Engines	See Attachment 10.3	ICE with rated brake horsepower greater than 50.	June 19, 2008
<u>RULE 342</u> : Control of Oxides of Nitrogen from Boilers, Steam Generators and Process Heaters	See Attachment 10.2	Boilers with rated heat inputs greater than or equal to 5.000 MMBtu/hr	June 20, 2019
<u>RULE 343</u> : Petroleum Storage Tank Degassing	Tank degassing operations	Underground and aboveground storage tanks	December 14, 1993
<u>RULE 352</u> : Natural Gas-Fired Fan-Type Central Furnaces and Small Water Heaters	Central Furnaces and Small Water Heaters	Central Furnaces and Small Water Heaters	October 20, 2011
<u>RULE 360</u> : Emissions from Oxides of Nitrogen from Large Water Heaters and Small Boilers	See Attachment 10.2	Units greater than or equal to 0.75 MMBtu/hr and less than or equal to 2.000 MMBtu/hr.	March 15, 2018
<u>RULE 361</u> : Small Boilers, Steam Generators, and Process Heaters	See Attachment 10.2	Units greater than 2.00 MMBtu/hr and less than 5.000 MMBtu/hr.	June 20, 2019

**Table 3.3 Non Federally Enforceable District Rules**

<b>Requirement</b>	<b>Affected Emission Units</b>	<b>Basis for Applicability</b>	<b>Adoption Date</b>
<u>RULE 210</u> : Fees	All emission units	Administrative	March 17, 2005
<u>RULE 345</u> : Control of Fugitive Dust from Construction and Demolition Activities	Miscellaneous Units	Fugitive Dust Emissions	January 21, 2010
<u>RULES 501-504</u> : Variance Rules	All emission units	Administrative	October 23, 1978
<u>RULES 506-519</u> : Variance Rules	All emission units	Administrative	October 23, 1978

## 4.0 Engineering Analysis

### 4.1. General

The engineering analyses performed for this permit were limited to the review of:

- Emission factors and calculation methods for each emissions unit
- Emission control equipment
- Emission source testing and sampling
- Process monitors needed to ensure compliance

### 4.2. External Combustion Units

VAFB operates natural gas-fired and LPG-fired combustion units (boilers and water heaters) which provide hot water and space heating needs throughout the facility. Daily emissions are calculated using the daily heat input (MMBtu/day) times the emission factor (lb/MMBtu). Annual emissions are calculated using the annual heat input (MMBtu/yr) times the emission factor (lb/MMBtu) divided by 2000 lb/ton. Emission factors are listed in Table 5.1-2a. (*Emission Factors*). The default emission factors are documented on the District's webpage at <https://www.ourair.org/wp-content/uploads/SBCAPCD-External-Combustion-Emission-Factors-Revision-2-.pdf>

### 4.3. Reciprocating Internal Combustion Engines

Diesel-Fired IC Engines. Mass emission estimates are based on the maximum allowed hours for maintenance and testing. Emissions are determined by the following equations:

$$E1, \text{ lb/day} = \text{Engine Rating (bhp)} * \text{EF (g/bhp-hr)} * \text{Daily Hours (hr/day)} * (\text{lb}/453.6 \text{ g})$$
$$E2, \text{ tpy} = \text{Engine Rating (bhp)} * \text{EF (g/bhp-hr)} * \text{Annual Hours (hr/yr)} * (\text{lb}/453.6 \text{ g}) * (\text{ton}/2000 \text{ lb})$$

The emission factors (EF) were chosen based on each engine's rating and age. Unless engine specific data was provided, default emission factors are used as documented on the District's webpage at <https://www.ourair.org/dice/emission-factors/>. Emission factors are listed in Table 5.1-2b (*Emission Factors*). Additionally, the engines are subject to daily and annual operating hour limits. Operating hour limits are listed in Table 5.1-1b.

*Firewater Pumps*. The firewater pump engines identified in this permit must comply with NFPA 25. Since the NFPA 25 does not specify an upper limit on the hours to comply with the maintenance and testing requirements, in-use firewater pumps do not have a defined potential to emit restricting their operation. The ATCM does require that the hours of operation be monitored with a non-resettable hour meter, that CARB Diesel Fuel be used (or approved alternative) and that detailed records of use be recorded and reported.

### 4.4. Turbines

Five turbines provide a source of electric power used to support launch operations. The turbines can be operated on natural gas or diesel. The primary fuel for the turbines is natural gas. Diesel fuel is used if natural gas is unavailable. Emissions are based on the emission factors and operating parameters listed in Table 5.1-1e. The emission factors for were established by ATC/PTO 6117-07.

There are two emission scenarios:

Scenario 1: Operation exclusively on natural gas, with a fuel consumption of 148.36 MMscf/quarter.

Scenario 2: Operation on two fuels, 123.79 MMscf/quarter of natural gas and 55,511 gallons of diesel fuel.

The worst case emissions are as follows:

- a. The worst case hourly emissions occur when diesel fuel is combusted in the turbines.
- b. The worst case annual emissions for NO<sub>x</sub>, NMHC, ROC, PM, PM<sub>10</sub> and PM<sub>2.5</sub> occur when the turbines are fired exclusively on natural gas.
- c. The worst case annual emissions for CO and SO<sub>x</sub> occur when the turbines are fired on both fuels during the same quarter.

#### **4.5. Bulk Fuel Storage**

Emissions for storing RP-1, JP-8 and Jet-A at the POL Bulk Storage Facility are calculated according to AP-42, Chapter 7 procedures for floating roof tanks. The worst case-operating scenario for the RP-1 tank is based on operation 365 days/year and a fuel throughput of 245,600 gallons/year. The worst case-operating scenario for the JP-8 and Jet A tanks is based on operation 365 days/year with a combined fuel throughput from both tanks of 2,040,000 gallons/year.

#### **4.6. Abrasive Blasting**

Emissions are calculated based on information provided in the permit application and District standardized assumptions for filter control efficiency and PM<sub>10</sub> and PM<sub>2.5</sub> fraction. Abrasive blasting conducted inside a tent is considered to be uncontrolled, only blasting inside a booth equipped with filters is considered controlled. No other criteria pollutants are emitted from abrasive blasting operations. See Attachment 10.8 for the detailed emission calculations. These emissions define the PTE for the permitted equipment.

The PM<sub>10</sub> and PM<sub>2.5</sub> emission factors used are from AP-42 Chapter 13.2.6.

In 1991, the Hearing Board determined (Case No. 18-90A) that the Health and Safety Code Section 41904 and California Administrative Code, Title 17, Section 9200 et seq., limits the District's authority to regulate emissions from abrasive blasting operations. For this reason, this permit does not contain emission limits as a permit condition. However, the emissions calculations are included in the Permit Evaluation for informational purposes.

#### **4.7. Coating Operations**

Coatings containing ROCs are applied to metal and wood surfaces as well as mobile equipment and aerospace vehicles in enclosed booths via paint sprayers. Filters provide some particulate matter and nuisance control. Exhaust makeup fans are used to provide airflow through the booths. The spray booths are equipped with overspray filters or water curtains, which reduce particulate emissions. ROC emissions are controlled by using compliant coatings required by District rules.

#### 4.8. *Solvent Usage*

Emission Calculations (Device 114277 various locations at VAFB): The potential to emit for solvent activities existing before October 1, 2004 is based on worst case emissions of 24 lbs/day and 3.17 tons/year. The daily limit of 24 lbs/day is based on an 8 hour operating scenario which was chosen when ATC/PTO 10156 was issued in 1999 to allow flexibility without triggering any Best Available Control Technology (BACT) or Air Quality Impact Analysis (AQIA) requirements. The annual emission limit is calculated as follows:

$$(24 \text{ lbs/day}) * (22 \text{ days/month}) * (12 \text{ months/year}) * (1 \text{ ton}/2,000 \text{ lbs}) = 3.17 \text{ tons ROC/year}$$

Emission Calculations: (Device #110309 various locations at VAFB). The potential to emit for solvent activities started or modified after October 4, 2004 is based on worst case emissions of 1.00 ton/year and 0.25 tons/qr. The daily limit is based on the worst case scenario that all of one quarter's emissions occur in one month. The daily emission limit is calculated as follows:

$$(500 \text{ lbs/month}) / (22 \text{ days/month}) = 22.73 \text{ lbs ROC/day}$$

The emissions from operations begun after October 1, 2004 have been offset.

#### 4.9. *Landfill Gas*

Uncontrolled LFG emissions are calculated using default values for  $L_0$ ,  $k$ , and  $C_{NMOC}$  given in AP-42 and the landfill emission equation found in 40 CFR §60.754(a)(1)(ii) and the California Methane Emissions from Municipal Solid Waste Landfills regulation. The equation used is as follows:

$$M_{NMOC} = 2 * L_0 * R * (e^{-kc} - e^{-kt}) * C_{NMOC} * (3.6 \times 10^{-9});$$

Where:

$M_{NMOC}$  = Uncontrolled mass emission rate of NMOC in Mg/year  
 $L_0$  = Methane generation potential (100 m<sup>3</sup> per Mg of waste, default value)  
 $R$  = Average annual acceptance rate (965,200 tons in place/78 years = 12,374.36 TPY = 11,224.93 Mg/year)  
 $k$  = Methane generation rate constant (0.02/year, default value)  
 $t$  = Age of landfill (in years, 78 years)  
 $C_{NMOC}$  = Concentration of NMOC (600 ppmv as hexane)  
 $c$  = Time since closure, in years; for active landfills,  $c = 0$  and  $e^{-kc} = 1.0$

93 percent of NMOC in the LFG is assumed to be ROC based on a staff report for District Rule 341. See Attachment 10.9 for detailed emission calculations.

#### 4.10. *Gasoline Dispensing*

Gasoline dispensing emissions are calculated based on loading, breathing, refueling, and spillage emission factors and the permitted gasoline throughput.

**Table 4.10 GDF ROC Emission Factors for Underground Tanks  
w/ Phase I EVR and Phase II (Non-EVR and EVR) and Vent Valves**

	<b>SBCAPCD Approved</b>	
	<i>Phase I EVR and Phase II Non-EVR</i>	<i>Phase I EVR and Phase II EVR</i>
	lb/1000 gal	lb/1000 gal
Loading	0.15	0.15
Breathing	0.25	0.00 <sup>1</sup>
Refueling	0.42	0.38
Spillage	0.42	0.24
<b>Total</b>	<b>1.24</b>	<b>0.77</b>

**4.11. *Hypergolic Fuel Storage and Handling***

**HSF:** Emissions from the HSF are based on mass balance equations. It is assumed that all the vented oxidizer is converted to NO<sub>2</sub> and all of the vented fuel is converted to ROCs. A fixed volume is assumed to be vented for each unloading event. The HSF scrubbers reduce uncontrolled emissions by 99%.

**MRS:** Emissions from the MRS are based on mass balance equations. It is assumed that all the vented oxidizer is converted to NO<sub>2</sub> and all of the vented fuel is converted to ROCs. A fixed volume is assumed to be vented for each unloading event. The MRS reduces uncontrolled emissions by 99%.

**4.12. *Permit Exempt Equipment***

The NO<sub>x</sub>, ROC, PM<sub>10</sub> and PM<sub>2.5</sub> PTE from permit exempt equipment were calculated by the applicant and submitted with the permit application. The calculations were based on the rating of each piece of equipment, default emission factors, and the maximum operating rate specified by the applicant. The GHG PTE was calculated based on the ratings and maximum operating rate specified by the applicant multiplied by the emission factors specified in section 5.4. The CO PTE was calculated only for natural gas, propane, or liquefied petroleum gas-fired external combustion equipment based on the ratings and maximum operating rate specified by the applicant multiplied by the emission factor for residential furnaces specified in AP-42 Table 1.4-1. The CO PTE was not calculated for the rest of the permit exempt equipment.

**4.13. *Process Monitoring***

4.13.1 *Turbines.* Monitoring is required to ensure compliance with operational requirements and restrictions. This is accomplished by monitoring the volumes of natural gas and diesel fuel burned by the turbines. The volume of water injected into each turbine along with emissions from each turbine are continuously monitored and telemetered back to the District. The continuous emission monitoring system is equipped with alarms that inform the operator if any permitted limit has been exceeded. Also this facility is subject to three monitoring plans (and any subsequent updates) each incorporated by reference into this permit:

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<sup>1</sup> Emissions from breathing are included in the refueling emission factor per Table 4-1 of ARB’s CP-201 (February 9,2005)

*Fuel Use Monitoring Plan (FUMP) April 12, 2010 (Pony Engines Only)*

*SVPP Continuous Emissions Monitoring (CEMS) Plan, August 2018*

*SVPP Fugitive Hydrocarbon I&M Program, October 23, 2002*

4.13.2 *Internal Combustion Engines.* Non-resettable hour meters are required on each internal combustion engine to monitor operational hours.

4.13.3 *External Combustion Units.* The default rating method for recording and reporting the annual heat input for each external combustion units is to assume each unit operates 8,760 hours per year at its maximum rated heat input. Alternatively, the permittee has the option of either recording the actual volume of fuel used with a fuel meter or recording the actual hours of operation of each unit with an hour meter and assuming the unit operates at its maximum rated heat input during each hour of operation. The specific fuel monitoring method for each unit is listed in Attachment 10.2 (*External Combustion Equipment Operational Requirements*).

**4.14. Best Available Control Technology (BACT)**

The following BACT applies:

4.14.1 *Turbines:* The following BACT measures apply to the turbine generators:

**Table 4.14.1 Turbine BACT**

<b>Emission Units</b>	<b>Pollutant</b>	<b>BACT Technology</b>
Turbines	NO <sub>x</sub>	Water Injection
	SO <sub>2</sub>	Use of PUC-quality natural gas. Diesel fuel shall only be used when gas is curtailed. Use of low sulfur diesel fuel (< 0.2% sulfur by weight).
	PM	Limit diesel fuel fired operations.
	HC and CO	Oxidation catalyst used to reduce turbine exhaust emissions (NMHC based permitted emission limit). Fugitive hydrocarbon inspection and maintenance (I&M) program instituted for additional ROC control.

4.14.2 *Hypergolic Storage Facility (Device #104788 An Oxidizer Vapor Scrubbing System (OVSS))* with a 99-percent control efficiency is considered to be BACT.

4.14.3 *Fuel Storage Tanks:* The following BACT measures apply to the subject fuel storage tanks:

**Table 4.14.2 Fuel Storage Tank BACT**

<b>Device ID#</b>	<b>Emission Source</b>	<b>BACT Measure</b>
109896	JP-8 and Jet-A Fuel Tank 1702	Primary and secondary seals covered by a fixed roof.
109897	JP-8 and Jet-A Fuel Tank 1703	Primary and secondary seals covered by a fixed roof.
386453	RP-1 Propellant Tank	Gaseous nitrogen blanket pressure of 5 to 25 psig is maintained in the tank.

4.14.4 *Emergency Standby IC Engines*: The following BACT measures apply to the subject Emergency Standby IC Engines:

**Table 4.14.3 Emergency Standby IC Engine BACT**

<b>Device ID#</b>	<b>Emission Source</b>	<b>BACT Technology</b>
390424	<750 HP Emergency Standby IC Engine	EPA Tier 3 Certification
391888	<750 HP Emergency Standby IC Engine	EPA Tier 3 Certification
391955	>750 HP Emergency Standby IC Engine	EPA Tier 2 Certification
391956	>750 HP Emergency Standby IC Engine	EPA Tier 2 Certification
391957	>750 HP Emergency Standby IC Engine	EPA Tier 2 Certification

**4.15. CEMS/Process Monitoring**

4.15.1 Continuous Emission Monitoring System (CEMS): VAFB operates a CEMS at the South Vandenberg Power Plant to ensure ongoing compliance with the federal New Source Performance Standards per 40 CFR Part 60 {*New Source Performance Standards*} Subpart GG. The data from the SVPP CEMS, per the *Continuous Emissions Monitoring* condition, and the ambient air monitoring and meteorological data per the *Ambient Monitoring Requirements* condition are transmitted on a real time basis to the District for analysis. Further discussion can be found in Sections 3.2.1 and 4.13 of this permit.

**4.16. Source Testing/Tuning/Sampling**

4.16.1 *Turbines*: Compliance source testing of the turbines is required annually with September as the anniversary date. Because natural gas is the primary fuel burned in the turbines, compliance source testing is conducted with the turbines firing on natural gas. Diesel fuel-fired source testing is required only for any turbine that operated on diesel fuel for more than 200 hours in the 12 months prior to the source test anniversary date. Source testing is performed in accordance with Table 4.16.1 below. In addition to compliance source testing a Relative Accuracy Test Audit (RATA) is required annually to verify performance of the CEMS.

4.16.2 *External Combustion Equipment*: Currently recurrent source testing is not required on any external combustion units at VAFB. Table 4.16.2, Source Testing Requirements for External Combustion Units, details source testing requirements for future reference. Also, VAFB is required to follow the District *Source Test Procedures Manual* (May 24, 1990 and all updates) for any units that may be required to be tested.

4.16.3 *Internal Combustion Engine*: The training engine in Building 7425 is subject to quarterly portable analyzer monitoring pursuant to Rule 333. Based on the results of portable analyzer monitoring, a source test may be required consistent with Table 4.16.3.

4.16.4 *VRS Compliance Testing*: Testing of the gasoline tank vapor recovery systems is required on a routine basis. Test procedures are summarized in Attachment 10.6 (*Vapor Recovery System Testing Requirements*).

4.16.5 *Rule 361 Tuning Procedures*: External combustion units subject to this rule may be subject to the tuning requirements of the rule. If required, tune-ups must be performed at least twice every

12 months in accordance with the tuning procedures listed in Attachment 1 to Rule 361 or a District-approved alternate procedure. Additionally, new *stacked* units (multiple units grouped for a common process) must be tuned once per year. The units that require tuning per this rule are listed in Attachment 10.2 (*External Combustion Equipment Operational Requirements*).

- 4.16.6 *Sampling Requirements.* Fuel sulfur content is monitored by purchase records that document only CARB-compliant diesel fuel, PUC regulated natural gas, and commercial grade propane is purchased and used on-site. No additional sampling or analysis is required.

**Table 4.16.1. Turbine Source Test Requirements**

<b>Turbine / Fuel Type Combination</b>	<b>Pollutant or Parameter</b>	<b>Concentration in Exhaust<sup>(c)</sup> (ppmv per turbine)</b>	<b>Max. Exhaust Emission Rate<sup>(d)</sup> (lb/hr-turbine)</b>
Natural gas fuel-fired source testing required for any individual turbine that uses natural gas fuel in excess of 200 hours for the calendar year. Gas	NO <sub>x</sub>	22	3.82
	NMHC	17	0.78
	CO	Not Applicable	4.57
Diesel fuel-fired source testing required for any individual turbine that uses diesel fuel in excess of 200 hours for the calendar year.	NO <sub>x</sub>	32	5.60
	NMHC	23	1.08
	CO	Not Applicable	17.00
	SO <sub>x</sub> as SO <sub>2</sub>	42	8.17
	PM	Not Applicable	0.52

Notes:

- (a) All emission and process parameter testing shall be performed consistent with SBC District protocol.
- (b) All source tested values shall be reported at standard conditions (60 deg. F and 1 atm), or as otherwise specified herein.
- (c) Concentration limits by volume, dry basis, corrected to 15% oxygen, regardless of turbine load.
- (d) Except for NMHC, mass emission limits are per turbine based on 100% turbine rated load. NMHC mass emission limits most closely correlate with 50% turbine rated load.
- (e) An annual source test and RATA is not required for any turbine operated on natural gas or diesel fuel that operates less than 200 hours in the 12 months prior to the source test anniversary, unless it has not been source tested for two consecutive years. At a minimum, a source test and RATA shall be required at least every 3 calendar years for each turbine.
- (f) For each turbine subject to annual source testing, the turbine shall be tested at two District-approved representative loads (e.g., 50% and 100%) if it operates above an average of 60 percent, or less than an average of 85 percent of its *Rated Operating Output* (ROO) over the last 12 months.  $ROO = (\text{Actual MW-hr produced over last 12 months}) * (100\%) \div (3.05 \text{ MW} * \text{actual operating hours for last 12 months})$ . A minimum of three emissions compliance test data points shall be obtained for any load tested. For each fuel tested per turbine unit, compliance at each load will be based upon the average of three valid data points.
- (g) For RATA testing, a minimum of nine test runs shall be completed. RATA runs may be run contemporaneously with emission compliance runs. If a turbine is to be tested at two loads, the split of runs at each given load will be determined each year by the District based on the turbine operations in the preceding year.

**Table 4.16.2. Source Testing Requirements for External Combustion Units**

Emission & Limit Test Points	Pollutants	Parameters	Test Methods <sup>(a)</sup>
External Combustion Unit Stacks <small>(b)(c)(d)(e)</small>	NO <sub>x</sub> CO ROC Sampling Point Det. Stack Gas Flow Rate O <sub>2</sub> , CO <sub>2</sub> , Dry MW Moisture Content Stack Temperature	ppmv, lb/hr ppmv, lb/hr ppmv, lb/hr     °F	EPA Method 7E, ARB 100 EPA Method 10, ARB 100 EPA Method 18 EPA Method 1 EPA Method 2 or 19 EPA Method 3 EPA Method 4 Calibrated Thermocouple
Fuel Gas <sup>(h)</sup>	Fuel Gas Flow Rate Higher Heating Value Total Sulfur Content Gas Composition	Btu/lb Ppmw CHONS%, F-factor	Fuel Gas Meter <sup>(f)</sup> ASTM D 1826 or 3588 ASTM D 1072 or 5504 <sup>(g)</sup> ASTM 1945

Notes:

- (a) Alternative methods may be acceptable on a case-by-case basis.
- (b) The emission rates shall be based on EPA Methods 2 and 4, or Method 19 along with the heat input rate.
- (c) For NO<sub>x</sub>, CO and ROC and O<sub>2</sub> a minimum of three 40-minute runs shall be obtained during each test.
- (d) See Tables 1 and 2 for the emission standards to be measured against during the test. Measured NO<sub>x</sub> and CO shall not exceed the limit specified in the applicable Rule (e.g., Rule 361, Rule 342).
- (e) All emission determinations shall be made in the as-found operating condition, at the maximum attainable firing rate to be approved by the source test plan. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer.
- (f) Fuel meter shall meet the calibration requirements prior to testing.
- (g) Total sulfur content fuel samples shall be obtained using EPA Method 18 with Tedlar Bags (or equivalent) equipped with Teflon tubing and fittings. Turnaround time for laboratory analysis of these samples shall be no more than 24 hours from sampling.
- (h) Fuel gas heating value and composition are optional for Rule 361 applicable units. Sulfur content only required for units not run on utility purchased gas. For units rated at 5 MMBtu/hr or greater, heating value is required in all cases, but gas composition not required if Method 2 is used for stack flow.

**Table 4.16.3 SOURCE TEST REQUIREMENTS(a)(b)(e)(f)**

Device ID(d)	Pollutant or Parameter (h)	Exhaust Concentration Limit (c) (ppmv)	Max. Exhaust Emission Rate(g) (lb/hr)	Other
Building 7425, ICE #112253	NO <sub>x</sub>	500	3.15	Measure at Maximum Achievable Load (e)
	CO	4,500	3.88	
	ROC	750	3.15	
	Fuel Analysis			Measure
	Fuel Flow, gal/hr			Measure
	Exhaust Oxygen			Measure
	Fuel Injection Timing, (BTDC)			Document setting used in source test
Notes:				
(a) All emission and process parameter testing shall be performed consistent with District protocol.				
(b) All source tested values shall be reported at standard conditions (60 deg. F and 1 atm), or as otherwise specified herein.				
(c) Referenced to a corrected 15.0% oxygen concentration in exhaust.				
(d) As specified in the permit equipment list.				
(e) Emission source test shall be performed at maximum achievable load as approved by District. The load shall be addressed in the Source Test Plan.				
(f) Source testing will establish values for emissions calculations and Rule 333 I&M purposes.				
(g) Based on permitted daily emissions divided permitted daily hours of operation.				
(h) Source testing is required if triggered by Rule 333.I.8.				

**4.17. Part 70 Engineering Review: Hazardous Air Pollutant Emissions**

Hazardous air pollutant (HAP) emissions for Vandenberg Air Force Base are calculated based on various HAP emission factors and the permitted operational limits and maximum facility design throughputs of this permit. HAP emission factors are shown in Table 5.4-1. Equipment specific potential annual HAP emissions, based on the worst-case scenario listed in Section 5.3 of this permit, are shown in Tables 5.4-1 through 5.4-6. Stationary Source potential annual HAP emissions are summarized in Table 5.5. These totals are estimates only, they are not limitations.

**4.17.1 Emission Factors for HAP Potential Emissions:**

*Natural Gas-fired External Combustion Units:* The HAP emission factors for natural gas-fired external combustion equipment (boilers, water heaters, etc.) are from the Ventura County Air Pollution Control District’s *AB2588 Combustion Emission Factors* (May 2001) for reactive organics from natural gas fired external combustion equipment, and USEPA’s AP-42 Table 1.4-4, *Emission Factors for Metals from Natural Gas Combustion* (July 1998) for metals.

*LPG-fired External Combustion Units:* The HAP emission factors for LPG-fired external combustion equipment (boilers, water heaters, etc.) are from South Coast Air Quality Management District’s *Reporting Procedures for AB2588 Facilities for Reporting their Quadrennial Air Toxics Emissions Inventory* (December 2016), Table B-3, *Default EF for LPG, Butane, or Propane Combustion* for external combustion equipment. A fuel content of 91.5 MMBtu/kgal for propane was used based on Appendix C of the 2008 ATEIR for VAFB.

Natural Gas-fired Turbines: The HAP emission factors for the turbines when fired on natural gas are from South Coast Air Quality Management District's *Reporting Procedures for AB2588 Facilities for Reporting their Quadrennial Air Toxics Emissions Inventory* (December 2016), Table B-1, *Default EF for Natural Gas Combustion* for turbines.

Diesel-fired Turbines: The HAP emission factors for the turbines when fired on diesel fuel are from South Coast Air Quality Management District's *Reporting Procedures for AB2588 Facilities for Reporting their Quadrennial Air Toxics Emissions Inventory* (December 2016), Table B-2, *Default EF for Diesel/Distillate Oil Fuel Combustion* for turbines.

Diesel-fired IC Engines: The HAP emission factors for diesel-fired IC engines were obtained from the Ventura County Air Pollution Control District's *AB2588 Combustion Emission Factors* (May 2001) for diesel internal combustion. A brake specific fuel consumption of 7,800 Btu/bhp-hr was conservatively assumed for all engines. A higher heating value of 137,000 Btu/gal was assumed for all engines.

Coatings: The HAP emission factors for base-wide coating operations were calculated by dividing the HAP emissions from the 2008 AB 2588 Air Toxics Emission Inventory Report by the total ROC emissions for 2008.

Bulk Fuel Storage: The HAP emission factors for RP-1 bulk fuel storage were obtained from the HAP weight fractions in the Safety Data Sheet for RP-1. The HAP emission factors for JP-8 bulk fuel storage were obtained from the USEPA TANKS Emissions Estimation software, as reported in the 2008 AB 2588 Air Toxics Emission Inventory Report.

Abrasive Blasting: There are no HAP emissions associated with the abrasive blasting activities at VAFB.

Solvent Usage: For HAP emission estimates, solvents are assumed to contain 5% benzene, 5% toluene, and 5% xylene.

Landfill Gas: The HAP emissions from landfill gas were calculated using the USEPA's Landfill Gas Emissions Model (LandGEM), as reported in the 2008 AB 2588 Air Toxics Emission Inventory Report.

Scrubbers: There are no HAP emissions associated with the nitrogen tetroxide scrubbers, as nitrogen tetroxide is not designated as a HAP. The HAP emission factors for the Aerozine-50 scrubbers were determined based on the chemical makeup of Aerozine-50 fuel (50% hydrazine, 50% 1,1-dimethylhydrazine).

Mobile Vehicle Fueling: The HAP emission factors for gasoline were obtained from South Coast Air Quality Management District's *Supplemental Instructions for Liquid Organic Storage Tanks*, Appendix 3, *Default TAC Profile for Select Petroleum Products*. The HAP emission factors for E-85 were assumed to be 15% of the gasoline emission factors, as E-85 fuel is comprised of 85% ethanol and 15% gasoline.

Degasifier: There are no HAP emissions associated with the degasifier, as hydrogen sulfide is not designated as a HAP.

Microwave Reactors: The HAP emission factors for the hypergolic fuel microwave reactor were calculated based on the control efficiency specified by VAFB and the chemical makeup of the

hypergolic fuel (methyl hydrazine). There are no HAP emissions associated with the hypergolic oxygen microwave reactor, as the hypergolic oxidizer does not contain any HAPs.

## 5.0 Emissions

### 5.1. General

Permitted emissions for each emissions unit are based on the equipment's potential-to-emit (as defined by Rule 102). Section 5.2 identifies the pollutants for which each emissions unit was analyzed. Section 5.3 identifies the emission units and emission tables, and section 5.4, greenhouse gas emissions determination methodology. In order to accurately track the emissions from a facility, the District uses a computer database.

### 5.2. Permitted Emission Limits - Emission Units

Each emissions unit associated with the facility was analyzed to determine the potential-to-emit for the following pollutants:

- Nitrogen Oxides (NO<sub>x</sub>)<sup>2</sup>
- Reactive Organic Compounds (ROC)
- Carbon Monoxide (CO)
- Sulfur Oxides (SO<sub>x</sub>)<sup>3</sup>
- Particulate Matter (PM)<sup>4</sup>
- Particulate Matter smaller than 2.5 microns (PM<sub>2.5</sub>)
- Particulate Matter smaller than 10 microns (PM<sub>10</sub>)
- Greenhouse Gases (GHG as CO<sub>2E</sub>)

### 5.3. Permitted Emission Limits - Facility Totals

Permitted emissions are calculated for both short term (daily) and long term (annual) time periods. Section 4.0 (Engineering Analysis) provides a general discussion of the basic calculation methodologies and emission factors used. The reference documentation for the specific emission calculations, as well as detailed calculation spreadsheets, are provided in Section 5. The following tables provide the operating characteristics, emission factors and emission limits for the permitted equipment.

#### Daily and Annual Scenario:

- External Combustion Equipment
- Reciprocating Internal Combustion Engines
- Turbines
- Bulk Fuel Storage
- Abrasive Blasting
- Coatings
- Solvent Usage
- Landfill Gas

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<sup>2</sup> Calculated and reported as nitrogen dioxide (NO<sub>2</sub>)

<sup>3</sup> Calculated and reported as sulfur dioxide (SO<sub>2</sub>)

<sup>4</sup> Calculated and reported as all particulate matter smaller than 100 μm

- Gasoline Dispensing
- Hydrogen Sulfide Scrubbing
- Hypergolic Fuel Storage and Handling

#### 5.4. *Greenhouse Gases*

GHG emissions from combustion sources are calculated using emission factors found in Tables C-1 and C-2 of 40 CFR Part 98 and global warming potentials found in Table A-1 of 40 CFR Part 98. CO<sub>2</sub> equivalent emission factors are calculated for CO<sub>2</sub>, CH<sub>4</sub>, and N<sub>2</sub>O individually, then summed to calculate a total CO<sub>2e</sub> emission factor. Annual CO<sub>2e</sub> emission totals are presented in short tons.

For IC engines, the emission factor in lb/MMBtu heat input is converted to g/bhp-hr output based on a standard brake-specific fuel consumption.

For natural gas and propane combustion the emission factor is:

$$\begin{aligned}
 &(53.02 \text{ kg CO}_2/\text{MMBtu}) (2.2046 \text{ lb/kg}) = 116.89 \text{ lb CO}_2/\text{MMBtu} \\
 &(0.001 \text{ kg CH}_4/\text{MMBtu}) (2.2046 \text{ lb/kg})(21 \text{ lb CO}_{2e}/\text{lb CH}_4) = 0.046 \text{ lb CO}_{2e}/\text{MMBtu} \\
 &(0.0001 \text{ kg N}_2\text{O}/\text{MMBtu}) (2.2046 \text{ lb/kg})(310 \text{ lb CO}_{2e}/\text{lb N}_2\text{O}) = 0.068 \text{ lb CO}_{2e}/\text{MMBtu} \\
 &\text{Total CO}_{2e}/\text{MMBtu} = 116.89 + 0.046 + 0.068 = 117.00 \text{ lb CO}_{2e}/\text{MMBtu}
 \end{aligned}$$

For diesel fuel combustion the emission factor is:

$$\begin{aligned}
 &(73.96 \text{ kg CO}_2/\text{MMBtu}) (2.2046 \text{ lb/kg}) = 163.05 \text{ lb CO}_2/\text{MMBtu} \\
 &(0.003 \text{ kg CH}_4/\text{MMBtu}) (2.2046 \text{ lb/kg})(21 \text{ lb CO}_{2e}/\text{lb CH}_4) = 0.139 \text{ lb CO}_{2e}/\text{MMBtu} \\
 &(0.0006 \text{ kg N}_2\text{O}/\text{MMBtu}) (2.2046 \text{ lb/kg})(310 \text{ lb CO}_{2e}/\text{lb N}_2\text{O}) = 0.410 \text{ lb CO}_{2e}/\text{MMBtu} \\
 &\text{Total CO}_{2e}/\text{MMBtu} = 163.05 + 0.139 + 0.410 = 163.60 \text{ lb CO}_{2e}/\text{MMBtu}
 \end{aligned}$$

Converts to g/hp-hr:

$$(163.60 \text{ lb CO}_{2e}/\text{MMBtu})(453.6 \text{ g/lb})(7500 \text{ Btu/hp-hr})/1,000,000 = 556.58 \text{ g/hp-hr as CO}_{2e}$$

#### 5.5 *Part 70: HAP Potential to Emit Emission Estimates*

Total emissions of hazardous air pollutants are computed for informational purposes only. HAP emission factors are shown in Table 5.4-1. Equipment specific potential annual HAP emissions are shown in Tables 5.4-2, 5.4-3, 5.3-4, 5.4-5, and 5.4-6. Stationary Source potential annual HAP emissions are summarized in Table 5.5.

**Table 5.1-1a. Operating Equipment Description - External Combustion**

Building	Location	Device ID	Operator ID	Fuel Type	Rating (MMBtu/hr)	Limit (MMBtu/day)	Limit (MMBtu/qtr)	Limit (MMBtu/yr)	HHV (Btu/scf)	Sulfur (ppm v S)
836	836 Lompoc St	111100	3872	NG	2.160	51.840	1,182.60	4,730	1,050	80.00
836	836 Lompoc St	111101	3873	NG	2.160	51.840	1,182.60	4,730	1,050	80.00
1819	1819 New South Road	388091	682870	LPG	1.500	36.000	1,215.45	4,862	2,522	239.00
1819	1819 New South Road	388092	682871	LPG	1.500	36.000	1,215.45	4,862	2,522	239.00
2520	2520 Nevada Ave	386176	4371	NG	4.600	110.400	3,727.38	14,910	1,050	80.00
2520	2520 Nevada Ave	386177	4372	NG	4.600	110.400	3,727.38	14,910	1,050	80.00
7000	816 13th St	391690	706481	NG	2.500	60.000	5,475.00	8,106	1,050	80.00
7000	816 13th St	391691	706477	NG	2.500	60.000	5,475.00	8,103	1,050	80.00
7015	806 13th St	388149	679373	NG	1.500	36.000	1,215.45	4,862	1,050	80.00
7015	806 13th St	388150	679380	NG	1.500	36.000	1,215.45	4,862	1,050	80.00
7425	386 10th St	111731	1052	NG	2.250	54.000	4,927.50	19,710	1,050	80.00
8510	1521 Iceland Ave	112964	3996	NG	2.000	48.000	1,620.60	6,482	1,050	80.00
8510	1521 Iceland Ave	112965	3997	NG	2.000	48.000	1,620.60	6,482	1,050	80.00
9360	1318 New Mexico Ave	388395	703427	NG	4.125	99.000	1,485.00	5,940	1,050	80.00
10711	433 Herado Ave	111748	3888	NG	3.700	88.800	8,103.00	32,412	1,050	80.00
12006	865 Washington Ave	112251	3930	NG	2.000	48.000	1,752.00	1,752	1,050	80.00
12006	865 Washington Ave	114903	4269	NG	2.000	48.000	1,752.00	1,752	1,050	80.00
13850	338 South Dakota Ave	393280	4369	NG	2.000	48.000	1,620.60	6,482	1,050	80.00
13850	338 South Dakota Ave	386175	4370	NG	2.000	48.000	1,620.60	6,482	1,050	80.00

**Table 5.1-2a. Emission Factors - External Combustion**

Building	Device ID	Operator ID	NOx (lb/MMBtu)	ROC (lb/MMBtu)	CO (lb/MMBtu)	SOx (lb/MMBtu)	PM (lb/MMBtu)	(lb/MMBtu)	(lb/MMBtu)	GHG (lb/MMBtu)
836	111100	3872	0.036	0.0054	0.297	0.0137	0.0075	0.0075	0.0075	117.00
836	111101	3873	0.036	0.0054	0.297	0.0137	0.0075	0.0075	0.0075	117.00
1819	388091	682870	0.036	0.0054	0.297	0.017	0.0075	0.0075	0.0075	117.00
1819	388092	682871	0.036	0.0054	0.297	0.017	0.0075	0.0075	0.0075	117.00
2520	386176	4371	0.036	0.0054	0.297	0.0137	0.0075	0.0075	0.0075	117.00
2520	386177	4372	0.036	0.0054	0.297	0.0137	0.0075	0.0075	0.0075	117.00
7000	391690	706481	0.036	0.0054	0.297	0.0137	0.0075	0.0075	0.0075	117.00
7000	391691	706477	0.036	0.0054	0.297	0.0137	0.0075	0.0075	0.0075	117.00
7015	388149	679373	0.036	0.0054	0.297	0.0137	0.0075	0.0075	0.0075	117.00
7015	388150	679380	0.036	0.0054	0.297	0.0137	0.0075	0.0075	0.0075	117.00
7425	111731	1052	0.098	0.0054	0.0824	0.0137	0.0075	0.0075	0.0075	117.00
8510	112964	3996	0.036	0.0054	0.297	0.0137	0.0075	0.0075	0.0075	117.00
8510	112965	3997	0.036	0.0054	0.297	0.0137	0.0075	0.0075	0.0075	117.00
9360	388395	703427	0.098	0.0054	0.0824	0.0137	0.0075	0.0075	0.0075	117.00
10711	111748	3888	0.098	0.0054	0.0824	0.0137	0.0075	0.0075	0.0075	117.00
12006	112251	3930	0.036	0.0054	0.297	0.0137	0.0075	0.0075	0.0075	117.00
12006	114903	4269	0.036	0.0054	0.297	0.0137	0.0075	0.0075	0.0075	117.00
13850	393280	4369	0.036	0.0054	0.297	0.0137	0.0075	0.0075	0.0075	117.00
13850	386175	4370	0.036	0.0054	0.297	0.0137	0.0075	0.0075	0.0075	117.00

**Table 5.1-3a. Short Term Potential to Emit - External Combustion**

Building	Device ID	Operator ID	NOx (lb/hr)	ROC (lb/hr)	CO (lb/hr)	SOx (lb/hr)	PM (lb/hr)	PM10 (lb/hr)	PM2.5 (lb/hr)	GHG (lb/hr)	NOx (lb/day)	ROC (lb/day)	CO (lb/day)	SOx (lb/day)	PM (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	GHG (lb/day)
836	111100	3872	0.08	0.01	0.64	0.03	0.02	0.02	0.02	252.72	1.87	0.28	15.40	0.71	0.39	0.39	0.39	6,065.28
836	111101	3873	0.08	0.01	0.64	0.03	0.02	0.02	0.02	252.72	1.87	0.28	15.40	0.71	0.39	0.39	0.39	6,065.28
1819	388091	682870	0.05	0.01	0.45	0.03	0.01	0.01	0.01	175.50	1.30	0.19	10.69	0.61	0.27	0.27	0.27	4,212.00
1819	388092	682871	0.05	0.01	0.45	0.03	0.01	0.01	0.01	175.50	1.30	0.19	10.69	0.61	0.27	0.27	0.27	4,212.00
2520	386176	4371	0.17	0.02	1.37	0.06	0.03	0.03	0.03	538.20	3.97	0.60	32.79	1.51	0.83	0.83	0.83	12,916.80
2520	386177	4372	0.17	0.02	1.37	0.06	0.03	0.03	0.03	538.20	3.97	0.60	32.79	1.51	0.83	0.83	0.83	12,916.80
7000	391690	706481	0.09	0.01	0.74	0.03	0.02	0.02	0.02	292.50	2.16	0.32	17.82	0.82	0.45	0.45	0.45	7,020.00
7000	391691	706477	0.09	0.01	0.74	0.03	0.02	0.02	0.02	292.50	2.16	0.32	17.82	0.82	0.45	0.45	0.45	7,020.00
7015	388149	679373	0.05	0.01	0.45	0.02	0.01	0.01	0.01	175.50	1.30	0.19	10.69	0.49	0.27	0.27	0.27	4,212.00
7015	388150	679380	0.05	0.01	0.45	0.02	0.01	0.01	0.01	175.50	1.30	0.19	10.69	0.49	0.27	0.27	0.27	4,212.00
7425	111731	1052	0.22	0.01	0.19	0.03	0.02	0.02	0.02	263.25	5.29	0.29	4.45	0.74	0.41	0.41	0.41	6,318.00
8510	112964	3996	0.07	0.01	0.59	0.03	0.02	0.02	0.02	234.00	1.73	0.26	14.26	0.66	0.36	0.36	0.36	5,616.00
8510	112965	3997	0.07	0.01	0.59	0.03	0.02	0.02	0.02	234.00	1.73	0.26	14.26	0.66	0.36	0.36	0.36	5,616.00
9360	388395	703427	0.40	0.02	0.34	0.06	0.03	0.03	0.03	482.63	9.70	0.53	8.16	1.36	0.74	0.74	0.74	11,583.00
10711	111748	3888	0.36	0.02	0.30	0.05	0.03	0.03	0.03	432.90	8.70	0.48	7.32	1.22	0.67	0.67	0.67	10,389.60
12006	112251	3930	0.07	0.01	0.59	0.03	0.02	0.02	0.02	234.00	1.73	0.26	14.26	0.66	0.36	0.36	0.36	5,616.00
12006	114903	4269	0.07	0.01	0.59	0.03	0.02	0.02	0.02	234.00	1.73	0.26	14.26	0.66	0.36	0.36	0.36	5,616.00
13850	393280	4369	0.07	0.01	0.59	0.03	0.02	0.02	0.02	234.00	1.73	0.26	14.26	0.66	0.36	0.36	0.36	5,616.00
13850	386175	4370	0.07	0.01	0.59	0.03	0.02	0.02	0.02	234.00	1.73	0.26	14.26	0.66	0.36	0.36	0.36	5,616.00
<b>Total</b>			<b>2.30</b>	<b>0.25</b>	<b>11.68</b>	<b>0.65</b>	<b>0.35</b>	<b>0.35</b>	<b>0.35</b>	<b>5451.62</b>	<b>55.25</b>	<b>6.04</b>	<b>280.24</b>	<b>15.56</b>	<b>8.39</b>	<b>8.39</b>	<b>8.39</b>	<b>130,838.76</b>

**Table 5.1-4a. Long Term Potential to Emit - External Combustion**

Building	Device ID	Operator ID	NOx (ton/qt)	ROC (ton/qtr)	CO (ton/qt)	SOx (ton/qtr)	PM (ton/qtr)	PM10 (ton/qtr)	PM2.5 (ton/qtr)	GHG (ton/qtr)	NOx (ton/yr)	ROC (ton/yr)	CO (ton/yr)	SOx (ton/yr)	PM (ton/yr)	PM10 (ton/y)	PM2.5 (ton/yr)	GHG (ton/yr)
836	111100	3872	0.02	0.00	0.18	0.01	0.00	0.00	0.00	69.18	0.09	0.01	0.70	0.03	0.02	0.02	0.02	276.73
836	111101	3873	0.02	0.00	0.18	0.01	0.00	0.00	0.00	69.18	0.09	0.01	0.70	0.03	0.02	0.02	0.02	276.73
1819	388091	682870	0.02	0.00	0.18	0.01	0.00	0.00	0.00	71.10	0.09	0.01	0.72	0.04	0.02	0.02	0.02	284.42
1819	388092	682871	0.02	0.00	0.18	0.01	0.00	0.00	0.00	71.10	0.09	0.01	0.72	0.04	0.02	0.02	0.02	284.42
2520	386176	4371	0.03	0.01	0.28	0.01	0.01	0.01	0.01	109.03	0.13	0.02	1.11	0.05	0.03	0.03	0.03	436.10
2520	386177	4372	0.03	0.01	0.28	0.01	0.01	0.01	0.01	109.03	0.13	0.02	1.11	0.05	0.03	0.03	0.03	436.10
7000	391690	706481	0.10	0.01	0.81	0.04	0.02	0.02	0.02	320.29	0.15	0.02	1.20	0.06	0.03	0.03	0.03	474.17
7000	391691	706477	0.10	0.01	0.81	0.04	0.02	0.02	0.02	320.29	0.15	0.02	1.20	0.06	0.03	0.03	0.03	474.00
7015	388149	679373	0.02	0.00	0.18	0.01	0.00	0.00	0.00	71.10	0.09	0.01	0.72	0.03	0.02	0.02	0.02	284.42
7015	388150	679380	0.02	0.00	0.18	0.01	0.00	0.00	0.00	71.10	0.09	0.01	0.72	0.03	0.02	0.02	0.02	284.42
7425	111731	1052	0.24	0.01	0.20	0.03	0.02	0.02	0.02	288.26	0.97	0.05	0.81	0.14	0.07	0.07	0.07	1,153.04
8510	112964	3996	0.03	0.00	0.24	0.01	0.01	0.01	0.01	94.81	0.12	0.02	0.96	0.04	0.02	0.02	0.02	379.22
8510	112965	3997	0.03	0.00	0.24	0.01	0.01	0.01	0.01	94.81	0.12	0.02	0.96	0.04	0.02	0.02	0.02	379.22
9360	388395	703427	0.07	0.00	0.06	0.01	0.01	0.01	0.01	86.87	0.29	0.02	0.24	0.04	0.02	0.02	0.02	347.49
10711	111748	3888	0.40	0.02	0.33	0.06	0.03	0.03	0.03	474.03	1.59	0.09	1.34	0.22	0.12	0.12	0.12	1,896.10
12006	112251	3930	0.03	0.00	0.26	0.01	0.01	0.01	0.01	102.49	0.03	0.00	0.26	0.01	0.01	0.01	0.01	102.49
12006	114903	4269	0.03	0.00	0.26	0.01	0.01	0.01	0.01	102.49	0.03	0.00	0.26	0.01	0.01	0.01	0.01	102.49
13850	393280	4369	0.03	0.00	0.24	0.01	0.01	0.01	0.01	94.81	0.12	0.02	0.96	0.04	0.02	0.02	0.02	379.22
13850	386175	4370	0.03	0.00	0.24	0.01	0.01	0.01	0.01	94.81	0.12	0.02	0.96	0.04	0.02	0.02	0.02	379.22
<b>Total</b>			<b>1.29</b>	<b>0.13</b>	<b>5.33</b>	<b>0.32</b>	<b>0.17</b>	<b>0.17</b>	<b>0.17</b>	<b>2,714.77</b>	<b>4.46</b>	<b>0.40</b>	<b>15.68</b>	<b>1.03</b>	<b>0.55</b>	<b>0.55</b>	<b>0.55</b>	<b>8,629.99</b>

**Table 5.1-1b. Operating Equipment Description – Internal Combustion Engines**

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Building	Location	Device ID	Operator ID	Make	Model	Rating (bhp)	Fuel Type	Engine Use	Hrs/Day	Hrs/Yr
64	Oak Mountain	386456	3980	Cummins	QST30-G5	1,490	Diesel	Emergency Stand-by Generator	8	50
185	185 Honda Ridge Rd	107135	564	Caterpillar	3306BDI	314	Diesel	Emergency Stand-by Generator	24	30
185	185 Honda Ridge Rd	107136	567	Caterpillar	3306BDI	314	Diesel	Emergency Stand-by Generator	24	30
383	383 Lunar Rd	112688	3976	Cummins	QSL9-G2 NR3	364	Diesel	Emergency Stand-by Generator	8	50
425	425 Arguello Rd	106942	3007	Detroit Diesel	10437305	210	Diesel	Emergency Stand-by Generator	20	20
501	501 Perry Rd	106943	3008	Detroit Diesel	10637305	330	Diesel	Emergency Stand-by Generator	20	20
511	511 CDT Access Rd	114491	4005	Cummins	QSX15-G9-NR2	755	Diesel	Command Transmitter E/S	16.5	100
525	525 Coast Rd	104867	818	Duetz	BF6L913	160	Diesel	Pony Starter Engine	1	20
525	525 Coast Rd	104868	820	Duetz	BF6L913	160	Diesel	Pony Starter Engine	1	20
525	525 Coast Rd	104869	821	Duetz	BF6L913	160	Diesel	Pony Starter Engine	1	20
525	525 Coast Rd	104870	822	Duetz	BF6L913	160	Diesel	Pony Starter Engine	1	20
525	525 Coast Rd	104871	823	Duetz	BF6L913	160	Diesel	Pony Starter Engine	1	20
661	661 Santa Ynez Rd	386163	4320	Volvo	TAD1641GE	757	Diesel	Emergency Stand-by Generator	3	50
764	764 Napa Rd	384071	3540	Caterpillar	3456 DITA	685	Diesel	Emergency Stand-by Generator	24	50
830	830 Lompoc St	107000	3397	Cummins	KTA19-G3	685	Diesel	Emergency Stand-by Generator	20	20
830	830 Lompoc St	111766	3906	Cummins	QST30-G5	1,490	Diesel	Emergency Stand-by Generator	8	50
906	906 Mesa Rd	106944	3012	Detroit Diesel	71237406	750	Diesel	Emergency Stand-by Generator	20	20
929	929 Wade Rd	111765	3927	Cummins	QSM11-G4 NR3	470	Diesel	Command Transmitter E/S	24	100
968	968 Mesa Road	388930	698284	John Deere	4045HFC28F	175	Diesel	Emergency Water Pump	24	50
968	968 Mesa Road	388931	698283	John Deere	4045HFC28F	175	Diesel	Emergency Water Pump	24	50
1559	1559 Tonto Rd	107006	3050	Caterpillar	3406B	534	Diesel	Emergency Stand-by Generator	20	20
1561	1561 Tonto Rd	107031	3411	Caterpillar	3406	449	Diesel	Emergency Stand-by Generator	20	20
1581	1581 Tangair Rd	391670	704948	Cummins	4BT3.3-G5	69	Diesel	Emergency Stand-by Generator	24	50
1594	1594 Tangair Rd	384078	701500	John Deere	6068HOF8	315	Diesel	Emergency Stand-by Generator	8	50
1604	1604 Tangair Rd	108889	3626	Detroit Diesel	6063-HV35	490	Diesel	Emergency Stand-by Generator	8	50
1639	1639 Tangair Rd	106948	3390	Detroit Diesel	8123-7305	850	Diesel	Emergency Stand-by Generator	20	20
1735	325 Airfield Rd	113916	4109	Volvo	TAD1641GE	757	Diesel	Emergency Stand-by Generator	8	50
1747	390 Airfield Rd	112689	3639	Cummins	QSX15-G9	755	Diesel	Emergency Stand-by Generator	12	50
1748	1748 Airfield Rd	107032	642	Cummins	6BT-5.9	166	Diesel	Emergency Stand-by Generator	20	20
1762	1762 13th St	107007	3183	Cummins	6A3.4-G1	50	Diesel	Emergency Stand-by Generator	20	20
1764	1764 13th St	106939	643	Caterpillar	D330	78	Diesel	Emergency Stand-by Generator	20	20
1768	1768 Cross Rd	386330	3573	Cummins	QSX15-G9 NR2	750	Diesel	Emergency Stand-by Generator	24	50
1819	1819 New South Rd	387721	678120	Cummins	QSX15-G9	755	Diesel	Emergency Stand-by Generator	16	50
1829	1829 Rhea Rd	107141	645	Caterpillar	3208	270	Diesel	Emergency Water Pump	N/A	N/A
1829	1829 Rhea Rd	107142	649	Caterpillar	3208	270	Diesel	Emergency Water Pump	N/A	N/A
1916	1916 El Rancho Rd	384077	3791	Caterpillar	C15 DITA	563	Diesel	Emergency Stand-by Generator	7	50
1917	1917 El Rancho Rd	384076	3548	Caterpillar	D3456	680	Diesel	Emergency Stand-by Generator	24	50
1919	1919 El Rancho Rd	111769	3921	John Deere	4045DF120	67	Diesel	Emergency Water Pump	N/A	N/A

**Table 5.1-1b. Operating Equipment Description – Internal Combustion Engines**

Page 2 of 2

Building	Location	Device ID	Operator ID	Make	Model	Rating (bhp)	Fuel Type	Engine Use	Hrs/Day	Hrs/Yr
1937	1937 El Rancho Rd	107088	3329	John Deere	6081AF001C	251	Diesel	Emergency Stand-by Generator	24	30
1962	1962 Tow Rd	384058	3549	Cummins	6CTAA8.3G3	317	Diesel	Emergency Stand-by Generator	24	50
1964	1964 Sercho Rd	384057	3550	Cummins	6CTAA8.3G3	317	Diesel	Emergency Stand-by Generator	24	50
1965	1965 Parquee Rd	384060	3790	Cummins	QSL9-G2	364	Diesel	Emergency Stand-by Generator	11	50
1971	1971 Mina Rd	384056	3551	Cummins	6CTAA8.3G3	317	Diesel	Emergency Stand-by Generator	24	50
1972	1972 Mina Rd	384055	3552	Cummins	6CTAA8.3G3	317	Diesel	Emergency Stand-by Generator	24	50
2305	2305 33rd St	107143	655	Caterpillar	3306D1	231	Diesel	Emergency Water Pump	N/A	N/A
2500	2500 Arizona Ave	384069	3181	Caterpillar	3508DITA	1,200	Diesel	Emergency Stand-by Generator	24	30
2520	2520 Nevada Ave	384066	3814	Cummins	QST30-G5	1,490	Diesel	Emergency Stand-by Generator	8	50
3000	3000 29th St	391956	711384	Cummins	QST30-G5 NR2	1,490	Diesel	Emergency Stand-by Generator	8	50
3000	3000 29th St	391955	711280	Cummins	QST30-G5 NR2	1,490	Diesel	Emergency Stand-by Generator	8	50
6510	85 13th St	110735	3815	Cummins	QSL9-G3 NR3	399	Diesel	Emergency Stand-by Generator	10	50
7025	1750 10th Street	386557	661867	Mitsubishi	S16R-Y2PTAW2-1	2,923	Diesel	Emergency Stand-by Generator	4	50
7425	386 10th St	112253	3936	Cummins	6CT8.3-G2	207	Diesel	Training Engine - Generator	7.5	600
8195	1522 Nevada Ave.	113917	4116	Cummins	QSL9-G2 NR3	364	Diesel	Emergency Stand-by Generator	8	50
8317	344 8th Street	114377	4123	Cummins	QSB7-G3 NR3	250	Diesel	Emergency Stand-by Generator	8	50
8401	1521 Utah Ave	110201	3747	Cummins	QSX15-G9	755	Diesel	Emergency Stand-by Generator	3	50
8401	1521 Iceland Ave	391957	711413	Cummins	QSX15-G9	755	Diesel	Emergency Stand-by Generator	15	50
8510	1521 Iceland Ave	106946	3052	Caterpillar	3512STD	1,592	Diesel	Emergency Stand-by Generator	20	20
10314	1206 California Blvd	388044	678837	Cummins	QSB5-G3 NR3	145	Diesel	Emergency Stand-by Generator	8	50
10525	723 Nebraska Ave	390424	74037489	Cummins	QSB7-G5 NR3	324	Diesel	Emergency Stand-by Generator	24	50
10579	747 Nebraska Ave	107038	589	Cummins	KTTA 19-G2	750	Diesel	Emergency Stand-by Generator	20	20
10660	1160 New Mexico Ave	107004	698	Cummins	L634T-V10148C	68	Diesel	Emergency Stand-by Generator	20	20
11439	1172 Iceland Ave	386166	652232	Cummins	QSB5-G3 NR3	145	Diesel	Emergency Stand-by Generator	3	50
12000	867 Washington Ave	114696	4268	Caterpillar	C27	1,141	Diesel	Emergency Stand-by Generator	8	50
12006	865 Washington Ave	112255	3928	Cummins	QSK60-G6 NR2	2,922	Diesel	Emergency Stand-by Generator	2	50
12006	865 Washington Ave	112256	3929	Cummins	QSK60-G6 NR2	2,922	Diesel	Emergency Stand-by Generator	2	50
13850	338 South Dakota Avenue	388045	678768	Cummins	QSL9-G7	464	Diesel	Emergency Stand-by Generator	8	50
21150	150 Cotar Rd	391888	713136	Volvo	TAD1350GE	382	Diesel	Emergency Stand-by Generator	24	50
21203	203 Firefighter Rd	109236	3642	Cummins	QSX15-G9	755	Diesel	Command Transmitter E/S	3	100
22321	San Antonio Road West	388046	699622	Cummins	QSX15-G9	755	Diesel	Emergency Stand-by Generator	8	50
23201	201 Bishop Rd	111125	3582	Cummins	4BT3.9-G4	99	Diesel	Emergency Stand-by Generator	24	30
23209	209 Bishop Rd	391526	706693	John Deere	4045HF280G	86	Diesel	Emergency Water Pump	N/A	N/A
23243	23243 Bishop Rd	386257	4375	Volvo	TWD1643GE	904	Diesel	Emergency Stand-by Generator	6	50
23243	23243 Bishop Rd	386258	4376	Volvo	TWD1643GE	904	Diesel	Emergency Stand-by Generator	6	50
NA	Various Locations	113280	4010	Cummins	QSB5-G3 NR3	145	Diesel	Emergency Stand-by Generator	8	50
NA	Various Locations	113281	4011	Cummins	QSB5-G3 NR3	145	Diesel	Emergency Stand-by Generator	8	50
NA	Various Locations	113282	4012	Cummins	QSB5-G3 NR3	145	Diesel	Emergency Stand-by Generator	8	50
NA	Various Locations	113283	4013	Cummins	QSB5-G3 NR3	145	Diesel	Emergency Stand-by Generator	8	50
NA	Various Locations	113284	4014	Cummins	QSB5-G3 NR3	145	Diesel	Emergency Stand-by Generator	8	50

**Table 5.1-2b. Emission Factors – Internal Combustion Engines**

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Building	Device ID	Operator ID	NOx (g/hp-hr)	ROC (g/hp-hr)	CO (g/hp-hr)	SOx (g/hp-hr)	PM (g/hp-hr)	PM <sub>10</sub> (g/hp-hr)	PM <sub>2.5</sub> (g/hp-hr)	GHG (g/hp-hr)
64	386456	3980	4.50	0.30	2.60	0.01	0.15	0.15	0.15	556.58
185	107135	564	9.13	1.34	5.11	0.01	0.15	0.15	0.15	556.58
185	107136	567	9.13	1.34	5.11	0.01	0.15	0.15	0.15	556.58
383	112688	3976	2.80	0.20	2.60	0.01	0.15	0.15	0.15	556.58
425	106942	3007	14.06	1.12	3.03	0.01	0.98	0.98	0.98	556.58
501	106943	3008	14.06	1.12	3.03	0.01	0.98	0.98	0.98	556.58
511	114491	4005	4.50	0.30	2.60	0.01	0.02	0.02	0.02	556.58
525	104867	818	14.06	1.12	3.00	0.01	1.00	1.00	1.00	556.58
525	104868	820	14.06	1.12	3.00	0.01	1.00	1.00	1.00	556.58
525	104869	821	14.06	1.12	3.00	0.01	1.00	1.00	1.00	556.58
525	104870	822	14.06	1.12	3.00	0.01	1.00	1.00	1.00	556.58
525	104871	823	14.06	1.12	3.00	0.01	1.00	1.00	1.00	556.58
661	386163	4320	4.50	0.30	2.60	0.01	0.15	0.15	0.15	556.58
764	384071	3540	4.50	0.30	2.60	0.01	0.15	0.15	0.15	556.58
830	107000	3397	6.90	1.00	8.50	0.01	0.40	0.40	0.40	556.58
830	111766	3906	4.50	0.30	2.60	0.01	0.15	0.15	0.15	556.58
906	106944	3012	14.06	1.12	3.03	0.01	0.98	0.98	0.98	556.58
929	111765	3927	2.80	0.20	2.60	0.01	0.01	0.01	0.01	556.58
968	388930	698284	2.80	0.20	2.60	0.01	0.15	0.15	0.15	556.58
968	388931	698283	2.80	0.20	2.60	0.01	0.15	0.15	0.15	556.58
1559	107006	3050	14.06	1.12	3.03	0.01	0.98	0.98	0.98	556.58
1561	107031	3411	14.06	1.12	3.03	0.01	0.98	0.98	0.98	556.58
1581	391670	704948	3.30	0.20	3.70	0.01	0.15	0.15	0.15	556.58
1594	384078	701500	2.80	0.20	2.60	0.01	0.15	0.15	0.15	556.58
1604	108889	3626	2.80	0.20	2.60	0.01	0.15	0.15	0.15	556.58
1639	106948	3390	6.90	1.00	8.50	0.01	0.40	0.40	0.40	556.58
1735	113916	4109	4.50	0.30	2.60	0.01	0.15	0.15	0.15	556.58
1747	112689	3639	4.50	0.30	2.60	0.01	0.15	0.15	0.15	556.58
1748	107032	642	14.06	1.12	3.03	0.01	0.98	0.98	0.98	556.58
1762	107007	3183	14.06	1.12	3.03	0.01	0.98	0.98	0.98	556.58
1764	106939	643	14.06	1.12	3.03	0.01	0.98	0.98	0.98	556.58
1768	386330	3573	4.50	0.30	2.60	0.01	0.15	0.15	0.15	556.58
1819	387721	678120	4.50	0.30	2.60	0.01	0.15	0.15	0.15	556.58
1829	107141	645	-	-	-	-	-	-	-	-
1829	107142	649	-	-	-	-	-	-	-	-
1916	384077	3791	2.80	0.20	2.60	0.01	0.15	0.15	0.15	556.58
1917	384076	3548	4.50	0.30	2.60	0.01	0.15	0.15	0.15	556.58
1919	111769	3921	-	-	-	-	-	-	-	-

**Table 5.1-2b. Emission Factors – Internal Combustion Engines**

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Building	Device ID	Operator ID	NOx (g/hp-hr)	ROC (g/hp-hr)	CO (g/hp-hr)	SOx (g/hp-hr)	PM (g/hp-hr)	PM <sub>10</sub> (g/hp-hr)	PM <sub>2.5</sub> (g/hp-hr)	GHG (g/hp-hr)
1937	107088	3329	6.90	1.00	8.50	0.01	0.40	0.40	0.40	556.58
1962	384058	3549	4.50	0.30	2.60	0.01	0.15	0.15	0.15	556.58
1964	384057	3550	4.50	0.30	2.60	0.01	0.15	0.15	0.15	556.58
1965	384060	3790	2.80	0.20	2.60	0.01	0.15	0.15	0.15	556.58
1971	384056	3551	4.50	0.30	2.60	0.01	0.15	0.15	0.15	556.58
1972	384055	3552	4.50	0.30	2.60	0.01	0.15	0.15	0.15	556.58
2305	107143	655	-	-	-	-	-	-	-	-
2500	384069	3181	14.06	1.12	3.03	0.01	0.98	0.98	0.98	556.58
2520	384066	3814	4.50	0.30	2.60	0.01	0.02	0.02	0.02	556.58
3000	391956	711384	4.50	0.30	2.60	0.01	0.15	0.15	0.15	556.58
3000	391955	711280	4.50	0.30	2.60	0.01	0.15	0.15	0.15	556.58
6510	110735	3815	2.80	0.20	2.60	0.01	0.15	0.15	0.15	556.58
7025	386557	661867	4.50	0.30	2.60	0.01	0.15	0.15	0.15	556.58
7425	112253	3936	6.90	1.00	8.50	0.01	0.40	0.40	0.40	556.58
8195	113917	4116	2.80	0.20	2.60	0.01	0.15	0.15	0.15	556.58
8317	114377	4123	2.80	0.20	2.60	0.01	0.15	0.15	0.15	556.58
8401	110201	3747	4.50	0.30	2.60	0.01	0.15	0.15	0.15	556.58
8401	391957	711413	4.50	0.30	2.60	0.01	0.15	0.15	0.15	556.58
8510	106946	3052	14.06	1.12	3.03	0.01	0.98	0.98	0.98	556.58
10314	388044	678837	2.80	0.20	3.70	0.01	0.15	0.15	0.15	556.58
10525	390424	74037489	2.80	0.20	2.60	0.01	0.15	0.15	0.15	556.58
10579	107038	589	14.06	1.12	3.03	0.01	0.98	0.98	0.98	556.58
10660	107004	698	14.06	1.12	3.03	0.01	0.98	0.98	0.98	556.58
11439	386166	652232	2.80	0.20	3.70	0.01	0.15	0.15	0.15	556.58
12000	114696	4268	4.50	0.30	2.60	0.01	0.15	0.15	0.15	556.58
12006	112255	3928	4.50	0.30	2.60	0.01	0.15	0.15	0.15	556.58
12006	112256	3929	4.50	0.30	2.60	0.01	0.15	0.15	0.15	556.58
13850	388045	678768	2.80	0.20	2.60	0.01	0.15	0.15	0.15	556.58
21150	391888	713136	2.80	0.20	2.60	0.01	0.15	0.15	0.15	556.58
21203	109236	3642	4.50	0.30	2.60	0.01	0.01	0.01	0.01	556.58
22321	388046	699622	4.50	0.30	2.60	0.01	0.15	0.15	0.15	556.58
23201	111125	3582	6.90	1.12	3.03	0.01	0.98	0.98	0.98	556.58
23209	391526	706693	-	-	-	-	-	-	-	-
23243	386257	4375	4.50	0.30	2.60	0.01	0.15	0.15	0.15	556.58
23243	386258	4376	4.50	0.30	2.60	0.01	0.15	0.15	0.15	556.58
NA	113280	4010	2.80	0.20	3.70	0.01	0.15	0.15	0.15	556.58
NA	113281	4011	2.80	0.20	3.70	0.01	0.15	0.15	0.15	556.58
NA	113282	4012	2.80	0.20	3.70	0.01	0.15	0.15	0.15	556.58
NA	113283	4013	2.80	0.20	3.70	0.01	0.15	0.15	0.15	556.58
NA	113284	4014	2.80	0.20	3.70	0.01	0.15	0.15	0.15	556.58

**Table 5.1-3b. Short Term Potential to Emit – Internal Combustion Engines**  
**Lbs/Hour & Lbs/day**  
Page 1 of 2

Building	Device ID	Operator ID	NOx (lb/hr)	ROC (lb/hr)	CO (lb/hr)	SOx (lb/hr)	PM (lb/hr)	PM10 (lb/hr)	PM2.5 (lb/hr)	GHG (lb/hr)	NOx (lb/day)	ROC (lb/day)	CO (lb/day)	SOx (lb/day)	PM (lb/day)	PM10 (lb/day)	PM <sub>2.5</sub> (lb/day)	GHG (lb/day)
64	386456	3980	14.78	0.99	8.54	0.02	0.49	0.49	0.49	1,828.27	118.25	7.88	68.32	0.16	3.94	3.94	3.94	14,626.2
185	107135	564	6.32	0.93	3.54	0.00	0.10	0.10	0.10	385.29	151.68	22.26	84.90	0.10	2.49	2.49	2.49	9,246.9
185	107136	567	6.32	0.93	3.54	0.00	0.10	0.10	0.10	385.29	151.68	22.26	84.90	0.10	2.49	2.49	2.49	9,246.9
383	112688	3976	2.25	0.16	2.09	0.00	0.12	0.12	0.12	446.64	17.98	1.28	16.69	0.04	0.96	0.96	0.96	3,573.1
425	106942	3007	6.51	0.52	1.40	0.00	0.45	0.45	0.45	257.68	130.19	10.37	28.06	0.06	9.07	9.07	9.07	5,153.5
501	106943	3008	10.23	0.81	2.20	0.00	0.71	0.71	0.71	404.92	204.58	16.30	44.09	0.09	14.26	14.26	14.26	8,098.4
511	114491	4005	7.49	0.50	4.33	0.01	0.02	0.02	0.02	926.41	123.59	8.24	71.41	0.16	0.41	0.41	0.41	15,285.7
525	104867	818	4.96	0.40	1.06	0.00	0.35	0.35	0.35	196.32	4.96	0.40	1.06	0.00	0.35	0.35	0.35	196.3
525	104868	820	4.96	0.40	1.06	0.00	0.35	0.35	0.35	196.32	4.96	0.40	1.06	0.00	0.35	0.35	0.35	196.3
525	104869	821	4.96	0.40	1.06	0.00	0.35	0.35	0.35	196.32	4.96	0.40	1.06	0.00	0.35	0.35	0.35	196.3
525	104870	822	4.96	0.40	1.06	0.00	0.35	0.35	0.35	196.32	4.96	0.40	1.06	0.00	0.35	0.35	0.35	196.3
525	104871	823	4.96	0.40	1.06	0.00	0.35	0.35	0.35	196.32	4.96	0.40	1.06	0.00	0.35	0.35	0.35	196.3
661	386163	4320	7.51	0.50	4.34	0.01	0.25	0.25	0.25	928.86	22.53	1.50	13.02	0.03	0.75	0.75	0.75	2,786.6
764	384071	3540	6.80	0.45	3.93	0.01	0.23	0.23	0.23	840.51	163.10	10.87	94.23	0.22	5.44	5.44	5.44	20,172.3
830	107000	3397	10.42	1.51	12.84	0.01	0.60	0.60	0.60	840.51	208.40	30.20	256.72	0.18	12.08	12.08	12.08	16,810.3
830	111766	3906	14.78	0.99	8.54	0.02	0.49	0.49	0.49	1,828.27	118.25	7.88	68.32	0.16	3.94	3.94	3.94	14,626.2
906	106944	3012	23.25	1.85	5.01	0.01	1.62	1.62	1.62	920.27	464.95	37.04	100.20	0.20	32.41	32.41	32.41	18,405.4
929	111765	3927	2.90	0.21	2.69	0.01	0.01	0.01	0.01	576.70	69.63	4.97	64.66	0.15	0.22	0.22	0.22	13,840.9
968	388930	698284	1.08	0.08	1.00	0.00	0.06	0.06	0.06	214.73	25.93	1.85	24.07	0.06	1.39	1.39	1.39	5,153.5
968	388931	698283	1.08	0.08	1.00	0.00	0.06	0.06	0.06	214.73	25.93	1.85	24.07	0.06	1.39	1.39	1.39	5,153.5
1559	107006	3050	16.55	1.32	3.57	0.01	1.15	1.15	1.15	655.23	331.04	26.37	71.34	0.14	23.07	23.07	23.07	13,104.7
1561	107031	3411	13.92	1.11	3.00	0.01	0.97	0.97	0.97	550.94	278.35	22.17	59.99	0.12	19.40	19.40	19.40	11,018.7
1581	391670	704948	0.50	0.03	0.56	0.00	0.02	0.02	0.02	84.66	12.05	0.73	13.51	0.02	0.55	0.55	0.55	2,032.0
1594	384078	701500	1.94	0.14	1.81	0.00	0.10	0.10	0.10	386.51	15.56	1.11	14.44	0.03	0.83	0.83	0.83	3,092.1
1604	108889	3626	3.02	0.22	2.81	0.01	0.16	0.16	0.16	601.24	24.20	1.73	22.47	0.05	1.30	1.30	1.30	4,810.0
1639	106948	3390	12.93	1.87	15.93	0.01	0.75	0.75	0.75	1,042.97	258.60	37.48	318.56	0.22	14.99	14.99	14.99	20,859.5
1735	113916	4109	7.51	0.50	4.34	0.01	0.25	0.25	0.25	928.86	60.08	4.01	34.71	0.08	2.00	2.00	2.00	7,430.9
1747	112689	3639	7.49	0.50	4.33	0.01	0.25	0.25	0.25	926.41	89.88	5.99	51.93	0.12	3.00	3.00	3.00	11,116.9
1748	107032	642	5.15	0.41	1.11	0.00	0.36	0.36	0.36	203.69	102.91	8.20	22.18	0.04	7.17	7.17	7.17	4,073.7
1762	107007	3183	1.55	0.12	0.33	0.00	0.11	0.11	0.11	61.35	31.00	2.47	6.68	0.01	2.16	2.16	2.16	1,227.0
1764	106939	643	2.42	0.19	0.52	0.00	0.17	0.17	0.17	95.71	48.35	3.85	10.42	0.02	3.37	3.37	3.37	1,914.2
1768	386330	3573	7.44	0.50	4.30	0.01	0.25	0.25	0.25	920.27	178.57	11.90	103.17	0.24	5.95	5.95	5.95	22,086.5
1819	387721	678120	7.49	0.50	4.33	0.01	0.25	0.25	0.25	926.41	119.84	7.99	69.24	0.16	3.99	3.99	3.99	14,822.5
1829	107141	645	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1829	107142	649	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1916	384077	3791	3.48	0.25	3.23	0.01	0.19	0.19	0.19	690.82	24.33	1.74	22.59	0.05	1.30	1.30	1.30	4,835.7
1917	384076	3548	6.75	0.45	3.90	0.01	0.22	0.22	0.22	834.38	161.90	10.79	93.54	0.22	5.40	5.40	5.40	20,025.1
1919	111769	3921	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

**Table 5.1-3b. Short Term Potential to Emit – Internal Combustion Engines**  
**Lbs/Hour & Lbs/day**

Page 2 of 2

Building	Device ID	Operator ID	NOx (lb/hr)	ROC (lb/hr)	CO (lb/hr)	SOx (lb/hr)	PM (lb/hr)	PM10 (lb/hr)	PM2.5 (lb/hr)	GHG (lb/hr)	NOx (lb/day)	ROC (lb/day)	CO (lb/day)	SOx (lb/day)	PM (lb/day)	PM10 (lb/day)	PM <sub>2.5</sub> (lb/day)	GHG (lb/day)
1937	107088	3329	3.82	0.55	4.70	0.00	0.22	0.22	0.22	307.98	91.63	13.28	112.88	0.08	5.31	5.31	5.31	7,391.6
1962	384058	3549	3.14	0.21	1.82	0.00	0.10	0.10	0.10	388.97	75.48	5.03	43.61	0.10	2.52	2.52	2.52	9,335.2
1964	384057	3550	3.14	0.21	1.82	0.00	0.10	0.10	0.10	388.97	75.48	5.03	43.61	0.10	2.52	2.52	2.52	9,335.2
1965	384060	3790	2.25	0.16	2.09	0.00	0.12	0.12	0.12	446.64	24.72	1.76	22.95	0.05	1.32	1.32	1.32	4,913.0
1971	384056	3551	3.14	0.21	1.82	0.00	0.10	0.10	0.10	388.97	75.48	5.03	43.61	0.10	2.52	2.52	2.52	9,335.2
1972	384055	3552	3.14	0.21	1.82	0.00	0.10	0.10	0.10	388.97	75.48	5.03	43.61	0.10	2.52	2.52	2.52	9,335.2
2305	107143	655	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2500	384069	3181	37.20	2.96	8.02	0.02	2.59	2.59	2.59	1,472.43	892.70	71.11	192.38	0.38	62.22	62.22	62.22	35,338.4
2520	384066	3814	14.78	0.99	8.54	0.02	0.07	0.07	0.07	1,828.27	118.25	7.88	68.32	0.16	0.59	0.59	0.59	14,626.2
3000	391956	711384	14.78	0.99	8.54	0.02	0.49	0.49	0.49	1,828.27	118.25	7.88	68.32	0.16	3.94	3.94	3.94	14,626.2
3000	391955	711280	14.78	0.99	8.54	0.02	0.49	0.49	0.49	1,828.27	118.25	7.88	68.32	0.16	3.94	3.94	3.94	14,626.2
6510	110735	3815	2.46	0.18	2.29	0.01	0.13	0.13	0.13	489.58	24.63	1.76	22.87	0.05	1.32	1.32	1.32	4,895.8
7025	386557	661867	29.00	1.93	16.75	0.04	0.97	0.97	0.97	3,586.60	115.99	7.73	67.02	0.15	3.87	3.87	3.87	14,346.4
7425	112253	3936	3.15	0.46	3.88	0.00	0.18	0.18	0.18	253.99	23.62	3.42	29.09	0.02	1.37	1.37	1.37	1,905.0
8195	113917	4116	2.25	0.16	2.09	0.00	0.12	0.12	0.12	446.64	17.98	1.28	16.69	0.04	0.96	0.96	0.96	3,573.1
8317	114377	4123	1.54	0.11	1.43	0.00	0.08	0.08	0.08	306.76	12.35	0.88	11.46	0.03	0.66	0.66	0.66	2,454.1
8401	110201	3747	7.49	0.50	4.33	0.01	0.25	0.25	0.25	926.41	22.47	1.50	12.98	0.03	0.75	0.75	0.75	2,779.2
8401	391957	711413	7.49	0.50	4.33	0.01	0.25	0.25	0.25	926.41	112.35	7.49	64.91	0.15	3.75	3.75	3.75	13,896.1
8510	106946	3052	49.35	3.93	10.63	0.02	3.44	3.44	3.44	1,953.43	986.93	78.62	212.69	0.42	68.79	68.79	68.79	39,068.6
10314	388044	678837	0.90	0.06	1.18	0.00	0.05	0.05	0.05	177.92	7.16	0.51	9.46	0.02	0.38	0.38	0.38	1,423.4
10525	390424	74037489	2.00	0.14	1.86	0.00	0.11	0.11	0.11	404.70	48.00	3.43	44.57	0.10	2.57	2.57	2.57	9,712.8
10579	107038	589	23.25	1.85	5.01	0.01	1.62	1.62	1.62	920.27	464.95	37.04	100.20	0.20	32.41	32.41	32.41	18,405.4
10660	107004	698	2.11	0.17	0.45	0.00	0.15	0.15	0.15	83.44	42.16	3.36	9.08	0.02	2.94	2.94	2.94	1,668.8
11439	386166	652232	0.90	0.06	1.18	0.00	0.05	0.05	0.05	177.92	2.69	0.19	3.55	0.01	0.14	0.14	0.14	533.8
12000	114696	4268	11.32	0.75	6.54	0.02	0.38	0.38	0.38	1,400.04	90.56	6.04	52.32	0.12	3.02	3.02	3.02	11,200.3
12006	112255	3928	28.99	1.93	16.75	0.04	0.97	0.97	0.97	3,585.38	57.98	3.87	33.50	0.08	1.93	1.93	1.93	7,170.8
12006	112256	3929	28.99	1.93	16.75	0.04	0.97	0.97	0.97	3,585.38	57.98	3.87	33.50	0.08	1.93	1.93	1.93	7,170.8
13850	388045	678768	2.86	0.20	2.66	0.01	0.15	0.15	0.15	569.34	22.91	1.64	21.28	0.05	1.23	1.23	1.23	4,554.7
21150	391888	713136	2.36	0.17	2.19	0.01	0.13	0.13	0.13	468.72	56.59	4.04	52.55	0.20	3.03	3.03	3.03	11,249.4
21203	109236	3642	7.49	0.50	4.33	0.01	0.02	0.02	0.02	926.41	22.47	1.50	12.98	0.03	0.05	0.05	0.05	2,779.2
22321	388046	699622	7.49	0.50	4.33	0.01	0.25	0.25	0.25	926.41	59.92	3.99	34.62	0.08	2.00	2.00	2.00	7,411.3
23201	111125	3582	1.51	0.24	0.66	0.00	0.21	0.21	0.21	121.48	36.14	5.87	15.87	0.03	5.13	5.13	5.13	2,915.4
23209	391526	706693	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
23243	386257	4375	8.97	0.60	5.18	0.01	0.30	0.30	0.30	1,109.23	53.81	3.59	31.09	0.07	1.79	1.79	1.79	6,655.4
23243	386258	4376	8.97	0.60	5.18	0.01	0.30	0.30	0.30	1,109.23	53.81	3.59	31.09	0.07	1.79	1.79	1.79	6,655.4
NA	113280	4010	0.90	0.06	1.18	0.00	0.05	0.05	0.05	177.92	7.16	0.51	9.46	0.02	0.38	0.38	0.38	1,423.4
NA	113281	4011	0.90	0.06	1.18	0.00	0.05	0.05	0.05	177.92	7.16	0.51	9.46	0.02	0.38	0.38	0.38	1,423.4
NA	113282	4012	0.90	0.06	1.18	0.00	0.05	0.05	0.05	177.92	7.16	0.51	9.46	0.02	0.38	0.38	0.38	1,423.4
NA	113283	4013	0.90	0.06	1.18	0.00	0.05	0.05	0.05	177.92	7.16	0.51	9.46	0.02	0.38	0.38	0.38	1,423.4
NA	113284	4014	0.90	0.06	1.18	0.00	0.05	0.05	0.05	177.92	7.16	0.51	9.46	0.02	0.38	0.38	0.38	1,423.4
<b>Total</b>			<b>590.12</b>	<b>45.86</b>	<b>297.93</b>	<b>0.60</b>	<b>28.02</b>	<b>28.02</b>	<b>28.02</b>	<b>55,503.18</b>	<b>7853.04</b>	<b>650.95</b>	<b>3642.05</b>	<b>6.81</b>	<b>418.65</b>	<b>418.65</b>	<b>418.65</b>	<b>624,014.7</b>

**Table 5.1-4b. Long Term Potential to Emit – Internal Combustion Engines  
Tons/Qtr & Tons/Year**

Page 1 of 2

Building	Device ID	Operator ID	NOx (ton/qtr)	ROC (ton/qtr)	CO (ton/qtr)	SOx (ton/qtr)	PM (ton/qtr)	PM10 (ton/qtr)	PM2.5 (ton/qtr)	GHG (ton/qtr)	NOx (ton/yr)	ROC (ton/yr)	CO (ton/yr)	SOx (ton/yr)	PM (ton/yr)	PM10 (ton/yr)	PM2.5 (ton/yr)	GHG (ton/year)
64	386456	3980	0.370	0.025	0.214	0.000	0.012	0.012	0.012	45.707	0.370	0.025	0.214	0.000	0.012	0.012	0.012	45.71
185	107135	564	0.095	0.014	0.053	0.000	0.002	0.002	0.002	5.779	0.095	0.014	0.053	0.000	0.002	0.002	0.002	5.78
185	107136	567	0.095	0.014	0.053	0.000	0.002	0.002	0.002	5.779	0.095	0.014	0.053	0.000	0.002	0.002	0.002	5.78
383	112688	3976	0.056	0.004	0.052	0.000	0.003	0.003	0.003	11.166	0.056	0.004	0.052	0.000	0.003	0.003	0.003	11.17
425	106942	3007	0.065	0.005	0.014	0.000	0.005	0.005	0.005	2.577	0.065	0.005	0.014	0.000	0.005	0.005	0.005	2.58
501	106943	3008	0.102	0.008	0.022	0.000	0.007	0.007	0.007	4.049	0.102	0.008	0.022	0.000	0.007	0.007	0.007	4.05
511	114491	4005	0.375	0.025	0.216	0.000	0.001	0.001	0.001	46.320	0.375	0.025	0.216	0.000	0.001	0.001	0.001	46.32
525	104867	818	0.050	0.004	0.011	0.000	0.004	0.004	0.004	1.963	0.050	0.004	0.011	0.000	0.004	0.004	0.004	1.96
525	104868	820	0.050	0.004	0.011	0.000	0.004	0.004	0.004	1.963	0.050	0.004	0.011	0.000	0.004	0.004	0.004	1.96
525	104869	821	0.050	0.004	0.011	0.000	0.004	0.004	0.004	1.963	0.050	0.004	0.011	0.000	0.004	0.004	0.004	1.96
525	104870	822	0.050	0.004	0.011	0.000	0.004	0.004	0.004	1.963	0.050	0.004	0.011	0.000	0.004	0.004	0.004	1.96
525	104871	823	0.050	0.004	0.011	0.000	0.004	0.004	0.004	1.963	0.050	0.004	0.011	0.000	0.004	0.004	0.004	1.96
661	386163	4320	0.188	0.013	0.108	0.000	0.006	0.006	0.006	23.222	0.188	0.013	0.108	0.000	0.006	0.006	0.006	23.22
764	384071	3540	0.170	0.011	0.098	0.000	0.006	0.006	0.006	21.013	0.170	0.011	0.098	0.000	0.006	0.006	0.006	21.01
830	107000	3397	0.104	0.015	0.128	0.000	0.006	0.006	0.006	8.405	0.104	0.015	0.128	0.000	0.006	0.006	0.006	8.41
830	111766	3906	0.370	0.025	0.214	0.000	0.012	0.012	0.012	45.707	0.370	0.025	0.214	0.000	0.012	0.012	0.012	45.71
906	106944	3012	0.232	0.019	0.050	0.000	0.016	0.016	0.016	9.203	0.232	0.019	0.050	0.000	0.016	0.016	0.016	9.20
929	111765	3927	0.145	0.010	0.135	0.000	0.000	0.000	0.000	28.835	0.145	0.010	0.135	0.000	0.000	0.000	0.000	28.84
968	388930	698284	0.027	0.002	0.025	0.000	0.001	0.001	0.001	5.368	0.027	0.002	0.025	0.000	0.001	0.001	0.001	5.37
968	388931	698283	0.027	0.002	0.025	0.000	0.001	0.001	0.001	5.368	0.027	0.002	0.025	0.000	0.001	0.001	0.001	5.37
1559	107006	3050	0.166	0.013	0.036	0.000	0.012	0.012	0.012	6.552	0.166	0.013	0.036	0.000	0.012	0.012	0.012	6.55
1561	107031	3411	0.139	0.011	0.030	0.000	0.010	0.010	0.010	5.509	0.139	0.011	0.030	0.000	0.010	0.010	0.010	5.51
1581	391670	704948	0.013	0.001	0.014	0.000	0.001	0.001	0.001	2.117	0.013	0.001	0.014	0.000	0.001	0.001	0.001	2.12
1594	384078	701500	0.049	0.003	0.045	0.000	0.003	0.003	0.003	9.663	0.049	0.003	0.045	0.000	0.003	0.003	0.003	9.66
1604	108889	3626	0.076	0.005	0.070	0.000	0.004	0.004	0.004	15.031	0.076	0.005	0.070	0.000	0.004	0.004	0.004	15.03
1639	106948	3390	0.129	0.019	0.159	0.000	0.007	0.007	0.007	10.430	0.129	0.019	0.159	0.000	0.007	0.007	0.007	10.43
1735	113916	4109	0.188	0.013	0.108	0.000	0.006	0.006	0.006	23.222	0.188	0.013	0.108	0.000	0.006	0.006	0.006	23.22
1747	112689	3639	0.187	0.012	0.108	0.000	0.006	0.006	0.006	23.160	0.187	0.012	0.108	0.000	0.006	0.006	0.006	23.16
1748	107032	642	0.051	0.004	0.011	0.000	0.004	0.004	0.004	2.037	0.051	0.004	0.011	0.000	0.004	0.004	0.004	2.04
1762	107007	3183	0.015	0.001	0.003	0.000	0.001	0.001	0.001	0.614	0.015	0.001	0.003	0.000	0.001	0.001	0.001	0.61
1764	106939	643	0.024	0.002	0.005	0.000	0.002	0.002	0.002	0.957	0.024	0.002	0.005	0.000	0.002	0.002	0.002	0.96
1768	386330	3573	0.186	0.012	0.107	0.000	0.006	0.006	0.006	23.007	0.186	0.012	0.107	0.000	0.006	0.006	0.006	23.01
1819	387721	678120	0.187	0.012	0.108	0.000	0.006	0.006	0.006	23.160	0.187	0.012	0.108	0.000	0.006	0.006	0.006	23.16
1829	107141	645	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1829	107142	649	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1916	384077	3791	0.087	0.006	0.081	0.000	0.005	0.005	0.005	17.270	0.087	0.006	0.081	0.000	0.005	0.005	0.005	17.27
1917	384076	3548	0.169	0.011	0.097	0.000	0.006	0.006	0.006	20.859	0.169	0.011	0.097	0.000	0.006	0.006	0.006	20.86
1919	111769	3921	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

**Table 5.1-4b. Long Term Potential to Emit – Internal Combustion Engines**  
**Tons/Qtr & Tons/Year**  
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Building	Device ID	Operator ID	NOx (ton/qtr)	ROC (ton/qtr)	CO (ton/qtr)	SOx (ton/qtr)	PM (ton/qtr)	PM10 (ton/qtr)	PM2.5 (ton/qtr)	GHG (ton/qtr)	NOx (ton/yr)	ROC (ton/yr)	CO (ton/yr)	SOx (ton/yr)	PM (ton/yr)	PM10 (ton/yr)	PM2.5 (ton/yr)	GHG (ton/year)
1937	107088	3329	0.057	0.008	0.071	0.000	0.003	0.003	0.003	4.620	0.057	0.008	0.071	0.000	0.003	0.003	0.003	4.62
1962	384058	3549	0.079	0.005	0.045	0.000	0.003	0.003	0.003	9.724	0.079	0.005	0.045	0.000	0.003	0.003	0.003	9.72
1964	384057	3550	0.079	0.005	0.045	0.000	0.003	0.003	0.003	9.724	0.079	0.005	0.045	0.000	0.003	0.003	0.003	9.72
1965	384060	3790	0.056	0.004	0.052	0.000	0.003	0.003	0.003	11.166	0.056	0.004	0.052	0.000	0.003	0.003	0.003	11.17
1971	384056	3551	0.079	0.005	0.045	0.000	0.003	0.003	0.003	9.724	0.079	0.005	0.045	0.000	0.003	0.003	0.003	9.72
1972	384055	3552	0.079	0.005	0.045	0.000	0.003	0.003	0.003	9.724	0.079	0.005	0.045	0.000	0.003	0.003	0.003	9.72
2305	107143	655	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2500	384069	3181	0.558	0.044	0.120	0.000	0.039	0.039	0.039	22.087	0.558	0.044	0.120	0.000	0.039	0.039	0.039	22.09
2520	384066	3814	0.370	0.025	0.214	0.000	0.002	0.002	0.002	45.707	0.370	0.025	0.214	0.000	0.002	0.002	0.002	45.71
3000	391956	711384	0.370	0.025	0.214	0.000	0.012	0.012	0.012	45.707	0.370	0.025	0.214	0.000	0.012	0.012	0.012	45.71
3000	391955	711280	0.370	0.025	0.214	0.000	0.012	0.012	0.012	45.707	0.370	0.025	0.214	0.000	0.012	0.012	0.012	45.71
6510	110735	3815	0.062	0.004	0.057	0.000	0.003	0.003	0.003	12.240	0.062	0.004	0.057	0.000	0.003	0.003	0.003	12.24
7025	386557	661867	0.725	0.048	0.419	0.001	0.024	0.024	0.024	89.665	0.725	0.048	0.419	0.001	0.024	0.024	0.024	89.67
7425	112253	3936	0.945	0.137	1.164	0.001	0.055	0.055	0.055	76.198	0.945	0.137	1.164	0.001	0.055	0.055	0.055	76.20
8195	113917	4116	0.056	0.004	0.052	0.000	0.003	0.003	0.003	11.166	0.056	0.004	0.052	0.000	0.003	0.003	0.003	11.17
8317	114377	4123	0.039	0.003	0.036	0.000	0.002	0.002	0.002	7.669	0.039	0.003	0.036	0.000	0.002	0.002	0.002	7.67
8401	110201	3747	0.187	0.012	0.108	0.000	0.006	0.006	0.006	23.160	0.187	0.012	0.108	0.000	0.006	0.006	0.006	23.16
8401	391957	711413	0.187	0.012	0.108	0.000	0.006	0.006	0.006	23.160	0.187	0.012	0.108	0.000	0.006	0.006	0.006	23.16
8510	106946	3052	0.493	0.039	0.106	0.000	0.034	0.034	0.034	19.534	0.493	0.039	0.106	0.000	0.034	0.034	0.034	19.53
10314	388044	678837	0.022	0.002	0.030	0.000	0.001	0.001	0.001	4.448	0.022	0.002	0.030	0.000	0.001	0.001	0.001	4.45
10525	390424	74037489	0.050	0.004	0.046	0.000	0.003	0.003	0.003	10.118	0.050	0.004	0.046	0.000	0.003	0.003	0.003	10.12
10579	107038	589	0.232	0.019	0.050	0.000	0.016	0.016	0.016	9.203	0.232	0.019	0.050	0.000	0.016	0.016	0.016	9.20
10660	107004	698	0.021	0.002	0.005	0.000	0.001	0.001	0.001	0.834	0.021	0.002	0.005	0.000	0.001	0.001	0.001	0.83
11439	386166	652232	0.022	0.002	0.030	0.000	0.001	0.001	0.001	4.448	0.022	0.002	0.030	0.000	0.001	0.001	0.001	4.45
12000	114696	4268	0.283	0.019	0.164	0.000	0.009	0.009	0.009	35.001	0.283	0.019	0.164	0.000	0.009	0.009	0.009	35.00
12006	112255	3928	0.725	0.048	0.419	0.001	0.024	0.024	0.024	89.634	0.725	0.048	0.419	0.001	0.024	0.024	0.024	89.63
12006	112256	3929	0.725	0.048	0.419	0.001	0.024	0.024	0.024	89.634	0.725	0.048	0.419	0.001	0.024	0.024	0.024	89.63
13850	388045	678768	0.072	0.005	0.066	0.000	0.004	0.004	0.004	14.234	0.072	0.005	0.066	0.000	0.004	0.004	0.004	14.23
21150	391888	713136	0.059	0.004	0.055	0.000	0.003	0.003	0.003	11.718	0.059	0.004	0.055	0.000	0.003	0.003	0.003	11.72
21203	109236	3642	0.375	0.025	0.216	0.000	0.001	0.001	0.001	46.320	0.375	0.025	0.216	0.000	0.001	0.001	0.001	46.32
22321	388046	699622	0.187	0.012	0.108	0.000	0.006	0.006	0.006	23.160	0.187	0.012	0.108	0.000	0.006	0.006	0.006	23.16
23201	111125	3582	0.023	0.004	0.010	0.000	0.003	0.003	0.003	1.822	0.023	0.004	0.010	0.000	0.003	0.003	0.003	1.82
23209	391526	706693	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
23243	386257	4375	0.224	0.015	0.130	0.000	0.007	0.007	0.007	27.731	0.224	0.015	0.130	0.000	0.007	0.007	0.007	27.73
23243	386258	4376	0.224	0.015	0.130	0.000	0.007	0.007	0.007	27.731	0.224	0.015	0.130	0.000	0.007	0.007	0.007	27.73
NA	113280	4010	0.022	0.002	0.030	0.000	0.001	0.001	0.001	4.448	0.022	0.002	0.030	0.000	0.001	0.001	0.001	4.45
NA	113281	4011	0.022	0.002	0.030	0.000	0.001	0.001	0.001	4.448	0.022	0.002	0.030	0.000	0.001	0.001	0.001	4.45
NA	113282	4012	0.022	0.002	0.030	0.000	0.001	0.001	0.001	4.448	0.022	0.002	0.030	0.000	0.001	0.001	0.001	4.45
NA	113283	4013	0.022	0.002	0.030	0.000	0.001	0.001	0.001	4.448	0.022	0.002	0.030	0.000	0.001	0.001	0.001	4.45
NA	113284	4014	0.022	0.002	0.030	0.000	0.001	0.001	0.001	4.448	0.022	0.002	0.030	0.000	0.001	0.001	0.001	4.45
<b>Total</b>			<b>12.478</b>	<b>0.981</b>	<b>7.585</b>	<b>0.015</b>	<b>0.512</b>	<b>0.512</b>	<b>0.512</b>	<b>1356.861</b>	<b>12.478</b>	<b>0.981</b>	<b>7.585</b>	<b>0.015</b>	<b>0.512</b>	<b>0.512</b>	<b>0.512</b>	<b>1,356.86</b>

**Table 5.1c Coating Operations Potential to Emit**

Building Number	Equipment Location	Device No.	Operator ID	Booth Filter Type	Spray Gun Cleaner?	Booth Heater	lb/day	ton/year	Year Installed	Current Permit	Historical Permit
831	831 Clark St	384032	4174	Overspray Filters	Yes - OID 4130	No	11.20	0.55	1991	PT-70 13968-R2	8350-R6
875	875 Sweeney Rd	107926	1598	Overspray Filters	Yes - OID 4131	No	5.61	0.73	1991	PT-70 13968-R2	8580-R5
1731	320 Airfield Rd	391549	706728	Dry Overspray Filters	Yes - OID 708766	Yes - Exempt DID 391550	2.30	0.03	2019	PT-70 13968-R2	14968
2007	2007 Astral Rd	108716	1600	Dry Overspray Filters	Yes - OID 4134	No	7.76	1.01	2013	PT-70 13968-R2	8630-R7
8190	1580 Nevada Ave	105647	1603	Overspray Filters	No	Yes - Exempt DID 105648	9.36	1.21	1993	PT-70 13968-R2	9088-R4
9320	334 6th St	384028	1591	Water Wash Overspray System	Yes - OID 4129	No	4.80	0.62	1983	PT-70 13968-R2	8629-R6
9320	334 6th St	384029	1592	Overspray Filters	Yes - OID 4129	No			1983	PT-70 13968-R2	8629-R6
9327	1346 New Mexico Ave	113676	4096	Rear Exhaust Plenum	Yes - OID 4101	Yes - Exempt DID 113677	9.36	1.22	2011	PT-70 13968-R2	13493
9360	1318 New Mexico	388395	703426	Three Stage HEPA Filter	Yes - OID 703428	Yes - Permitted DID 388395			2016	PT-70 13968-R2	14683
10711	433 Herado Ave	107930	1604	Dry Overspray Filters	Yes - OID 4374	Yes - Permitted DID 111748	11.26	1.47	1993	PT-70 13968-R2	8932-R5
Various NRO/Lockheed Martin Facilities	Not Applicable	384072	Oversized Vehicle Surface Coating	Not Applicable	Not Applicable	Not Applicable	7.6	0.49	Not Applicable	PT-70 13968-R2	15283

**Table 5.1d Other Operations Potential to Emit**

Building Number	Equipment Location	Device No.	Operator ID	Device Type	Daily Throughput Limit	Annual Throughput Limit	Throughput Units	Daily Mass Limit	Quarterly Mass Limit	Annual Mass Limit	Mass Units	Year of Installation
1701	173 Airfield Rd	113960	4147	Bulk Fuel Storage Facility; RP-1	21,600	245,600	gallons	1.02	N/A	4.41	lbs ROC	2017
1706	173 Airfield Rd	109896	1240	Bulk Fuel Storage Facility; JP-8/Jet-A	NA	2,040,000	gallon	N/A	N/A	0.28	tons ROC	1992
1706	173 Airfield Rd	109897	1238	Bulk Fuel Storage Facility; JP-8/Jet-A	NA			N/A	N/A			1992
2007	150 Taurus Rd	107916	3599	Abrasive Blasting Operations	2.00	500	tons	0.00065	N/A	0.163	ton PM	2010
5500	Various Locations	110309	HAZMART2	Miscellaneous Solvent Usage	NA	NA	NA	22.73	500	2,000	lbs ROC	2004
5500	Various Locations	114277	HAZMART	Miscellaneous Solvent Usage	NA	NA	NA	24	N/A	6,336	lbs ROC	<1999
9320	334 6th St	009890	1859	Abrasive Blasting Operations	2.40	250	tons	0.000312	N/A	0.032	tons PM	Unknown
9320	334 6th St	110229	3907	Abrasive Blasting Operations	6.64	1,726	tons	0.0004315	N/A	0.112	tons PM	2008
9505	180 Landfill Rd	115291	3399	Landfill Gas	NA	NA	NA	0.01076	N/A	3.93	tons ROC	1941
974/975	974 Mesa Rd	104788	4173	Scrubber (OVSS); Nitrogen Tetroxide	NA	NA	NA	62.16	N/A	440	lbs NOx	1991
976/977	976 Mesa Rd	104655	4172	Scrubber (FVSS); Aerozine-50 Fuel	NA	NA	NA	23.04	N/A	100	lbs ROC	1991
10726	442 Washington Ave	109369	434	Military Gasoline Dispensing Facility	NA	1,200,000	gallon	2.53	N/A	920	lb ROC	Unknown
10726	442 Washington Ave	387622	3508	E-85 GDF with Phase 1 VRS	NA				N/A			2014
10726	442 Washington Ave	386791	21446D	E-85 GDF with Phase 1 VRS	NA				N/A			2017
14400	1107 Utah Ave	384085	3415	AAFES Gasoline Dispensing Facility	NA	4,800,000	gallon	16.54	N/A	6,040	lb ROC	2007
NA	Various Locations	113616	3417	Microwave Reactor System for Hypergolic Fuel Vapors	NA	2	event	0.57	16.00	16.00	lb ROC	2006
NA	Various Locations	113621	3418	Microwave Reactor System for Hypergolic Oxidizer Vapors	NA	2	event	0.01	0.20	0.20	lb NOx	2006

Notes:

1. The AAFES motor vehicle fueling facility at Building 10726 has combined gasoline and E-85 throughput and emission limits.
2. Jet-A/JP-8 bulk fuel storage tanks (DID# 109896 and 109897) have combined throughput and emission limits.

**Table 5.1-1e Operating Equipment Description – Turbines**

	<b>Building</b>	<b>Location</b>	<b>Device ID</b>	<b>Operator ID</b>	<b>Fuel Type</b>	<b>Rating (MMBtu/hr)</b>	<b>Limit (MMBtu/day)</b>	<b>Limit (MMBtu/qtr)</b>	<b>Limit (MMBtu/yr)</b>	<b>HHV (Btu/scf)</b>	<b>Sulfur (ppmv S)</b>
Fired Exclusively on Natural Gas	SVPP	525 Coast Road	6080	1286	NG	44.08	1,057.920	31,156	124,622	1,050	80.00
	SVPP	525 Coast Road	6081	1287	NG	44.08	1,057.920	31,156	124,622	1,050	80.00
	SVPP	525 Coast Road	6082	1288	NG	44.08	1,057.920	31,156	124,622	1,050	80.00
	SVPP	525 Coast Road	6083	1289	NG	44.08	1,057.920	31,156	124,622	1,050	80.00
	SVPP	525 Coast Road	6084	1290	NG	44.08	1,057.920	31,156	124,622	1,050	80.00
Fired on Natural Gas and Diesel	SVPP	525 Coast Road	6080	1286	NG	44.08	1,057.920	25,996	103,984	1,050	80.00
	SVPP	525 Coast Road	6081	1287	NG	44.08	1,057.920	25,996	103,984	1,050	80.00
	SVPP	525 Coast Road	6082	1288	NG	44.08	1,057.920	25,996	103,984	1,050	80.00
	SVPP	525 Coast Road	6083	1289	NG	44.08	1,057.920	25,996	103,984	1,050	80.00
	SVPP	525 Coast Road	6084	1290	NG	44.08	1,057.920	25,996	103,984	1,050	80.00
	SVPP	525 Coast Road	6080	1286	Diesel	43.175	1,036.200	1,554	6,218	137,000	80.00
	SVPP	525 Coast Road	6081	1287	Diesel	43.175	1,036.200	1,554	6,218	137,000	80.00
	SVPP	525 Coast Road	6082	1288	Diesel	43.175	1,036.200	1,554	6,218	137,000	80.00
	SVPP	525 Coast Road	6083	1289	Diesel	43.175	1,036.200	1,554	6,218	137,000	80.00
	SVPP	525 Coast Road	6084	1290	Diesel	43.175	1,036.200	1,554	6,218	137,000	80.00

**Table 5.1-2e Emission Factors – Turbines**

	Building	Location	Device ID	Operator ID	Fuel Type	NOx (lb/MMBtu)	ROC (lb/MMBtu)	CO (lb/MMBtu)	SOx (lb/MMBtu)	PM (lb/MMBtu)	PM <sub>10</sub> (lb/MMBtu)	PM <sub>2.5</sub> (lb/MMBtu)	GHG (lb/MMBtu)	NMHC (lb/MMBtu)
Fired Exclusively on Natural Gas	SVPP	Coast and Honda Ridge Roads	6080	1286	NG	0.0867	0.0113	0.1037	0.0045	0.0066	0.0066	0.0066	117.00	0.0172
	SVPP	Coast and Honda Ridge Roads	6081	1287	NG	0.0867	0.0113	0.1037	0.0045	0.0066	0.0066	0.0066	117.00	0.0172
	SVPP	Coast and Honda Ridge Roads	6082	1288	NG	0.0867	0.0113	0.1037	0.0045	0.0066	0.0066	0.0066	117.00	0.0172
	SVPP	Coast and Honda Ridge Roads	6083	1289	NG	0.0867	0.0113	0.1037	0.0045	0.0066	0.0066	0.0066	117.00	0.0172
	SVPP	Coast and Honda Ridge Roads	6084	1290	NG	0.0867	0.0113	0.1037	0.0045	0.0066	0.0066	0.0066	117.00	0.0172
Fired on Natural Gas/Diesel	SVPP	Coast and Honda Ridge Roads	6080	1286	NG	0.0867	0.0113	0.1037	0.0045	0.0066	0.0066	0.0066	117.00	0.0172
	SVPP	Coast and Honda Ridge Roads	6081	1287	NG	0.0867	0.0113	0.1037	0.0045	0.0066	0.0066	0.0066	117.00	0.0172
	SVPP	Coast and Honda Ridge Roads	6082	1288	NG	0.0867	0.0113	0.1037	0.0045	0.0066	0.0066	0.0066	117.00	0.0172
	SVPP	Coast and Honda Ridge Roads	6083	1289	NG	0.0867	0.0113	0.1037	0.0045	0.0066	0.0066	0.0066	117.00	0.0172
	SVPP	Coast and Honda Ridge Roads	6084	1290	NG	0.0867	0.0113	0.1037	0.0045	0.0066	0.0066	0.0066	117.00	0.0172
	SVPP	Coast and Honda Ridge Roads	6080	1286	Diesel	0.1297	0.0159	0.3937	0.1892	0.0120	0.0120	0.0120	163.60	0.0249
	SVPP	Coast and Honda Ridge Roads	6081	1287	Diesel	0.1297	0.0159	0.3937	0.1892	0.0120	0.0120	0.0120	163.60	0.0249
	SVPP	Coast and Honda Ridge Roads	6082	1288	Diesel	0.1297	0.0159	0.3937	0.1892	0.0120	0.0120	0.0120	163.60	0.0249
	SVPP	Coast and Honda Ridge Roads	6083	1289	Diesel	0.1297	0.0159	0.3937	0.1892	0.0120	0.0120	0.0120	163.60	0.0249
	SVPP	Coast and Honda Ridge Roads	6084	1290	Diesel	0.1297	0.0159	0.3937	0.1892	0.0120	0.0120	0.0120	163.60	0.0249

**Table 5.1-3e Short Term (lb/hour)Potential to Emit – Turbines**

	<b>Building</b>	<b>Location</b>	<b>Device ID</b>	<b>Operator ID</b>	<b>Fuel Type</b>	<b>NOx (lb/hr)</b>	<b>ROC (lb/hr)</b>	<b>CO (lb/hr)</b>	<b>SOx (lb/hr)</b>	<b>PM (lb/hr)</b>	<b>PM<sub>10</sub> (lb/hr)</b>	<b>PM<sub>2.5</sub> (lb/hr)</b>	<b>GHG (lb/hr)</b>	<b>NMHC (lb/hr)</b>
Fired Exclusively on Natural Gas	SVPP	Coast and Honda Ridge Roads	6080	1286	NG	3.82	0.50	4.57	0.20	0.29	0.29	0.29	5,157.36	0.76
	SVPP	Coast and Honda Ridge Roads	6081	1287	NG	3.82	0.50	4.57	0.20	0.29	0.29	0.29	5,157.36	0.76
	SVPP	Coast and Honda Ridge Roads	6082	1288	NG	3.82	0.50	4.57	0.20	0.29	0.29	0.29	5,157.36	0.76
	SVPP	Coast and Honda Ridge Roads	6083	1289	NG	3.82	0.50	4.57	0.20	0.29	0.29	0.29	5,157.36	0.76
	SVPP	Coast and Honda Ridge Roads	6084	1290	NG	3.82	0.50	4.57	0.20	0.29	0.29	0.29	5,157.36	0.76
						<b>19.11</b>	<b>2.49</b>	<b>22.86</b>	<b>0.99</b>	<b>1.45</b>	<b>1.45</b>	1.45	<b>25,786.80</b>	<b>3.79</b>
Fired on Natural Gas/Diesel	SVPP	Coast and Honda Ridge Roads	6080	1286	NG	3.82	0.50	4.57	0.20	0.29	0.29	0.29	5,157.36	0.76
	SVPP	Coast and Honda Ridge Roads	6081	1287	NG	3.82	0.50	4.57	0.20	0.29	0.29	0.29	5,157.36	0.76
	SVPP	Coast and Honda Ridge Roads	6082	1288	NG	3.82	0.50	4.57	0.20	0.29	0.29	0.29	5,157.36	0.76
	SVPP	Coast and Honda Ridge Roads	6083	1289	NG	3.82	0.50	4.57	0.20	0.29	0.29	0.29	5,157.36	0.76
	SVPP	Coast and Honda Ridge Roads	6084	1290	NG	3.82	0.50	4.57	0.20	0.29	0.29	0.29	5,157.36	0.76
	SVPP	Coast and Honda Ridge Roads	6080	1286	Diesel	5.60	0.69	17.00	8.17	0.52	0.52	0.52	7,063.43	1.08
	SVPP	Coast and Honda Ridge Roads	6081	1287	Diesel	5.60	0.69	17.00	8.17	0.52	0.52	0.52	7,063.43	1.08
	SVPP	Coast and Honda Ridge Roads	6082	1288	Diesel	5.60	0.69	17.00	8.17	0.52	0.52	0.52	7,063.43	1.08
	SVPP	Coast and Honda Ridge Roads	6083	1289	Diesel	5.60	0.69	17.00	8.17	0.52	0.52	0.52	7,063.43	1.08
	SVPP	Coast and Honda Ridge Roads	6084	1290	Diesel	5.60	0.69	17.00	8.17	0.52	0.52	0.52	7,063.43	1.08
						<b>28.00</b>	<b>3.43</b>	<b>84.99</b>	<b>40.84</b>	<b>2.59</b>	<b>2.59</b>	<b>2.59</b>	<b>35,317.15</b>	<b>5.38</b>

**Table 5.1-3e Short Term (lb/day) Potential to Emit – Turbines**

	<b>Building</b>	<b>Location</b>	<b>Device ID</b>	<b>Operator ID</b>	<b>Fuel Type</b>	<b>NOx (lb/day)</b>	<b>ROC (lb/day)</b>	<b>CO (lb/day)</b>	<b>SOx (lb/day)</b>	<b>PM (lb/day)</b>	<b>PM<sub>10</sub> (lb/day)</b>	<b>PM<sub>2.5</sub> (lb/day)</b>	<b>GHG (lb/day)</b>	<b>NMHC (lb/day)</b>
Fired Exclusively on Natural Gas	SVPP	Coast and Honda Ridge Roads	6080	1286	NG	91.72	11.95	109.71	4.76	6.98	6.98	6.98	123,776.64	18.20
	SVPP	Coast and Honda Ridge Roads	6081	1287	NG	91.72	11.95	109.71	4.76	6.98	6.98	6.98	123,776.64	18.20
	SVPP	Coast and Honda Ridge Roads	6082	1288	NG	91.72	11.95	109.71	4.76	6.98	6.98	6.98	123,776.64	18.20
	SVPP	Coast and Honda Ridge Roads	6083	1289	NG	91.72	11.95	109.71	4.76	6.98	6.98	6.98	123,776.64	18.20
	SVPP	Coast and Honda Ridge Roads	6084	1290	NG	91.72	11.95	109.71	4.76	6.98	6.98	6.98	123,776.64	18.20
						<b>458.61</b>	<b>59.77</b>	<b>548.53</b>	<b>23.80</b>	<b>34.91</b>	<b>34.91</b>	34.91	<b>618,883.20</b>	<b>90.98</b>
Fired on Natural Gas/Diesel	SVPP	Coast and Honda Ridge Roads	6080	1286	NG	91.72	11.95	109.71	4.76	6.98	6.98	6.98	123,776.64	18.20
	SVPP	Coast and Honda Ridge Roads	6081	1287	NG	91.72	11.95	109.71	4.76	6.98	6.98	6.98	123,776.64	18.20
	SVPP	Coast and Honda Ridge Roads	6082	1288	NG	91.72	11.95	109.71	4.76	6.98	6.98	6.98	123,776.64	18.20
	SVPP	Coast and Honda Ridge Roads	6083	1289	NG	91.72	11.95	109.71	4.76	6.98	6.98	6.98	123,776.64	18.20
	SVPP	Coast and Honda Ridge Roads	6084	1290	NG	91.72	11.95	109.71	4.76	6.98	6.98	6.98	123,776.64	18.20
	SVPP	Coast and Honda Ridge Roads	6080	1286	Diesel	134.40	16.48	407.95	196.05	12.43	12.43	12.43	169,522.32	25.80
	SVPP	Coast and Honda Ridge Roads	6081	1287	Diesel	134.40	16.48	407.95	196.05	12.43	12.43	12.43	169,522.32	25.80
	SVPP	Coast and Honda Ridge Roads	6082	1288	Diesel	134.40	16.48	407.95	196.05	12.43	12.43	12.43	169,522.32	25.80
	SVPP	Coast and Honda Ridge Roads	6083	1289	Diesel	134.40	16.48	407.95	196.05	12.43	12.43	12.43	169,522.32	25.80
	SVPP	Coast and Honda Ridge Roads	6084	1290	Diesel	134.40	16.48	407.95	196.05	12.43	12.43	12.43	169,522.32	25.80
						<b>671.98</b>	<b>82.38</b>	<b>2039.76</b>	<b>980.25</b>	<b>62.17</b>	<b>62.17</b>	<b>62.17</b>	<b>847,611.60</b>	<b>129.01</b>

**Table 5.1-4e Long Term (tons/qtr) Potential to Emit – Turbines**

	<b>Building</b>	<b>Location</b>	<b>Device ID</b>	<b>Operator ID</b>	<b>Fuel Type</b>	<b>NOx (ton/qtr)</b>	<b>ROC (ton/qtr)</b>	<b>CO (ton/qtr)</b>	<b>SOx (ton/qtr)</b>	<b>PM (ton/qtr)</b>	<b>PM<sub>10</sub> (ton/qtr)</b>	<b>PM<sub>2.5</sub> (ton/qtr)</b>	<b>GHG (ton/qtr)</b>	<b>NMHC (ton/qtr)</b>
Fired Exclusively on Natural Gas	SVPP	Coast and Honda Ridge Roads	6080	1286	NG	1.35	0.18	1.62	0.07	0.10	0.10	0.10	1,822.60	0.27
	SVPP	Coast and Honda Ridge Roads	6081	1287	NG	1.35	0.18	1.62	0.07	0.10	0.10	0.10	1,822.60	0.27
	SVPP	Coast and Honda Ridge Roads	6082	1288	NG	1.35	0.18	1.62	0.07	0.10	0.10	0.10	1,822.60	0.27
	SVPP	Coast and Honda Ridge Roads	6083	1289	NG	1.35	0.18	1.62	0.07	0.10	0.10	0.10	1,822.60	0.27
	SVPP	Coast and Honda Ridge Roads	6084	1290	NG	1.35	0.18	1.62	0.07	0.10	0.10	0.10	1,822.60	0.27
						<b>6.75</b>	<b>0.88</b>	<b>8.08</b>	<b>0.35</b>	<b>0.51</b>	<b>0.51</b>	0.51	<b>9,113.01</b>	<b>1.34</b>
Fired on Natural Gas/Diesel	SVPP	Coast and Honda Ridge Roads	6080	1286	NG	1.13	0.15	1.35	0.06	0.09	0.09	0.09	1,520.77	0.22
	SVPP	Coast and Honda Ridge Roads	6081	1287	NG	1.13	0.15	1.35	0.06	0.09	0.09	0.09	1,520.77	0.22
	SVPP	Coast and Honda Ridge Roads	6082	1288	NG	1.13	0.15	1.35	0.06	0.09	0.09	0.09	1,520.77	0.22
	SVPP	Coast and Honda Ridge Roads	6083	1289	NG	1.13	0.15	1.35	0.06	0.09	0.09	0.09	1,520.77	0.22
	SVPP	Coast and Honda Ridge Roads	6084	1290	NG	1.13	0.15	1.35	0.06	0.09	0.09	0.09	1,520.77	0.22
	SVPP	Coast and Honda Ridge Roads	6080	1286	Diesel	0.10	0.01	0.31	0.15	0.01	0.01	0.01	127.15	0.02
	SVPP	Coast and Honda Ridge Roads	6081	1287	Diesel	0.10	0.01	0.31	0.15	0.01	0.01	0.01	127.15	0.02
	SVPP	Coast and Honda Ridge Roads	6082	1288	Diesel	0.10	0.01	0.31	0.15	0.01	0.01	0.01	127.15	0.02
	SVPP	Coast and Honda Ridge Roads	6083	1289	Diesel	0.10	0.01	0.31	0.15	0.01	0.01	0.01	127.15	0.02
	SVPP	Coast and Honda Ridge Roads	6084	1290	Diesel	0.10	0.01	0.31	0.15	0.01	0.01	0.01	127.15	0.02
						<b>6.14</b>	<b>0.80</b>	<b>8.27</b>	<b>1.03</b>	<b>0.48</b>	<b>0.48</b>	<b>0.48</b>	<b>8,239.58</b>	<b>1.21</b>

**Table 5.1-4e Long Term (tons/year) Potential to Emit – Turbines**

	<b>Building</b>	<b>Device ID</b>	<b>Operator ID</b>	<b>Fuel Type</b>	<b>NOx (ton/yr)</b>	<b>ROC (ton/yr)</b>	<b>CO (ton/yr)</b>	<b>SOx (ton/yr)</b>	<b>PM (ton/yr)</b>	<b>PM<sub>10</sub> (ton/yr)</b>	<b>PM<sub>2.5</sub> (ton/yr)</b>	<b>GHG (ton/yr)</b>	<b>NMHC (ton/year)</b>
Fired Exclusively on Natural Gas	SVPP	6080	1286	NG	5.40	0.70	6.46	0.28	0.41	0.41	0.41	7,290.41	1.07
	SVPP	6081	1287	NG	5.40	0.70	6.46	0.28	0.41	0.41	0.41	7,290.41	1.07
	SVPP	6082	1288	NG	5.40	0.70	6.46	0.28	0.41	0.41	0.41	7,290.41	1.07
	SVPP	6083	1289	NG	5.40	0.70	6.46	0.28	0.41	0.41	0.41	7,290.41	1.07
	SVPP	6084	1290	NG	5.40	0.70	6.46	0.28	0.41	0.41	0.41	7,290.41	1.07
					<b>27.01</b>	<b>3.52</b>	<b>32.31</b>	<b>1.40</b>	<b>2.06</b>	<b>2.06</b>	<b>2.06</b>	<b>36,452.05</b>	<b>5.36</b>
Fired on Natural Gas and Diesel	SVPP	6080	1286	NG	4.51	0.59	5.39	0.23	0.34	0.34	0.34	6,083.06	0.89
	SVPP	6081	1287	NG	4.51	0.59	5.39	0.23	0.34	0.34	0.34	6,083.06	0.89
	SVPP	6082	1288	NG	4.51	0.59	5.39	0.23	0.34	0.34	0.34	6,083.06	0.89
	SVPP	6083	1289	NG	4.51	0.59	5.39	0.23	0.34	0.34	0.34	6,083.06	0.89
	SVPP	6084	1290	NG	4.51	0.59	5.39	0.23	0.34	0.34	0.34	6,083.06	0.89
	SVPP	6080	1286	Diesel	0.40	0.05	1.22	0.59	0.04	0.04	0.04	508.60	0.08
	SVPP	6081	1287	Diesel	0.40	0.05	1.22	0.59	0.04	0.04	0.04	508.60	0.08
	SVPP	6082	1288	Diesel	0.40	0.05	1.22	0.59	0.04	0.04	0.04	508.60	0.08
	SVPP	6083	1289	Diesel	0.40	0.05	1.22	0.59	0.04	0.04	0.04	508.60	0.08
	SVPP	6084	1290	Diesel	0.40	0.05	1.22	0.59	0.04	0.04	0.04	508.60	0.08
					<b>24.55</b>	<b>3.18</b>	<b>33.08</b>	<b>4.11</b>	<b>1.90</b>	<b>1.90</b>	<b>1.90</b>	<b>32,958.32</b>	<b>4.86</b>

**Table 5.2 Potential to Emit**

**A. Daily - lbs**

<b>Equipment Category</b>	<b>NOx</b>	<b>ROC</b>	<b>CO</b>	<b>SOx</b>	<b>PM</b>	<b>PM<sub>10</sub></b>	<b>PM<sub>2.5</sub></b>	<b>GHG</b>
External Combustion	55.25	6.04	280.24	15.56	8.39	8.39	8.39	130,838.76
Reciprocating IC Engines	7,853.04	650.95	3,642.05	6.81	418.65	418.65	418.65	624,014.66
Turbines	671.98	82.38	2,039.76	980.25	62.17	62.17	62.17	847,611.6
Bulk Fuel Storage		14.34						
Abrasive Blasting					2.79	2.79	2.79	
Coating Operations		69.25						
Solvent Usage		46.73						
Landfill Gas		21.52						
Gasoline Dispensing Facilities		19.07						
Hypergolic Fuel Storage and Handling	62.17	23.61						
<b>Totals (lb/day)</b>	<b>8,642.44</b>	<b>933.89</b>	<b>5,962.05</b>	<b>1,002.61</b>	<b>492.00</b>	<b>492.00</b>	<b>492.00</b>	<b>1,602,465.0</b>

**B. Annual - tons**

<b>Equipment Category</b>	<b>NOx</b>	<b>ROC</b>	<b>CO</b>	<b>SOx</b>	<b>PM</b>	<b>PM<sub>10</sub></b>	<b>PM<sub>2.5</sub></b>	<b>GHG</b>
External Combustion	4.46	0.40	15.68	1.03	0.55	0.55	0.55	8,629.99
Reciprocating IC Engines	12.48	0.98	7.58	0.01	0.51	0.51	0.51	1,356.86
Turbines	27.01	3.52	33.08	4.11	2.06	2.06	2.06	36,452.1
Bulk Fuel Storage		0.30						
Abrasive Blasting					0.31	0.31	0.31	0.3
Coating Operations		7.33						
Solvent Usage		4.17						
Landfill Gas		3.93						
Gasoline Dispensing Facilities		3.48						
Hypergolic Fuel Storage and Handling	0.22	0.06						
<b>Totals (tons/year)</b>	<b>44.17</b>	<b>24.17</b>	<b>56.34</b>	<b>5.15</b>	<b>3.43</b>	<b>3.43</b>	<b>3.43</b>	<b>46,439.2</b>

**Table 5.3 Federal Potential to Emit**

**Table 5.3: Federal Potential to Emit**

**A. Daily - lbs**

<b>Equipment Category</b>	<b>NOx</b>	<b>ROC</b>	<b>CO</b>	<b>SOx</b>	<b>PM</b>	<b>PM<sub>10</sub></b>	<b>PM<sub>2.5</sub></b>	<b>GHG</b>
External Combustion	55.25	6.04	280.24	15.56	8.39	8.39	8.39	130,838.8
Reciprocating IC Engines	7,853.04	650.95	3,642.05	6.81	418.65	418.65	418.65	624,014.7
Turbines	671.98	82.38	2,039.76	980.25	62.17	62.17	62.17	847,611.60
Bulk Fuel Storage		14.34						
Abrasive Blasting					2.79	2.79	2.79	
Spray Booths		69.25						
Solvent Usage		46.73						
Landfill Gas								
Gasoline Dispensing Facilities		19.07						
Hypergolic Fuel Storage and Handling	62.17	23.61						
<b>Totals (lb/day)</b>	<b>8,642.44</b>	<b>912.37</b>	<b>5,962.05</b>	<b>1,002.61</b>	<b>492.00</b>	<b>492.00</b>	<b>492.00</b>	<b>1,602,465.0</b>

**B. Annual - tons**

<b>Equipment Category</b>	<b>NOx</b>	<b>ROC</b>	<b>CO</b>	<b>SOx</b>	<b>PM</b>	<b>PM<sub>10</sub></b>	<b>PM<sub>2.5</sub></b>	<b>GHG</b>
External Combustion	4.46	0.40	15.68	1.03	0.55	0.55	0.55	8,630.0
Reciprocating IC Engines	12.48	0.98	7.58	0.01	0.51	0.51	0.51	1,356.9
Turbines	27.01	3.52	33.08	4.11	2.06	2.06	2.06	36,452.1
Bulk Fuel Storage		0.30						
Abrasive Blasting					0.31			
Spray Booths		7.33						
Solvent Usage		4.17						
Landfill Gas								
Gasoline Dispensing Facilities		3.48						
Hypergolic Fuel Storage and Handling	0.22	0.06						
Permit Exempt Equipment	84.47	25.50	7.50		5.24	5.24	5.24	29,479.8
<b>Totals (tons/year)</b>	<b>128.64</b>	<b>45.74</b>	<b>63.84</b>	<b>5.15</b>	<b>8.67</b>	<b>8.36</b>	<b>8.36</b>	<b>75,918.7</b>















## **6.0 Air Quality Impact Analyses**

### **6.1 Modeling**

An air quality impact analysis has not been required for this stationary source.

### **6.2 Increments**

An air quality increment analysis has not been required for this stationary source.

### **6.3 Monitoring**

VAFB is required to operate an ambient air monitoring station in accordance with permit conditions 9.C.18, 9.C.20 and 9.C.22 of this permit.

### **6.4 Health Risk Assessment**

The Vandenberg Air Force Base stationary source is subject to the Air Toxics “Hot-Spots” Program (AB 2588). The most recent finalized health risk assessment (HRA) for the facility was prepared by the District in 2001 under the requirements of AB 2588. The HRA is based on 1998 toxic emissions inventory data submitted to the District by VAFB. Based on the 1998 toxic emissions inventory for VAFB, cancer and non-cancer toxics risks off the property were estimated to be below the District’s AB 2588 significance thresholds. The calculated risks are listed below:

	<u>VAFB Max Risks</u>	<u>Significance Threshold</u>
Cancer risk:	5.56 /million	≥ 10.0 /million
Chronic non-cancer risk:	0.01	> 1.0
Acute non-cancer risk:	0.30	> 1.0

Vandenberg is in the process of completing an update to their AB 2588 health risk assessment for inventory year 2018. They are required to submit an updated Air Toxics Emission Inventory Plan (ATEIP) and Report (ATEIR), and then conduct a revised Health Risk Assessment (HRA).

## **7.0 CAP Consistency, Offset Requirements and ERCs**

### **7.1. General**

VAFB is located in an ozone transitional nonattainment area. Santa Barbara County has not attained the state ozone ambient air quality standards. The County also does not meet the state PM<sub>10</sub> ambient air quality standards. Therefore, emissions from all emission units at the stationary source and its constituent facilities must be consistent with the provisions of the USEPA and State approved Clean Air Plans (CAP) and must not interfere with progress toward attainment of state ambient air quality standards. Under District regulations, any modifications at the source that result in an emissions increase of any nonattainment pollutant exceeding 25 lbs/day must apply BACT Non-Attainment Review (NAR). Increases above offset thresholds will trigger offsets at the source or elsewhere so that there is a net air quality benefit for Santa Barbara County. These offset threshold levels are 240 lbs/day for all attainment pollutants and precursors (except carbon monoxide and PM<sub>2.5</sub>) and 25 tons/year for all non-attainment pollutants and precursors (except carbon monoxide and PM<sub>2.5</sub>).

### **7.2. Clean Air Plan**

The 2007 Clean Air Plan, adopted by the District Board on August 16, 2007, addressed both federal and state requirements, serving as the maintenance plan for the federal eight-hour ozone standard and as the state triennial update required by the Health and Safety Code to demonstrate how the District will expedite attainment of the state eight-hour ozone standard. The plan was developed for Santa Barbara County as required by both the 1998 California Clean Air Act and the 1990 Federal Clean Air Act Amendments.

In August 2017 the District Board adopted the 2016 Clean Air Plan. The 2016 Plan provides a three-year update to the 2010 Clean Air Plan. As Santa Barbara County has yet to attain the state eight-hour ozone standard, the 2016 Clean Air Plan demonstrates how the District plans to attain that standard. The 2016 Clean Air Plan therefore satisfies all state triennial planning requirements.

### **7.3. Emission Reduction Credits (ERCs)**

In 1984, VAFB and the District entered into a Memorandum of Understanding (MOU) for VAFB to bank ERCs due to the shutdown of Power Plant #2 and for paving a portion of the VAFB landfill road. In the late 1980's ERCs were also provided for the SVPP from the shutdown of Power Plants #4 and #6. In 1991, VAFB and the District entered into a MOU that required all new projects to be offset. The requirement to offset all emissions under that MOU was removed in 1997 with the adoption of the updated New Source Review rule (Rule 806). VAFB was required to convert their banked ERCs into an ERC Certificate. That was done in September of 1997 (DOI #001 and ERC Certificate #001). A provision of Rule 806 allows VAFB to return used ERCs back to the Source Register (note: this provision only applies to ERCs subject to DOI #001).

#### 7.4. *Offset Requirements*

General: Emission offsets are required when a facility is permitting a project with emissions in excess of District offset thresholds, as defined in Regulation VIII. During initial project permitting the provisions of this Regulation did not apply because the source was previously exempt from the District permit provisions, and permits were required specifically due to a loss of a permit exemption. A summary of the VAFB stationary source's current and previous emission liabilities and ERCs are shown in Table 7.1 and Table 7.2 of the permit.

Post 1990 Offset Requirements: Table 7.1 details the stationary source offset liabilities and Table 7.2 details the emission reduction credits secured to meet the offset obligation. These tables also carry forward emission offset obligations created under the 1991 MOU. The ERC certificates used as offsets are available for review in the District's administrative files.

South Vandenberg Power Plant: When originally permitted, emissions of NO<sub>x</sub>, NMHCs, SO<sub>x</sub> and PM from the SVPP were offset with contemporaneous ERCs for this project only. These ERCs were generated by the shutdown of Power Plants 4 and 6, paving of the landfill road, and operation of Phase II vapor recovery systems at the North Base Motor Vehicle Fuel Facility. A later emission increase permitted by ATC/PTO Mod 6117-07 was also offset.

**Table 7.1 - Offset Liability Table for VAFB**  
**Updated: February 13, 2019**

Item	Permit	Issue Date	ERC Returned?	Project	Offset Liability --- tons/year ----					ERC Source	Notes
					NO <sub>x</sub>	ROC	SO <sub>x</sub>	PM	PM <sub>10</sub>		
1	Prior Offset Liabilities (DOI 001)	pre-8/2016	n/a	See VAFB Archive Offsets Tables	33.792	2.310	0.000	1.514	1.514	Various	(a)
2	Prior Offset Liabilities (not DOI 001)	pre-8/2016	n/a	See VAFB Archive Offsets Tables	0.000	8.476	0.000	0.000	0.000	Various	(a)
3	ATC 14968	07/11/17	No	Spray Booth at Bldg 1731	0.000	0.025	0.000	0.000	0.000	ERC 408	
4	ATC 15065	02/08/18	No	Two 2.500 MMBtu Boilers in Bldg 7000	0.292	0.044	0.110	0.060	0.060	ERCs 407, 450	
5	ATC 15258	03/13/19	No	Replacement 2.000 MMBtu/hr burner for boiler in Bldg 13850	0.117	0.018	0.044	0.024	0.024	ERCs 473	

Post August 2016 TOTALS (tpy) =	0.409	0.087	0.154	0.084	0.084
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TOTALS (tpy) =	34.201	2.397	0.154	1.598	1.598
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Notes

- (a) Pre-August 26, 2016 offset liabilities are summarized in Items (1) and (2). See August 26, 2016 Archive Table for details.
- (b) See Table 7.2 for ERCs required to mitigate the offset liability. ERC Source denotes the ERC Certificate # used by the ATC permit.
- (c) Permits with zero emission increases not shown in this table.
- (d) DoD ERCs under DOI 001 assigned prior to August 2016 may be returned per Rule 806.D.7. Table entry is not affected.
- (e) Any ERCs used after August 2016 may be returned to the Source Register. This line item reflects such a return. It is entered as a negative entry to balance this ledger. Original entry is not revised.

**Table 7.2 - Emission Reduction Credits Table for VAFB**  
**Updated: February 13, 2019**

Item	Permit	Surrender Date	ERC Returned?	Emission Reduction Credits ---- tons/year ----					Offset Ratio	ERC Source	NOTES
				NO <sub>x</sub>	ROC	SO <sub>x</sub>	PM	PM <sub>10</sub>			
1	Prior Offset Liabilities (DOI 001)	pre-8/2016	n/a	40.552	2.772	0.000	1.818	1.818	varies	Various	(a) (c)
2	Prior Offset Liabilities (not DOI 001)	pre-8/2016	n/a	0.000	11.260	0.000	0.000	0.000	varies	Various	(b)
3	ATC 14968	07/11/17	No	0.000	0.028	0.000	0.000	0.000	1.10	ERC 408	(d)
4	ATC 15065	02/08/18	No	0.321	0.048	0.121	0.066	0.066	1.10	ERC 407, 450	(e)
5	ATC 15258	09/07/18	No	0.128	0.019	0.049	0.027	0.027	1.10	ERC 473	(f)
Post August 2016 TOTALS (tpy) =				0.449	0.095	0.170	0.093	0.093			
TOTALS (tpy) =				41.001	2.867	0.170	1.911	1.911			

Notes

- (a) Item (1) lists the pre- Aug 2016 ERCs used under DOI #001. See the August 26, 2016 Archive Table for details.
  - (b) Item (2) lists all pre-Aug 2016 non-DOI #001 ERCs used for the VAFB stationary source. See the August 26, 2016 Archive Table for details.
  - (c) VAFB ERCs created per DOI #001. Powerplant #2s shutdown and paving of AFB landfill road. This line item offsets DoDs specific liabilities per Rule 806.D.7
  - (d) VAFB ERCs for ROC emissions for two fire water pumps at Bldg 1731 usig ERC Certificate 408 from DOI 006
  - (e) VAFB ERCs for Nox, ROC, SOx, and PM emissions for two 2.500 MMBtu/hr boilers at Bldg 7000
  - (f) VAFB ERCs for Nox, ROC, SOx, and PM emissions for the identical replacement of one (1) 2.000 MMBtu/hr burner for boiler in Bldg 13850
- Brown text cells require data entry. Do not enter data in Black text cells

## 8.0 Lead Agency Permit Consistency

To the best of the District's knowledge, no other governmental agency's permit requires air quality mitigation.

## 9.0 Permit Conditions

This section lists the applicable permit conditions for Bell Lease. Section A lists the standard administrative conditions. Section B lists 'generic' permit conditions, including emission standards, for all equipment in this permit. Section C lists conditions affecting specific equipment. Section D lists non-federally enforceable (i.e., District only) permit conditions. Conditions listed in Sections A, B, and C are enforceable by the USEPA, the District, the State of California and the public. Conditions listed in Section D are enforceable only by the District and the State of California. Where any reference contained in Sections 9.A, 9.B, or 9.C refers to any other part of this permit, that part of the permit referred to is federally enforceable. In case of a discrepancy between the wording of a condition and the applicable federal or District rule(s), the wording of the rule shall control.

For the purposes of submitting compliance certifications or establishing whether or not a person has violated or is in violation of any standard in this permit, nothing in the permit shall preclude the use, including the exclusive use, of any credible evidence or information, relevant to whether a source would have been in compliance with applicable requirements if the appropriate performance or compliance test had been performed.

Given below is a list of the specific conditions which is linked to that condition.

- 9.A [Standard Administrative Conditions](#)
  - A.1 [Consistency with Analysis](#)
  - A.2 [Compliance](#)
  - A.3 [Conflict Between Permits](#)
  - A.4 [Access to Records and Facilities](#)
  - A.5 [Emission Factor Revisions](#)
  - A.6 [Grounds for Revocation](#)
  - A.7 [Compliance with Permit Conditions](#)
  - A.8 [Emergency Provisions](#)
  - A.9 [Compliance Plan](#)
  - A.10 [Right of Entry](#)
  - A.11 [Permit Life](#)
  - A.12 [Payment of Fees](#)
  - A.13 [Deviation from Permit Requirements](#)
  - A.14 [Reporting Requirements/Compliance Certification](#)
  - A.15 [Federally-Enforceable Conditions](#)
  - A.16 [Recordkeeping Requirements](#)
  - A.17 [Conditions for Permit Reopening](#)
  
- 9.B [Generic Conditions](#)
  - B.1 [Equipment Identification](#)
  - B.2 [Equipment Maintenance](#)
  - B.3 [Circumvention \(Rule 301\)](#)
  - B.4 [Visible Emissions \(Rule 302\)](#)

- B.5 [Nuisance \(Rule 303\)](#)
  - B.6 [Organic Solvents \(Rule 317\)](#)
  - B.7 [Solvent Cleaning Operations \(Rule 321\)](#)
  - B.8 [Metal Surface Coating Thinner and Reducer \(Rule 322\)](#)
  - B.9 [Architectural Coatings \(Rule 323.1\)](#)
  - B.10 [Disposal and Evaporation of Solvents \(Rule 324\)](#)
  - B.11 [Adhesives and Sealants \(Rule 353\)](#)
- 9.C [Requirements and Equipment Specific Conditions](#)
- C.1 [Turbine Generators and Pony Engines](#)
  - C.2 [External Combustion Equipment](#)
  - C.3 [Stationary Emergency Standby Internal Combustion Engines](#)
  - C.4 [Hypergolic Storage Facility \(HSF\)](#)
  - C.5 [Microwave Reactor System \(MRS\)](#)
  - C.6 [Coating Operations](#)
  - C.7 [Solvent Usage](#)
  - C.8 [Storage Tanks](#)
  - C.9 [Gasoline Dispensing Facility](#)
  - C.10 [Abrasive Blasting](#)
  - C.11 [Recordkeeping](#)
  - C.12 [Semi-Annual Compliance Verification Reports](#)
  - C.13 [Solvent Recovery Plan](#)
  - C.14 [Best Available Control Technology \(BACT\)](#)
  - C.15 [Offsets](#)
  - C.16 [Source Testing](#)
  - C.17 [Ambient Air Quality Standard Violation](#)
  - C.18 [Ambient Monitoring Requirements](#)
  - C.19 [Continuous Emission Monitoring](#)
  - C.20 [Data Acquisition System \(DAS\)](#)
  - C.21 [Data Telemetry](#)
  - C.22 [Data Acquisition System \(DAS\) Operation and Maintenance Fee](#)
  - C.23 [Documents Incorporated by Reference](#)
- 9.D [District-Only Conditions](#)
- D.1 [Stationary Emergency Standby Internal Combustion Engines](#)
  - D.2 [Notification of Loss of Exemption](#)
  - D.3 [Enrollment in a DRP/ISC – January 1, 2005](#)
  - D.4 [Title 17-Subchapter 6 – Abrasive Blasting – California Code of Regulations Compliance](#)
  - D.5 [Landfill Operations](#)
  - D.6 [Abrasive Blasting](#)
  - D.7 [Temporary Engine Replacements – DICE ATCM](#)
  - D.8 [Permanent Engine Replacements](#)
  - D.9 [De-Permitted Equipment](#)
  - D.10 [Nuisance \(Rule 303\)](#)
  - D.11 [Circumvention \(Rule 301\)](#)
  - D.12 [Visible Emissions \(Rule 302\)](#)
  - D.13 [Organic Solvents \(Rule 317\)](#)
  - D.14 [Metal Surface Coating Thinner and Reducer \(Rule 322\)](#)
  - D.15 [Disposal and Evaporation of Solvents \(Rule 324\)](#)

## **9.A Standard Administrative Conditions**

- A.1 **Consistency with Analysis.** Operation under this permit shall be conducted consistent with all data, specifications and assumptions included with the application and supplements thereof (as documented in the District's project file) and the District's analyses under which this permit is issued as documented in the Permit Analyses prepared for and issued with the permit. [Ref: Rule 206]
- A.2 **Compliance.** Nothing contained within this permit shall be construed as allowing the violation of any local, state or federal rules, regulations, air quality standards or increments. [Ref: Rule 1303]
- A.3 **Conflict Between Permits.** The requirements or limits that are more protective of air quality shall apply if any conflict arises between the requirements and limits of this permit and any other permitting actions associated with the equipment permitted herein. [Ref: Rule 1303]
- A.4 **Access to Records and Facilities.** As to any condition that requires for its effective enforcement the inspection of records or facilities by the District or its agents, the permittee shall make such records available or provide access to such facilities upon notice from the District. Access shall mean access consistent with California Health and Safety Code Section 41510 and Clean Air Act Section 114A. District access to VAFB facilities shall be governed by Appendix A of the 1998 Memorandum of Agreement between VAFB and the District (and any updates thereof). [Ref: Rule 1303]
- A.5 **Emission Factor Revisions.** The District may update the emission factors for any calculation based on USEPA AP-42 or District emission factors at the next permit modification or permit reevaluation to account for USEPA and/or District revisions to the underlying emission factors. [Ref: Rule 1303]
- A.6 **Grounds for Revocation.** Failure to abide by and faithfully comply with this permit or any Rule, Order, or Regulation may constitute grounds for revocation pursuant to California Health & Safety Code Section 42307 *et seq.* [Ref: Rule 1303]
- A.7 **Compliance with Permit Conditions.**
- (a) The permittee shall comply with all permit conditions in Sections 9.A, 9.B and 9.C.
  - (b) This permit does not convey property rights or exclusive privilege of any sort.
  - (c) Any permit noncompliance with sections 9.A, 9.B, or 9.C constitutes a violation of the Clean Air Act and is grounds for enforcement action; for permit termination, revocation and re-issuance, or modification; or for denial of a permit renewal application.
  - (d) It shall not be a defense for the permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.
  - (e) A pending permit action or notification of anticipated noncompliance does not stay any permit condition.
  - (f) Within a reasonable time period, the permittee shall furnish any information requested by the Control Officer, in writing, for the purpose of determining:

- (i) compliance with the permit, or
  - (ii) whether or not cause exists to modify, revoke and reissue, or terminate a permit or for an enforcement action.
- (g) In the event that any condition herein is determined to be in conflict with any other condition contained herein, then, if principles of law do not provide to the contrary, the condition most protective of air quality and public health and safety shall prevail to the extent feasible.

[Ref: 40 CFR Part 70.6.(a)(6), District Rule 1303]

A.8 **Emergency Provisions.** The permittee shall comply with the requirements of the District, Rule 505 (Upset/Breakdown rule), and/or District Rule 1303.F, whichever is applicable to the emergency situation. In order to maintain an affirmative defense under Rule 1303.F, the permittee shall provide the District, in writing, a “notice of emergency” within 2 working days of the emergency. The “notice of emergency” shall contain the information/documentation listed in Sections (1) through (5) of Rule 1303.F. [Re: 40 CFR 70.6(g), District Rule 1303]

A.9 **Compliance Plan.**

- (a) The permittee shall comply with all federally-enforceable requirements that become applicable during the permit term in a timely manner.
- (b) For all applicable equipment, the permittee shall implement and comply with any specific compliance plan required under any federally-enforceable rules or standards.

[Ref: District Rule 1302]

A.10 **Right of Entry.** The Regional Administrator of USEPA, the Control Officer, or their authorized representatives, upon the presentation of credentials, shall be permitted to enter upon the premises where a Part 70 Source is located or where records must be kept:

- (a) To inspect the stationary source, including monitoring and control equipment, work practices, operations, and emission-related activity;
- (b) To inspect and duplicate, at reasonable times, records required by this Permit to Operate;
- (c) To sample substances or monitor emissions from the source or assess other parameters to assure compliance with the permit or applicable requirements, at reasonable times. Monitoring of emissions can include source testing.

District access to VAFB facilities shall be governed by Appendix A of the 1998 Memorandum of Agreement between VAFB and the District (and any updates thereof).

[Ref: District Rule 1303]

A.11 **Permit Life.** The Part 70 permit shall become invalid three years from the date of issuance unless a timely and complete renewal application is submitted to the District. Any operation of the source to which this Part 70 permit is issued beyond the expiration date of this Part 70 permit and without a valid Part 70 operating permit (or a complete Part 70 permit renewal application) shall be a violation of the CAAA, § 502(a) and 503(d) and of the District rules.

The permittee shall submit an application for renewal of the Part 70 permit not later than 6 months before the date of the permit expiration. Upon submittal of a timely and complete renewal application, the Part 70 permit shall remain in effect until the Control Officer issues or denies the renewal application. [Ref: District Rule 1304]

- A.12 **Payment of Fees.** The permittee shall reimburse the District for all its Part 70 permit processing and compliance expenses for the stationary source on a timely basis. Failure to reimburse on a timely basis shall be a violation of this permit and of applicable requirements and can result in forfeiture of the Part 70 permit. Operation without a Part 70 permit subjects the source to potential enforcement action by the District and the USEPA pursuant to section 502(a) of the Clean Air Act. [Ref: District Rules 1303 and 1304, 40 CFR 70.6(a)(7)]
- A.13 **Deviation from Permit Requirements.** The permittee shall submit a written report to the District documenting each and every deviation from the federally enforceable requirements of this permit or any applicable federal requirements within 7 days after discovery of the violation, but not later than 180 days after the date of occurrence. The report shall clearly document 1) the probable cause and extent of the deviation 2) equipment involved, 3) the quantity of excess pollutant emissions, if any, and 4) actions taken to correct the deviation. The requirements of this condition shall not apply to deviations reported to District in accordance with Rule 505. *Breakdown Conditions*, or Rule 1303.F *Emergency Provisions*. [Ref: District Rule 1303, 40 CFR 70.6(a) (3)]
- A.14 **Reporting Requirements/Compliance Certification.** The permittee shall submit compliance certification reports to the USEPA and the Control Officer every six months. These reports shall be submitted on District forms and shall identify each applicable requirement/condition of the permit, the compliance status with each requirement/condition, the monitoring methods used to determine compliance, whether the compliance was continuous or intermittent, and include detailed information on the occurrence and correction of any deviations (excluding emergency upsets) from permit requirement. The reporting periods shall be each half of the calendar year, e.g., January through June for the first half of the year. These reports shall be submitted by September 1<sup>st</sup> and March 1<sup>st</sup>, respectively, each year. Supporting monitoring data shall be submitted in accordance with the “Semi-Annual Compliance Verification Report” condition in section 9.C. The permittee shall include a written statement from the responsible official, which certifies the truth, accuracy, and completeness of the reports. [Ref: District Rules 1303 and 1302]
- A.15 **Federally-Enforceable Conditions.** Each federally-enforceable condition in this permit shall be enforceable by the USEPA and members of the public. None of the conditions in the District-only enforceable section of this permit are federally enforceable or subject to the public/USEPA review [Ref: CAAA, § 502(b)(6), 40 CFR 70.6(b)]
- A.16 **Recordkeeping Requirements.** The permittee shall maintain records of required monitoring information that include the following:
- (a) The date, place as defined in the permit, and time of sampling or measurements;
  - (b) The date(s) analyses were performed;
  - (c) The company or entity that performed the analyses;
  - (d) The analytical techniques or methods used;

- (e) The results of such analyses; and
- (f) The operating conditions as existing at the time of sampling or measurement;

The records, as well as all supporting information including calibration and maintenance records, shall be maintained for a minimum of five (5) years from date of initial entry by the permittee and shall be made available to the District upon request.

[Ref: District Rule 1303, 40 CFR 70.6(a)(3)(ii)(A)]

A.17 **Conditions for Permit Reopening.** The permit shall be reopened and revised for cause under any of the following circumstances:

- (a) Additional Requirements: If additional applicable requirements (e.g., NSPS or MACT) become applicable to the source which has an unexpired permit term of three (3) or more years, the permit shall be reopened. Such a reopening shall be completed no later than 18 months after promulgation of the applicable requirement. However, no such reopening is required if the effective date of the requirement is later than the date on which the permit is due to expire, unless the original permit or any of its terms and conditions has been extended. All such re-openings shall be initiated only after a 30 day notice of intent to reopen the permit has been provided to the permittee, except that a shorter notice may be given in case of an emergency.
- (b) Inaccurate Permit Provisions: If the District or the USEPA determines that the permit contains a material mistake or that inaccurate statements were made in establishing the emission standards or other terms or conditions of the permit, the permit shall be reopened. Such re-openings shall be made as soon as practicable.
- (c) Applicable Requirement: If the District or the USEPA determines that the permit must be revised or revoked to assure compliance with any applicable requirement including a federally-enforceable requirement, the permit shall be reopened. Such re-openings shall be made as soon as practicable.

Administrative procedures to reopen a permit shall follow the same procedures as apply to initial permit issuance. Re-openings shall affect only those parts of the permit for which causes to reopen exist. If the permit is reopened, and revised, it will be reissued with the expiration date that was listed in the permit before the re-opening. [Ref: 40 CFR 70.7(f), 40 CFR 70.6(a)]

**9.B Generic Conditions**

- B.1 **Equipment Identification.** Identifying tag(s) or name plate(s) shall be displayed on the equipment to show manufacturer, model number, and serial number. The tag(s) or plate(s) shall be issued by the manufacturer or VAFB and shall be affixed to the equipment in a permanent and conspicuous position. [Ref: Rule 206]
- B.2 **Equipment Maintenance.** The equipment listed in this permit shall be properly maintained and kept in good condition at all times. The equipment manufacturer's maintenance manual, maintenance procedures and/or maintenance checklists (if any) shall be kept on site. The operator's maintenance manual, maintenance procedures and/or maintenance checklists may be used when there is no manufacturer recommended maintenance procedures. [Ref: Rule 206]
- B.3 **Circumvention (Rule 301).** A person shall not build, erect, install, or use any article, machine, equipment or other contrivance, the use of which, without resulting in a reduction in the total release of air contaminants to the atmosphere, reduces or conceals an emission which would otherwise constitute a violation of Division 26 (Air Resources) of the Health and Safety Code of the State of California or of these Rules and Regulations. This Rule shall not apply to cases in which the only violation involved is of Section 41700 of the Health and Safety Code of the State of California, or of District Rule 303.
- B.4 **Visible Emissions (Rule 302).** The permittee shall not discharge into the atmosphere from any single source of emission any air contaminants for a period or periods aggregating more than three minutes in any one hour which is:
- (a) As dark or darker in shade as that designated as No. 1 on the Ringelmann Chart, as published by the United States Bureau of Mines, or
  - (b) Of such opacity as to obscure an observer's view to a degree equal to or greater than does smoke described in subsection B.5.(a) above.
  - (c) For all combustion sources listed in Section 9.C, VAFB shall be in compliance with the requirements of this Rule in accordance with the monitoring and compliance recordkeeping procedures in Section 9.C.
- B.5 **Nuisance (Rule 303).** Except as otherwise provided in Section 41705 of the California H&SC, no person shall discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health, or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property.
- B.6 **Organic Solvents (Rule 317).** The Permittee shall comply with the emission standards listed in Section B of Rule 317. Compliance with this condition shall be based on the Permittee's compliance with the *Solvent Usage* condition of this permit.
- B.7 **Solvent Cleaning Operations (Rule 321).** The Permittee shall comply with the operating requirement, equipment requirements and emission control requirements for all solvent cleaning and solvent cleaning machines subject to this Rule. Compliance with this condition shall be based on facility inspections. [Ref: Rule 321]

- B.8 **Metal Surface Coating Thinner and Reducer (Rule 322).** The use of photochemically reactive solvents as thinners or reducers in metal surface coatings is prohibited. Compliance with this condition shall be based on the Permittee's compliance with the *Solvent Usage* condition of this permit, and facility inspections.
- B.9 **Architectural Coatings (Rule 323.1).** The Permittee shall comply with the rule requirements for any architectural coating that is supplied, sold, offered for sale, or manufactured for use within the District.
- B.10 **Disposal and Evaporation of Solvents (Rule 324).** The Permittee shall not dispose through atmospheric evaporation more than one and a half gallons of any photochemically reactive solvent per day. Compliance with this condition shall be based on the Permittee's compliance with the *Solvent Usage* condition of this permit, and facility inspections.
- B.11 **Adhesives and Sealants (Rule 353).** The permittee shall only use adhesives, adhesive bonding primers, adhesive primers, sealants, sealant primers, or any other primers, that meet the ROC requirements of Rule 353, unless they otherwise qualify for exemption per Section B of the rule. [Ref: Rule 353]

**9.C Requirements and Equipment Specific Conditions**

**C.1 Turbine Generators and Pony Engines.** The equipment items are included in this emissions unit category:

**Table 9.1.1 Turbine Generators and Pony Engines**

Device No.	Name
006080	Turbine A
006081	Turbine B
006082	Turbine C
006083	Turbine D
006084	Turbine E
104867	Pony Starter Engine 818
104868	Pony Starter Engine 820
104869	Pony Starter Engine 821
104870	Pony Starter Engine 822
104871	Pony Starter Engine 823

(a) **Emission Limits.** The hourly and daily mass emissions from each turbine shall not exceed the values listed in Table 5.1-3e except for specified periods during any of the turbine start-up, shutdown, fuel switching or bus transient events defined in 1, 2, 3, and 4 below. The sum of the annual mass emissions from each turbine shall not exceed the totals listed in Table 5.1-4e except for specified periods during any of the turbine start-up, shutdown, fuel switching or bus transient events defined in 1, 2, 3, and 4 below. The ton/yr emissions calculated for each individual turbine are not emission limits. Compliance shall be based on the operational, monitoring, recordkeeping and reporting conditions of this permit. The following limits shall also apply:

(i) Individual turbine emissions shall not exceed the emission limits listed below when fired on the fuels listed in the table:

**Table 9.1.2 Exhaust Concentration Limits**

Pollutant	Exhaust Concentration Limit Operation on Natural Gas	Exhaust Concentration Limit Operation on Diesel
NO <sub>x</sub>	22	32
NMHC	17	23
CO	No ppmvd limit applicable	No ppmvd limit applicable
PM	No ppmvd limit applicable	No ppmvd limit applicable
SO <sub>2</sub>	No ppmvd limit applicable	42

Notes:

1. All above concentration limits by volume, dry, corrected to 15% O<sub>2</sub>, regardless of turbine load.
2. Emission limitations for PM are based on emission factors from the Environmental Protection Agency's AP-42, Fifth Edition (April 2000).
3. Turbine emission limitations for SO<sub>2</sub> are based on mass balance using fuel sulfur data obtained in accordance with the FUMP.
4. Turbine emission limitations for NO<sub>x</sub> and CO will be verified through CEMS data and source testing.
5. Turbine emission limitations for NMHC are based on annual source test results at a representative operating condition. [Ref: ATC 6117]

- (ii) Transient Events. The following transient, events as defined in items 1, 2, 3, and 4 below, may cause emissions limitations to be exceeded:
- (1) *Start-Up Transients*. During turbine start-up, water injection does not occur at the rates required by Condition C.1(b)(vi) (*Turbine Water Injection Requirements*) until the turbine has warmed up and the turbine load is increased above 750 kW.
  - (2) *Shutdown Transients*. Turbine shutdown sequence directs termination of water injection prior to turbine shutdown to allow the turbine to dry out.
  - (3) *Fuel Switching Transients*. Turbine fuel switching comprises the transition from diesel fuel to natural gas firing or from natural gas firing to diesel fuel firing.
  - (4) *Bus Transients*. Bus transients include bus switching and bus load changes. Bus switching occurs when power is redirected from one bus to another. During bus switching the turbine is kept operating, the power plant is disconnected from commercial power, and no power is available to operate the water injection system. Bus load changes result in a rapid change in turbine load with a delayed change in water injection. However, keeping the turbine operating during bus transients eliminates the need to shut down and start up the turbine(s), and thus minimizes the emissions associated with those transient events.

A transient event shall be deemed to have ended when all applicable emission limitations (i.e., NO<sub>x</sub> and CO) remain in compliance based on six consecutive one-minute CEMS compliant parameter data points. Emission exceedances produced during any of the above-defined activities that last no longer than thirty (30) minutes per each transient event shall not constitute a deviation from the permit, provided the following requirements are satisfied. Each transient event shall be recorded in an operator log. The resulting emissions from such events shall be properly offset as required by the *Offsets* condition of this permit.  
[Ref: ATC 6117]

- (b) Operational Restrictions. The permitted equipment is subject to the following operational restrictions:
- (i) *Turbine (Natural Gas) Hours of Operation*: The combined hours of operation of the turbines on natural gas shall not exceed a total of 2,908 turbine hours per calendar quarter, or, alternatively, all turbine operations may consume no more than 148.36 MMscf/quarter of 1,050 Btu/scf (high heating value = HHV) natural gas if no diesel fuel is used. Within any quarter, if diesel fuel operations occur, the maximum natural gas consumption for the quarter is calculated according to the following equation:

Maximum NG Consumption (MMscf/qtr) =

$123.79 \text{ MMscf/qtr} + [(24.57 \text{ MMscf/qtr}) * (1.0 - \text{"FO"} / 55,511 \text{ gallons diesel fuel})]$

where: "FO" equals the actual gallons of diesel fuel consumed during the subject quarter, not to exceed 55,511 gallons.

[Ref: ATC 6117]

- (ii) *Turbine (Diesel fuel) Hours of Operation:* If natural gas fired operations of the turbines do not exceed 123.79 MMscf/quarter, then operation of the turbines on diesel fuel shall not exceed a total of 180 turbine hours per calendar quarter, or 55,511 gallons of diesel fuel. No more than four (4) turbines shall operate simultaneously on diesel fuel combustion. During a calendar quarter, if natural gas fired turbine operations exceed 123.79 MMscf for the quarter, then the following diesel fuel operations limit applies:

Diesel fuel Limit (gallons for the quarter) =

$(55,511 \text{ gallons diesel fuel}) * [1.0 - \text{"FG"} / 24.57 \text{ MMscf natural gas}]$

where: "FG" represents the actual natural gas fuel usage in excess of 123.79 MMscf for the applicable quarter (i.e., FG = Actual total natural gas consumption (MMscf/qtr) - 123.79).

[Ref: ATC 6117]

- (iii) *Natural Gas Sulfur Limit:* The turbines when fired on natural gas fuel shall use fuel gas that meets PUC quality standards. This natural gas fuel shall not exceed a sulfur content of 24 ppmv (as total sulfur). Compliance with this condition shall be demonstrated annually by compliance with the April 12, 2010, or most current, District-approved FUMP. [Ref: ATC 6117]
- (iv) *Turbine Diesel Fuel Sulfur Limit:* The sulfur content of the diesel fuel shall not exceed 0.20 percent on a weight basis. Compliance with this condition shall be demonstrated annually through the April 12, 2010 FUMP revision, or the most current, District-approved FUMP. [Ref: ATC 6117]
- (v) *Pony Starter Engine Diesel Fuel Sulfur Limit:* The sulfur content of the diesel fuel shall not exceed 0.0015 percent on a weight basis. Compliance with this condition shall be demonstrated annually through the April 12, 2010 FUMP revision, or the most current District-approved FUMP. [Ref: ATC 6117]
- (vi) *Turbine Water Injection Requirements:* Except for loads below 750 kW, and during brief periods not to exceed thirty (30) minutes for startup transients, shutdown transients, fuel switching transients, or bus transients as defined above, water injection shall be used at all times when the system is operational. The water-fuel mass ratio shall be maintained at a minimum of 1:1 + 10% when the system is fired on diesel fuel, and at a minimum of 0.8:1 + 10% when fired on natural gas. During the annual source tests, if the water-fuel mass ratio at which

compliance is demonstrated is greater than the applicable minimum specified mass ratio above, the water-fuel mass ratio set point of the source test shall become the minimum allowed ratio until the next scheduled source test is performed. [Ref: ATC 6117]

- (vii) *Carbon Monoxide (CO) and Non-Methane Hydrocarbon (NMHC) Oxidation Catalyst Replacement:* To prevent a long period of excess CO and NMHC emissions associated with partial or complete failure of a catalyst bed, VAFB shall remove from service any turbine served by a failed catalyst bed until the catalyst is replaced by a new or reconditioned unit. During the replacement period, VAFB may operate any of the other turbines served by a properly maintained and functioning catalyst bed, or use utility-generated electricity (i.e. grid power). [Ref: ATC 6117]
- (viii) *Catalyst System Replacements:* Future exhaust catalyst replacements are subject to written District approval prior to its replacement. District approval of such catalyst replacement shall be subject to a demonstration by VAFB that the replacement catalyst meets the equivalent engineering, performance, and emission reduction requirements of the catalysts specified herein. The District may require exhaust emissions source tests of the replacement catalyst, as stipulated by the Source Test condition of this permit, to validate performance requirements are met. Any VAFB request for catalyst change out shall be submitted no later than thirty (30) calendar days prior to the desired change out date. [Ref: ATC 6117]
- (ix) *Pony Starter Engines Operating Hours:* Each internal combustion pony starter engine shall operate no more than 20 hours per calendar year. [Ref: ATC 6117]
- (x) *Pony Starter Engine Maintenance:* The engines must be operated and maintained according to the manufacturer's written instructions, or VAFB shall develop its own maintenance plan to minimize emissions. In addition, the operator shall:
  - (1) change the oil and filter every 500 hours of operation or annually, whichever comes first;
  - (2) inspect the air cleaner every 1,000 hours of operation or annually, whichever comes first;
  - (3) inspect all hoses and belts every 500 hours of operation or annually, whichever comes first.

In lieu of changing the oil, the operator may analyze the oil of each engine every 500 hours of operation or annually, whichever occurs first. The analysis shall measure the Total Base Number, the oil viscosity, and the percent water content. The oil and filter shall be changed if any of the following limits are exceeded:

- (1) The tested Total Base Number is less than 30 percent of the Total Base Number of the oil when new.

- (2) The tested oil viscosity has changed by more than 20 percent from the oil viscosity when new.
- (3) The tested percent water content (by volume) is greater than 0.5 percent.

[Ref: NESHAP ZZZZ]

(c) Monitoring. The permitted equipment is subject to the following monitoring requirements:

- (i) Each pony starter engine shall be equipped with a non-resettable hour meter. The operating hours of each ICE shall be recorded the first working day of each calendar quarter. [Ref: NESHAP ZZZZ]
- (ii) The operator shall inspect each pony starter engine air filter every 1,000 hours of operation or annually, whichever occurs first, and replace the air filter if necessary. [Ref: NESHAP ZZZZ]
- (iii) The operator shall inspect each pony starter engine's hoses and belts every 500 hours of operation or annually, whichever occurs first, and replace the belts and hoses if necessary. [Ref: NESHAP ZZZZ]
- (iv) Each turbine shall be equipped with a non-resettable hour meter. The operating hours of each turbine shall be recorded the first working day of each calendar quarter. The log shall break down the number of hours each turbine operated on gas and operated on diesel. [Ref: ATC 6117]
- (v) The volume of natural gas (scf) burned at the SVPP shall be measured through the use of a calibrated pressure and temperature corrected meter or through the use of a District-approved alternate method. The meter shall be calibrated according to manufacturer's specifications and the calibration records shall be made available to the District upon request. [Ref: ATC 6117]
- (vi) The volume of diesel consumption (gallons) per month and per calendar quarter shall be monitored through a level gauge and a log of the volume of diesel added to the tank. If the turbines convert to routine operation on diesel, VAFB shall install a calibrated District-approved diesel fuel meter within 90-days after conversion to operation on diesel. [Ref: ATC 6117]
- (vii) The total number of turbines operating simultaneously on diesel fuel shall be monitored and logged. [Ref: ATC 6117]
- (viii) VAFB shall determine the total sulfur content for the natural gas consumed at the SVPP on an annual basis. If this data is not available from the gas utility company, VAFB shall measure the total sulfur content of the gaseous fuel in accordance with ASTM-D1072 or a District approved equivalent method. [Ref: ATC 6117]
- (ix) The sulfur content (percent by weight), and the HHV of the diesel fuel for both the turbines and pony starter engines shall be monitored in accordance with Section 2.2.1 of the FUMP. [Ref: ATC 6117]

- (d) Recordkeeping. The following records shall be maintained:
- (i) The quarterly and annual operating hours of each of the pony starter engines. [Ref: NESHAP ZZZZ]
  - (ii) Each pony starter engine shall be equipped with a non-resettable hour meter. The operating hours of each ICE shall be recorded the first working day of each calendar quarter. [Ref: NESHAP ZZZZ]
  - (iii) The date of each pony starter engine oil change, the number of hours of operation since the last oil change, and the date and results of each oil analysis. [Ref: NESHAP ZZZZ]
  - (iv) The date of each pony starter engine air filter inspection and the number of hours of operation since the last air filter inspection. Indicate if the air filter was replaced as a result of the inspection. [Ref: NESHAP ZZZZ]
  - (v) The date of each pony starter engine's hose and belts inspection and the number of hours of operation since the last hose and belt inspection. Indicate if any hose or belt was replaced as a result of the inspection. [Ref: NESHAP ZZZZ]
  - (vi) The total hours of turbine operations on natural gas per calendar quarter. [Ref: ATC 6117]
  - (vii) The total hours of turbine operations on diesel per calendar quarter. [Ref: ATC 6117]
  - (viii) The total natural gas consumption in MMscf of natural gas per calendar quarter. If the calendar quarter operating hours exceed a total of 2,908 turbine-hours, records shall include monthly fuel use in scf and monthly higher heating value of fuel in Btu/scf as provided by the fuel supplier. [Ref: ATC 6117]
  - (ix) The total number of turbines operating simultaneously on diesel fuel shall be logged. [Ref: ATC 6117]
  - (x) The sulfur content (percent by weight), and the HHV of the diesel fuel for both the turbines and pony starter engines. [Ref: ATC 6117]
  - (xi) The water-fuel ratio as determined from the most recent source test report. [Ref: ATC 6117]
  - (xii) Records per Rule 333.B.2 for the operation of each of the five internal combustion pony starter engines. [Ref: Rule 333]
  - (xiii) Additional recordkeeping as required by the Fugitive I&M Program condition of this permit. [Ref: ATC 6117]
- (e) Reporting. On a semi-annual basis, a report detailing the previous six month's activities shall be provided to the District. The report must list all data required by the Semi-Annual Compliance Verification Reports condition of this permit. [Ref: Rule 1303, ATC 6117]

- (f) Source Testing. The permittee shall conduct source testing of air emissions and process parameters listed in Table 4.16.1 of this permit. Source testing shall be performed on an annual schedule using September as the anniversary date. Diesel fuel-fired source testing shall be required for any turbine that uses diesel fuel for more than 200 hours in the 12 months prior to the source test anniversary date. More frequent source testing may be required if a catalyst change occurs, if the equipment does not comply with permitted limitations or if other compliance problems, as determined by the District, occur. In addition, the source test provisions of permit condition C.16 shall apply. [Ref: Rule 1303, ATC 6117]
- (g) Offsets. The permittee shall comply with the offset requirements of Regulation VIII by maintaining the Emission Reduction Credits identified in Table 7.1 and Table 7.2.
- (h) Power Plants #2, #4, and #6 shall not be operated. [Ref: ATC 6117]
- (i) VAFB shall maintain the 0.7 mile landfill asphalt road in a condition such that the surface is free of substantial defects (e.g., repairing of pot-holes, surface breakage). The road shall be maintained at all times to ensure that particulate emissions are minimized due to dirt accumulation on the road surface by the use of a water truck or street sweeper. [Ref: ATC 6117]
- (ii) Phase II vapor recovery systems for the North Base Motor Vehicle Fuel Facility (MVFF) must be maintained. [Ref: ATC 6117]
- (iii) VAFB shall maintain offsets for the emission increases related to the operation of the SVPP as detailed in Tables 15-1 and 15-2 of this permit.

**Table 9.1.3 Pre-1990 SVPP Emissions and ERCs  
(Tons/Quarter)**

	<b>NOx</b>	<b>ROC</b>	<b>SOx</b>	<b>PM</b>
Turbine Emissions	6.756	1.231	0.776	0.978
Fugitive Emissions	0.000	0.336	0.000	0.000
<b>Total Emissions</b>	<b>6.756</b>	<b>1.567</b>	<b>0.776</b>	<b>0.978</b>
<b>ERCs Required (1.2 to 1 Ratio)</b>	<b>8.107</b>	<b>1.880</b>	<b>0.931</b>	<b>1.174</b>
ERCs from Power Plants #4 & #6	15.397	0.401	2.310	1.032
ERCs from No. & So. Base MVFFs	0.000	1.339	0.000	0.000
<b>Total ERCs</b>	<b>15.397</b>	<b>1.739</b>	<b>2.310</b>	<b>1.032</b>
<b>ERC Deficit</b>	<b>0.000</b>	<b>0.141</b>	<b>0.000</b>	<b>0.142</b>
ERCs from Certificate 001, 06/31/97	0.000	0.141	0.000	0.167

**Table 9.1.4 Post-1990 SVPP Emission Increases and ERCs (Tons/Quarter)**

	<b>NO<sub>x</sub></b>	<b>ROC</b>	<b>SO<sub>x</sub></b>	<b>PM</b>
Emission Increase from ATC/PTO 6117-07	0.000	0.090	0.250	0.000
<b>ERCs Required (1.2 to 1 Ratio)</b>	<b>0.000</b>	<b>0.108</b>	<b>0.300</b>	<b>0.000</b>
ERCs Provided by ERC Certificate #56	0.000	0.108	0.000	0.000

[Ref: ATC 6117]

- (i) Engine Identification. Each pony starter ICE shall be identified with a permanently affixed plate, tag or marking, referencing the ICE's make, model, serial number, rated Bhp and corresponding RPM. The tag shall be made accessible and legible to facilitate District inspection of the ICEs. [Ref: ATC 6117]
  
- (j) Advance Notification - Diesel fuel Operations. VAFB shall provide reasonable advance written notification of any scheduled diesel fuel operations. However, if the reason for diesel fuel operation is beyond the reasonable control of VAFB, written notification shall be provided within four (4) hours of the start of the following business day. Such notification shall include the reason(s) for the diesel fuel use and the duration of diesel fuel operations. Written notification may be by facsimile (fax) machine or an acceptable equivalent method. [Ref: ATC 6117]
  
- (k) Fugitive Inspection & Maintenance (I&M) Program. VAFB shall conduct a fugitive hydrocarbon inspection and maintenance (I&M) program for the SVPP. The I&M program shall be maintained in accordance with the I&M Plan approved by the District. Pursuant to the I&M Plan, recordkeeping and reporting requirements shall be maintained by the permittee and reports shall be made available to the District annually or upon request. [Ref: ATC 6117]

C.2 **External Combustion Equipment.** The external combustion equipment listed in Attachment 10.2 are included in this emissions unit category. The following conditions shall apply:

- (a) Emission Limits: The following emission limits shall apply. Compliance shall be based on the operational, monitoring, recordkeeping, and reporting conditions of this permit:
  - (i) *Mass Emission Limits.* Mass emissions from the external combustion units subject to this permit shall not exceed the limits listed in Table 5.1-3a and Table 5.1-4a. These limits are only federally-enforceable for the units which are subject to NSR, as indicated in Attachment 10.10. [Ref: Rule 205.C]
  - (ii) *Emission Standards.* Each external combustion unit shall not exceed the exhaust concentration limits specified in Attachment 10.2. [Ref: Rule 342, 360, or 361 as applicable]
- (b) Operational Requirements: The equipment permitted herein is subject to the operational requirements listed in Attachment 10.2. The following additional requirements apply:
  - (i) *Heat Input Limits.* The hourly, daily and annual heat input limits to each unit shall not exceed the values listed in Table 5.1-1a. These limits are based on the design rating of the unit and the annual heat input value as listed in the permit application. The fuel heat content listed in Table 5.1-1a shall be used for determining compliance. These limits are only federally-enforceable for the units which are subject to NSR, as indicated in Attachment 10.10. [Ref: Rule 205.C]
  - (ii) *Public Utility Natural Gas Fuel Sulfur Limit.* The total sulfur and hydrogen sulfide (H<sub>2</sub>S) content (calculated as H<sub>2</sub>S at standard conditions, 60°F and 14.7 psia) of the public utility natural gas fuel shall not exceed 80 ppmv and 4 ppmv respectively. Compliance with this condition shall be based on billing records or other data showing that the fuel gas is obtained from a public utility gas company. These limits are only federally-enforceable for the units which are subject to NSR, as indicated in Attachment 10.10. [Ref: Rule 205.C]
  - (iii) *Propane Fuel Sulfur Limit.* The total sulfur content (calculated as total sulfur at standard conditions, 60° F and 14.7 psia) of the propane fuel gas shall not exceed 239 ppmv. Compliance with this condition shall be based on lab analysis records (a minimum of one analysis per year is required) showing that the propane fuel meet GPA standards for commercial/HD-5 grade propane. These limits are only federally-enforceable for the units which are subject to NSR, as indicated in Attachment 10.10. [Ref: Rule 205.C]
  - (iv) *Rule 342 Low Use Exemption.* Units that have obtained District approval of the low use exemption under Section D.2 of Rule 342 that exceed the 9.000 billion Btu/year heat input limit shall be in violation of Rule 342. The permittee may seek variance relief pursuant to the provisions of District Regulation V. [Ref: Rule 342]
  - (v) *Rule 360 Compliance.* Any unit rated at or less than 2.000 MMBtu/hr and manufactured and/or installed after October 17, 2003 shall be certified per the provisions of Rule 360 (as revised on March 15, 2018). An ATC/PTO permit

shall be obtained prior to installation of any grouping of Rule 360 applicable units whose combined system design heat input rating exceeds 2.000 MMBtu/hr.

(vi) *Rule 361 Compliance - Existing Units.* On or before January 1, 2020, the owner or operator of any unit shall demonstrate final compliance with Rule 361. Any existing unit that is replaced or modified is subject to requirements of Rule 361 and shall first obtain a District ATC permit prior to installation or modification. [Ref: Rule 361]

(c) **Monitoring:** The equipment permitted herein is subject to the following monitoring requirements:

(i) *Fuel Usage Metering.* The volume of fuel gas used in these units shall be determined by one of the methods listed below. Attachment 10.2 identifies which method is approved for each unit. Except for changing to the Default Rating Method, written District approval is required to change to an alternate method.

(1) Fuel Use Meter. The volume of fuel gas (scf) used shall be measured through the use of a dedicated District-approved fuel meter. The meter shall be temperature and pressure corrected. The fuel meter shall be accurate to within five percent (5%) of the full scale reading. The meter shall be calibrated according to manufacturer's specifications and the calibration records shall be made available to the District upon request.

(2) Hour Meter. The volume of fuel gas (scf) used in the units shall be determined through the use of a dedicated District-approved hour meter or District-approved electronic management system that is capable of tracking and logging the unit's time on/off. Fuel usage shall be calculated based on the actual hours of operation (hours/year) times the heat input rating of the unit (Btu/hr) divided by the District-approved heating value of the fuel (Btu/scf).

(3) Default Rating Method. The volume of fuel gas (scf) used shall be reported as the permitted annual heat input limit for the unit (Btu/year) divided by the District-approved heating value of the fuel (Btu/scf).

[Ref: Rule 1303, 342, 360, or 361 as applicable]

(ii) *Compliance Determinations.* The following compliance determinations shall apply:

(1) New/Modified Units Rated Greater Than 2.000 and Less Than 5.000 MMBtu/hr – Fired on Utility Natural Gas. Any owner or operator of any unit fired exclusively on utility natural gas shall be tuned-up pursuant to the requirements of Section I of Rule 361. The District may, at its discretion, require any owner or operator of any unit subject to this rule to perform a source test per the test methods listed in Section J. An owner or operator may choose to comply with this section by performing District-approved source testing in lieu of tune-ups. Such source testing shall comply with the requirements of Section J.

- (2) Units Rated at 2.000 MMBtu/hr or Below. Units in this heat input range shall be tuned-up following the manufacturer's recommended tuning procedure or an alternative tuning procedure approved by the District. Attachment 10.2 defines the required tuning frequency.
- (3) Source Testing Units Rated greater than 2.000 MMBtu/hr. Source testing shall be performed at the frequency specified in Attachment 10.2 of air emissions and process parameters listed in Table 4.16.2 of this permit. The month of the first source test shall be the source test anniversary date. More frequent source testing may be required if the equipment does not comply with permitted limitations or if other compliance problems, as determined by the District, occur. In addition, the source test provisions of permit condition C.16 shall apply.
- (4) Tuning Units Rated Greater Than 2.000 and Less Than 5.000 MMBtu/hr. Notwithstanding the compliance determinations listed below, the District may, at its discretion, require the permittee to perform a source test to demonstrate compliance:
  - a. The permittee shall perform tuning at the frequency specified in Attachment 10.2. Tuning must follow the *Tune-Up Procedures* specified in the most current version of District Rule 361, including as-found and post-adjustment CO and NO<sub>x</sub> measurements, portable analyzer calibration, recordkeeping and reporting.
  - b. In lieu of tuning, the permittee may perform District-approved source testing. Such source testing shall be consistent with the condition District's C.2(c)(ii)(3) above. A written source test plan shall be submitted to the District for review and approval at least 30 calendar days prior to testing.
- (5) Tuning Units Rated 5.000 MMBtu/hr and Greater. The permittee shall tune units granted the low use exemption following the tuning procedure in Attachment 1 of Rule 342 or an alternative tuning procedure approved by the District. Attachment 10.2 identifies the required tuning frequency.
- (6) Non-Operational Test Firing. No tune-up is required during a calendar year for any unit that is not operated during that calendar year. The unit may be test fired to verify availability for its intended use but once test firing is completed it shall be shut down. If test firing exceeds 24 hours per year, then tune-ups shall be conducted as specified in Attachment 10.2.
- (7) Existing Units Rated Greater Than 2.000 and Less Than 5.000 MMBtu/hr. Existing units (i.e., units installed prior to January 17, 2008) are subject to tuning and source testing requirements beginning January 1, 2020. [Ref: Rule 342, 360, or 361 as applicable]

- (d) Recordkeeping: The following records shall be maintained:
- (i) *Fuel Use Units Rated Greater than 2.000 MMBtu/hr and Less Than 5.000 MMBtu/hr*. The volume of fuel gas used each year (scf) as determined by the fuel use monitoring option listed in Attachment 10.2. Units that track fuel use using the Default Rating Method are not required to record the fuel usage. Units subject to the Rule 361.D.2 low use exemption shall record fuel use on a monthly and annual basis for each fuel type. [Ref: Rule 1303, 360, or 361 as applicable]
  - (ii) *Tuning Records*. For units subject to Rule 361 tuning requirements, copies of all *Rule 361 Tune-Up Reports* as specified in Step 12 of Procedure A and/or Step 6 of Procedure B of the tuning Attachment to Rule 361. For units subject to the Rule 342 or Rule 360, maintain documentation verifying the required tune-ups, including a complete copy of each tune-up report. [Ref: Rule 1303, 342, 360, or 361 as applicable]
  - (iii) *Non-Operational Test Firing*. A log that documents the date and number of hours that the unit was test fired in accordance with Rule 361.I.3. [Ref: Rule 361]
  - (iv) *Source Test Reports*. Source test reports for all District-required source tests. [Ref: Rule 342 or 361 as applicable]
  - (v) *Fuel Use Meter Calibration Records*. Calibration records of District-approved fuel use meters. [Ref: Rule 1303, 342, or 361 as applicable]
  - (vi) *Maintenance Logs*. Maintenance logs for the boilers, emission control systems and fuel flow meters (as applicable). [Ref: Rule 1303, 342, or 361 as applicable]
  - (vii) *Propane Fuel Sulfur Content*. At least one lab analysis per calendar year or documentation from the supplier showing that the total sulfur content of the fuel gas purchased meets GPA standards for commercial/HD-5 grade propane. [Ref: Rule 1303, 342, 360, or 361 as applicable]
- (e) Reporting. On a semi-annual basis, a report detailing the previous six month's activities shall be provided to the District. The report must list all data required by permit condition 9.C.12 (Semi-Annual Compliance Verification Reports) of this permit. [Ref: Rule 1303]
- (f) Temporary External Combustion Unit Replacement: Permitted units may be replaced temporarily only if the requirements listed below are satisfied:
- (i) The permitted unit is in need of routine repair or maintenance.
  - (ii) The permitted unit that is undergoing routine repair or maintenance is returned to its original service within 180 days of installation of the temporary unit.
  - (iii) The existing units must meet the emission limits established in Rule 360/361/342, as applicable.

- (iv) The fuel usage for the existing units must be monitored using District approved, pressure and temperature correcting fuel meters.
- (v) The temporary replacement unit has the same or lower manufacturer MMBtu rating and same or lower potential to emit of each pollutant as the permitted unit that is being temporarily replaced. At the written request of the permittee, the District may approve a replacement unit with a larger rated MMBtu rating than the permitted unit if the proposed temporary unit has manufacturer guaranteed emissions (for a brand new unit) or source test data (for a previously used unit) less than or equal to the permitted unit.
- (vi) The temporary replacement unit shall comply with all rules and permit requirements that apply to the permitted unit that is undergoing routine repair or maintenance.
- (vii) For each permitted unit to be temporarily replaced, the permittee shall notify the District within 14-days of the temporary unit being installed. (Attn: VAFB Project Manager).

Any unit in temporary replacement service shall be immediately shut down if the District determines that the requirements of this condition have not been met. [Ref: Rule 206]

- (g) Emergency External Combustion Unit Replacements. Permitted units may be replaced due to emergency conditions prior to obtaining a final ATC only if all the requirements listed below are satisfied:
  - (i) The unit breaks down and must be replaced by a new unit;
  - (ii) Any boiler, water heater, process heater or steam generator rated greater than or equal to 75,000 Btu/hr up and less than or equal to 2.000 MMBtu/hr shall be certified per the provisions of Rule 360.
  - (iii) Any boiler, water heater, process heater or steam generator rated greater than 2.000 MMBtu/hr and less than 5.000 MMBtu/hr shall be guaranteed by the manufacturer to meet the emission limits of Rule 361.
  - (iv) Any boiler, water heater, process heater or steam generator rated greater than or equal to 5.000 MMBtu/hr shall be guaranteed by the manufacturer to meet the emission limits of Rule 342.
  - (v) Notwithstanding items (ii) - (iv) above, if the existing unit being replaced is subject to an emissions standard that is more stringent than the applicable Prohibitory rule, then the new replacement unit must also meet the more stringent standard. In such cases, the permittee shall provide manufacturer documentation that guarantees the new replacement unit meets the more stringent standard.
  - (vi) The facility provides “good cause” (in writing) for the immediate need to install a new replacement unit before an ATC can be obtained for a new unit. The new unit must comply with the operational requirements and emission limits for new units.

- (vii) The “good cause” notification shall include the following:
  - (1) Manufacturer’s specifications and a copy of the emission certification or guarantee for the new unit;
  - (2) A calculation of the daily and annual potential to emit of the new unit, based on operating 24 hours per day and 8,760 hours per year at the unit’s rated heat input.
  - (3) A demonstration that the potential to emit of the new unit is below the BACT threshold for all pollutants.
  - (4) A demonstration that the project does not result in the stationary source triggering the emissions offset threshold for all pollutants. If emission offsets are triggered, the permittee shall provide adequate emission reductions credits as required by Regulation VIII.
- (viii) An Authority to Construct application for the new replacement unit is submitted to the District within 15 calendar days of the existing unit being replaced and the final District ATC for the new replacement unit is obtained no later than 180 days from the date of replacement.
- (ix) The facility shall obtain written District approval prior to installing the new replacement unit.

For the purpose of this condition, an external combustion unit replacement includes replacement of burner assemblies. The District’s written approval in (ix) above shall act as a temporary ATC pursuant to District Rule 201 and Regulation VIII.

Any external combustion unit installed pursuant to this permit condition shall be immediately shut down if the District determines that the requirements of this condition have not been met. Such notification shall be in writing from the District.

[Ref: Rule 206]

C.3 **Stationary Emergency Standby Internal Combustion Engines.** The equipment listed in Attachment 10.3 are included in this emissions unit category. The following conditions shall apply:

- (a) Emission Limits: The mass emissions from the equipment permitted herein shall not exceed the values listed in Table 5.1-3b and 5.1-4b. Compliance shall be based on the operational, monitoring, recordkeeping and reporting conditions of this permit. These limits are only federally-enforceable for the units which are subject to NSR, as indicated in Attachment 10.10. [Ref: Rule 205.C]
  - (i) The following emission limits apply to Device# 112253 (Bldg 7425) only: NO<sub>x</sub> 500 ppmv; ROC 750 ppmv; CO 4,500 ppmv. Concentrations measured at 15% O<sub>2</sub>. [Ref: Rule 333]
  
- (b) Operational Restrictions: The internal combustion engines are subject to the operational hour restrictions listed in Attachment 10.3. The following additional requirements listed below also apply. Emergency use operations, as defined in the ATCM<sup>5</sup>, have no operational hours limitations. These limits are only federally-enforceable for the units which are subject to NSR. [Ref: Rule 205.C]
  - (i) The following restrictions apply to Device #s 384066 (Bldg 2520), 111765 (Bldg 929), and 109236 (Bldg 21203) only:
    - (1) *Minimum Exhaust Temperature for Filter Regeneration.* The engine must operate at a load level to achieve sufficient exhaust temperature of 464°F (240°C) for regeneration for 40% of the duty cycle. Operation at lower temperatures is allowed up to 200 consecutive hours, but the CRT filter may require a maintenance step of accumulated soot burning by operating above 572 °F (300°C) for five to ten hours.

The permittee shall notify the District, in writing, any time operations exceed 200 consecutive hours at exhaust temperature under 464°F (240°C). The written notification shall include a technical discussion detailing why maintenance to clean the filter has not occurred. If the District does not concur with the technical justification provided, the engine shall be tagged out of service until the required maintenance to clean the filter is completed. This notification is not required if maintenance is taken to clean the filter before exceeding the 200 hours.
    - (2) *Maximum Idle Operations.* Each engine may not operate at an idle for more than 12 consecutive hours.
    - (3) *Regeneration Requirement.* Each engine may have no more than 24 cold starts with 30 minute idle sessions each, before regeneration of the diesel particulate filter is required.
    - (4) *Filter Cleaning.* Each engine may operate no more than 5,000 hours before each diesel particulate filter must be cleaned.

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<sup>5</sup> As used in the permit, “ATCM” means Section 93115, Title 17, California Code of Regulations. Airborne Toxic Control Measure for Stationary Compression Ignition (CI) Engines

- (5) *Diagnostic Module Display Warning and Alarm Response Actions.* The response actions defined in the District-approved VAFB Johnson Matthey diesel particulate filter (DPF) Operation and Maintenance Plan shall be implemented in the event of diagnostic module (CRTdm) warnings and alarms. [Ref: Rule 205.C]
- (ii) The following restrictions apply to Device #114491 (Building 511) only:
- (1) *Minimum Exhaust Temperature for Filter Regeneration:* The engine must operate at the load level required to achieve 464°F (240°C) for a minimum of 40 percent of the engine's operating time and a NO<sub>x</sub>/PM ratio of 15 at ≥ 300°C and 20 at ≤ 300°C. [Re: EO DE-08-009-03]
- (2) *Exhaust Temperature:* The engine may not operate with an exhaust temperature below 464°F for more than 720 consecutive minutes. [Re: EO DE-08-009-03]
- (3) *Exhaust Temperature Notification:* The permittee shall notify the District, in writing, any time operations exceed 720 consecutive minutes at exhaust temperature under 464°F (240°C). The written notification shall include a technical discussion detailing why maintenance to clean the filter has not occurred. If the District does not concur with the technical justification provided, the engine shall be tagged out of service until the required maintenance to clean the filter is completed. This notification is not required if maintenance is taken to clean the filter before exceeding the 720 minutes. [Re: EO DE-08-009-03]
- (4) *NO<sub>x</sub>/PM Ratio Requirements:* The engine shall operate with a NO<sub>x</sub>/PM ratio of at least 8. [Re: EO DE-08-009-03]
- (5) *Cold Starts and Idle Sessions:* The permittee shall not conduct more than Twenty-four (24) consecutive cold starts and 30 minute idle sessions between each regeneration of the DPF. [Re: EO DE-08-009-03]
- (6) *Filter Cleaning:* The filter shall be cleaned according to manufacturer's instructions after any of the following:
- a. 150 half-hour cold starts with associated regenerations
  - b. 1,000 hours of emergency/standby use; or
  - c. Whenever the diagnostic module indicates a filter cleaning is required. [Re: EO DE-08-009-03]
- (7) *Diagnostic Module Display Warning and Alarm Response Actions:* The response actions defined in the District-approved VAFB Johnson Matthey DPF Operation and Maintenance Plan shall be implemented in the event of diagnostic module (CRTdm) warnings and alarms.

(8) *Emission Test Data.* VAFB may voluntarily perform emission source testing of the engine without being subject to District review or approval. Test results shall not be used for compliance purposes if the following occur:

- a. VAFB provides the District a copy of the source test plan,
- b. VAFB provides the District a copy of the Source Test Report (including preliminary test results), and
- c. VAFB takes steps to remedy any results that show actual emissions greater than what was applied for.

Notwithstanding the above, the District, at its discretion, may at any time require a compliance emissions source test. [Ref: ATC 13847]

(9) *Emission Test Hours:* Annual emission testing hours shall not exceed 10 hours/year. These hours do not count towards maintenance and testing limits. This 10 hours/year limit may be extended by the District for good cause and if a written request is made to the District. [Ref: ATC 13847, Rule 205.C]

(iii) The following restrictions apply to Device #111765 (Bldg 929) only:

(1) *Emission Test Data.* VAFB may voluntarily perform emission source testing of the engine without being subject to District review or approval. Test results shall not be used for compliance purposes if the following occur:

- a. VAFB provides the District a copy of the source test plan,
- b. VAFB provides the District a copy of the Source Test Report (including preliminary test results), and
- c. VAFB takes steps to remedy any results that show actual emissions greater than what was applied for.

Notwithstanding the above, the District, at its discretion, may at any time require a compliance emissions source test. [Ref: ATC 12843]

(2) *Emission Test Hours:* Annual emission testing hours shall not exceed 10 hours per year. These hours do not count towards maintenance and testing limits. This 10 hours per year limit may be extended by the District for good cause and if a written request is made to the District. [Ref: ATC 12843, Rule 205.C]

- (iv) The following restrictions apply to Device #112253 (Bldg 7425 Training Engine) only:
  - (1) *Heat Input.* Maximum heat input to the engine listed in this permit condition is restricted to 11.18 MMBtu/day, 223.56 MMBtu/quarter, and 894.24 MMBtu/year.
  - (2) *Engine Hours of Operation.* The engine listed in this permit condition shall not operate more than 7.5 hours/day, 150 hours/quarter and 600 hours/year. [Ref: Rule 205.C]
  
- (v) The following restrictions apply to Device #113280, 113281, 113282, 113283, 113284 only (Portable Engines):
  - (1) *Stationary Use:* The engines listed in this condition, even if they are capable of being transported or conveyed, shall function as stationary engines at the locations listed in this permit and at other locations on Vandenberg Air Force Base. As such, these engines are subject to the requirements Airborne Toxic Control Measure for Stationary Compression Ignition Engines, including the limits on the hours of operation for maintenance and testing. When not required for use as a backup generator at a specific site, these engines may be stored at a central facility. [Ref: Rule 205.C]
  
- (vi) The following restrictions apply to Device #384078 (Building 1594) only:
  - (1) *Engine Use at Building 1594:* The permittee may operate the engine specified in this permit condition or any other Tier 3 rental engine that is equal or smaller in horsepower to provide emergency power to Building 1594. The permittee shall notify the District a minimum of 14-days in advance of each engine replacement, and provide the make, model, horsepower, and tier rating of the new engine. For emergency replacements notification is required within 3 business days after replacement. [Ref: Rule 205.C]
  
- (vii) Existing emergency standby compression ignition reciprocating internal combustion engines (RICE) must comply with the applicable operating limits by no later than May 3, 2013. The following operating requirements apply:
  - (1) Change the oil and filter every 500 hours of operation or annually, whichever comes first.
  - (2) Inspect the air cleaner every 1,000 hours of operation or annually, whichever comes first.
  - (3) Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first.

In lieu of changing the oil and filter, the operator may analyze the oil of each engine every 500 hours of operation or annually, whichever occurs first. The analysis shall measure the Total Base Number, the oil viscosity, and the percent

water content. The oil and filter shall be changed if any of the following limits are exceeded:

- The tested Total Base Number is less than 30 percent of the Total Base Number of the oil when new.
- The tested oil viscosity has changed by more than 20 percent from the oil viscosity when new.
- The tested percent water content (by volume) is greater than 0.5 percent.

[Ref: NESHAP ZZZZ]

(c) Monitoring: The equipment permitted herein is subject to the following monitoring requirements:

- (i) Non-Resettable Hour Meter: Each stationary emergency standby diesel-fueled CI engine(s) subject to this permit shall have installed a non-resettable hour meter with a minimum display capability of 9,999 hours, unless the District has determined (in writing) that a non-resettable hour meter with a different minimum display capability is appropriate in consideration of the historical use of the engine and the owner or operator's compliance history. [Ref: Rule 1303, 333, NSPS IIII, NSPS JJJJ as applicable]
- (ii) Source Testing. Device #112253 (Bldg 7425) shall be source tested for air emissions and process parameters listed in Table 4.16.3 if the result from a portable analyzer reading (required by Condition 9.C.3(c)(iv) of this permit) exceeds a threshold of 500 ppmvd NO<sub>x</sub> @ 15% O<sub>2</sub>, unless compliance with this threshold is demonstrated by a retest within 15 days of the initial reading. A source test shall be conducted within 60 days of the initial over-the-threshold reading if triggered by this criteria. If source testing of the engine demonstrates compliance with the NO<sub>x</sub>, CO, and ROC emission limits specified in Table 4.16.3 of this permit, the engine shall not be subject to another source test for two years from the date of the initial compliant source test. After two years, source testing may again be triggered based on the result of a portable analyzer reading, unless compliance is demonstrated by a retest within 15 days of the initial reading. If the engine does not demonstrate compliance with the NO<sub>x</sub>, CO, and ROC emission limits specified in Table 4.16.3 of this permit in any source test, it shall be source tested every two years thereafter. More frequent source testing may be required if the equipment does not comply with permitted limitations or if other compliance problems, as determined by the District, occur. In addition, the source test provisions of permit condition C.16 shall apply. [Ref: Rule 333]
- (iii) The following monitoring requirements apply to Device #384066 (Bldg 2520), #111765 (Bldg 929), #114491 (Bldg 511) and #109236 (Bldg 21203) only:
  - (1) Exhaust Temperature and Back Pressure Monitoring. The temperature of the exhaust and back pressure from the engine shall be monitored every six minutes using the Johnson Matthey CRTdm Diagnostic Module installed with the diesel particulate filter.

- (2) *VAFB Johnson Matthey DPF Operation and Maintenance Plan*. The operator shall comply with the VAFB Johnson Matthey DPF Operation and Maintenance Plans approved by the District [Ref: Rule 205.C]
  - (iv) The following monitoring requirements apply to Device #112253 (Bldg 7425) only:
    - (1) Portable analyzer readings for NO<sub>x</sub> and CO shall be performed at least quarterly per Rule 333.F.
    - (2) The permittee shall monitor the HHV, sulfur content, and fuel usage in accordance with the current District-approved VAFB FUMP.

[Ref: Rule 333]
  - (v) *Fuel Use Monitoring Plan (FUMP)*. The stationary emergency standby internal combustion engines subject to this permit shall comply with the Fuel Use Monitoring Plan approved by the District on April 12, 2010, or a subsequent District-approved version. This plan is incorporated by reference as an enforceable part of this permit. [Ref: Rule 1303, 333]
- (d) Recordkeeping. The following records shall be maintained:
- (i) emergency use hours of operation [Ref: Rule 1303, 205.C, Rule 333, NSPS IIII, NSPS JJJJ as applicable];
  - (ii) maintenance and testing hours of operation [Ref: Rule 1303, 205.C, Rule 333, NSPS IIII, NSPS JJJJ as applicable];
  - (iii) hours of operation for emission testing to show compliance with the ATCM {if specifically allowed for under this permit} [Ref: Rule 1303, 205.C, Rule 333, NSPS IIII, NSPS JJJJ as applicable];
  - (iv) hours of operation to comply with the requirements of NFPA 25/100 {if applicable} [Ref: Rule 1303, 205.C, 333, NSPS IIII, NSPS JJJJ as applicable];
  - (v) hours of operation for all uses other than those specified in items (i) - (iii) above along with a description of what those hours were for [Ref: Rule 1303, 205.C, 333, NSPS IIII, NSPS JJJJ as applicable];
  - (vi) The owner or operator shall document fuel use through the retention of fuel purchase records that demonstrate that the only fuel purchased and added to an emergency standby engine or engines, or to any fuel tank directly attached to an emergency standby engine or engines, meets the requirements of the ATCM and, at a minimum, contain the following information for each individual fuel purchase transaction:
    - (1) identification of the fuel purchased as either CARB Diesel, or an alternative diesel fuel that meets the requirements of the Verification Procedure, or an alternative fuel, or CARB Diesel fuel used with

additives that meet the requirements of the Verification Procedure, or any combination of the above.

- (2) amount of fuel purchased;
- (3) date when the fuel was purchased;
- (4) signature of owner or operator or representative of owner or operator who received the fuel;
- (5) signature of fuel provider indicating fuel was delivered;

[Ref: Rule 1303, 205.C as applicable]

(vii) The following recordkeeping requirements apply to Devices #111765 (Bldg 929), #114491 (Bldg 511) and #109236 (Bldg 21203) and #384066 (Bldg 2520) only:

- (1) *Operating Hours.* A log shall be maintained that details the number of operating hours and days for each month that the engine is operated and the cumulative total annual hours. The log shall also identify the number of hours the engine operated before the diesel particulate filter is cleaned. The log shall designate whether the operations were due to: emergency use - day of launch; emergency use - power failure; maintenance & testing; other (list reason).
- (2) *Exhaust Temperature and Engine Back Pressure.* Exhaust temperature and engine backpressure data shall be collected and stored electronically by the CRTdm module. At the close of each calendar year, the exhaust temperature and backpressure data (and any other data identified in the VAFB Johnson Matthey DPF Operation and Maintenance Plan) shall be downloaded and archived in a MS Excel spreadsheet capable of sorting and other data manipulation. Upon request, the District may require access to this data on a more frequent or ad hoc basis.
- (3) *Maintenance Logs.* Maintenance logs shall be maintained. All diesel particulate filter maintenance and regeneration actions shall be documented by date and time. [Ref: Rule 1303, 205.C]

(viii) The following recordkeeping requirements apply to Device #112253 (Bldg 7425):

- (1) A log shall be maintained listing the start and stop hour meter readings for each day that the engine is operated;
- (2) Written engine operations logs for the engine consistent with the requirements of Rule 333.B.2;
- (3) Written records documenting engine fuel use per the current District-approved FUMP;

- (4) Liquid fuel analysis results for HHV and sulfur content data as required by the FUMP;
  - (5) Results of quarterly portable analyzer measurements of NO<sub>x</sub> and CO. [Ref: Rule 1303, 333, 205.C]
- (ix) The following recordkeeping requirements apply to Device #384078:
- (1) The permittee shall record and maintain the information listed below. Log entries shall be retained for a minimum of 36 months from the date of entry. Log entries made within 24 months of the most recent entry shall be retained on-site, either at a central location or at the engine's location, and made immediately available to the District staff upon request. Log entries made from 25 to 36 months from most recent entry shall be made available to District staff within 5 working days from request. Use of District Form ENF-92 (Diesel-Fired Emergency Standby Engine Recordkeeping Form) can be used for this requirement.
    - a. The make, model, horsepower, and tier rating of any rental engine other than the engine listed in this permit that is used to provide backup power to this facility. Include the arrival date and the departure date of each engine.
    - b. emergency use hours of operation for the engine listed in this permit and any rental replacement engine.
    - c. maintenance and testing hours of operation for the engine listed in this permit and any rental replacement engine.
    - d. hours of operation for emission testing to show compliance with the ATCM {if specifically allowed for under this permit}.
    - e. hours of operation for all uses other than those specified in items a) - c) above along with a description of what those hours were for.
    - f. The owner or operator shall document fuel use through the retention of fuel purchase records that demonstrate that the only fuel purchased and added to an emergency standby engine or engines, or to any fuel tank directly attached to an emergency standby engine or engines, meets the requirements of the ATCM.

[Ref: Rule 1303, 205.C, 333, NSPS IIII]

- (x) For each engine subject to Subpart ZZZZ the following records shall be kept:
- (1) The date of each engine oil change, the number of hours of operation since the last oil change.
  - (2) The date of each engine air filter inspection and the number of hours of operation since the last air filter inspection. Indicate if the air filter was replaced as a result of the inspection.

- (3) The date of each engine's hose and belts inspection and the number of hours of operation since the last hose and belt inspection. Indicate if any hose or belt was replaced as a result of the inspection.
- (4) The results of each engine oil analysis if performed in lieu of oil changes.

[Ref: NESHAP ZZZZ]

- (e) **Reporting.** On a semi-annual basis, a report detailing the previous six month's activities shall be provided to the District. The report must list all data required by permit condition 9.C.12 (Semi-Annual Compliance Verification Reports) of this permit. [Ref: Rule 1303]

C.4 **Hypergolic Storage Facilities (HSF).** The scrubber equipment subject to this condition is listed in Attachment 10.5. The following conditions shall apply:

- (a) Emission Limits. The mass emissions from the equipment permitted herein shall not exceed the values listed in Table 5.1d. Compliance shall be based on the operational, monitoring, recordkeeping and reporting conditions of this permit. [Ref: ATCs 7987, 7988]
- (b) Operational Restrictions. The permitted equipment is subject to the following operational restrictions:
  - (i) *Operating Hours:* This facility may operate 24 hours/day, 365 days/year. [Ref: ATCs 7987, 7988]
  - (ii) *Oxidizer Vapor Scrubbing System (OVSS):* For an HSF equipped with an OVSS, all detectable oxidizer vapor emissions except for fugitive emissions, tank relief valve changes, pressure gauge changes, sample bottle draining/cleaning, molecular sieve catalyst and filter replacement and connecting/disconnecting flexible hoses will be vented through the Oxidizer Vapor Scrubber System. [Ref: ATCs 7987, 7988]
  - (iii) *Fuel Vapor Scrubbing System (FVSS):* For an HSF equipped with a FVSS, except for fugitive emissions, all detectable fuel vapor emissions from storage, loading, unloading, and transfer activities shall be abated by the FVSS. [Ref: ATCs 7987, 7988]
  - (iv) *Fugitive Inspection and Maintenance Program:* The permittee shall perform a daily I&M program inspection designed to prevent any fugitive emissions of oxidizer vapor to the atmosphere, in accordance with the District-approved I&M Plan. [Ref: ATCs 7987, 7988]
  - (v) *Facility Condition:* Any defective component of the fuel system resulting in the release of fuel emissions shall be immediately repaired, replaced, or adjusted as necessary in a reasonable, safe, and timely manner. [Ref: ATCs 7987, 7988]
- (c) Monitoring. The permitted equipment is subject to the following monitoring requirements:
  - (i) The permittee shall monitor the date and time span (hour and minutes) of each period of OVSS/FVSS operation, the ambient minimum and maximum temperature during each activity, and any noteworthy events involving venting through the OVSS or FVSS. [Ref: ATCs 7987, 7988]
- (d) Recordkeeping. The following records shall be maintained by the permittee and shall be made available to the District upon request:
  - (i) The permittee shall maintain an on-site operations logbook in which any and all activities involving venting through the OVSS/FVSS shall be recorded. Also, the fugitive I&M inspection results at the facility shall be recorded each day that operators are on-site. At a minimum, the log shall contain the date and time span (hour and minutes) of each period of OVSS/FVSS operation, the ambient

minimum and maximum temperature during each activity, noteworthy events, any I&M Plan recordkeeping requirements, and the signature of the recorder. The permittee shall make such records, including on-site logbook entries, available to the District and provide access to such records upon notice from the District. [Ref: ATCs 7987, 7988, Rule 1303]

- (e) Reporting. On a semi-annual basis, a report detailing the previous six month's activities shall be provided to the District. The report must list all data required by permit condition 9.C.12 (Semi-Annual Compliance Verification Reports). [Ref: ATCs 7987, 7988, Rule 1303]

C.5 **Microwave Reactor System (MRS):** The equipment subject to this condition (Devices #113616 and #113621) are listed in Attachment 10.5. The following conditions shall apply:

- (a) Emission Limitations. The mass emissions from the equipment permitted herein shall not exceed the values listed below. Compliance shall be based on the operational, monitoring, recordkeeping and reporting conditions of this permit.

**Table 9.5.1 Permitted Emissions**

<b>Emissions</b>	<b>NO<sub>x</sub></b>	<b>ROC</b>
lbs/day	0.01	0.57
tons/qtr	0.000	0.008
tons/year	0.000	0.008

[Ref: ATC 13537]

- (b) Operational Restrictions. The permitted equipment is subject to the following operational restrictions:

- (i) All emissions from the unloading of hypergolic propellant from launch/re-entry vehicles shall be directed through the MRS. [Ref: ATC 13537]
- (ii) Prior to the introduction of vapors into the lines and devices, the permittee shall conduct a leak-check of all valves, unions, connections or other potential leak paths to verify that the system is leak tight. A record of this leak-check shall be made available to the District upon request. [Ref: ATC 13537]
- (iii) Any defective component of the fuel or oxidizer systems resulting in the release of fuel or oxidizer emissions shall be immediately repaired, replaced, or adjusted as necessary in a reasonable, safe, and timely manner. [Ref: ATC 13537]
- (iv) Only two launch/re-entry vehicles shall be unloaded per year. [Ref: ATC 13537]
- (v) Periodic maintenance shall be conducted as specified in the Operating and Maintenance Manual for the MRS. [Ref: ATC 13537]

- (c) Monitoring. The permitted equipment is subject to the following monitoring requirements:

- (i) The transfer dates and amounts of hypergolic fuel transferred from launch/re-entry vehicles. [Ref: ATC 13537]
- (ii) The transfer dates and amounts of hypergolic oxidizer transferred from launch/re-entry vehicles. [Ref: ATC 13537]
- (iii) The resulting emissions as defined in the permit application and discussed in the Permit Evaluation. [Ref: ATC 13537]

- (d) Recordkeeping. The following records shall be maintained by the permittee for a minimum of five (5) years from the date of each entry and shall be made available to the District upon request:
- (i) The dates that the MRS was used to control hypergolic fuel emissions. [Ref: ATC 13537, Rule 1303]
  - (ii) The dates that the MRS was used to control hypergolic oxidizer emissions. [Ref: ATC 13537, Rule 1303]
  - (iii) The dates and duration of any fault indicators during unloading operations, the fault message, the remedy taken to resolve the fault, and the resulting emissions of hypergolic fuel to atmosphere due to the fault. [Ref: ATC 13537, Rule 1303]
  - (iv) The NO<sub>x</sub> and ROC emissions from each launch/re-entry vehicle unloading event. [Ref: ATC 13537, Rule 1303]
  - (v) The dates and details of periodic maintenance and of any repairs or modifications made to the MRS. [Ref: ATC 13537, Rule 1303]
- (e) Reporting. On a semi-annual basis, a report detailing the previous six month's activities shall be provided to the District. The report must list all data required by permit condition 9.C.12 (Semi-Annual Compliance Verification Reports). [Ref: ATC 13537, Rule 1303]

C.6 **Coating Operations.** The equipment listed in Attachment 10.4 are included in this emissions unit category. The following conditions shall apply:

- (a) **Emission Limits.** The mass emissions from the equipment permitted herein shall not exceed the values listed in Table 5.1c. Compliance shall be based on the operational, monitoring, recordkeeping and reporting conditions of this permit. Compliance with the lb/day emission limit shall be demonstrated by dividing the monthly emissions [determined from records kept of coating and solvent use per the Recordkeeping condition of this permit by 21.7 days per month]. Compliance with the TPY emission limit shall be demonstrated by compiling the monthly ROC emission records for the year. [Ref: ATCs 8350, 8580, 8630, 8433, 9088, 6712, 13493, 8932, 14683, 14968]
- (b) **Operational Restrictions.** In addition to the requirements of District Regulation III (Prohibitions), the equipment and processes permitted herein is subject to the following operational restrictions:
  - (i) **Storage of ROC-Containing Materials:** All new and used materials containing ROCs shall be stored in closed containers equipped with a tight-fitting seal. Containers used for storing ROC-containing materials shall remain closed except during extraction or introduction of materials for use or storage. [Ref: ATCs 8350, 8580, 8630, 8433, 9088, 6712, 13493, 8932, 14683, 14968]
  - (ii) **Surface Preparation and Cleanup:** The permittees shall use closed, non-absorbent, and fire resistant containers for the storage and disposal of all cloth and/or paper materials that have been soaked with ROCs during use in surface preparation and/or cleanup activities. [Ref: ATCs 8350, 8580, 8630, 8433, 9088, 6712, 13493, 8932, 14683, 14968]
  - (iii) **Spray Booth Operation:** Whenever surface coating materials are applied within the spray booth, the exhaust fan(s) shall be operating, effective overspray filters and baffle plates (if any) shall be in place and operational, and the doors of the spray booth (if applicable) shall be kept closed until the application of all surface coating materials has ceased. Surface coating materials used shall comply with District Rules 323, 330, 337, 339, and 351 as applicable. [Ref: ATCs 8350, 8580, 8630, 8433, 9088, 6712, 13493, 8932, 14983, 14968]
  - (iv) **Spray Gun Cleaning:** Cleaning of spray guns by spraying materials containing ROCs through the gun assembly shall be conducted within the containment structure, directly into a container with a vapor tight cover, or by the use of an enclosed spray gun washing machine. The cover of the wash container shall be closed immediately after the cleaning operation. [Ref: ATCs 8350, 8580, 8630, 8433, 9088, 6712, 13493, 8932, 14683, 14968]
  - (v) **Spray Gun Cleaning Systems:** For spray booth operations which include an enclosed cleaning system, spray equipment cleaning shall be done in this cleaning system. [Ref: ATCs 8350, 8580, 8630, 8433, 9088, 6712, 13493, 8932, 14683, 14968]
  - (vi) **Coating Activities:** All surface coating of motor vehicles, mobile equipment, and associated parts and components that are subject to District Rule 339 shall be done within a spray booth. Items that cannot physically fit inside a booth may be

coated outside of the spray booth provided the operator requests an exemption per District Rule 339.B.5. If the Control Officer does not act (i.e., grant or deny) on any properly submitted request within five business days of receiving the request, the exemption is automatically granted. [Ref: ATCs 8350, 8580, 8630, 8433, 9088, 6712, 13493, 8932, 14683, 14968]

- (vii) *Prohibitions:* The use of any motor vehicle and mobile equipment coatings containing hexavalent chromium (Cr+6) or cadmium (Cd) is prohibited. This prohibition does not include coatings such as Amerlock 2/400 resin and Amerlock 400 Cure which contains trace amounts of hexavalent chromium and/or cadmium because the hexavalent chromium or cadmium was not introduced as a pigment or as an agent that imparts any property or characteristic to the coating during manufacturing, distribution, or use of the applicable coating. [Ref: NESHAP HHHHHH]
  
- (c) Monitoring. The equipment permitted herein is subject to the following monitoring requirements:
  - (i) Spray booth filters shall be inspected prior to booth operation and replaced when necessary to ensure control of particulate emissions and overspray. [Ref: ATCs 8350, 8580, 8630, 8433, 9088, 6712, 13493, 8932, 14683, 14968]
  - (ii) Water curtains shall be inspected for proper operation prior to operating to ensure control of particulate emissions and overspray. [Ref: ATCs 8350, 8580, 8630, 8433, 9088, 6712, 13493, 8932, 14683, 14968]
  - (iii) If a manometer is installed in the booth, the permittee shall ensure that the device is functioning and indicating a measurable pressure differential at all times when the booth is in use. [Ref: ATCs 8350, 8580, 8630, 8433, 9088, 6712, 13493, 8932, 14683, 14968]
  
- (d) Recordkeeping. The following records shall be maintained by the permittee and shall be made available to the District upon request:
  - (i) Brand name, stock identification number and generic product class of each surface coating, associated solvent or material containing reactive organic compounds (ROC) used during each month. [Ref: ATCs 8350, 8580, 8630, 8433, 9088, 6712, 13493, 8932, 14683, 14968, Rule 1303]
  - (ii) Gross monthly volume (gallons) usage, and ROC content (lbs per gallon or grams per liter, ROC) for each material listed in response to condition (d)(i) of this recordkeeping condition and the resulting ROC emissions. [Ref: ATCs 8350, 8580, 8630, 8433, 9088, 6712, 13493, 8932, 14683, 14968, Rule 1303]
  - (iii) Gross annual volume (gallons) usage, and ROC content (lbs per gallon or grams per liter, ROC) for each material listed in response to (d)(i) of this recordkeeping condition and the resulting ROC emissions. [Ref: ATCs 8350, 8580, 8630, 8433, 9088, 6712, 13493, 8932, 14683, 14968, Rule 1303]
  - (iv) Maintain current coating manufacturer specification sheets, Safety Data Sheets or current air quality data sheets, which contain the ROC content of each material

listed in response to (d)(i) of this recordkeeping condition. [Ref: ATCs 8350, 8580, 8630, 8433, 9088, 6712, 13493, 8932, 14683, 14968, Rule 1303]

- (v) Maintain purchase records identifying the type or name and the volume of material purchased for each reactive organic compound-containing material. [Ref: ATCs 8350, 8580, 8630, 8433, 9088, 6712, 13493, 8932, 14683, 14968, Rule 1303]
  - (vi) In addition to any recordkeeping requirement stated within this condition, the permittee shall maintain records in accordance with District rules 330, 337, 339, 351, 353 and any other applicable prohibitory rules and regulations. [Ref: ATCs 8350, 8580, 8630, 8433, 9088, 6712, 13493, 8932, 14683, 14968, Rule 1303]
- (e) Reporting. On a semi-annual basis, a report detailing the previous six month's activities shall be provided to the District. The report must list all data required by permit condition 9.C.12 (Semi-Annual Compliance Verification Reports). [Ref: ATCs 8350, 8580, 8630, 8433, 9088, 6712, 13493, 8932, 14683, 14968, Rule 1303]

C.7 **Solvent Usage.** The following equipment is included in this emissions unit category:

**Table 9.7.1 Solvent Usage**

Device No.	Name
114277	Miscellaneous Solvent use associated with projects existing prior to October 1, 2004
110309	Miscellaneous Solvent use associated with projects beginning after October 1, 2004

- (a) Emission Limitations. Reactive organic compound emissions from the use of miscellaneous ROC-containing solvents<sup>6</sup> shall not exceed the following:

**Table 9.7.2 Mass Emission Limits**

Device No.	Lb/day	Ton/qtr	Ton/year
384052	24	--	3.12
114277	24.00	--	3.17
110309	22.73	0.25	1.00

[Ref: ATCs 10155, 10156, 11143]

- (b) Operational Restrictions. In addition to the requirements of District Regulation III (*Prohibitions*), the equipment and processes permitted herein is subject to the following operational restrictions:
- (i) *Storage of ROC-Containing Materials:* All materials (e.g., coatings, solvents) containing ROCs shall be stored in closed containers equipped with a tight-fitting seal. Except during extraction or introduction of materials for use or storage, these containers shall remain closed. [Ref: ATCs 10155, 10156, 11143]
  - (ii) *Surface Preparation and Cleanup:* The permittees shall use closed, non-absorbent, and fire resistant containers for the storage and disposal of all cloth and/or paper materials that have been soaked with ROCs during use in surface preparation and/or cleanup activities. [Ref: ATCs 10155, 10156, 11143]
  - (iii) *Non-ROC Solvents:* This facility uses compounds listed in Rule 202.D.10.1. These compounds are not currently subject to operational or emission limits. If, in the future, these compounds are designated as toxic air contaminants, hazardous air pollutants, reactive organic compounds, or greenhouse gasses, the District may establish operational or emission limits. [Ref: District Rule 202]
  - (iv) Separate permits are required for cold solvent cleaners and degreasing equipment and processes that are subject to Rule 321 or other applicable District rules. [Ref: ATCs 10155, 10156, 11143]
  - (v) Solvent use identified as Device #114277 is permitted for use by VAFB for processes at VAFB that were in place prior to October 1, 2004. [Ref: ATC 10156]

<sup>6</sup> As used in this permit, the term solvent is defined to include solvents, adhesive, sealants and all other ROCs used with this equipment and processes.

- (vi) Solvent use identified as Device #110309 is permitted for use by VAFB for processes at VAFB that began on or after October 1, 2004. [Ref: ATC 11143]
- (c) Shop Codes. In order to properly allocate solvent usage as tracked by the VAFB 4384 Pharmacy, the permittee shall maintain a list of shop codes whose solvent usage is subject to this permit. This list shall contain the shop code, the building the shop is in, the types of solvents used, the general purpose the solvent is used, and the date of initial issue of solvent for the shop. This list shall be updated each time an existing shop is renumbered. This condition does not apply to solvent use under Device #384052. [Ref: ATCs 10156, 11143]
- (d) Recordkeeping. The permittee shall record and maintain the following information. This data shall be maintained for a minimum of five (5) years from the date of each entry and made available to the District upon request:
  - (i) All records required by District Rules: 317.G, 337.H, 353.O, 370.E.2.a and any other applicable prohibitory rule. [Ref: ATCs 10155, 10156, 11143, Rule 1303]
  - (ii) Brand name, shop code, stock identification number, and generic product class of each solvent or material containing ROC used during the month. Shop codes do not need to be recorded for solvent use under Device #384052. [Ref: ATCs 10155, 10156, 11143, Rule 1303]
  - (iii) Gross monthly volume/mass (gallons or pounds) usage and ROC content (pounds ROC per gallon of solvent or pounds ROC per pound of solvent) for each material. [Ref: ATCs 10155, 10156, 11143, Rule 1303]
  - (iv) Gross annual volume/mass (gallons or pounds) usage and ROC content (pounds ROC per gallon of solvent or pounds ROC per pound of solvent) for each material. [Ref: ATCs 10155, 10156, 11143, Rule 1303]
  - (v) Safety Data Sheets and purchase or receipt records (or equivalent records) approved by the District for each material. [Ref: ATCs 10155, 10156, 11143, Rule 1303]
  - (vi) Gross annual volume (gallons or pounds) usage of compounds containing tertiary-butyl acetate. The annual emissions are calculated by multiplying the gross annual volume usage of compounds containing tertiary-butyl acetate by the tertiary-butyl acetate content of the compound. [Ref: District Rule 202, 1303]
  - (vii) Gross annual volume usage (gallons) of each of the compounds listed in District Rule 202.D.10.1.1. [Ref: District Rule 202, 1303]
  - (viii) In addition to any recordkeeping requirement stated within this condition, the permittees shall maintain records in accordance with all applicable District rules and regulations. [Ref: ATCs 10155, 10156, 11143, Rule 1303]
- (e) Reporting. On a semi-annual basis, a report detailing the previous six month's activities shall be provided to the District. The report must list all data required by permit condition 9.C.12 (Semi-Annual Compliance Verification Reports) of this permit. [Ref: ATCs 10155, 10156, 11143, Rule 1303]

C.8 **Storage Tanks.** The following equipment is included in this emissions unit category:

**Table 9.8.1 Storage Tanks**

Device No.	Name
113960	RP-1 Internal Floating Roof Storage Tank #1701
109896	JP-8/Jet-A Storage Tank #1702
109897	JP-8/Jet-A Storage Tank #1703
109898	Tanker Truck/Trailer Unloading Equipment
109899	Tanker Truck/Trailer Loading Equipment

- (a) **Emission Limits:** The mass emissions from the equipment permitted herein shall not exceed the values listed below:

**Table 9.8.2 Mass Emission Limits**

Device No.	Lb ROC/Day	ton ROC/year
113960	1.02	0.01
109896	0.21	0.04
109897	0.21	0.04
109898	--	--
109899	7.20	0.20

[Ref: ATCs 8688, 8686, 14362, PTO Mod 13968-01]

- (b) **Operational Restrictions:** The equipment permitted herein is subject to the following operational restrictions listed below:

- (i) **Throughput Limits:** following yearly throughput limits shall not be exceeded:

**Table 9.8.3 Throughput Limits**

Device	Equipment	Gal/day	Gal/yr.
113960	RP-1 Internal Floating Roof Storage Tank 1701	21,600	245,600 gal/yr.
109896	JP-8/Jet-A Storage Tank #1702	N/A	2,040,000 gal/yr.
109897	JP-8/Jet-A Storage Tank #1703		

[Ref: ATCs 8688, 8686, 14362, PTO Mod 13968-01]

- (1) The combined throughput of JP-8 and Jet-A fuel shall not exceed the limits listed in Table 9.9.3 for Device #s 109896 and 109897.
- (ii) **Nitrogen Blanket (Device #386453):** A gaseous nitrogen blanket pressure of 5 to 25 psig shall be maintained in the RP-1 Storage Tank at all times except when performing system operational or maintenance functions. [Ref: ATC 8686]
- (iii) **Leak Checking (Device #386453):** Each system shall be leak checked prior to use in accordance with launch operating procedures. Leak check procedures shall be maintained on-site at SLC 2 and made available to the District upon request. [Ref: ATC 8686]

- (iv) *Facility Condition (Device #386453 and #113960):* Any defective component of the fuel systems resulting in the release of fuel emissions shall be immediately repaired, replaced, or adjusted as necessary in a reasonable, safe, and timely manner. [Ref: ATC 8686, 14362]
  
- (c) Monitoring Requirements. The permitted equipment is subject to the following monitoring requirements:
  - (i) *RP-1 Propellant (Device #386453 and #113960):*
    - (1) The amount of fuel transferred out of each RP-1 Storage Tank and the date of the operation.
    - (2) For Tank #386453 only, ROC emissions (lbs/day) caused by each launch activity by date and type of such activity (e.g., Activity L1, L2, and L3 as defined in Section 1.3.10 of this permit). [Ref: ATC 8686]
  - (ii) *JP-8 and Jet-A Storage Tanks (Device #109896 and #109897):*
    - (1) *Liquid Fuel Analysis:* The permittee shall maintain fuel analysis data per the current VAFB FUMP, dated November 29, 1999 and approved July 21, 2000, or any subsequent District-approved revision.
    - (2) *Throughput Monitoring:* The combined volume of JP-8 and Jet-A shipped through Tanks 1702 and 1703 shall be metered according to the methods described in the FUMP. [Ref: ATC 8688]
  
- (d) Recordkeeping Requirements. The following records shall be maintained by the permittee and shall be made available to the District upon request:
  - (i) *RP-1 Propellant (Device #386453 and #113960):*
    - (1) The amount of fuel transferred out of each RP-1 Storage Tank and the date of the operation.
    - (2) For Tank #386453 only, ROC emissions (lbs/day) caused by each launch activity by date and type of such activity (e.g., Activity L1, L2, and L3 as defined in Section 1.3.10 of this permit). [Ref: ATC 8686, Rule 1303]
  - (ii) *JP-8 and Jet-A Storage Tanks (Device #109896 and #109897):*
    - (1) The gross combined JP-8 and Jet-A throughput for Tank 1702 on a monthly and yearly basis.
    - (2) The gross combined JP-8 and Jet-A throughput for Tank 1703 on a monthly and yearly basis. [Ref: ATC 8688, Rule 1303]
  
- (e) Reporting Requirements. On a semi-annual basis, a report detailing the previous six month's activities shall be provided to the District. The report must list all data required by permit condition 9.C.12 (Semi-Annual Compliance Verification Reports) of this permit. [Ref: ATCs 8688, 8686, PTO Mod 13968-01, Rule 1303]

C.9 **Gasoline Dispensing Facility.** The gasoline dispensing equipment listed in Table 5.1d and described Attachment 10.5 are included in this emissions unit category. The following conditions shall apply:

- (a) **Emission Limits:** Facility emissions of ROCs shall not exceed the values listed in Table 5.1d. Compliance with this condition will be assessed through: (a) the annual gasoline throughput limit, (b) the vapor recovery systems testing, and (c) the inspection and maintenance requirements of this permit, Rule 316, the applicable Executive Orders and State laws, rules and regulations. A copy of this permit and complete copies of the applicable Phase I and Phase II Executive Orders shall be maintained onsite at all times and be made available upon request. [Ref: ATCs 12233, 13139, 10791, 13872, 14246, 14366]
- (b) **Throughput Limits:** Gasoline throughput shall not exceed the following limits:

**Table 9.9.1 Throughput Limits**

Tanks	Location	Gal/yr.	Executive Orders
3 x 12,000 gal. Tanks (gasoline)	AAFES MVFF Bldg.14400	4,800,000 gal/yr. <sup>1</sup>	Phase I: VR-102-E Phase II: VR-202-A
10,000 gal. Tank #16 (gasoline)	Military MVFF Bldg. 10726	600,000 gal/yr. <sup>1</sup>	GDF Phase I: VR-101-A GDF Phase II: VR-201-P  E-85 Phase I: VR-101-O E-85 Phase II: None
10,000 gal. Tank #15 (E-85)		1,200,000 gal/yr. <sup>2</sup>	
10,000 gal. Tank #18 (E-85)		(No specific throughput limitation for E-85 tank other than balance of annual facility throughput not used for gasoline)	

- 1. Total limit for gasoline system.
- 2. Total limit for the facility.

[Ref: ATCs 12233, 13139, 10791, 14246]

- (c) **Facility Condition.** Any defective component of the VRS shall be removed from service until it is repaired, replaced, or adjusted as necessary to ensure compliance. [Ref: ATCs 12233, 13139, 10791, 13872, 14246, 14366]
- (d) **Vapor Tight Seals.** Gauging and sampling devices on the tanks shall be equipped with vapor-tight covers which shall be closed at all times except during gauging or sampling. [Ref: ATCs 12233, 13139, 10791, 13872, 14246, 14366]
- (e) **Vapor Recovery System (VRS) Testing – Routine/Ongoing Operations.** The permittee shall routinely conduct and successfully pass the VRS system tests as outlined in Attachment 10.6 as well as any VRS specific tests required in the applicable Executive Orders. These tests shall be conducted pursuant to Table T and shall be performed pursuant to test protocols approved by the ARB. Pre-testing shall not be performed within 24 hours of the arranged test date. In order for the District to witness testing, the permittee shall notify the District via email ([vrstest@sbcapcd.org](mailto:vrstest@sbcapcd.org)) of the planned testing date not less than five (5) business days prior to the testing. Inspection fees, per Rule 210.F.4, will be assessed when an arranged inspection is cancelled by the permit holder or their representative after a District Inspector is onsite. All data for each test (including any data showing initial test failures) shall be submitted to the District via email ([vrstest@sbcapcd.org](mailto:vrstest@sbcapcd.org)) or mailed to the District at 260 North San Antonio Road, Suite A,

Santa Barbara, CA, 93110 (Attn: *Compliance Division*) within 30 days of successful test completion, using District or ARB approved reporting forms. [Ref: ATCs 12233, 13139, 10791, 13872, 14246, 14366]

- (f) Inspection, Maintenance, Repair and Testing Records. The permittee shall keep clear and legible records of all inspections, maintenance, repairs, and testing of any of the gasoline dispensing VRS components at this station. This includes, but is not limited to, the activities for normal operation and maintenance per the manufacturer, In Station Diagnostics (ISD) control panel alarm tracking (if applicable), performance and/or compliance testing according to ARB protocols, and those following damage to dispensing equipment from a “drive off” or other kind of damage. The permittee shall ensure that all records obtained from third party contractors are a legible form. The records listed in Attachment 10.6 shall be maintained on site by the permittee for at least five years and shall be made available for District inspection upon request. [Ref: ATCs 12233, 13139, 10791, 13872, 14246, 14366]
- (g) Phase II Enhanced Vapor Recovery (EVR). The Healy Phase II EVR vapor recovery systems are subject to the following requirements:
- (i) The Healy Phase II Enhanced Vapor Recovery Systems shall be installed, operated and maintained in accordance with the provisions of ARB Executive Order VR-201-P and VR-202-A, respectively. Scheduled maintenance of the Healy systems shall follow the requirements of IOM2 of the applicable Executive Order (“*Healy Systems Scheduled Maintenance*”).
  - (ii) Only Healy Certified Technicians shall be used to install, repair and maintain the Healy Phase II vapor recovery systems. The Healy Certified Technician must be able to show proof of certification at all times. One Healy Certified Technician is required to be at the station during the installation, repair or maintenance of the Healy System. Other technicians, working under the guidance of the Healy Certified Technician, may perform installation, repair or maintenance of the System. The Healy Certified Technician is responsible for conducting start-up testing to verify proper installation/operation of the Healy System. The Healy Certified Technician shall be present whenever any other technicians are working on the system.
  - (iii) Any nozzle with a product dispensing rate less than 6 gal/min shall be taken out of service until repaired.
  - (iv) Only Teflon tape (or equivalent) shall be used when installing the dispenser vacuum pump and vapor flow meter.
  - (v) A Healy 1301 or 1302 flow limiter shall be used when the gasoline dispensing flow rate is greater than 10 gallons per minute.
  - (vi) A copy of the applicable Healy Systems *Installation, Operation, and Maintenance Manual for the Healy Phase II EVR System* and the applicable Phase I and Phase II Executive Orders shall be maintained at each facility at all times and be made available for review by the District upon request. [Ref: ATCs 12233, 10791, 14366]

(h) In-Station Diagnostics (ISD):

(i) Military MVFF Bldg. 10726: In Station Diagnostics not required.

(ii) AAFES MVFF Bldg.14400 In-Station Diagnostics (ISD):

- (1) *General ISD Requirements:* The In-Station Diagnostics (“ISD”) system shall be operational at all times. The ISD system shall automatically prohibit the dispensing of fuel to the affected dispenser(s) upon a Red Failure alarm or loss of power to the TLS panel. The designated posting time for the daily 24-hour ISD system tests shall be **8:00 AM**. Anytime the ISD TLS panel indicates a Yellow Warning alarm, the permittee may wait up to 48 hours after the appearance of the alarm to determine if a call for service is required and may cancel a previously scheduled service call. If an ISD alarm is still active 48 hours after the first appearance of the alarm, the permittee shall initiate corrective action within the next 8 hours. All repair action information shall be entered into the *Facility Repair Log*. The permittee shall not “clear” an ISD TLS panel Red Failure alarm without first having made repairs to the system. “Clearing” a Red Failure alarm without attempting a repair subjects the permittee to District enforcement action. The ISD system shall maintain an electronic archive of monthly reports for a period up to 12 consecutive months and an archive of daily reports for the last 365 consecutive days. The permittee shall maintain an adequate quantity of printer supplies onsite at all times. The District shall be granted access to the ISD TLS panel for the printout of daily and archive reports and to connect a portable computer for system data downloads from the panel’s RS-232 and Multiport boards. The permittee shall update the ISD software to the most current certified version within 120 days of ARB certification.
- (2) *Winter Fuel Overpressure Alarm Policy:* Notwithstanding the above requirements, from November 1 until March 31, no service or equipment testing is required prior to clearing any ISD overpressure alarm listed in Table 1 of ARB Special Advisory 405-D. All other ISD alarms, those not related to over-pressurization, shall be responded to in a normal fashion, only by certified service providers. All overpressure alarms that occur from April 1 to October 31 shall be responded to in a normal fashion, only by certified service providers.
- (3) *Restarting the Station Pumps after ISD Shutdown:* The permittee may “re-enable” operations after the ISD system shuts down the station pumps by using the ISD Shutdown Override command. The permittee may only initiate such action if repairs to the vapor recovery system have been made or if the failed equipment is taken out of service. Such corrective actions shall be documented in the *Facility Repair Log*. The *Facility Repair Log* shall also note when the Red Failure alarm was “cleared”.
- (4) *ISD Equipment Failure:* Gasoline dispensing activities shall cease during a failure of the ISD system itself, unless the permittee contacts the District (961-8802, #2) to obtain Rule 505 "Breakdown" protection for

the failed equipment. Breakdown relief is valid for up to 24 hours. If the ISD system itself is unable to be repaired within 24 hours, gasoline dispensing operations shall cease unless a variance is obtained from the District Hearing Board.

- (5) *Condition Re-Opening*: The District may revise or suspend (in whole or in part) the requirements of this permit condition and the test matrix included in Attachment 10.6 based on the District's evaluation of ISD system's effectiveness. [Ref: ATC 10791]

- (i) Phase II Vapor Recovery System Exemption - E-85 (Tank #15 & Tank #18 - Bldg.10726). Tank #15 and Tank #18 are subject to the following requirements:

- (i) The Phase II vapor recovery system shall be removed. This includes the removal of all Phase II VRS hoses, whips, nozzles, swivels, breakaways, etc. and the replacement with non-Phase II VRS hoses, whips nozzles, swivels, breakaways, etc.
- (ii) The vapor return pipe from the dispenser to the underground storage tank must be disconnected and capped in a vapor tight manner using Teflon tape.
- (iii) The negative tank pressure compensation gauge (magnahelic type pressure gauge) shall be maintained operational on the Pressure/Vacuum (P/V) riser piping.
- (iv) All vehicles (100 percent) refueled shall be Flexible Fuel Vehicles as defined by District Rule 316.
- (v) Any nozzle with a product dispensing rate of more than 10 gallons per minute shall be taken out of service until repaired.

[Ref: ATC 13139, 14246]

- (j) Recordkeeping. The permittees shall record and maintain the following information and make it available to the District upon request.
- (i) Gross gasoline and E-85 throughput for each station on a monthly and annual basis. [Ref: Rule 1303]
- (k) Reporting. On a semi-annual basis, a report detailing the previous six month's activities shall be provided to the District. The report must list all data required by permit condition 9.C.12 (Semi-Annual Compliance Verification Reports). [Ref: Rule 1303]

C.10 **Abrasive Blasting.** The equipment listed in Attachment 10.5 are included in this emissions unit category. The following conditions shall apply:

- (a) Mass Emission Limits. N/A
- (b) Operational Restrictions. In addition to the requirements of District Regulation III (Prohibitions), the equipment and processes permitted herein is subject to the following operational restrictions:

**Table 9.10.1 Use Limits**

Device	Building	Abrasive Material Use Limits	
		Daily	Annual
#110229, 110230, 110232, 112487	9320	6.64 tons	1,726 tons

[Ref: ATC 12346]

- (i) Abrasive Containment Structure Use: All abrasive cleaning of appropriately sized parts at Building 9320 must be performed within the abrasive blasting containment structure. During this activity the dust collector filters shall be used. The dust collection filters shall be maintained in good working order according to manufacturer’s guidelines at all time. [Ref: ATC 12346]
- (c) Recordkeeping. The permittees shall record and maintain the following information and make it available to the District upon request.
  - (i) The daily hours of abrasive blasting containment structure operation shall be recorded each day the equipment is operated. [Ref: ATC 12346, Rule 1303]
  - (ii) The dates when the dust collection cartridges or filters were replaced. [Ref: ATC 12346, Rule 1303]
  - (iii) The daily throughput (pounds or tons) of each type of abrasive material used, with monthly and annual summaries. [Ref: ATC 12346, Rule 1303]
  - (iv) Operation start and end pressure differential readings from Control Device O&M Monitoring permit condition of this permit, if instituted. [Ref: ATC 12346, Rule 1303]
- (d) Reporting. On a semi-annual basis, a report detailing the previous six month’s activities shall be provided to the District. The report must list all data required by permit condition 9.C.12 (Semi-Annual Compliance Verification Reports). [Ref: ATC 12346, Rule 1303]
- (e) Control Device O&M Monitoring. A program of periodic monitoring of the effectiveness of the particulate control device shall be instituted. This program shall consist of either the implementation of the differential pressure monitoring plan described below or source testing of the equipment.
  - (i) Differential Pressure Monitoring Device (Device 110229). A differential pressure monitoring device such as a manometer or Magnahelic gauge shall be

installed to monitor the airflow through the fabric dust collector. The approved June 15, 2010 version of the *Differential Pressure Monitoring Plan* for ATC 12346-01, or any subsequent District-approved version, is incorporated by reference as an enforceable part of this permit. [Ref: ATC 12346, Rule 1303]

If the above-described plan is not implemented, upon written request by the District the permittee shall arrange for and conduct a source test to verify compliance with the limits given in Prohibitory Rule Limits condition of this permit. Source testing shall be conducted in accordance with permit condition C.16 of this permit.

- C.11 **Recordkeeping.** All records and logs required by this permit and any applicable District, state or federal rule or regulation shall be maintained for a minimum of five calendar years from the date of information collection and log entry at the VAFB facility. These records or logs shall be readily accessible and be made available to the District upon request. During this five year period, and pursuant to California Health & Safety Code Sections 42303 and 42304, such data shall be available to the District at VAFB within a reasonable time period after request by the District. This requirement applies to data required by this permit and archived by VAFB data-storage systems including but not limited to charts and manual logs. Failure to make such data available within the noted period shall be a violation of this condition. Further, retrieval of historical or archived data shall not jeopardize the logging of current data. [Ref: Rule 1303]
- C.12 **Semi-Annual Compliance Verification Reports.** Twice a year, VAFB shall submit a compliance verification report to the District. Each report shall be used to verify compliance with the prior two calendar quarters. A paper copy as well as a complete PDF electronic copy of these reports shall be submitted. The first report shall cover calendar quarters 1 and 2 (January through June) and shall be submitted no later than September 1st. The second report shall cover calendar quarters 3 and 4 (July through December) and shall be submitted no later than March 1<sup>st</sup>. Each report shall contain information necessary to verify compliance with the emission limits and other requirements of this permit (if applicable for that quarter). These reports shall be in a format approved by the District. All logs and other basic source data not included in the report shall be available to the District upon request. The second report shall also include an annual report for the prior four quarters. Pursuant to Rule 212, a completed District Annual Emissions Inventory questionnaire shall be included in the annual report or submitted electronically via the District Webpage. The report shall include the following information:
- (a) *Turbines/Pony Engines:*
    - (i) The quarterly and annual operating hours of each of the pony starter engines.
    - (ii) The total hours of turbine operations on natural gas per calendar quarter.
    - (iii) The date of each pony starter engine oil change, the number of hours of operation since the last oil change, and the date and results of each oil analysis.
    - (iv) The date of each pony starter engine air filter inspection and the number of hours of operation since the last air filter inspection. Indicate if the air filter was replaced as a result of the inspection.

- (v) The date of each pony starter engine's hose and belts inspection and the number of hours of operation since the last hose and belt inspection. Indicate if any hose or belt was replaced as a result of the inspection.
  - (vi) The total turbine natural gas consumption in MMscf of natural gas per calendar quarter. If the calendar quarter operating hours exceed a total of 2,908 turbine-hours, records shall include monthly fuel use in scf and monthly higher heating value of fuel in Btu/scf as stated on the fuel bill.
  - (vii) The total hours of turbine operations and total number of turbines operating simultaneously on diesel fuel per calendar quarter.
  - (viii) The sulfur content, by weight percent, and the HHV of the diesel fuel used in the turbines and in the pony starter engines as determined by the Operational Restrictions condition of this permit.
  - (ix) The water-fuel ratio as determined from the most recent source test report.
  - (x) On an annual basis, VAFB shall submit monthly and quarterly reports as required by the Fugitive I&M Plan pursuant to the Fugitive I&M Program condition of this permit.
  - (xi) On an annual basis, VAFB shall provide the total sulfur content for the natural gas consumed at the SVPP.
  - (xii) A Record of inspection and maintenance conducted pursuant to 40 CFR 63 Subpart ZZZZ.
- (b) *External Combustion Equipment:*
- (i) The volume of fuel gas used in each unit each year as determined by the fuel use monitoring requirement stipulated in Attachment 10.2. Units that track fuel use by the Default Rating Method are not required to include fuel use in the semi-annual report.
  - (ii) For units subject to Rule 361 tuning requirements, copies of all Rule 361 Tune-Up Reports as specified in Step 12 of Procedure A and/or Step 6 of Procedure B of the tuning Attachment to Rule 361.
  - (iii) A copy of the Rule 361 Non-Operational Test Firing log.
  - (iv) Copies of the most recent fuel use meter calibration.
  - (v) Summary results of the most recent source test reports.
  - (vi) Results of the most recent propane sulfur content analysis.
- (c) *Stationary Emergency Standby Internal Combustion Engines:*
- (i) emergency use hours of operation;

- (ii) maintenance and testing hours of operation;
  - (iii) hours of operation for emission testing to show compliance with the ATCM {if specifically allowed for under this permit};
  - (iv) hours of operation to comply with the requirements of NFPA 25/100 {if applicable};
  - (v) hours of operation for all uses other than those specified above along with a description of what those hours were for;
  - (vi) Records that demonstrate that the only fuel purchased and added to an emergency standby engine or engines, or to any fuel tank directly attached to an emergency standby engine or engines, meets the requirements of the ATCM.
  - (vii) Records of maintenance conducted pursuant to 40 CFR 63NESHAP ZZZZ.
- (d) *Hypergolic Storage Facilities*
- (i) The date and time span (hour and minutes) of each period of OVSS operation, the ambient minimum and maximum temperature during each activity, any noteworthy events, and any I&M Plan reporting requirements.
  - (ii) The date and time span (hour and minutes) of each period of FVSS operation, the ambient minimum and maximum temperature during each activity, any noteworthy events, and any I&M Plan reporting requirements.
- (e) *Microwave Reactor System*
- (i) The dates that the MRS was used to control hypergolic fuel emissions.
  - (ii) The dates that the MRS was used to control hypergolic oxidizer emissions.
  - (iii) The dates and duration of any fault indicators during unloading operations, the fault message, the remedy taken to resolve the fault, and the resulting emissions of hypergolic fuel to atmosphere due to the fault.
  - (iv) The NO<sub>x</sub> and ROC emissions from each launch/re-entry vehicle unloading event.
  - (v) The dates of periodic maintenance and details of any repairs or modifications made to the MRS.
- (f) *Coating Operations:*
- (i) Brand name, stock identification number and generic product class of each surface coating, associated solvent or material containing reactive organic compounds (ROC) used during each month.
  - (ii) Gross monthly volume (gallons) usage, and ROC content (lbs per gallon or grams per liter, ROC) for each material listed used.  
(Note: Daily emissions = monthly emissions/21.7 days/month).

- (iii) Gross annual volume (gallons) usage, and ROC content (lbs per gallon or grams per liter, ROC) for each material used.
- (g) *Solvents*
- (i) Gross monthly volume/mass (gallons or pounds) usage and ROC content (pounds ROC per gallon of solvent or pounds ROC per pound of solvent) for each material used. The usage under Device IDs 110309, 384052, and 114277 shall be totaled and reported separately.
  - (ii) Gross annual volume/mass (gallons or pounds) usage and ROC content (pounds ROC per gallon of solvent or pounds ROC per pound of solvent,) for each material used. The usage under Device IDs 110309, 384052, and 114277 shall be totaled and reported separately.
  - (iii) Gross annual volume (gallons) usage of compounds containing tertiary-butyl acetate. The annual emissions are calculated by multiplying the gross annual volume usage of compounds containing tertiary-butyl acetate by the tertiary-butyl acetate content of the compound.
  - (iv) Gross annual volume usage (gallons) of any compound listed in District Rule 202.D.10.1.1 that exceeds one gallon per year.
  - (v) An current version of the Shop Code List.
- (h) *Storage Tanks*
- (i) The amount of RP-1 transferred out of each RP-1 Storage Tank, the date of the operation and the totaled volume for each tank per year.
  - (ii) For DID #386453, ROC emissions (lbs/day) caused by each launch activity by date and type of such activity (e.g., Activity L1, L2, and L3 as defined by Section 1.3.10 of this permit).
  - (iii) The gross JP-8/Jet-A throughput for Tank 1702 on a monthly and yearly basis.
  - (iv) The gross JP-8/Jet-A throughput for Tank 1703 on a monthly and yearly basis.
- (i) *Abrasive Blasting:*
- (i) The daily hours of abrasive blasting containment structure operation shall be recorded each day the equipment is operated.
  - (ii) The dates when the dust collection cartridges or filter bags, were replaced.
  - (iii) The amount (pounds or tons) and type of abrasive material consumed daily and summarized monthly and annually.
  - (iv) Operation start and end pressure differential readings from Control Device O&M Monitoring permit condition of this permit, if instituted.

- (j) *Landfill Gas*
  - (i) For each semi-annual calendar period, the total waste placed in the landfill during the period in tons, and the total solid waste in place at the landfill in tons.
  - (ii) The calculated NMOC emission rate.
- (k) Fuel Dispensing
  - (i) Gross gasoline and E-85 throughput for each station on a monthly and annual basis. [Ref: Rule 1303]

C.13 **Solvent Recovery Plan.** The permittees may submit a Solvent Recovery Plan to the District for the reclamation and off-site disposal of any reclaimed solvent. This Plan shall be approved by the District prior to the permittees reporting reclaimed solvent in the monthly emission reports. The Plan shall detail all procedures used for collecting, storing and transporting the reclaimed solvent (include example forms, waste hauler manifests, calculations and all other pertinent information/documents). Further, the ultimate fate of these reclaimed solvents must be stated in the Plan. The purpose of this Plan is to ensure that reclaimed solvents are accurately tracked and are not emitted into the atmosphere. Upon District approval, this Plan shall become an enforceable part of this permit. [Ref: Rule 205.C]

C.14 **Best Available Control Technology (BACT).** The permittee shall apply emission control technology and plant design measures that represent BACT to the operation of the equipment/facilities described in Section 4.14. BACT shall be in place, and shall be operational at all times, for the life of the project. BACT related monitoring, recordkeeping and reporting requirements are defined in those specific permit conditions. [Ref: Rule 205.C]

C.15 **Offsets.** The permittee shall comply with the offset requirements of Regulation VIII by maintaining the ERCs identified in Table 7.1 and Table 7.2. Emission reduction credits sufficient to offset the permitted annual NO<sub>x</sub>, ROC, and PM<sub>10</sub> emission increases from the stationary source shall be in place for the life of the project. The permittee shall provide replacement offsets and shall seek variance relief if the ERCs secured to the project are no longer in place. [Ref: Rule 205.C]

C.16 **Source Testing.** The following source test provisions shall apply:

- (a) Source testing shall be performed on a schedule specified in the equipment-specific conditions of this permit, using the month of the first source test as the anniversary date. The permittee shall conduct source testing of air emissions and process parameters listed in Tables 4.16.1, 4.16.2, and 4.16.3 of this permit. More frequent source testing may be required if the equipment does not comply with permitted limitations or if other compliance problems, as determined by the District, occur.

- (b) The permittee shall submit a written source test plan to the District for approval at least thirty (30) calendar days prior to initiation of each source test. The source test plan shall be prepared consistent with the District's Source Test Procedures Manual (revised May 1990 and any subsequent revisions). The permittee shall obtain written District approval of the source test plan prior to commencement of source testing. The District shall be notified at least ten (10) calendar days prior to the start of source testing activity to arrange for a mutually agreeable source test date when District personnel may observe the test.
- (c) Source test results shall be submitted to the District within forty-five (45) calendar days following the date of source test completion and shall be consistent with the requirements approved within the source test plan. Source test results shall document the permittee's compliance status with BACT requirements, permitted mass emission rates and applicable permit conditions, rules and NSPS (if applicable). All District costs associated with the review and approval of all plans and reports and the witnessing of tests shall be paid by the permittee as provided for by District Rule 210.
- (d) A source test for an item of equipment shall be performed on the scheduled day of testing (the test day mutually agreed to) unless circumstances beyond the control of the operator prevent completion of the test on the scheduled day. Such circumstances include mechanical malfunction of the equipment to be tested, malfunction of the source test equipment, delays in source test contractor arrival and/or set-up, or unsafe conditions on site. Except in cases of an emergency, the operator shall seek and obtain District approval before deferring or discontinuing a scheduled test, or performing maintenance on the equipment item on the scheduled test day. If the test cannot be completed on the scheduled day, then the test shall be rescheduled for another time with prior authorization by the District. Once the sample probe has been inserted into the exhaust stream of the equipment unit to be tested (or extraction of the sample has begun), the test shall proceed in accordance with the approved source test plan. In no case shall a test run be aborted except in the case of an emergency or unless approval is first obtained from the District. Failing to perform the source test of an equipment item on the scheduled test day without a valid reason and without the District's authorization shall constitute a violation of this permit. If a test is postponed due to an emergency, written documentation of the emergency event shall be submitted to the District by the close of the business day following the scheduled test day.

The timelines in (a), (b), and (c) above may be extended for good cause provided a written request is submitted to the District at least three (3) calendar days in advance of the deadline, and approval for the extension is granted by the District.

[Ref: ATC 6117, Rules 333, 342, 361]

- C.17 **Ambient Air Quality Standard Violation.** If any ambient air quality monitor records an ambient air quality standard violation, a violation that can be reasonably attributed to operations of the SVPP, VAFB shall take immediate steps to modify or curtail the operational procedures to ensure that such a violation does not recur. The modified procedures must be provided to, and approved by, the District prior to continued operation of the SVPP under conditions that gave rise to the standard violation. [Ref: ATC 6117]

C.18 **Ambient Monitoring Requirements.** As part of the District’s approval of the SVPP, VAFB is required to monitor the ambient air impacts of the project. The required monitoring parameters are defined in Table 9.18.1. To satisfy the requirements of this Condition, VAFB is utilizing the District’s ambient monitoring station located on H Street in Lompoc. The District owns and operates the Lompoc H Street monitoring station. Costs to operate the Lompoc H Street monitoring site are shared between VAFB and the District. VAFB’s annual fee for cost sharing the monitoring station is defined in Table 9.18.2. The fee shall be due and payable pursuant to governing provisions of Rule 210, including annual CPI adjustments. VAFB will be invoiced an annual fee, based on the District’s fiscal year, collected semi-annually or other interval mutually agreed to by VAFB and District. VAFB will not be held responsible for the quality or quantity of data collected by the District at the Lompoc H Street monitoring station.

**Table 9.18.1 Ambient Monitoring Requirements**

<b>Pollutants</b>	<b>Meteorological Parameters</b>
Ozone	Wind Speed Average
Nitric Oxide	Wind Speed Resultant
Oxides of Nitrogen	Wind Direction Average
Nitrogen Dioxide	Wind Direction Resultant
Sulfur Dioxide	Ambient Temperature
Carbon Monoxide	Sigma Theta
PM <sub>10</sub>	
Total Hydrocarbons	

**Table 9.18.2 Fee for Monitoring Station Operation**

<b>FEE DESCRIPTION</b>	<b>ANNUAL FEE</b>
Lompoc H Street Ambient Monitoring Station Operation Fee	\$90,000

- (a) Should the Lompoc H Street monitoring station be shut down, VAFB will continue to have the permit requirement to operate an ambient air monitoring site for the life of the SVPP Project. The District will provide VAFB at least 24 months advance written notice prior to shutting down the Lompoc H Street monitoring station. VAFB shall obtain District approvals of a replacement station, modification to this permit, and procurement, installation and startup of the new station should the Lompoc H Street monitoring site be shut down.  
[Ref: ATC 6117, PTO Mod 13968-02]

C.19 **Continuous Emission Monitoring.** VAFB shall continue the Continuous Emission Monitoring System (CEMS) program for the SVPP. The CEMS program shall be maintained in accordance with the CEMS Plan approved in August 2018 (and subsequent District-approved modifications to the Plan). All CEMS installations shall conform to the most recent version of the District's Continuous Emission Monitoring Protocol (Protocol), including the requirement to submit a CEMS plan meeting the specification in the Protocol. Each CEMS and process monitor must achieve a minimum quarterly data recovery efficiency (DRE) of 90-percent based on actual hours of operation, except for each case in which a specific turbine unit operates less than 50 hours in a quarter. In the event a turbine operates 50 hours or less in a quarter, that turbine's CEMS must achieve the DRE shown in the table below.

**Table 9.19.1 Data Recovery Efficiency Requirements**

<b>Turbine Hours of Operation in Quarter</b>	<b>% DRE Required</b>
50 +	90
25 - 49	80
10 - 24	50
6 - 9	25
0 - 5	0

[Ref: ATC 6117]

- C.20 **Data Acquisition System (DAS).** The District’s DAS shall receive and analyze continuous emissions and process data from the SVPP CEMS as specified in the Continuous Emissions Monitoring condition and ambient air monitoring and meteorological data as specified in the Ambient Monitoring Requirements condition of this permit. VAFB shall collect and transmit this data to the DAS in a manner specified by the District and shall telemeter this data to the DAS on a real-time basis (as specified in the 1992 Data Logger Specifications, or subsequent updates and incorporated herein as reference). Notwithstanding the above, VAFB is not responsible for telemetering Lompoc H Street monitoring station data to the District’s DAS. [Ref: ATC 6117, PTO Mod 13968-02]
- C.21 **Data Telemetry.** VAFB shall install and operate telemetry equipment and software that will transmit monitoring data to the District as specified in the Continuous Emission Monitoring condition of this permit. This telemetry equipment will remain compatible with the DAS. Telemetry of operating and emission parameters shall be conducted through wireless technology via satellite/internet connectivity or communication lines reasonably free of interference and electronic noise that will affect the accurate transmission of data to the District or affect the District’s ability to poll the CEMS on a real-time basis. [Ref: ATC 6117]
- C.22 **Data Acquisition System (DAS) Operation and Maintenance Fee.** VAFB shall connect certain Continuous Emission Monitors (CEMs) and all ambient and meteorological parameters to the District central data acquisition system (DAS). In addition, VAFB shall reimburse the District for the cost of operating and maintaining the DAS. VAFB shall be assessed an annual fee, based on the District’s fiscal year, collected semi-annually.

Pursuant to Rule 210 III.A, VAFB shall pay fees specified in Table 9.22.1 of this permit condition. The District shall use these fees to operate, maintain, and upgrade the DAS in proper running order. Fees shall be due and payable pursuant to governing provisions of Rule 210, including CPI adjustments. Notwithstanding the above, VAFB is not responsible for paying this fee for data telemetered from the Lompoc H Street monitoring station.

All ongoing costs and anticipated future capital upgrades will be District’s responsibility and will be accomplished within the above stated DAS fee. This fee is intended to cover the annual operating budget and upgrades of the DAS and is intended to gradually phase District into a share of the DAS costs (as outlined in the March 27, 1998, letter - Fixed Fee Proposal for Monitoring and DAS Costs). In the event that the assumptions used to establish this fee substantially increase or decrease, District may revisit and adjust the fee based on documentation of cost of services. Adjusted fees will be implemented by transmitting a revised Table 9.22.1. The fees prescribed in this condition shall expire if and when the Board adopts a Data Acquisition System Operation and Maintenance Fee schedule and such fee becomes effective.

**Table 9.22.1 Fees for Data Review & Audit and DAS Operation and Maintenance**

FEE DESCRIPTION <sup>(a) (b)</sup>	FEE
<b>MONITORING STATION DATA REVIEW &amp; AUDIT FEE <sup>(c)</sup></b>	
Data review and audit activities associated with data submitted from any monitoring station listed in PTO 6117.	\$39,223 annually
<b>DAS ACQUISITION SYSTEM &amp; MAINTENANCE FEE</b>	
Per CEM, ambient or meteorological parameter required by permit to be transmitted real-time to the District Central Data Acquisition System.	\$2,174 annually

- (a) All fees shall be due and payable pursuant to the provisions of District Rule 210, including California Consumer Price Index adjustments.
- (b) The fees in this table are based on the District’s March 27, 1998 letter (Fixed Fee Proposal for Monitoring and DAS Costs) and may be updated pursuant to the requirements of this permit.
- (c) The Monitoring Station Data Review & Audit Fee shall not apply when the Lompoc H Street monitoring station is used to comply with the requirements of this permit.
- (d) [Ref: ATC 6117, PTO Mod 13968-02]

**C.23 Documents Incorporated by Reference.** The documents listed below, including any District-approved updates thereof, are incorporated herein and shall have the full force and effect of a permit condition. These documents shall be implemented for the life of the project:

- (a) *Fuel Use Monitoring Plan (FUMP)* (April 12, 2010 and any subsequent District-approved updates). [Ref: Rule 1303]
- (b) *SVPP Continuous Emissions Monitoring (CEMS) Plan* (August 2018 and any subsequent District-approved updates). [Ref: ATC 6117]
- (c) *SVPP Fugitive Hydrocarbon Inspection and Maintenance Program* (October 23, 2002 and any subsequent District-approved updates). [Ref: ATC 6117]
- (d) *Engine Inspection and Maintenance Plan* (for device ID 112253, March 9, 2009, updated on July 27, 2009 and any subsequent District-approved updates). [Ref: Rule 333]
- (e) *Rule 361 Boiler Tuning Procedure* (July 27, 2009 and any subsequent District-approved updates). [Ref: Rule 361]
- (f) *VAFB Johnson Matthey DPF Operation and Maintenance Plan* (October 8, 2008 and any subsequent District-approved updates). [Ref: ATC 12455]
- (g) *VAFB Johnson Matthey DPF Operation and Maintenance Plan* (April 19, 2010 and any subsequent District-approved updates). [Ref: ATC 12205]
- (h) *VAFB Johnson Matthey DPF Operation and Maintenance Plan* (December 21, 2009 and any subsequent District-approved updates). [Ref: ATC 12843]

- (i) *VAFB Johnson Matthey DPF Operation and Maintenance Plan* (June 2012 and any subsequent District-approved updates). [Ref: ATC 13847]
- (j) *VAFB Johnson Matthey DPF Operation and Maintenance Plan* (June 2012 and any subsequent District-approved updates). [Ref: ATC 12346]
- (k) *Differential Pressure Monitoring Plan for PTO 12155*. Approved August 27, 2007.
- (l) *Abrasive Blasting O&M Plan PTO for 10867*. Approved July 19, 2010.
- (m) *Abrasive Blasting O&M Plan for PTO 10788*. Approved March 3, 2003.
- (n) *Abrasive Blasting O&M Plan for PTO 11289*. Approved August 19, 2005.
- (o) *Firewater Pump I&M Plan for ATC 11049*. Approved November 14, 2003.
- (p) *HSF Inspection & Maintenance Plan*. Approved September 29, 2011.

## 9.D District-Only Conditions

D.1 **Stationary Emergency Standby Internal Combustion Engines.** The equipment listed in Attachment 10.3 are included in this emissions unit category. The following conditions shall apply:

- (a) Emission Limits: N/A
- (b) Operational Restrictions:
  - (i) Maintenance & Testing Use Limit: The stationary emergency standby diesel-fueled CI engine(s) subject to this permit, except for in-use firewater pump engines, shall limit maintenance and testing<sup>7</sup> operations to no more than the hours listed in Attachment 10.3.
  - (ii) Impending Rotating Outage Use: The stationary emergency standby diesel-fueled CI engine(s) subject to this permit may be operated in response to the notification of an impending rotating outage if all the conditions cited in the ATCM are met, as applicable.
  - (iii) Fuel and Fuel Additive Requirements: The permittee may only add fuel and/or fuel additives to the engine or any fuel tank directly attached to the engine that comply with the ATCM, as applicable.
  - (iv) Firewater Pumps: The stationary emergency standby diesel-fueled CI engines subject to this permit that are operated as firewater pumps shall not operate more than the number of hours necessary to comply with the testing requirements of the current National Fire Protection Association (NFPA) 25 - “Standard for the Inspection, Testing, and Maintenance of Water-Based Fire Protection Systems”.

D.2 **Notification of Loss of Exemption.** Owners or operators of in-use stationary diesel-fueled CI engines, who are subject to an exemption specified in the ATCM from all or part of the requirements of the ATCM, shall notify the District immediately after they become aware that the exemption no longer applies and shall demonstrate compliance within 180 days after notifying the District.

D.3 **Enrollment in a DRP/ISC - January 1, 2005.** Any stationary diesel CI engine rated over 50 bhp that enrolls for the first time in a Demand Response Program/Interruptible Service Contract as defined in the ATCM) on or after January 1, 2005, shall first obtain an District Authority to Construct permit to ensure compliance with the emission control requirements and hour limitations governing ISC engines.

D.4 **Title 17-Subchapter 6-Abrasive Blasting - California Code of Regulations Compliance.** The permittee shall conduct all abrasive blasting operations in full compliance with the abrasive blasting provisions of Title 17 Subchapter 6 - California Code of Regulations (§92000 - §92530) at all times.

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<sup>7</sup> “maintenance and testing” is defined in of the ATCM and may also be found on the District webpage at [http://www.ourair.org/eng/atcm/dice/ES\\_MT\\_DICE\\_Definitions.pdf](http://www.ourair.org/eng/atcm/dice/ES_MT_DICE_Definitions.pdf)

## D.5 Landfill Operations

- (a) Emission Limits: n/a
- (b) Operational Limits: n/a
- (c) Monitoring Requirements:
  - (i) Design Capacity and Waste Acceptance: The total amount of municipal solid waste in place at the end of the period and the amount of waste placed in the landfill during the period shall be recorded semi-annually (all in units of tons).
  - (ii) Landfill Gas Heat Input: Recalculate the landfill gas heat input capacity annually using the procedures specified in Appendix I of the California Methane Regulation for Emissions from Municipal Solid Waste Landfills. The Executive Officer may request additional information as may be necessary to verify the heat input capacity from the landfill. Site-specific data may be substituted when available. [Ref: California Methane Emissions from Municipal Solid Waste Landfills, Section 95463(b)(1)(A)]
- (d) Recordkeeping Requirements:
  - (i) Design Capacity and Waste Accepted: For each semi-annual calendar period, records shall be maintained documenting the total waste placed in the landfill during the period in tons, and the total solid waste in place at the landfill in tons.
  - (ii) Calculated NMOC Emission Rate: At the end of each semi-annual calendar period, records shall be maintained documenting the calculated NMOC emission rate. The emission rate shall be calculated using the equation specified in 40 CFR 60.754.
  - (iii) Landfill Gas Heat Input: On an annual basis, the landfill gas heat input capacity shall be recorded using the procedures specified in Appendix I of the California Methane Regulation for Emissions from Municipal Solid Waste Landfills.
- (e) Semi-Annual Reporting. On a semi-annual basis, a report detailing the previous six month's activities shall be provided to the District. The report must list all data required by permit condition 9.C.12 (Semi-Annual Compliance Verification Reports).
- (f) Annual Reporting: Landfill Gas Heat Input: On an annual basis, a report detailing the landfill gas heat input capacity using the procedures specified in Appendix I of the California Methane Regulation for Emissions from Municipal Solid Waste Landfills.

D.6 **Abrasive Blasting.** The abrasive blasting equipment listed in Attachment 10.5 are included in this emissions unit category. The following conditions shall apply:

- (a) Prohibitory Rule Limits. Particulate emissions (PM) from abrasive blasting equipment operation shall not exceed the limits listed below. These emission limits are based upon Prohibitory Rule limits. Compliance with this condition shall be determined through compliance with the (Operational Restrictions), Recordkeeping, and Reporting conditions, as well as Title 17-Subchapter 6-Abrasive Blasting - California Code of Regulations Compliance the Control Device O&M Monitoring of this permit.

**Table 9.D.6.1 Prohibitory Rule Limits**

Device	Building	Prohibitory Limits	
		Rule 304	Rule 306
#110229, 110230, 110232,, 112487	9320	0.3 grains/scf	3.74 lbs/hr
#9890	9320	0.3 grains/scf	2.01 lbs/hr
#107916, 107917, 107918	2007	0.3 grains/scf	1.77 lbs/hr
384075	7438	NA	NA

Notes:

- i. Rule 304 prohibitory rule limit.
- ii. Rule 306, Table 306(a). Process weight rate limit.

(b) Operational Restrictions. In addition to the requirements of District Regulation III (Prohibitions), the equipment and processes permitted herein is subject to the following operational restrictions:

(i) The following abrasive material use limits shall apply:

**Table 9.D.6.2 Abrasive Material Use Limits**

Device	Building	Abrasive Material Use Limits	
		Daily	Annual
#110229, 110230, 110232,, 112487	9320	6.64 tons	1,726 tons
#9890	9320	2.4 tons	250 tons
#107916, 107917, 107918	2007	2.0 tons	500 tons
#384075	7438	4.8 tons	300 tons

(ii) *Abrasive Containment Tent Use:* All abrasive cleaning of appropriately sized parts at Building 7438 must be performed within the abrasive blasting tent.

(iii) *Abrasive Containment Structure Use:* All abrasive cleaning of appropriately sized parts at Building 2007 must be performed within the abrasive blasting containment structure. During this activity the dust collector filters shall be used. The dust collection filters shall be maintained in good working order according to manufacturer’s guidelines at all time.

(c) Recordkeeping. The permittees shall record and maintain the following information and make it available to the District upon request.

(i) The daily hours of abrasive blasting containment structure operation shall be recorded each day the equipment is operated.

(ii) The dates when the dust collection cartridges or filters were replaced.

(iii) The amount (pounds or tons) and type of abrasive material consumed daily summarized monthly and annually.

(iv) Operation start and end pressure differential readings from Control Device O&M Monitoring permit condition of this permit, if instituted.

- (d) Reporting. On a semi-annual basis, a report detailing the previous six month's activities shall be provided to the District. The report must list all data required by permit condition 9.C.12 (Semi-Annual Compliance Verification Reports).
- (e) Control Device O&M Monitoring. A program of periodic monitoring of the effectiveness of the particulate control device shall be instituted. This program shall consist of either the implementation of the differential pressure monitoring plan described below or source testing of the equipment.
  - (i) *Abrasive Blasting Operation and Maintenance Plan*. (Device 107916, 107917, 107918). The permittee shall implement the District-approved Differential Pressure Monitoring Plan for PTO 12155 dated April 12, 2007 (and any approved updates thereof). The approved plan shall be implemented for the life of the project and is hereby incorporated by reference as an enforceable part of this permit.
  - (ii) *Abrasive Blasting System Monitoring Plan* (Device 009890)A program of periodic monitoring of the effectiveness of the particulate control device shall be followed. This program shall be consistent with the Abrasive Blasting System Monitoring Plan for Building 9320 dated December 11, 2003 (or any subsequent District-approved updates). The approved plan shall be implemented for the life of the project and is hereby incorporated by reference as an enforceable part of this permit.

If the above-described plan is not implemented, permittee, upon written request by the District, shall arrange for and conduct a source test to verify compliance with the limits given in Prohibitory Rule Limits condition of this permit. Source testing shall be conducted in accordance with permit condition C.16 of this permit.

**D.7 Temporary Engine Replacements - DICE ATCM.** Any reciprocating internal combustion engine subject to this permit and the stationary diesel ATCM may be temporarily replaced only if the requirements (a – h) listed herein are satisfied.

- (a) The permitted engine that is being temporarily replaced is in need of routine repair or maintenance.
- (b) The permitted engine does not have a cracked block, unless the block will be replaced under manufacturer's warranty.
- (c) Replacement parts are available for the permitted engine.
- (d) The permitted engine is returned to its original service within 180 days of installation of the temporary engine.
- (e) The temporary replacement engine has the same or lower manufacturer rated horsepower and same or lower potential to emit of each pollutant as the permitted engine. At the written request of the permittee, the District may approve a replacement engine with a larger rated horsepower if the proposed temporary engine has manufacturer guaranteed emissions (for a brand new engine) or source test data (for a previously used engine) less than or equal to the permitted engine.

- (f) The temporary replacement engine shall comply with all rules and permit requirements that apply to the permitted engine.
- (g) For each permitted engine to be temporarily replaced, the permittee shall submit a completed *Temporary IC Engine Replacement Notification* form (Form ENF-94) within 14 days of the temporary engine being installed. This form may be sent hardcopy, or can be e-mailed (e-mail: [engr@sbcapcd.org](mailto:engr@sbcapcd.org)) to the District (Attn: Engineering Supervisor).
- (h) Within 14 days of returning the original permitted engine to service, the permittee shall submit a completed *Temporary IC Engine Replacement Report* form (Form ENF-95). This form may be sent hardcopy, or can be e-mailed (e-mail: [engr@sbcapcd.org](mailto:engr@sbcapcd.org)) to the District (Attn: Engineering Supervisor).

Any engine in temporary replacement service shall be immediately shut down if the District determines that the requirements of this condition have not been met. If the requirements of this condition are not met, the permittee must obtain an ATC before installing or operating a temporary replacement engine.

**D.8 Permanent Engine Replacements.** The permittee may install a new engine in place of an engine permitted herein without first obtaining an ATC only if the requirements (a – f) listed herein are satisfied.

- (a) The permitted stationary diesel-fueled engine is an E/S engine, a firewater pump engine or an engine used for an essential public service (as defined by the District).
- (b) The permitted engine breaks down, cannot be repaired, and needs to be replaced by a new permanent engine.
- (c) The facility provides “good cause” (in writing) for the need to install a new permanent engine before an ATC can be obtained for a new engine.
- (d) The new permanent engine must comply with the requirements of the ATCM for new engines. A temporary replacement engine may be used while the new permanent engine is being procured only if it meets the requirements of the *Temporary Engine Replacements - DICE ATCM* permit condition.
- (e) An ATC application for the new permanent engine must be submitted to the District within 15 days of the existing engine being replaced and the ATC must be obtained no later than 180 days from the date of engine replacement (these timelines include the use of a temporary engine).
- (f) For each new permanent engine installed pursuant to this condition, the permittee shall submit a completed *Permanent IC Engine Replacement Notification* form (Form ENF-96) within 14 days of the new engine being installed. This form may be sent hardcopy, or can be e-mailed (e-mail: [engr@sbcapcd.org](mailto:engr@sbcapcd.org)) to the District (Attn: Engineering Supervisor).
- (g) Any engine installed pursuant to this condition shall be immediately shut down if the District determines that the requirements of this condition have not been met.

- D.9 **De-Permitted Equipment.** All equipment units listed in Section C of Attachment 10.1 (De-Permitted Equipment) shall either be removed from the facility or tagged out of service. If a unit is tagged out of service, the tag shall specify that the equipment may not operate without first obtaining a District Authority to Construct permit. All fuel burning equipment tagged out of service shall be disconnected from fuel supply. Out of service tags shall be affixed to all de-permitted equipment located at the facility within 90 days of issuance of this permit.
- D.10 **Nuisance (Rule 303).** Except as otherwise provided in Section 41705 of the California H&SC, no person shall discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health, or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property.
- D.11 **Circumvention (Rule 301).** A person shall not build, erect, install, or use any article, machine, equipment or other contrivance, the use of which, without resulting in a reduction in the total release of air contaminants to the atmosphere, reduces or conceals an emission which would otherwise constitute a violation of Division 26 (Air Resources) of the Health and Safety Code of the State of California or of these Rules and Regulations. This Rule shall not apply to cases in which the only violation involved is of Section 41700 of the Health and Safety Code of the State of California, or of District Rule 303.
- D.12 **Visible Emissions (Rule 302):** The permittee shall not discharge into the atmosphere from any single source of emission any air contaminants for a period or periods aggregating more than three minutes in any one hour which is:
- (a) As dark or darker in shade as that designated as No. 1 on the Ringelmann Chart, as published by the United States Bureau of Mines, or
  - (b) Of such opacity as to obscure an observer's view to a degree equal to or greater than does smoke described in subsection B.5.(a) above.
  - (c) For all combustion sources listed in Section 9.C, VAFB shall be in compliance with the requirements of this Rule in accordance with the monitoring and compliance recordkeeping procedures in Section 9.C.
- D.13 **Organic Solvents (Rule 317).** The Permittee shall comply with the emission standards listed in Section B of Rule 317. Compliance with this condition shall be based on the Permittee's compliance with the *Solvent Usage* condition of this permit.
- D.14 **Metal Surface Coating Thinner and Reducer (Rule 322).** The use of photochemically reactive solvents as thinners or reducers in metal surface coatings is prohibited. Compliance with this condition shall be based on the Permittee's compliance with the *Solvent Usage* condition of this permit, and facility inspections.

D.15 **Disposal and Evaporation of Solvents (Rule 324).** The Permittee shall not dispose through atmospheric evaporation more than one and a half gallons of any photochemically reactive solvent per day. Compliance with this condition shall be based on the Permittee's compliance with the *Solvent Usage* condition of this permit, and facility inspections.

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AIR POLLUTION CONTROL OFFICER

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DATE

Notes: Reevaluation Due Date: October 2022  
This permit supersedes permits listed in Attachment 10.10

Attachments:

- 10.1 Permitted Equipment List
- 10.2 External Combustion Equipment Operational Requirements
- 10.3 Internal Combustion Equipment Operational Requirements
- 10.4 Coating Equipment
- 10.5 Miscellaneous Equipment
- 10.6 Vapor Recovery System Testing Requirements
- 10.7 Fuel Storage Tank PTE
- 10.8 Abrasive Blasting PTE Calculations
- 10.9 Landfill PTE Calculations
- 10.10 Permits Incorporated into PTO 13968-R2
- 10.11 Exempt Equipment
- 10.12 Fee Statement
- 10.13 ENVVEST History

## 10.1 Permitted Equipment List

PT-70/Reeval 13968 R2 / FID: 00201 Vandenberg AFB 30th Space Wing / SSID: 01195

### A PERMITTED EQUIPMENT

#### 1 South Vandenberg Power Plant

#### 1.1 Gas Turbine Generators - SVPP

#### 1.1.1 Turbine Generator A

<i>Device ID #</i>	<b>006080</b>	<i>Device Name</i>	<b>Turbine Generator A</b>
<i>Rated Heat Input</i>	44.080 MMBtu/Hour	<i>Physical Size</i>	7000.00 Brake Horsepower
<i>Manufacturer Model</i>	Detroit Diesel Allison 501-KB	<i>Operator ID Serial Number</i>	Unit A 1166
<i>Location Note Device Description</i>	South Vandenberg Power Plant, VAFB The skid-mounted gas turbine-generator, nominally rated at 3,050 kilowatts (kW) under site conditions, was supplied as a package unit. The turbine is capable of full load operation on either utility grade natural gas or No.2 fuel oil with a maximum 0.2% sulfur content. Rated bhp at 13,820 RPM.		

#### 1.1.2 Turbine Generator B

<i>Device ID #</i>	<b>006081</b>	<i>Device Name</i>	<b>Turbine Generator B</b>
<i>Rated Heat Input</i>	44.080 MMBtu/Hour	<i>Physical Size</i>	7000.00 Brake Horsepower
<i>Manufacturer Model</i>	Detroit Diesel Allison 501-KB	<i>Operator ID Serial Number</i>	Unit B 1165
<i>Location Note Device Description</i>	South Vandenberg Power Plant, VAFB The skid-mounted gas turbine-generator, nominally rated at 3,050 kilowatts (kW) under site conditions, was supplied as a package unit. The turbine is capable of full load operation on either utility grade natural gas or No.2 fuel oil with a maximum 0.2% sulfur content. Rated bhp at 13,820 RPM.		

**1.1.3 Turbine Generator C**

<b>Device ID #</b>	<b>006082</b>	<b>Device Name</b>	<b>Turbine Generator C</b>
<i>Rated Heat Input</i>	44.080 MMBtu/Hour	<i>Physical Size</i>	7000.00 Brake Horsepower
<i>Manufacturer Model</i>	Detroit Diesel Allison 501-KB	<i>Operator ID Serial Number</i>	Unit C 1164
<i>Location Note</i>	South Vandenberg Power Plant, VAFB		
<i>Device Description</i>	The skid-mounted gas turbine-generator, nominally rated at 3,050 kilowatts (kW) under site conditions, was supplied as a package unit. The turbine is capable of full load operation on either utility grade natural gas or No.2 fuel oil with a maximum 0.2% sulfur content. Rated bhp at 13,820 RPM.		

**1.1.4 Turbine Generator D**

<b>Device ID #</b>	<b>006083</b>	<b>Device Name</b>	<b>Turbine Generator D</b>
<i>Rated Heat Input</i>	44.080 MMBtu/Hour	<i>Physical Size</i>	7000.00 Brake Horsepower
<i>Manufacturer Model</i>	Detroit Diesel Allison 501-KB	<i>Operator ID Serial Number</i>	Unit D 1167
<i>Location Note</i>	South Vandenberg Power Plant, VAFB		
<i>Device Description</i>	The skid-mounted gas turbine-generator, nominally rated at 3,050 kilowatts (kW) under site conditions, was supplied as a package unit. The turbine is capable of full load operation on either utility grade natural gas or No.2 fuel oil with a maximum 0.2% sulfur content. Rated bhp at 13,820 RPM.		

**1.1.5 Turbine Generator E**

<b>Device ID #</b>	<b>006084</b>	<b>Device Name</b>	<b>Turbine Generator E</b>
<i>Rated Heat Input</i>	44.080 MMBtu/Hour	<i>Physical Size</i>	7000.00 Brake Horsepower
<i>Manufacturer Model</i>	Detroit Diesel Allison 501-KB	<i>Operator ID Serial Number</i>	Unit E 1163
<i>Location Note</i>	South Vandenberg Power Plant, VAFB		
<i>Device Description</i>	The skid-mounted gas turbine-generator, nominally rated at 3,050 kilowatts (kW) under site conditions, was supplied as a package unit. The turbine is capable of full load operation on either utility grade natural gas or No.2 fuel oil with a maximum 0.2% sulfur content. Rated bhp at 13,820 RPM.		

## 1.2 Exhaust Catalyst System - SVPP

### 1.2.1 Catalytic Control System A

<b>Device ID #</b>	<b>113512</b>	<b>Device Name</b>	<b>Catalytic Control System A</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	
<i>Manufacturer</i>	PCA Inc.	<i>Operator ID</i>	
<i>Model</i>	ADCAT CO/VOC Catalyst	<i>Serial Number</i>	
<i>Location Note</i>	South Vandenberg Power Plant, VAFB		
<i>Device Description</i>	Precious metal/stainless steel alloy substrate catalyst beds are installed in the gas turbine exhaust ducts between the gas turbine discharge and the exhaust stack/silencers. The catalysts operate within a 750F - 1250F temperature range and oxidize carbon monoxide (CO) and non-methane hydrocarbon (NMHC) to water and carbon dioxide (CO <sub>2</sub> ).		

### 1.2.2 Catalytic Control System B

<b>Device ID #</b>	<b>113513</b>	<b>Device Name</b>	<b>Catalytic Control System B</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	
<i>Manufacturer</i>	PCA Inc.	<i>Operator ID</i>	
<i>Model</i>	ADCAT CO/VOC Catalyst	<i>Serial Number</i>	
<i>Location Note</i>	South Vandenberg Power Plant, VAFB		
<i>Device Description</i>	Precious metal/stainless steel alloy substrate catalyst beds are installed in the gas turbine exhaust ducts between the gas turbine discharge and the exhaust stack/silencers. The catalysts operate within a 750F - 1250F temperature range and oxidize carbon monoxide (CO) and non-methane hydrocarbon (NMHC) to water and carbon dioxide (CO <sub>2</sub> ).		

### 1.2.3 Catalytic Control System C

<b>Device ID #</b>	<b>113514</b>	<b>Device Name</b>	<b>Catalytic Control System C</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	
<i>Manufacturer</i>	PCA Inc.	<i>Operator ID</i>	
<i>Model</i>	ADCAT CO/VOC Catalyst	<i>Serial Number</i>	
<i>Location Note</i>	South Vandenberg Power Plant, VAFB		
<i>Device Description</i>	Precious metal/stainless steel alloy substrate catalyst beds are installed in the gas turbine exhaust ducts between the gas turbine discharge and the exhaust stack/silencers. The catalysts operate within a 750F - 1250F temperature range and oxidize carbon monoxide (CO) and non-methane hydrocarbon (NMHC) to water and carbon dioxide (CO <sub>2</sub> ).		

**1.2.4 Catalytic Control System D**

<b>Device ID #</b>	<b>113515</b>	<b>Device Name</b>	<b>Catalytic Control System D</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	
<i>Manufacturer</i>	PCA Inc.	<i>Operator ID</i>	
<i>Model</i>	ADCAT CO/VOC Catalyst	<i>Serial Number</i>	
<i>Location Note</i>	South Vandenberg Power Plant, VAFB		
<i>Device Description</i>	Precious metal/stainless steel alloy substrate catalyst beds are installed in the gas turbine exhaust ducts between the gas turbine discharge and the exhaust stack/silencers. The catalysts operate within a 750F - 1250F temperature range and oxidize carbon monoxide (CO) and non-methane hydrocarbon (NMHC) to water and carbon dioxide (CO <sub>2</sub> ).		

**1.2.5 Catalytic Control System E**

<b>Device ID #</b>	<b>113516</b>	<b>Device Name</b>	<b>Catalytic Control System E</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	
<i>Manufacturer</i>	PCA Inc.	<i>Operator ID</i>	
<i>Model</i>	ADCAT CO/VOC Catalyst	<i>Serial Number</i>	
<i>Location Note</i>	South Vandenberg Power Plant, VAFB		
<i>Device Description</i>	Precious metal/stainless steel alloy substrate catalyst beds are installed in the gas turbine exhaust ducts between the gas turbine discharge and the exhaust stack/silencers. The catalysts operate within a 750F - 1250F temperature range and oxidize carbon monoxide (CO) and non-methane hydrocarbon (NMHC) to water and carbon dioxide (CO <sub>2</sub> ).		

**1.3 Turbine "Pony Starter" Engines**

**1.3.1 Starter Engine 818 - Bldg 525**

<b>Device ID #</b>	<b>104867</b>	<b>Device Name</b>	<b>Starter Engine 818 - Bldg 525</b>
<i>Rated Heat Input</i>	1.200 MMBtu/Hour	<i>Physical Size</i>	160.00 Brake Horsepower
<i>Manufacturer</i>	Deutz Air Diesel	<i>Operator ID</i>	Unit A.1
<i>Model</i>	BF6L913	<i>Serial Number</i>	9040655
<i>Location Note</i>	South Vandenberg Power Plant, VAFB		
<i>Device Description</i>	Low-use prime engine rated at 160 bhp at 2500 rpm. Operation limited to 20 hrs/year. Fired on CARB diesel with a maximum sulfur content of 0.0015 percent.		

**1.3.2 Starter Engine 820 - Bldg 525**

<i>Device ID #</i>	<b>104868</b>	<i>Device Name</i>	<b>Starter Engine 820 - Bldg 525</b>
<i>Rated Heat Input</i>	1.200 MMBtu/Hour	<i>Physical Size</i>	160.00 Brake Horsepower
<i>Manufacturer Model</i>	Deutz Air Diesel BF6L913	<i>Operator ID Serial Number</i>	Unit B.1 9040816
<i>Location Note</i>	South Vandenberg Power Plant, VAFB		
<i>Device Description</i>	Low-use prime engine rated at 160 bhp at 2500 rpm. Operation limited to 20 hrs/year. Fired on CARB diesel with a maximum sulfur content of 0.0015 percent.		

**1.3.3 Starter Engine 821 - Bldg 525**

<i>Device ID #</i>	<b>104869</b>	<i>Device Name</i>	<b>Starter Engine 821 - Bldg 525</b>
<i>Rated Heat Input</i>	1.200 MMBtu/Hour	<i>Physical Size</i>	160.00 Brake Horsepower
<i>Manufacturer Model</i>	Deutz Air Diesel BF6L913	<i>Operator ID Serial Number</i>	Unit C.1 9041970
<i>Location Note</i>	South Vandenberg Power Plant, VAFB		
<i>Device Description</i>	Low-use prime engine rated at 160 bhp at 2500 rpm. Operation limited to 20 hrs/year. Fired on CARB diesel with a maximum sulfur content of 0.0015 percent.		

**1.3.4 Starter Engine 822 - Bldg 525**

<i>Device ID #</i>	<b>104870</b>	<i>Device Name</i>	<b>Starter Engine 822 - Bldg 525</b>
<i>Rated Heat Input</i>	1.200 MMBtu/Hour	<i>Physical Size</i>	160.00 Brake Horsepower
<i>Manufacturer Model</i>	Deutz Air Diesel BF6L913	<i>Operator ID Serial Number</i>	Unit D.1 9040657
<i>Location Note</i>	South Vandenberg Power Plant, VAFB		
<i>Device Description</i>	Low-use prime engine rated at 160 bhp at 2500 rpm. Operation limited to 20 hrs/year. Fired on CARB diesel with a maximum sulfur content of 0.0015 percent.		

**1.3.5 Starter Engine 823 - Bldg 525**

<i>Device ID #</i>	<b>104871</b>	<i>Device Name</i>	<b>Starter Engine 823 - Bldg 525</b>
<i>Rated Heat Input</i>	1.200 MMBtu/Hour	<i>Physical Size</i>	160.00 Brake Horsepower
<i>Manufacturer Model</i>	Deutz Air Diesel BF6L913	<i>Operator ID Serial Number</i>	Unit E.1 9040658
<i>Location Note</i>	South Vandenberg Power Plant, VAFB		
<i>Device Description</i>	Low-use prime engine rated at 160 bhp at 2500 rpm. Operation limited to 20 hrs/year. Fired on CARB diesel with a maximum sulfur content of 0.0015 percent.		

**1.4 Demineralized Water Injection System - SVPP**

<i>Device ID #</i>	<b>104900</b>	<i>Device Name</i>	<b>Demineralized Water Injection System - SVPP</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	
<i>Manufacturer Model</i>		<i>Operator ID Serial Number</i>	
<i>Location Note</i>	South Vandenberg Power Plant, VAFB		
<i>Device Description</i>	The water treatment system includes two 100% capacity granular activated carbon filters, two 100% capacity zeolite softeners or equivalent, one reverse osmosis (RO) unit, two 100% mixed bed polishers, acid and caustic regeneration system, automatic control system, transfer pumps, and two 13,000 gallons capacity each densely cross-linked polyethylene demineralized water storage tanks. This system supplies approximately 20 gallons/minute of high quality demineralized water to be injected into the gas turbines for NOx control. The water injection system will be automatically controlled to a preset water-to-fuel injection ratio.		

**1.5 Fuel Oil Supply System - SVPP**

<i>Device ID #</i>	<b>104899</b>	<i>Device Name</i>	<b>Fuel Oil Supply System - SVPP</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	
<i>Manufacturer Model</i>		<i>Operator ID Serial Number</i>	
<i>Location Note</i>	South Vandenberg Power Plant, VAFB		
<i>Device Description</i>	Fuel oil will be pumped as needed to five (5) day-tanks from fuel delivery vessel. The capacity of each fuel oil day-tank is 2,500 gallons.		

**1.6 Natural Gas Fuel Supply System - SVPP**

<i>Device ID #</i>	<b>104898</b>	<i>Device Name</i>	<b>Natural Gas Fuel Supply System - SVPP</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	
<i>Manufacturer</i>		<i>Operator ID</i>	
<i>Model</i>		<i>Serial Number</i>	
<i>Location Note</i>	South Vandenberg Power Plant, VAFB		
<i>Device Description</i>	Natural gas is available at the power plant site. An 8-inch line delivers the gas at a pressure sufficient for use by the turbines without further compression.		

**2 External Combustion Equipment**

**2.1 Building 836 - Boilers**

**2.1.1 Hot-Water Boiler 3872**

<i>Device ID #</i>	<b>111100</b>	<i>Device Name</i>	<b>Hot-Water Boiler 3872</b>
<i>Rated Heat Input</i>	2.160 MMBtu/Hour	<i>Operator ID</i>	3872
<i>Manufacturer</i>	Parker Boiler	<i>Serial Number</i>	58560
<i>Model</i>	T2160L	<i>Rule 361 Status</i>	New/Mod
<i>Location Note</i>	Building 836, VAFB		
<i>Emission Control Basis</i>	R361		
<i>Device Description</i>	Forced draft, full modulation, manufactured in December 2007.		

**2.1.2 Hot-Water Boiler 3873**

<i>Device ID #</i>	<b>111101</b>	<i>Device Name</i>	<b>Hot-Water Boiler 3873</b>
<i>Rated Heat Input</i>	2.160 MMBtu/Hour	<i>Operator ID</i>	3873
<i>Manufacturer</i>	Parker Boiler	<i>Serial Number</i>	58561
<i>Model</i>	T2160L	<i>Rule 361 Status</i>	New/Mod
<i>Location Note</i>	Building 836, VAFB		
<i>Emission Control Basis</i>	R361		
<i>Device Description</i>	Forced draft, full modulation, manufactured in December 2007.		

**2.2 Building 1819 - Boilers**

**2.2.1 Hot Water Boiler #1**

<i>Device ID #</i>	<b>388091</b>	<i>Device Name</i>	<b>Hot Water Boiler #1</b>
<i>Rated Heat Input</i>	1.500 MMBtu/Hour	<i>Operator ID</i>	
		<i>Serial Number</i>	0911303494
<i>Manufacturer Model</i>	Raypak H7-1503	<i>Stacked Unit?</i>	Yes
<i>Location Note</i>	Bldg 1819, VAFB		
<i>Emission Control Basis</i>	BACT		
<i>Device Description</i>	Stacked, propane-fired, hot water boiler. Equipped with a shared Dresser Roots Model IMC/W2 temperature and pressure corrected meter.		

**2.2.2 Hot Water Boiler #2**

<i>Device ID #</i>	<b>388092</b>	<i>Device Name</i>	<b>Hot Water Boiler #2</b>
<i>Rated Heat Input</i>	1.500 MMBtu/Hour	<i>Operator ID</i>	
		<i>Serial Number</i>	0911303495
<i>Manufacturer Model</i>	Raypak H7-1503	<i>Stacked Unit?</i>	Yes
<i>Location Note</i>	Bldg 1819, VAFB		
<i>Emission Control Basis</i>	BACT		
<i>Device Description</i>	Stacked, propane-fired, hot water boiler. Equipped with a shared Dresser Roots Model IMC/W2 temperature and pressure corrected meter.		

**2.3 Building 2520 - Boilers**

**2.3.1 Boiler #1**

<i>Device ID #</i>	<b>386176</b>	<i>Device Name</i>	<b>Boiler #1</b>
<i>Rated Heat Input</i>	4.600 MMBtu/Hour	<i>Operator ID</i>	4371
		<i>Serial Number</i>	61417
<i>Manufacturer Model</i>	Parker Boiler T-4600LR	<i>Rule 361 Status</i>	New/Mod
<i>Location Note</i>	Bldg 2520, Intersection of Arizona Ave & 30th St., VAFB		
<i>Emission Control Basis</i>	R361		
<i>Device Description</i>	Hot Water Boiler Forced Draft Full Modulation Fired on PUC Gas Not Stacked Equipped with a shared Dresser Roots Meter, model 7M175 and a Dresser Roots Micro Series PTZ + Log Corrector, Model 197PTZ.		

**2.3.2 Boiler #2**

<i>Device ID #</i>	<b>386177</b>	<i>Device Name</i>	<b>Boiler #2</b>
<i>Rated Heat Input</i>	4.600 MMBtu/Hour	<i>Operator ID</i>	4372
<i>Manufacturer Model</i>	Parker Boiler T-4600LR	<i>Serial Number</i>	61418
<i>Location Note</i>	Bldg 2520, Intersection of Arizona Ave & 30th St., VAFB		
<i>Emission Control Basis</i>	R361	<i>Rule 361 Status</i>	New/Mod
<i>Device Description</i>	Hot Water Boiler Forced Draft Full Modulation Fired on PUC Gas Not Stacked Equipped with a shared Dresser Roots Meter, model 7M175 and a Dresser Roots Micro Series PTZ + Log Corrector, Model 197PTZ.		

**2.4 Building 7000 - Boilers**

**2.4.1 Boiler #1**

<i>Device ID #</i>	<b>391690</b>	<i>Device Name</i>	<b>Boiler #1</b>
<i>Rated Heat Input</i>	2.500 MMBtu/Hour	<i>Operator ID</i>	706481
<i>Manufacturer Model</i>	AERCO BMK 2500	<i>Serial Number</i>	TBD
<i>Location Note</i>	Bldg 7000, VAFB		
<i>Emission Control Basis</i>	R361	<i>Rule 361 Status</i>	New/Mod
<i>Device Description</i>	Natural draft, full modulation, hot water boiler fired on PUC gas. Equipped a low-NOx burner and a shared, temperature and pressure corrected Roots Meter, model IMC/W2.		

**2.4.2 Boiler #2**

<i>Device ID #</i>	<b>391691</b>	<i>Device Name</i>	<b>Boiler #2</b>
<i>Rated Heat Input</i>	2.500 MMBtu/Hour	<i>Operator ID</i>	706477
<i>Manufacturer Model</i>	AERCO BMK 2500	<i>Serial Number</i>	TBD
<i>Location Note</i>	Bldg 7000, VAFB		
<i>Emission Control Basis</i>	R361	<i>Rule 361 Status</i>	New/Mod
<i>Device Description</i>	Natural draft, full modulation, hot water boiler fired on PUC gas. Equipped a low-NOx burner and a shared, temperature and pressure corrected Roots Meter, model IMC/W2.		

2.5 Building 7015 - Boilers

2.5.1 Hot Water Boiler 679373

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<b>Device ID #</b>	<b>388149</b>	<b>Device Name</b>	<b>Hot Water Boiler 679373</b>
<i>Rated Heat Input</i>	1.500 MMBtu/Hour	<i>Operator ID Serial Number</i>	679373
<i>Manufacturer Model</i>	Lochinvar FBN 1500	<i>Stacked Unit?</i>	Yes
<i>Location Note</i>	Building 7015, 806 13th Street, VAFB		
<i>Emission Control Basis</i>	R360		
<i>Device Description</i>	Natural draft Full modulation Fired on PUC Quality natural gas. Equipped with a low NOx burner Shared meter.		

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2.5.2 Hot Water Boiler 679380

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<b>Device ID #</b>	<b>388150</b>	<b>Device Name</b>	<b>Hot Water Boiler 679380</b>
<i>Rated Heat Input</i>	1.500 MMBtu/Hour	<i>Operator ID Serial Number</i>	679380
<i>Manufacturer Model</i>	Lochinvar FBN 1500	<i>Stacked Unit?</i>	Yes
<i>Location Note</i>	Building 7015, 806 13th Street, VAFB		
<i>Emission Control Basis</i>	R360		
<i>Device Description</i>	Natural draft Full modulation Fired on PUC Quality natural gas. Equipped with a low NOx burner Shared meter.		

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**2.6 Building 8510 - Boilers**

**2.6.1 Hot Water Boiler 3996**

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<b>Device ID #</b>	<b>112964</b>	<b>Device Name</b>	<b>Hot Water Boiler 3996</b>
<i>Rated Heat Input</i>	2.000 MMBtu/Hour	<i>Operator ID</i>	3996
<i>Manufacturer Model</i>	Patterson-Kelley N2000-MFD	<i>Serial Number</i>	FY38-09-33970
<i>Location Note</i>	Building 8510 (Behind Building 8500), VAFB	<i>Stacked Unit?</i>	Yes
<i>Emission Control Basis</i>	R360		
<i>Device Description</i>	Forced Draft Full Modulation Fired on PUC Gas Equipped with a shared Roots model IMC/W2 temperature and pressure corrected rotary meter.		

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**2.6.2 Hot Water Boiler 3997**

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<b>Device ID #</b>	<b>112965</b>	<b>Device Name</b>	<b>Hot Water Boiler 3997</b>
<i>Rated Heat Input</i>	2.000 MMBtu/Hour	<i>Operator ID</i>	3997
<i>Manufacturer Model</i>	Patterson-Kelley N2000-MFD	<i>Serial Number</i>	FY38-09-33972
<i>Location Note</i>	Building 8510 (Behind Building 8500), VAFB	<i>Stacked Unit?</i>	Yes
<i>Emission Control Basis</i>	R360		
<i>Device Description</i>	Forced Draft Full Modulation Fired on PUC Gas Equipped with a shared Roots model IMC/W2 temperature and pressure corrected rotary meter.		

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**2.7 Building 12006 - Boilers**

**2.7.1 Boiler 3930**

<b>Device ID #</b>	<b>112251</b>	<b>Device Name</b>	<b>Boiler 3930</b>
<i>Rated Heat Input</i>	2.000 MMBtu/Hour	<i>Operator ID</i>	3930
		<i>Serial Number</i>	G-08-21668
<i>Manufacturer</i>	Patterson-Kelley		
<i>Model</i>	BMK-2.0LN	<i>Stacked Unit?</i>	Yes
<i>Location Note</i>	Building 12006, VAFB		
<i>Emission Control Basis</i>	R360		
<i>Device Description</i>	Hot water boiler equipped with a low-NOx burner, forced draft, and full modulation, fired on utility grade gas. Equipped with a shared, temperature and pressure corrected, rotary Roots Meter, model IMC/W2.		

**2.7.2 Boiler 4269**

<b>Device ID #</b>	<b>114903</b>	<b>Device Name</b>	<b>Boiler 4269</b>
<i>Rated Heat Input</i>	2.000 MMBtu/Hour	<i>Operator ID</i>	4269
		<i>Serial Number</i>	
<i>Manufacturer</i>	Patterson-Kelley		
<i>Model</i>	N2000-MFD		
<i>Location Note</i>	Bldg 12006		
<i>Emission Control Basis</i>	NA		
<i>Device Description</i>	2.0 MMBtu/hr boiler used for climate control purposes in Bldg. 12006.		

**2.8 Building 7425 - Boilers**

**2.8.1 Boiler 1052**

<b>Device ID #</b>	<b>111731</b>	<b>Device Name</b>	<b>Boiler 1052</b>
<i>Rated Heat Input</i>	2.250 MMBtu/Hour	<i>Operator ID</i>	1052
		<i>Serial Number</i>	AC 81-33744
<i>Manufacturer</i>	Ajax Boiler	<i>Rule 361 Status</i>	Existing
<i>Model</i>	WGB-2250D		
<i>Location Note</i>	Building 7425		
<i>Emission Control Basis</i>	Uncontrolled		
<i>Device Description</i>	natural draft on/off Approximate install date: 1983		

**2.9 Building 13850 - Boilers**

**2.9.1 Boiler 4369**

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<b>Device ID #</b>	<b>386174</b>	<b>Device Name</b>	<b>Boiler 4369</b>
<i>Rated Heat Input</i>	2.000 MMBtu/Hour	<i>Operator ID</i>	4369
		<i>Serial Number</i>	TBD
<i>Manufacturer</i>	Patterson-Kelley/Harsco		
<i>Model</i>	Mach C2000H	<i>Stacked Unit?</i>	Yes
<i>Location Note</i>	Building 13850, 338. S. Dakota Ave., VAFB		
<i>Emission Control Basis</i>	R360		
<i>Device Description</i>	Hot Water Boiler Fired on PUC Gas Natural Draft Full Modulation		

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**2.9.2 Boiler 4370**

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<b>Device ID #</b>	<b>386175</b>	<b>Device Name</b>	<b>Boiler 4370</b>
<i>Rated Heat Input</i>	2.000 MMBtu/Hour	<i>Operator ID</i>	4370
		<i>Serial Number</i>	TBD
<i>Manufacturer</i>	Patterson-Kelley/Harsco		
<i>Model</i>	Mach C2000H	<i>Stacked Unit?</i>	Yes
<i>Location Note</i>	Building 13850, 338. S. Dakota Ave., VAFB		
<i>Emission Control Basis</i>	R360		
<i>Device Description</i>	Hot Water Boiler Fired on PUC Gas Natural Draft Full Modulation		

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### 3 Internal Combustion Engines

#### 3.1 Emergency Generator 3980 - Building 64

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<i>Device ID #</i>	386456	<i>Maximum Rated BHP</i>	1490.00
<i>Device Name</i>	Emergency Generator 3980 - Building 64	<i>Serial Number</i>	37242952
<i>Engine Use</i>	Electrical Power	<i>EPA Engine Family Name</i>	ACEXL030.AAD
<i>Manufacturer</i>	Cummins	<i>Operator ID</i>	3980
<i>Model Year</i>	2010	<i>Fuel Type</i>	CARB Diesel - ULSD
<i>Model</i>	QST30-G5 NR2		
<i>DRP/ISC?</i>	No	<i>Healthcare Facility?</i>	No
<i>Daily Hours</i>	8.00	<i>Annual Hours</i>	50
<i>Location</i>	Building 64, VAFB		
<i>Note</i>			
<i>Device Description</i>	Tier 2, turbocharged, diesel-fired, internal combustion engine equipped with direct diesel injection and a charge air cooler.		

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#### 3.2 Emergency Generator 564 - Building 185

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<i>Device ID #</i>	107135	<i>Maximum Rated BHP</i>	314.00
<i>Device Name</i>	Emergency Generator 564 - Building 185	<i>Serial Number</i>	85Z05332
<i>Engine Use</i>	Electrical Power	<i>EPA Engine Family Name</i>	
<i>Manufacturer</i>	Caterpillar	<i>Operator ID</i>	564
<i>Model Year</i>	1989	<i>Fuel Type</i>	CARB Diesel - ULSD
<i>Model</i>	3306B		
<i>DRP/ISC?</i>	No	<i>Healthcare Facility?</i>	No
<i>Daily Hours</i>	24.00	<i>Annual Hours</i>	30
<i>Location</i>	Bldg 185, Honda Ridge Road (South Base)		
<i>Note</i>			
<i>Device Description</i>	A Tier 0, 314 bhp diesel-fired IC engine powering an electrical generator used for backup emergency electrical power.		

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#### 3.3 Emergency Generator 567 - Building 185

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<i>Device ID #</i>	107136	<i>Maximum Rated BHP</i>	314.00
<i>Device Name</i>	Emergency Generator 567 - Building 185	<i>Serial Number</i>	85Z05351
<i>Engine Use</i>	Electrical Power	<i>EPA Engine Family Name</i>	
<i>Manufacturer</i>	Caterpillar	<i>Operator ID</i>	567
<i>Model Year</i>	1989	<i>Fuel Type</i>	CARB Diesel - ULSD
<i>Model</i>	3306B		
<i>DRP/ISC?</i>	No	<i>Healthcare Facility?</i>	No
<i>Daily Hours</i>	24.00	<i>Annual Hours</i>	30
<i>Location</i>	Bldg 185, Honda Ridge Road (South Base)		
<i>Note</i>			

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<i>Device Description</i>	A Tier 0, 314 bhp diesel-fired IC engine powering an electrical generator used for backup emergency electrical power.
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**3.4 Emergency Generator 3976 - Building 383**

<i>Device ID #</i>	112688	<i>Maximum Rated BHP</i>	364.00
<i>Device Name</i>	Emergency Generator 3976 - Building 383	<i>Serial Number</i>	73031135
<i>Engine Use</i>	Electrical Power	<i>EPA Engine Family Name</i>	9CEXL0540AAB
<i>Manufacturer</i>	Cummins	<i>Operator ID</i>	3976
<i>Model Year</i>	2009	<i>Fuel Type</i>	CARB Diesel - ULSD
<i>Model</i>	QSL9-G2 NR3		
<i>DRP/ISC?</i>	No	<i>Healthcare Facility?</i>	No
<i>Daily Hours</i>	8.00	<i>Annual Hours</i>	50
<i>Location</i>	Bldg 383 at SLC-6, VAFB		
<i>Note</i>			
<i>Device Description</i>	Tier 3, turbocharged, diesel-fueled, internal combustion engine equipped with direct diesel injection, a charge air cooler, and an engine control module.		

**3.5 Emergency Generator 3007 - Building 425**

<i>Device ID #</i>	106942	<i>Maximum Rated BHP</i>	210.00
<i>Device Name</i>	Emergency Generator 3007 - Building 425	<i>Serial Number</i>	4A0288169
<i>Engine Use</i>	Electrical Power	<i>EPA Engine Family Name</i>	
<i>Manufacturer</i>	Detroit Diesel	<i>Operator ID</i>	3007
<i>Model Year</i>	1994	<i>Fuel Type</i>	CARB Diesel - ULSD
<i>Model</i>	1043-7305		
<i>DRP/ISC?</i>	No	<i>Healthcare Facility?</i>	No
<i>Daily Hours</i>	20.00	<i>Annual Hours</i>	20
<i>Location</i>	Bldg 425, end of Arguello Road (South Base)		
<i>Note</i>			
<i>Device Description</i>	A Tier 0 diesel-fired internal combustion engine powering an electrical generator used for backup emergency electrical power.		

**3.6 Emergency Generator 3008 Building 501**

<i>Device ID #</i>	106943	<i>Maximum Rated BHP</i>	330.00
<i>Device Name</i>	Emergency Generator 3008 Building 501	<i>Serial Number</i>	06A0471517
<i>Engine Use</i>	Electrical Power	<i>EPA Engine Family Name</i>	
<i>Manufacturer</i>	Detroit Diesel	<i>Operator ID</i>	3008
<i>Model Year</i>	1994	<i>Fuel Type</i>	CARB Diesel - ULSD
<i>Model</i>	1063-7305		
<i>DRP/ISC?</i>	No	<i>Healthcare Facility?</i>	No
<i>Daily Hours</i>	20.00	<i>Annual Hours</i>	20
<i>Location</i>	Bldg 501, end of Perry Rd, near intersect Honda Ridge Rd (South Base)		
<i>Note</i>			
<i>Device Description</i>	A Tier 0 diesel-fired internal combustion engine powering an electrical generator used for backup emergency electrical power.		

**3.7 Emergency Generator 4005 - Building 511**

<i>Device ID #</i>	114491	<i>Maximum Rated BHP</i>	755.00
<i>Device Name</i>	Emergency Generator 4005 - Building 511	<i>Serial Number</i>	79420483
<i>Engine Use</i>	Electrical Power	<i>EPA Engine Family Name</i>	ACEXL015.AAJ
<i>Manufacturer</i>	Cummins	<i>Operator ID</i>	
<i>Model Year</i>	2010	<i>Fuel Type</i>	CARB Diesel - ULSD
<i>Model</i>	QSX15-G9-NR2		
<i>DRP/ISC?</i>	No	<i>Healthcare Facility?</i>	No
<i>Daily Hours</i>	16.50	<i>Annual Hours</i>	100
<i>Location</i>	Building 511 (CT-3), VAFB		
<i>Note</i>			
<i>Device Description</i>	Tier 2, turbocharged, diesel fired, internal combustion engine equipped with a charge air cooler, an engine control module. The engine is also equipped with a diesel particulate filter.		

**3.7.1 Diesel Particulate Filter - Building 511**

<i>Device ID #</i>	<b>114627</b>	<i>Device Name</i>	<b>Diesel Particulate Filter - Building 511</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	
<i>Manufacturer</i>	Johnson Matthey Inc.	<i>Operator ID</i>	
<i>Model</i>	CRT34-N-B1T0-CS10LP	<i>Serial Number</i>	130651-1
<i>Location Note</i>	Building 511 (CT-3), VAFB		
<i>Device Description</i>	Diesel particulate filter (DPF) which reduces PM emissions by more than 85%. CARB Executive Order DE-08-009-03.		

## 3.8

**Standby Diesel Fired Generator Set - Building 661**

<i>Device ID #</i>	386163	<i>Maximum Rated BHP</i>	757.00
<i>Device Name</i>	Standby Diesel Fired Generator Set - Building 661	<i>Serial Number</i>	2016067807
<i>Engine Use</i>		<i>EPA Engine Family Name</i>	
<i>Manufacturer</i>	Volvo Penta	<i>Operator ID</i>	4320
<i>Model Year</i>		<i>Fuel Type</i>	
<i>Model</i>	TAD1641GE		
<i>DRP/ISC?</i>	No	<i>Healthcare Facility?</i>	No
<i>Daily Hours</i>		<i>Annual Hours</i>	
<i>Location</i>	Bldg 661, Santa Ynez Rd near intersect of VHF Road (South Base)		
<i>Note</i>			
<i>Device Description</i>	Certified engine, operates at 1800 RPM, powers an electrical generator used for backup emergency electrical power.		

## 3.9

**Emergency Generator 3540 - Building 764**

<i>Device ID #</i>	384071	<i>Maximum Rated BHP</i>	685.00
<i>Device Name</i>	Emergency Generator 3540 - Building 764	<i>Serial Number</i>	3PG01056
<i>Engine Use</i>	Electrical Power	<i>EPA Engine Family Name</i>	3CPXL15.8ESK
<i>Manufacturer</i>	Caterpillar	<i>Operator ID</i>	3540
<i>Model Year</i>	2003	<i>Fuel Type</i>	CARB Diesel - ULSD
<i>Model</i>	3456DITA		
<i>DRP/ISC?</i>	No	<i>Healthcare Facility?</i>	No
<i>Daily Hours</i>	24.00	<i>Annual Hours</i>	50
<i>Location</i>	Bldg 764, near intersect of Napa Rd & Alden Rd (South Base)		
<i>Note</i>			
<i>Device Description</i>	Tier 2 diesel fired IC engine powering an electrical generator used for backup emergency electrical power. Ref CARB Ex Order U-R-001-0213-1.		

## 3.10

**Emergency Generator 3906 - Building 830**

<i>Device ID #</i>	111766	<i>Maximum Rated BHP</i>	1490.00
<i>Device Name</i>	Emergency Generator 3906 - Building 830	<i>Serial Number</i>	37237172
<i>Engine Use</i>	Electrical Power	<i>EPA Engine Family Name</i>	8CEXL030.AAD
<i>Manufacturer</i>	Cummins	<i>Operator ID</i>	3906
<i>Model Year</i>	2008	<i>Fuel Type</i>	CARB Diesel - ULSD
<i>Model</i>	QST30-G5 NR2		
<i>DRP/ISC?</i>	No	<i>Healthcare Facility?</i>	No
<i>Daily Hours</i>	8.00	<i>Annual Hours</i>	50
<i>Location</i>	Building 830, VAFB		
<i>Note</i>			
<i>Device Description</i>	Tier 2, turbocharged, aftercooled, diesel-fired, internal combustion engine equipped with direct diesel injection.		

**3.11 Emergency Generator 3397 - Building 830**

<i>Device ID #</i>	107000	<i>Maximum Rated BHP</i>	685.00
<i>Device Name</i>	Emergency Generator 3397 - Building 830	<i>Serial Number</i>	37199765
<i>Engine Use</i>	Electrical Power	<i>EPA Engine Family Name</i>	
<i>Manufacturer</i>	Cummins	<i>Operator ID</i>	3397
<i>Model Year</i>	2001	<i>Fuel Type</i>	CARB Diesel - ULSD
<i>Model</i>	KTA19-G3		
<i>DRP/ISC?</i>	No	<i>Healthcare Facility?</i>	No
<i>Daily Hours</i>	20.00	<i>Annual Hours</i>	20
<i>Location</i>	Bldg 830, near intersect Lompoc St & Clark St (South Base)		
<i>Note</i>			
<i>Device Description</i>	A Tier 1 diesel-fired IC engine powering an electrical generator used for backup emergency electrical power.		

**3.12 Emergency Generator 3012 - Building 906**

<i>Device ID #</i>	106944	<i>Maximum Rated BHP</i>	750.00
<i>Device Name</i>	Emergency Generator 3012 - Building 906	<i>Serial Number</i>	12VA087547
<i>Engine Use</i>	Electrical Power	<i>EPA Engine Family Name</i>	
<i>Manufacturer</i>	Detroit Diesel	<i>Operator ID</i>	3012
<i>Model Year</i>	1993	<i>Fuel Type</i>	CARB Diesel - ULSD
<i>Model</i>	7123-7406		
<i>DRP/ISC?</i>	No	<i>Healthcare Facility?</i>	No
<i>Daily Hours</i>	20.00	<i>Annual Hours</i>	20
<i>Location</i>	Bldg 906, Mesa Road (Coast Road Side) (South Base)		
<i>Note</i>			
<i>Device Description</i>	A Tier 0 diesel-fired internal combustion engine powering an electrical generator used for backup emergency electrical power.		

**3.13 Emergency Generator 3927 - Building 929**

<i>Device ID #</i>	111765	<i>Maximum Rated BHP</i>	470.00
<i>Device Name</i>	Emergency Generator 3927 - Building 929	<i>Serial Number</i>	35237818
<i>Engine Use</i>	Electrical Power	<i>EPA Engine Family Name</i>	8CEXL0661AAH
<i>Manufacturer</i>	Cummins	<i>Operator ID</i>	3927
<i>Model Year</i>	2008	<i>Fuel Type</i>	CARB Diesel - ULSD
<i>Model</i>	QSM11-G4 NR3		
<i>DRP/ISC?</i>	No	<i>Healthcare Facility?</i>	No
<i>Daily Hours</i>	24.00	<i>Annual Hours</i>	100
<i>Location</i>	Bldg 929 (CT-5), VAFB		
<i>Note</i>			
<i>Device Description</i>	Tier 3, turbocharged, aftercooled, diesel-fired, internal combustion engine equipped with direct diesel injection, an engine control module and exhaust gas recirculation. The engine is also equipped with a diesel particulate filter.		

**3.13.1 Diesel Particulate Filter - Building 929**

<b><i>Device ID #</i></b>	<b>113428</b>	<b><i>Device Name</i></b>	<b>Diesel Particulate Filter - Building 929</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	
<i>Manufacturer</i>	Johnson Matthey Inc.	<i>Operator ID</i>	
<i>Model</i>	CRT2-N-E1-SS-8	<i>Serial Number</i>	US112235-1
<i>Location Note</i>	Bldg 929 (CT-5), VAFB		
<i>Device Description</i>	Diesel particulate filter (DPF) which reduces PM emissions by more than 85%.		

**3.14 Fire Water Pump Engine 698204 - Building 968**

<i>Device ID #</i>	388930	<i>Maximum Rated BHP</i>	175.00
<i>Device Name</i>	Fire Water Pump Engine 698204 - Building 968	<i>Serial Number</i>	PE4045L277299
<i>Engine Use</i>	Fire Water Pump	<i>EPA Engine Family Name</i>	FJDXL06.8120
<i>Manufacturer</i>	John Deere	<i>Operator ID</i>	698284
<i>Model Year</i>	2015	<i>Fuel Type</i>	CARB Diesel - ULSD
<i>Model</i>	4045HFC28F		
<i>DRP/ISC?</i>	No	<i>Healthcare Facility?</i>	No
<i>Daily Hours</i>	24.00	<i>Annual Hours</i>	50
<i>Location</i>	Building 968, 968 Mesa Road, VAFB		
<i>Note</i>			
<i>Device Description</i>	Tier 3 turbocharged diesel fired engine. The John Deere engine drives equipment manufactured by Clark Fire Protection Products and has nameplates from both companies.		

**3.15 Emergency Generator 713136 - Bldg 21150**

<i>Device ID #</i>	391888	<i>Maximum Rated BHP</i>	382.00
<i>Device Name</i>	Emergency Generator 713136 - Bldg 21150	<i>Serial Number</i>	2013675511
<i>Engine Use</i>	Electrical Power	<i>EPA Engine Family Name</i>	HVPXL12.8BCA
<i>Manufacturer</i>	Volvo Penta	<i>Operator ID</i>	713136
<i>Model Year</i>	2017	<i>Fuel Type</i>	CARB Diesel - ULSD
<i>Model</i>	TAD1350GE		
<i>DRP/ISC?</i>	No	<i>Healthcare Facility?</i>	No
<i>Daily Hours</i>	24.00	<i>Annual Hours</i>	50
<i>Location</i>	Building 21150, VAFB		
<i>Note</i>			
<i>Device Description</i>	Tier 3, turbocharged, aftercooled, diesel-fired internal combustion engine.		

**3.16 Fire Water Pump Engine 688931 - Building 968**

<i>Device ID #</i>	388931	<i>Maximum Rated BHP</i>	175.00
<i>Device Name</i>	Fire Water Pump Engine 688931 - Building 968	<i>Serial Number</i>	PE4045L274826
<i>Engine Use</i>	Fire Water Pump	<i>EPA Engine Family Name</i>	FJDXL06.8120
<i>Manufacturer</i>	John Deere	<i>Operator ID</i>	698283
<i>Model Year</i>	2015	<i>Fuel Type</i>	CARB Diesel - ULSD
<i>Model</i>	4045HFC28F		
<i>DRP/ISC?</i>	No	<i>Healthcare Facility?</i>	No
<i>Daily Hours</i>	24.00	<i>Annual Hours</i>	50
<i>Location</i>	Building 968, 968 Mesa Road, VAFB		
<i>Note</i>			
<i>Device Description</i>	Tier 3 turbocharged diesel fired engine. The John Deere engine drives equipment manufactured by Clark Fire Protection Products and has nameplates from both companies.		

**3.17 Emergency Generator 3050 - Building 1559**

<i>Device ID #</i>	107006	<i>Maximum Rated BHP</i>	534.00
<i>Device Name</i>	Emergency Generator 3050 - Building 1559	<i>Serial Number</i>	2WB10266
<i>Engine Use</i>	Electrical Power	<i>EPA Engine Family Name</i>	
<i>Manufacturer</i>	Caterpillar	<i>Operator ID</i>	3050
<i>Model Year</i>	1991	<i>Fuel Type</i>	CARB Diesel - ULSD
<i>Model</i>	3406B		
<i>DRP/ISC?</i>	No	<i>Healthcare Facility?</i>	No
<i>Daily Hours</i>	20.00	<i>Annual Hours</i>	20
<i>Location</i>	Bldg 1559, Tonto Road to Security Access (North Base)		
<i>Note</i>			
<i>Device Description</i>	A Tier 0 diesel-fired IC engine powering an electrical generator used for backup emergency electrical power.		

**3.18 Emergency Generator 3411 - Building 1561**

<i>Device ID #</i>	107031	<i>Maximum Rated BHP</i>	449.00
<i>Device Name</i>	Emergency Generator 3411 - Building 1561	<i>Serial Number</i>	4PM00100
<i>Engine Use</i>	Electrical Power	<i>EPA Engine Family Name</i>	
<i>Manufacturer</i>	Caterpillar	<i>Operator ID</i>	3411
<i>Model Year</i>	1994	<i>Fuel Type</i>	CARB Diesel - ULSD
<i>Model</i>	3406		
<i>DRP/ISC?</i>	No	<i>Healthcare Facility?</i>	No
<i>Daily Hours</i>	20.00	<i>Annual Hours</i>	20
<i>Location</i>	Bldg 1561, Tonto Road to Security Access (North Base)		
<i>Note</i>			
<i>Device Description</i>	A Tier 0 diesel-fired IC engine powering an electrical generator used for backup emergency electrical power.		

**3.19 Emergency Generator 704948 - Bldg 1581**

<i>Device ID #</i>	391670	<i>Maximum Rated BHP</i>	69.00
<i>Device Name</i>	Emergency Generator 704948 - Bldg 1581	<i>Serial Number</i>	72028956
<i>Engine Use</i>	Electrical Power	<i>EPA Engine Family Name</i>	GCEXL03.3BAA
<i>Manufacturer</i>	Cummins	<i>Operator ID</i>	704948
<i>Model Year</i>	2016	<i>Fuel Type</i>	CARB Diesel - ULSD
<i>Model</i>	4BT3.3-G5		
<i>DRP/ISC?</i>	No	<i>Healthcare Facility?</i>	No
<i>Daily Hours</i>	24.00	<i>Annual Hours</i>	50
<i>Location</i>	Building 1581, Tangair Road, VAFB		
<i>Note</i>			
<i>Device Description</i>	Tier 3, turbocharged, diesel fired, internal combustion engine.		

**3.20 Emergency Generator 4039 - Building 1594**

<i>Device ID #</i>	384078	<i>Maximum Rated BHP</i>	315.00
<i>Device Name</i>	Emergency Generator 4039 - Building 1594	<i>Serial Number</i>	PE6068U027573
<i>Engine Use</i>	Electrical Power	<i>EPA Engine Family Name</i>	6JDXL06.8101
<i>Manufacturer</i>	John Deere	<i>Operator ID</i>	701500
<i>Model Year</i>	2006	<i>Fuel Type</i>	CARB Diesel - ULSD
<i>Model</i>	6068H0F8		
<i>DRP/ISC?</i>	No	<i>Healthcare Facility?</i>	No
<i>Daily Hours</i>	8.00	<i>Annual Hours</i>	50
<i>Location</i>	Building 1594, South of Tangier Road on an unnamed road between May and June Roads.		
<i>Note</i>			
<i>Device Description</i>	Tier 3, turbocharged, diesel-fired, internal combustion engine, equipped with direct diesel injection, an engine control module, a charge air cooler and exhaust gas recirculation. This engine, or another Tier 3 engine equal or smaller in horsepower, can be used to provide emergency power to Building 1594.		

**3.21 Emergency Generator 3626 - Building 1604**

<i>Device ID #</i>	108889	<i>Maximum Rated BHP</i>	490.00
<i>Device Name</i>	Emergency Generator 3626 - Building 1604	<i>Serial Number</i>	06R0969318
<i>Engine Use</i>	Electrical Power	<i>EPA Engine Family Name</i>	7DDXL14.0VLD
<i>Manufacturer</i>	Detroit Diesel	<i>Operator ID</i>	3626
<i>Model Year</i>	2007	<i>Fuel Type</i>	CARB Diesel - ULSD
<i>Model</i>	6063-HV35		
<i>DRP/ISC?</i>	No	<i>Healthcare Facility?</i>	No
<i>Daily Hours</i>	8.00	<i>Annual Hours</i>	50
<i>Location</i>	Building 1604, VAFB		
<i>Note</i>			
<i>Device Description</i>	Tier 3, turbocharged, diesel-fired internal combustion engine equipped with an engine control module, a charge air cooler, and exhaust gas recirculation.		

**3.22 Emergency Generator 3390 - Building 1639**

<i>Device ID #</i>	106948	<i>Maximum Rated BHP</i>	850.00
<i>Device Name</i>	Emergency Generator 3390 - Building 1639	<i>Serial Number</i>	12FF1050
<i>Engine Use</i>	Electrical Power	<i>EPA Engine Family Name</i>	
<i>Manufacturer</i>	Detroit Diesel	<i>Operator ID</i>	3390
<i>Model Year</i>	2001	<i>Fuel Type</i>	CARB Diesel - ULSD
<i>Model</i>	8123-7305		
<i>DRP/ISC?</i>	No	<i>Healthcare Facility?</i>	No
<i>Daily Hours</i>	20.00	<i>Annual Hours</i>	20
<i>Location</i>	Bldg 1639, near intersect Tangair Rd & Aero Rd (North Base)		
<i>Note</i>			
<i>Device Description</i>	A Tier 1 diesel-fired internal combustion engine powering an electrical generator used for backup emergency electrical power.		

## 3.23

**Emergency Generator 4109 - Building 1735**

<i>Device ID #</i>	113916	<i>Maximum Rated BHP</i>	757.00
<i>Device Name</i>	Emergency Generator 4109 - Building 1735	<i>Serial Number</i>	D16*051508*C3*A
<i>Engine Use</i>	Electrical Power	<i>EPA Engine Family Name</i>	BVPXL16.1ACB
<i>Manufacturer</i>	Volvo	<i>Operator ID</i>	4109
<i>Model Year</i>	2011	<i>Fuel Type</i>	CARB Diesel - ULSD
<i>Model</i>	TAD1641GE		
<i>DRP/ISC?</i>	No	<i>Healthcare Facility?</i>	No
<i>Daily Hours</i>	8.00	<i>Annual Hours</i>	50
<i>Location</i>	Bldg 1735, off Airfield Road, VAFB		
<i>Note</i>			
<i>Device Description</i>	Tier 2, turbocharged, diesel-fired, internal combustion engine equipped with direct diesel injection, a charge air cooler and an electronic control module.		

## 3.24

**Emergency Generator 3639 - Building 1747**

<i>Device ID #</i>	112689	<i>Maximum Rated BHP</i>	755.00
<i>Device Name</i>	Emergency Generator 3639 - Building 1747	<i>Serial Number</i>	79239405
<i>Engine Use</i>	Runway Lights	<i>EPA Engine Family Name</i>	7CEXL015.AAB
<i>Manufacturer</i>	Cummins	<i>Operator ID</i>	3639
<i>Model Year</i>	2007	<i>Fuel Type</i>	CARB Diesel - ULSD
<i>Model</i>	QSX15-G9		
<i>DRP/ISC?</i>	No	<i>Healthcare Facility?</i>	No
<i>Daily Hours</i>	12.00	<i>Annual Hours</i>	50
<i>Location</i>	Building 1747, Trail off Airfield Road, Intersection 13th Street, VAFB		
<i>Note</i>			
<i>Device Description</i>	Tier 3, turbocharged, diesel-fired internal combustion engine equipped with direct diesel injection, a charge air cooler, and an engine control module.		

## 3.25

**Emergency Generator 642 - Building 1748**

<i>Device ID #</i>	107032	<i>Maximum Rated BHP</i>	166.00
<i>Device Name</i>	Emergency Generator 642 - Building 1748	<i>Serial Number</i>	44177394
<i>Engine Use</i>	Electrical Power	<i>EPA Engine Family Name</i>	
<i>Manufacturer</i>	Cummins	<i>Operator ID</i>	642
<i>Model Year</i>	1986	<i>Fuel Type</i>	CARB Diesel - ULSD
<i>Model</i>	6BT-5.9		
<i>DRP/ISC?</i>	No	<i>Healthcare Facility?</i>	No
<i>Daily Hours</i>	20.00	<i>Annual Hours</i>	20
<i>Location</i>	Bldg 1748, Airfield Road (North Base)		
<i>Note</i>			
<i>Device Description</i>	A Tier 0 diesel-fired IC engine powering an electrical generator used for backup emergency electrical power.		

**3.26 Emergency Generator 3183 - Building 1762**

<i>Device ID #</i>	107007	<i>Maximum Rated BHP</i>	50.00
<i>Device Name</i>	Emergency Generator 3183 - Building 1762	<i>Serial Number</i>	53132144
<i>Engine Use</i>	Electrical Power	<i>EPA Engine Family Name</i>	
<i>Manufacturer</i>	Cummins	<i>Operator ID</i>	3183
<i>Model Year</i>	1992	<i>Fuel Type</i>	CARB Diesel - ULSD
<i>Model</i>	6A3. 4-G1		
<i>DRP/ISC?</i>	No	<i>Healthcare Facility?</i>	No
<i>Daily Hours</i>	20.00	<i>Annual Hours</i>	20
<i>Location</i>	Bldg 1762, 13th Street near intersect Cross Road (North Base)		
<i>Note</i>			
<i>Device Description</i>	A Tier 0 diesel-fired IC engine powering an electrical generator used for backup emergency electrical power.		

**3.27 Emergency Generator 643 - Building 1764**

<i>Device ID #</i>	106939	<i>Maximum Rated BHP</i>	78.00
<i>Device Name</i>	Emergency Generator 643 - Building 1764	<i>Serial Number</i>	2B938
<i>Engine Use</i>	Electrical Power	<i>EPA Engine Family Name</i>	
<i>Manufacturer</i>	Caterpillar	<i>Operator ID</i>	643
<i>Model Year</i>	1990	<i>Fuel Type</i>	CARB Diesel - ULSD
<i>Model</i>	D330		
<i>DRP/ISC?</i>	No	<i>Healthcare Facility?</i>	No
<i>Daily Hours</i>	20.00	<i>Annual Hours</i>	20
<i>Location</i>	Bldg 1764, 13th Street, near intersect Cross Rd (North Base)		
<i>Note</i>			
<i>Device Description</i>	A Tier 0 diesel-fired internal combustion engine powering an electrical generator used for backup emergency electrical power.		

**3.28 Emergency Generator 3573 - Building 1768**

<i>Device ID #</i>	386330	<i>Maximum Rated BHP</i>	750.00
<i>Device Name</i>	Emergency Generator 3573 - Building 1768	<i>Serial Number</i>	79049838
<i>Engine Use</i>	Electrical Power	<i>EPA Engine Family Name</i>	4CEXL015.AAB
<i>Manufacturer</i>	Cummins	<i>Operator ID</i>	3573
<i>Model Year</i>	2004	<i>Fuel Type</i>	CARB Diesel - ULSD
<i>Model</i>	QSX15-G9 NR2		
<i>DRP/ISC?</i>	No	<i>Healthcare Facility?</i>	No
<i>Daily Hours</i>	24.00	<i>Annual Hours</i>	50
<i>Location</i>	Bldg 1768, Cross Road near intersect 13th Street (North Base)		
<i>Note</i>			
<i>Device Description</i>	A Tier 2 diesel fired IC engine powering an electrical generator used for backup emergency electrical power. Ref CARB Ex Order U-R-002-0217.		

**3.29 Emergency Generator 678120 - Building 1819**

<i>Device ID #</i>	387721	<i>Maximum Rated BHP</i>	755.00
<i>Device Name</i>	Emergency Generator 678120 - Building 1819	<i>Serial Number</i>	TBD
<i>Engine Use</i>	Electrical Power	<i>EPA Engine Family Name</i>	ECEXLO15AAJ
<i>Manufacturer</i>	Cummins	<i>Operator ID</i>	678120
<i>Model Year</i>	2013	<i>Fuel Type</i>	CARB Diesel - ULSD
<i>Model</i>	QSX15-G9		
<i>DRP/ISC?</i>	No	<i>Healthcare Facility?</i>	No
<i>Daily Hours</i>	16.00	<i>Annual Hours</i>	50
<i>Location</i>	Building 1819, 1819 New South Rd, VAFB		
<i>Note</i>			
<i>Device Description</i>	Turbocharged, diesel-fired internal combustion engine.		

**3.30 Fire Water Pump Engine 645 - Building 1829**

<i>Device ID #</i>	107141	<i>Maximum Rated BHP</i>	270.00
<i>Device Name</i>	Fire Water Pump Engine 645 - Building 1829	<i>Serial Number</i>	03Z08430
<i>Engine Use</i>	Fire Water Pump	<i>EPA Engine Family Name</i>	
<i>Manufacturer</i>	Caterpillar	<i>Operator ID</i>	645
<i>Model Year</i>	1989	<i>Fuel Type</i>	CARB Diesel - ULSD
<i>Model</i>	3208		
<i>DRP/ISC?</i>	No	<i>Healthcare Facility?</i>	No
<i>Daily Hours</i>	24.00	<i>Annual Hours</i>	50
<i>Location</i>	Bldg 1829, between New South Road & Rhea Road, VAFB		
<i>Note</i>			
<i>Device Description</i>	Tier 0, 270 bhp diesel fired internal combustion engine powering a fire water pump.		

**3.31 Fire Water Pump Engine 649 - Building 1829**

<i>Device ID #</i>	107142	<i>Maximum Rated BHP</i>	270.00
<i>Device Name</i>	Fire Water Pump Engine 649 - Building 1829	<i>Serial Number</i>	03Z08436
<i>Engine Use</i>	Fire Water Pump	<i>EPA Engine Family Name</i>	
<i>Manufacturer</i>	Caterpillar	<i>Operator ID</i>	649
<i>Model Year</i>	1989	<i>Fuel Type</i>	CARB Diesel - ULSD
<i>Model</i>	3208		
<i>DRP/ISC?</i>	No	<i>Healthcare Facility?</i>	No
<i>Daily Hours</i>	24.00	<i>Annual Hours</i>	50
<i>Location</i>	Bldg 1829, between New South Road & Rhea Road, VAFB		
<i>Note</i>			
<i>Device Description</i>	Tier 0, 270 BHP diesel fired internal combustion engine powering a fire water pump.		

**3.32 Emergency Generator 3791 - Building 1916**

<i>Device ID #</i>	384077	<i>Maximum Rated BHP</i>	563.00
<i>Device Name</i>	Emergency Generator 3791 - Building 1916	<i>Serial Number</i>	FSE01511
<i>Engine Use</i>	Electrical Power	<i>EPA Engine Family Name</i>	7CPXL15.2ESK
<i>Manufacturer</i>	Caterpillar	<i>Operator ID</i>	3791
<i>Model Year</i>	2007	<i>Fuel Type</i>	CARB Diesel - ULSD
<i>Model</i>	C15 DITA		
<i>DRP/ISC?</i>	No	<i>Healthcare Facility?</i>	No
<i>Daily Hours</i>	7.00	<i>Annual Hours</i>	50
<i>Location</i>	RIDT#2, El Rancho Road near the intersection with Briosso Road (North Base)		
<i>Note</i>			
<i>Device Description</i>	Turbocharged, aftercooled, diesel-fired, internal combustion engine equipped with direct diesel injection and an engine control module.		

**3.33 Emergency Generator 3548 - Building 1917**

<i>Device ID #</i>	384076	<i>Maximum Rated BHP</i>	680.00
<i>Device Name</i>	Emergency Generator 3548 - Building 1917	<i>Serial Number</i>	3PG0110
<i>Engine Use</i>	Electrical Power	<i>EPA Engine Family Name</i>	4CPXL15.8ESK
<i>Manufacturer</i>	Caterpillar	<i>Operator ID</i>	3548
<i>Model Year</i>	2004	<i>Fuel Type</i>	CARB Diesel - ULSD
<i>Model</i>	D3456		
<i>DRP/ISC?</i>	No	<i>Healthcare Facility?</i>	No
<i>Daily Hours</i>	24.00	<i>Annual Hours</i>	50
<i>Location</i>	Bldg 1917 El Rancho Road near intersect Briosso Road, VAFB		
<i>Note</i>			
<i>Device Description</i>	Tier 2, turbocharged, diesel-fired, internal combustion engine equipped with direct diesel injection, a charge air cooler and an engine control module.		

**3.34 Fire Water Pump Engine 3921 - Building 1919**

<i>Device ID #</i>	111769	<i>Maximum Rated BHP</i>	67.00
<i>Device Name</i>	Fire Water Pump Engine 3921 - Building 1919	<i>Serial Number</i>	PE4045D710669
<i>Engine Use</i>	Fire Water Pump	<i>EPA Engine Family Name</i>	
<i>Manufacturer</i>	John Deere	<i>Operator ID</i>	3921
<i>Model Year</i>	2007	<i>Fuel Type</i>	CARB Diesel - ULSD
<i>Model</i>	4045DF120		
<i>DRP/ISC?</i>	No	<i>Healthcare Facility?</i>	No
<i>Daily Hours</i>	24.00	<i>Annual Hours</i>	50
<i>Location</i>	Bldg 1919, El Rancho Rd. near Briosso Rd., VAFB		
<i>Note</i>			
<i>Device Description</i>	Tier 2, naturally-aspirated, diesel-fired, internal combustion engine.		

**3.35 Emergency Generator 3329 - Building 1937**

<i>Device ID #</i>	107088	<i>Maximum Rated BHP</i>	251.00
<i>Device Name</i>	Emergency Generator 3329 - Building 1937	<i>Serial Number</i>	RG6081A136896
<i>Engine Use</i>	Electrical Power	<i>EPA Engine Family Name</i>	1JDXL08.1008
<i>Manufacturer</i>	John Deere	<i>Operator ID</i>	3329
<i>Model Year</i>	2001	<i>Fuel Type</i>	CARB Diesel - ULSD
<i>Model</i>	6081AF001C		
<i>DRP/ISC?</i>	No	<i>Healthcare Facility?</i>	No
<i>Daily Hours</i>	24.00	<i>Annual Hours</i>	30
<i>Location</i>	Bldg 1937, El Rancho Oeste Road (North Base)		
<i>Note</i>			
<i>Device Description</i>	Tier 1 diesel fired IC engine powering an electrical generator used for backup emergency electrical power. Ref CARB Ex Order U-R-4-88.		

**3.36 Emergency Generator 3549 - Building 1962**

<i>Device ID #</i>	384058	<i>Maximum Rated BHP</i>	317.00
<i>Device Name</i>	Emergency Generator 3549 - Building 1962	<i>Serial Number</i>	46400900
<i>Engine Use</i>	Electrical Power	<i>EPA Engine Family Name</i>	4CEXL0505ACB
<i>Manufacturer</i>	Cummins	<i>Operator ID</i>	3549
<i>Model Year</i>	2004	<i>Fuel Type</i>	CARB Diesel - ULSD
<i>Model</i>	6CTAA8.3G3		
<i>DRP/ISC?</i>	No	<i>Healthcare Facility?</i>	No
<i>Daily Hours</i>	24.00	<i>Annual Hours</i>	50
<i>Location</i>	Bldg 1962, off of Soldado Road (North Base)		
<i>Note</i>			
<i>Device Description</i>	A Tier 2 diesel fired IC engine powering an electrical generator used for backup emergency electrical power. Ref CARB Ex Order U-R-002-0240.		

**3.37 Emergency Generator 3550 - Building 1964**

<i>Device ID #</i>	384057	<i>Maximum Rated BHP</i>	317.00
<i>Device Name</i>	Emergency Generator 3550 - Building 1964	<i>Serial Number</i>	46400892
<i>Engine Use</i>	Electrical Power	<i>EPA Engine Family Name</i>	4CEXL0505ACB
<i>Manufacturer</i>	Cummins	<i>Operator ID</i>	3550
<i>Model Year</i>	2004	<i>Fuel Type</i>	CARB Diesel - ULSD
<i>Model</i>	6CTAA8.3G3		
<i>DRP/ISC?</i>	No	<i>Healthcare Facility?</i>	No
<i>Daily Hours</i>	24.00	<i>Annual Hours</i>	50
<i>Location</i>	Bldg 1964, off of Soldado Road (North Base)		
<i>Note</i>			
<i>Device Description</i>	A Tier 2 diesel fired IC engine powering an electrical generator used for backup emergency electrical power. Ref CARB Ex Order U-R-002-0240.		

**3.38 Emergency Generator 3790 - Building 1965**

<i>Device ID #</i>	384060	<i>Maximum Rated BHP</i>	364.00
<i>Device Name</i>	Emergency Generator 3790 - Building 1965	<i>Serial Number</i>	TBD
<i>Engine Use</i>	Electrical Power	<i>EPA Engine Family Name</i>	7CEXL0540.AA
<i>Manufacturer</i>	Cummins	<i>Operator ID</i>	3790
<i>Model Year</i>	2007	<i>Fuel Type</i>	CARB Diesel - ULSD
<i>Model</i>	QSL9-G2		
<i>DRP/ISC?</i>	No	<i>Healthcare Facility?</i>	No
<i>Daily Hours</i>	11.00	<i>Annual Hours</i>	50
<i>Location</i>	Building 1965 (LF 24) Off of Parquee Road, VAFB		
<i>Note</i>			
<i>Device Description</i>	Tier 3, turbocharged, aftercooled, diesel-fired internal combustion engine.		

**3.39 Emergency Generator 3551 - Building 1971**

<i>Device ID #</i>	384056	<i>Maximum Rated BHP</i>	317.00
<i>Device Name</i>	Emergency Generator 3551 - Building 1971	<i>Serial Number</i>	46400894
<i>Engine Use</i>	Electrical Power	<i>EPA Engine Family Name</i>	4CEXL0505ACB
<i>Manufacturer</i>	Cummins	<i>Operator ID</i>	3551
<i>Model Year</i>	2004	<i>Fuel Type</i>	CARB Diesel - ULSD
<i>Model</i>	6CTAA8.3G3		
<i>DRP/ISC?</i>	No	<i>Healthcare Facility?</i>	No
<i>Daily Hours</i>	24.00	<i>Annual Hours</i>	50
<i>Location</i>	Bldg 1971, Mina Rd near intersect Buff Rd & Taft Rd (North Base)		
<i>Note</i>			
<i>Device Description</i>	A Tier 2 diesel fired IC engine powering an electrical generator used for backup emergency electrical power. Ref CARB Ex Order U-R-002-0240.		

**3.40 Emergency Generator 3552 - Building 1972**

<i>Device ID #</i>	384055	<i>Maximum Rated BHP</i>	317.00
<i>Device Name</i>	Emergency Generator 3552 - Building 1972	<i>Serial Number</i>	46396307
<i>Engine Use</i>	Electrical Power	<i>EPA Engine Family Name</i>	4CEXL0505ACB
<i>Manufacturer</i>	Cummins	<i>Operator ID</i>	3552
<i>Model Year</i>	2004	<i>Fuel Type</i>	CARB Diesel - ULSD
<i>Model</i>	6CTAA8.3G3		
<i>DRP/ISC?</i>	No	<i>Healthcare Facility?</i>	No
<i>Daily Hours</i>	24.00	<i>Annual Hours</i>	50
<i>Location</i>	Bldg 1972, Mina Rd near intersect Buff Rd & Taft Rd (North Base)		
<i>Note</i>			
<i>Device Description</i>	A Tier 2 diesel fired IC engine powering an electrical generator used for backup emergency electrical power. Ref CARB Ex Order U-R-002-0240.		

**3.41 Fire Water Pump Engine 655 - Building 2305**

<i>Device ID #</i>	107143	<i>Maximum Rated BHP</i>	231.00
<i>Device Name</i>	Fire Water Pump Engine 655 - Building 2305	<i>Serial Number</i>	64Z15662
<i>Engine Use</i>	Fire Water Pump	<i>EPA Engine Family Name</i>	
<i>Manufacturer</i>	Caterpillar	<i>Operator ID</i>	655
<i>Model Year</i>	1993	<i>Fuel Type</i>	CARB Diesel - ULSD
<i>Model</i>	3306D		
<i>DRP/ISC?</i>	No	<i>Healthcare Facility?</i>	No
<i>Daily Hours</i>	24.00	<i>Annual Hours</i>	50
<i>Location</i>	Bldg 2305, near intersect 33rd St & California Ave, VAFB		
<i>Note</i>			
<i>Device Description</i>	Tier 0, 231 bhp diesel-fired internal combustion engine powering a fire water pumping station deluge pump.		

**3.42 Emergency Generator 3181 - Building 2500**

<i>Device ID #</i>	384069	<i>Maximum Rated BHP</i>	1200.00
<i>Device Name</i>	Emergency Generator 3181 - Building 2500	<i>Serial Number</i>	23Z07427
<i>Engine Use</i>	Electrical Power	<i>EPA Engine Family Name</i>	
<i>Manufacturer</i>	Caterpillar	<i>Operator ID</i>	3181
<i>Model Year</i>	1999	<i>Fuel Type</i>	APCD Rule 311 Diesel
<i>Model</i>	3508 DITA		
<i>DRP/ISC?</i>	No	<i>Healthcare Facility?</i>	No
<i>Daily Hours</i>	24.00	<i>Annual Hours</i>	30
<i>Location</i>	Bldg 2500 near intersect Arizona Ave & 32nd St (North Base)		
<i>Note</i>			
<i>Device Description</i>	A 1200 bhp diesel fired IC engine powering an electrical generator used for backup emergency electrical power.		

**3.43 Emergency Generator 3814 - Building 2520**

<i>Device ID #</i>	384066	<i>Maximum Rated BHP</i>	1490.00
<i>Device Name</i>	Emergency Generator 3814 - Building 2520	<i>Serial Number</i>	37233661
<i>Engine Use</i>	Electrical Power	<i>EPA Engine Family Name</i>	8CEXL030.AAD
<i>Manufacturer</i>	Cummins	<i>Operator ID</i>	3814
<i>Model Year</i>	2008	<i>Fuel Type</i>	CARB Diesel - ULSD
<i>Model</i>	QST30-G5		
<i>DRP/ISC?</i>	No	<i>Healthcare Facility?</i>	No
<i>Daily Hours</i>	8.00	<i>Annual Hours</i>	50
<i>Location</i>	Building 2520, VAFB		
<i>Note</i>			
<i>Device Description</i>	Tier 2, Turbocharged, diesel-fired, internal combustion engine equipped with direct-diesel injection, a charge air cooler, and a diesel particulate filter (DPF).		

**3.43.1 Diesel Particulate Filter - Building 2520**

<i>Device ID #</i>	384067	<i>Maximum Rated BHP</i>	
<i>Device Name</i>	Diesel Particulate Filter - Building 2520	<i>Serial Number</i>	
<i>Engine Use</i>		<i>EPA Engine Family Name</i>	
<i>Manufacturer</i>	Johnson Matthey	<i>Operator ID</i>	
<i>Model Year</i>		<i>Fuel Type</i>	APCD Rule 311 Diesel
<i>Model</i>	CRT Particulate Filter		
<i>DRP/ISC?</i>	No	<i>Healthcare Facility?</i>	No
<i>Daily Hours</i>		<i>Annual Hours</i>	
<i>Location</i>	Emergency/Standby Diesel Generator Set at Building 2520, VAFB		
<i>Note</i>			
<i>Device Description</i>	Diesel particulate filter (DPF) which reduces PM, HC, and CO emissions by over 90%.		

**3.44 Emergency Generator 711280 - Building 3000**

<i>Device ID #</i>	391955	<i>Maximum Rated BHP</i>	1490.00
<i>Device Name</i>	Emergency Generator 711280 - Building 3000	<i>Serial Number</i>	37274621
<i>Engine Use</i>	Electrical Power	<i>EPA Engine Family Name</i>	JCEXL030.AAD
<i>Manufacturer</i>	Cummins Inc.	<i>Operator ID</i>	711280
<i>Model Year</i>	2018	<i>Fuel Type</i>	CARB Diesel - ULSD
<i>Model</i>	QST30-G5 NR2		
<i>DRP/ISC?</i>	No	<i>Healthcare Facility?</i>	No
<i>Daily Hours</i>	8.00	<i>Annual Hours</i>	50
<i>Location</i>	Building 3000, 29th Street, VAFB		
<i>Note</i>			
<i>Device Description</i>	Tier 2. turbocharged, aftercooled, diesel fired internal combustion engine.		
	"		

**3.45 Emergency Generator 711384 - Building 3000**

<i>Device ID #</i>	391956	<i>Maximum Rated BHP</i>	1490.00
<i>Device Name</i>	Emergency Generator 711384 - Building 3000	<i>Serial Number</i>	37274804
<i>Engine Use</i>	Electrical Power	<i>EPA Engine Family Name</i>	JCEXL030.AAD
<i>Manufacturer</i>	Cummins Inc.	<i>Operator ID</i>	711384
<i>Model Year</i>	2017	<i>Fuel Type</i>	CARB Diesel - ULSD
<i>Model</i>	QST30-G5 NR2		
<i>DRP/ISC?</i>	No	<i>Healthcare Facility?</i>	No
<i>Daily Hours</i>	8.00	<i>Annual Hours</i>	50
<i>Location</i>	Building 3000, 29th Street, VAFB		
<i>Note</i>			
<i>Device Description</i>	Tier 2. turbocharged, aftercooled, diesel fired internal combustion engine.		

**3.46 Emergency Generator 3815 - Building 6510**

<i>Device ID #</i>	110735	<i>Maximum Rated BHP</i>	399.00
<i>Device Name</i>	Emergency Generator 3815 - Building 6510	<i>Serial Number</i>	46946217
<i>Engine Use</i>	Electrical Power	<i>EPA Engine Family Name</i>	8CEXL0540.AA
<i>Manufacturer</i>	Cummins	<i>Operator ID</i>	3815
<i>Model Year</i>	2008	<i>Fuel Type</i>	CARB Diesel - ULSD
<i>Model</i>	QSL9-G3 NR3		
<i>DRP/ISC?</i>	No	<i>Healthcare Facility?</i>	No
<i>Daily Hours</i>	10.00	<i>Annual Hours</i>	50
<i>Location</i>	Building 6510, VAFB		
<i>Note</i>			
<i>Device Description</i>	Tier 3, turbocharged, diesel-fired, internal combustion engine equipped with direct diesel injection and an engine control module.		

**3.47 Emergency Generator 653765 - Building 7025**

<i>Device ID #</i>	386557	<i>Maximum Rated BHP</i>	2923.00
<i>Device Name</i>	Emergency Generator 653765 - Building 7025	<i>Serial Number</i>	
<i>Engine Use</i>	Electrical Power	<i>EPA Engine Family Name</i>	DMVXL65.4BBB
<i>Manufacturer</i>	Mitsubishi	<i>Operator ID</i>	653765
<i>Model Year</i>	2013	<i>Fuel Type</i>	CARB Diesel - ULSD
<i>Model</i>	S16R-Y2PTAW2-1		
<i>DRP/ISC?</i>	No	<i>Healthcare Facility?</i>	No
<i>Daily Hours</i>	4.00	<i>Annual Hours</i>	50
<i>Location</i>	Building 7025, 1750 10th Street, VAFB		
<i>Note</i>			
<i>Device Description</i>	Tier 2, turbocharged, aftercooled, diesel-fired internal combustion engine.		

**3.48 Training Engine 3936 - Building 7425**

<b><i>Device ID #</i></b>	<b>112253</b>	<b><i>Device Name</i></b>	<b>Training Engine 3936 - Building 7425</b>
<i>Rated Heat Input</i>	1.550 MMBtu/Hour	<i>Physical Size</i>	207.00 Horsepower
<i>Manufacturer</i>	Cummins	<i>Operator ID</i>	
<i>Model</i>	6CT8.3-G2	<i>Serial Number</i>	TBD
<i>Location Note</i>	Building 7425, 10th St., nearest intersection Nevada Ave., VAFB		
<i>Device Description</i>	Tier 1, 2006 model year, turbocharged, diesel-fired, prime engine equipped with direct diesel injection and a charge air cooler. Used as a prime engine for training purposes. Operation limited to 7.5 hrs/day, 150 hrs/qtr, and 600 hrs/year.		

**3.49 Emergency Generator 3747 - Building 8401**

<i>Device ID #</i>	110201	<i>Maximum Rated BHP</i>	755.00
<i>Device Name</i>	Emergency Generator 3747 - Building 8401	<i>Serial Number</i>	79267388
<i>Engine Use</i>	Electrical Power	<i>EPA Engine Family Name</i>	7CEXL015.AAB
<i>Manufacturer</i>	Cummins	<i>Operator ID</i>	3747
<i>Model Year</i>	2007	<i>Fuel Type</i>	CARB Diesel - ULSD
<i>Model</i>	QSX15-G9		
<i>DRP/ISC?</i>	No	<i>Healthcare Facility?</i>	No
<i>Daily Hours</i>	3.00	<i>Annual Hours</i>	50
<i>Location</i>	Building 8401, VAFB		
<i>Note</i>			
<i>Device Description</i>	Tier 2, turbocharged, diesel-fired internal combustion engine equipped with direct diesel injection and a charge air cooler.		

**3.50 Emergency Generator 711413 - Building 8401**

<i>Device ID #</i>	391957	<i>Maximum Rated BHP</i>	755.00
<i>Device Name</i>	Emergency Generator 711413 - Building 8401	<i>Serial Number</i>	80086113
<i>Engine Use</i>	Electrical Power	<i>EPA Engine Family Name</i>	JCEXL015.AAJ
<i>Manufacturer</i>	Cummins Inc.	<i>Operator ID</i>	711413
<i>Model Year</i>	2018	<i>Fuel Type</i>	CARB Diesel - ULSD
<i>Model</i>	QSX15-G9		
<i>DRP/ISC?</i>	No	<i>Healthcare Facility?</i>	No
<i>Daily Hours</i>	15.00	<i>Annual Hours</i>	50
<i>Location</i>	Building 8401, 1521 Iceland Avenue, VAFB		
<i>Note</i>			
<i>Device Description</i>	Tier 2, turbocharged, aftercooled, diesel-fired internal combustion engine.		

**3.51 Emergency Generator 4116 - Building 8195**

<i>Device ID #</i>	113917	<i>Maximum Rated BHP</i>	364.00
<i>Device Name</i>	Emergency Generator 4116 - Building 8195	<i>Serial Number</i>	TBD
<i>Engine Use</i>	Electrical Power	<i>EPA Engine Family Name</i>	ACEXL0540AAB
<i>Manufacturer</i>	Cummins	<i>Operator ID</i>	4116
<i>Model Year</i>	2010	<i>Fuel Type</i>	CARB Diesel - ULSD
<i>Model</i>	QSL9-G2 NR3		
<i>DRP/ISC?</i>	No	<i>Healthcare Facility?</i>	No
<i>Daily Hours</i>	8.00	<i>Annual Hours</i>	50
<i>Location</i>	Bldg 8195, corner of 8th Street & Nevada Ave., VAFB		
<i>Note</i>			
<i>Device Description</i>	Tier 3, turbocharged, diesel fired internal combustion engine equipped with direct diesel injection, a charge air cooler, and an electronic control module.		

**3.52 Emergency Generator 4123 - Building 8317**

<i>Device ID #</i>	114377	<i>Maximum Rated BHP</i>	250.00
<i>Device Name</i>	Emergency Generator 4123 - Building 8317	<i>Serial Number</i>	73266726
<i>Engine Use</i>	Electrical Power	<i>EPA Engine Family Name</i>	BCEXL0409AAB
<i>Manufacturer</i>	Cummins	<i>Operator ID</i>	4123
<i>Model Year</i>	2011	<i>Fuel Type</i>	CARB Diesel - ULSD
<i>Model</i>	QSB7-G3 NR3		
<i>DRP/ISC?</i>	No	<i>Healthcare Facility?</i>	No
<i>Daily Hours</i>	8.00	<i>Annual Hours</i>	50
<i>Location</i>	Building 8317, VAFB		
<i>Note</i>			
<i>Device Description</i>	Tier 3, turbocharged, diesel-fired internal combustion engine equipped with a charge air cooler.		

**3.53 Emergency Generator 3052 - Building 8510**

<i>Device ID #</i>	106946	<i>Maximum Rated BHP</i>	1592.00
<i>Device Name</i>	Emergency Generator 3052 - Building 8510	<i>Serial Number</i>	24Z03225
<i>Engine Use</i>	Electrical Power	<i>EPA Engine Family Name</i>	
<i>Manufacturer</i>	Caterpillar	<i>Operator ID</i>	3052
<i>Model Year</i>	1990	<i>Fuel Type</i>	CARB Diesel - ULSD
<i>Model</i>	3512STD		
<i>DRP/ISC?</i>	No	<i>Healthcare Facility?</i>	No
<i>Daily Hours</i>	20.00	<i>Annual Hours</i>	20
<i>Location</i>	Bldg 8510, Iceland Avenue, intersect near 8th Street (North Base)		
<i>Note</i>			
<i>Device Description</i>	A Tier 0 diesel-fired internal combustion engine powering an electrical generator used for backup emergency electrical power.		

**3.54 Emergency Generator 678837- Building 10314**

<i>Device ID #</i>	388044	<i>Maximum Rated BHP</i>	145.00
<i>Device Name</i>	Emergency Generator 678837- Building 10314	<i>Serial Number</i>	TBD
<i>Engine Use</i>	Electrical Power	<i>EPA Engine Family Name</i>	ECEXL0275AAG
<i>Manufacturer</i>	Cummins	<i>Operator ID</i>	678837
<i>Model Year</i>	2014	<i>Fuel Type</i>	CARB Diesel - ULSD
<i>Model</i>	QSB5-G3		
<i>DRP/ISC?</i>	No	<i>Healthcare Facility?</i>	No
<i>Daily Hours</i>	8.00	<i>Annual Hours</i>	50
<i>Location</i>	Building 10314, 1206 California Blvd, VAFB		
<i>Note</i>			
<i>Device Description</i>	Tier 3, turbocharged, diesel-fired engine equipped with a charge air cooler.		

## 3.55

**Emergency Generator 706876 - Building 10525**

<i>Device ID #</i>	390424	<i>Maximum Rated BHP</i>	324.00
<i>Device Name</i>	Emergency Generator 706876 - Building 10525	<i>Serial Number</i>	74037489
<i>Engine Use</i>	Electrical Power	<i>EPA Engine Family Name</i>	GCEXL0409AAD
<i>Manufacturer</i>	Cummins	<i>Operator ID</i>	706876
<i>Model Year</i>	2016	<i>Fuel Type</i>	CARB Diesel - ULSD
<i>Model</i>	QSB7-G5 NR3		
<i>DRP/ISC?</i>	No	<i>Healthcare Facility?</i>	No
<i>Daily Hours</i>	24.00	<i>Annual Hours</i>	50
<i>Location</i>	Building 10525, VAFB		
<i>Note</i>			
<i>Device Description</i>	Tier 3, Diesel-fired, aftercooled, turbocharged, emergency standby generator.		

## 3.56

**Emergency Generator 589 - Building 10579**

<i>Device ID #</i>	107038	<i>Maximum Rated BHP</i>	750.00
<i>Device Name</i>	Emergency Generator 589 - Building 10579	<i>Serial Number</i>	37141696
<i>Engine Use</i>	Electrical Power	<i>EPA Engine Family Name</i>	
<i>Manufacturer</i>	Cummins	<i>Operator ID</i>	589-1
<i>Model Year</i>	1992	<i>Fuel Type</i>	CARB Diesel - ULSD
<i>Model</i>	KTTA19-G2		
<i>DRP/ISC?</i>	No	<i>Healthcare Facility?</i>	No
<i>Daily Hours</i>	20.00	<i>Annual Hours</i>	20
<i>Location</i>	Bldg 10579, near intersect Nebraska Ave & California Ave (North Base)		
<i>Note</i>			
<i>Device Description</i>	A Tier 0 diesel-fired IC engine powering an electrical generator used for backup emergency electrical power.		

## 3.57

**Emergency Generator 698 - Building 10660**

<i>Device ID #</i>	107004	<i>Maximum Rated BHP</i>	68.00
<i>Device Name</i>	Emergency Generator 698 - Building 10660	<i>Serial Number</i>	B883331942
<i>Engine Use</i>	Electrical Power	<i>EPA Engine Family Name</i>	
<i>Manufacturer</i>	Cummins	<i>Operator ID</i>	698
<i>Model Year</i>	1988	<i>Fuel Type</i>	CARB Diesel - ULSD
<i>Model</i>	L634T-I/10148C		
<i>DRP/ISC?</i>	No	<i>Healthcare Facility?</i>	No
<i>Daily Hours</i>	20.00	<i>Annual Hours</i>	20
<i>Location</i>	Bldg 10660, near intersect New Mexico Ave & Iceland Ave (North Base)		
<i>Note</i>			
<i>Device Description</i>	A Tier 0 diesel-fired IC engine powering an electrical generator used for backup emergency electrical power.		

**3.58 Emergency Generator 699 - Building 11439**

<i>Device ID #</i>	386166	<i>Maximum Rated BHP</i>	145.00
<i>Device Name</i>	Emergency Generator 699 - Building 11439	<i>Serial Number</i>	73334904
<i>Engine Use</i>	Electrical Power	<i>EPA Engine Family Name</i>	BCEXL0275AAG
<i>Manufacturer</i>	Cummins	<i>Operator ID</i>	4379
<i>Model Year</i>	2011	<i>Fuel Type</i>	CARB Diesel - ULSD
<i>Model</i>	QSB5-G3 NR3		
<i>DRP/ISC?</i>	No	<i>Healthcare Facility?</i>	No
<i>Daily Hours</i>	3.00	<i>Annual Hours</i>	50
<i>Location</i>	Building 11439, 1172 Iceland Ave., VAFB		
<i>Note</i>			
<i>Device Description</i>	Tier 3, diesel-fired, turbocharged, internal combustion engine equipped with direct diesel injection, a charge air cooler, and an electronic control module.		

**3.59 Emergency Generator 4268 - Building 12000**

<i>Device ID #</i>	114696	<i>Maximum Rated BHP</i>	1141.00
<i>Device Name</i>	Emergency Generator 4268 - Building 12000	<i>Serial Number</i>	TBD
<i>Engine Use</i>	Electrical Power	<i>EPA Engine Family Name</i>	BCPXL27.0NZS
<i>Manufacturer</i>	Caterpillar	<i>Operator ID</i>	4268
<i>Model Year</i>	2011	<i>Fuel Type</i>	CARB Diesel - ULSD
<i>Model</i>	C27		
<i>DRP/ISC?</i>	No	<i>Healthcare Facility?</i>	No
<i>Daily Hours</i>	8.00	<i>Annual Hours</i>	50
<i>Location</i>	Building 12000, VAFB		
<i>Note</i>			
<i>Device Description</i>	Tier 2, turbocharged, aftercooled, diesel-fired internal combustion engine equipped with direct diesel injection.		

**3.60 Emergency Generator 3928 - Building 12006**

<i>Device ID #</i>	112255	<i>Maximum Rated BHP</i>	2922.00
<i>Device Name</i>	Emergency Generator 3928 - Building 12006	<i>Serial Number</i>	33173307
<i>Engine Use</i>	Electrical Power	<i>EPA Engine Family Name</i>	8CEXL060.AAD
<i>Manufacturer</i>	Cummins	<i>Operator ID</i>	3928
<i>Model Year</i>	2008	<i>Fuel Type</i>	CARB Diesel - ULSD
<i>Model</i>	QSK60-G6 NR2		
<i>DRP/ISC?</i>	No	<i>Healthcare Facility?</i>	No
<i>Daily Hours</i>	2.00	<i>Annual Hours</i>	50
<i>Location</i>	Building 12006 (Behind Building 12000, Nearest intersection South Dakota & Washington Ave., VAFB		
<i>Note</i>			
<i>Device Description</i>	Tier 2, turbocharged, diesel-fired internal combustion engine equipped with a charge air cooler, direct diesel injection and an engine control module. Reference: CARB EO U-R-002-0434.		

**3.61 Emergency Generator 3929 - Building 12006**

<i>Device ID #</i>	112256	<i>Maximum Rated BHP</i>	2922.00
<i>Device Name</i>	Emergency Generator 3929 - Building 12006	<i>Serial Number</i>	33173267
<i>Engine Use</i>	Electrical Power	<i>EPA Engine Family Name</i>	8CEXL060.AAD
<i>Manufacturer</i>	Cummins	<i>Operator ID</i>	3929
<i>Model Year</i>	2008	<i>Fuel Type</i>	CARB Diesel - ULSD
<i>Model</i>	QSK60-G6 NR2		
<i>DRP/ISC?</i>	No	<i>Healthcare Facility?</i>	No
<i>Daily Hours</i>	2.00	<i>Annual Hours</i>	50
<i>Location Note</i>	Building 12006 (Behind Building 12000, Nearest intersection South Dakota & Washington Ave., VAFB)		
<i>Device Description</i>	Tier 2, turbocharged, diesel-fired internal combustion engine equipped with a charge air cooler, direct diesel injection and an engine control module. Reference: CARB EO U-R-002-0434.		

**3.62 Emergency Generator - Building 13850**

<i>Device ID #</i>	388045	<i>Maximum Rated BHP</i>	464.00
<i>Device Name</i>	Emergency Generator - Building 13850	<i>Serial Number</i>	TBD
<i>Engine Use</i>	Electrical Power	<i>EPA Engine Family Name</i>	ECEXL0540AAB
<i>Manufacturer</i>	Cummins	<i>Operator ID</i>	
<i>Model Year</i>	2014	<i>Fuel Type</i>	CARB Diesel - ULSD
<i>Model</i>	QSL9-G7		
<i>DRP/ISC?</i>	No	<i>Healthcare Facility?</i>	No
<i>Daily Hours</i>	8.00	<i>Annual Hours</i>	50
<i>Location Note</i>	Building 13850, 338 South Dakota Road, VAFB		
<i>Device Description</i>	Tier 3, turbocharged, diesel-fired engine equipped with a charge air cooler.		

**3.63 Emergency Generator (CT-1) 3642 - Building 21203**

<b><i>Device ID #</i></b>	<b>109236</b>	<b><i>Device Name</i></b>	<b>Emergency Generator (CT-1) 3642 - Building 21203</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	755.00 Brake Horsepower
<i>Manufacturer</i>	Cummins	<i>Operator ID</i>	3642
<i>Model</i>	QSX15-G9	<i>Serial Number</i>	79240772
<i>Location Note</i>	Building 21203. Firefighter Road, North Base, VAFB		
<i>Device Description</i>	EPA Family Name: 6CEXL015.AAB. ARB EO: U-R-002-0318. Electrical generator using CARB diesel. Connected to a DPF.		

**3.63.1 Diesel Particulate Filter (CT-1) - Building 21203**

<b>Device ID #</b>	<b>109237</b>	<b>Device Name</b>	<b>Diesel Particulate Filter (CT-1) - Building 21203</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	
<i>Manufacturer</i>	Johnson Matthey	<i>Operator ID</i>	
<i>Model</i>	CRT-3-N-E1-SS-8	<i>Serial Number</i>	tbdU-3089
<i>Location Note</i>	Building 21203. Firefighter Road, North Base		
<i>Device Description</i>	Used to control diesel particulate matter from the 755 bhp Cummins E/S generator engine		

**3.64 Emergency Generator 699622 - Building 22311**

<i>Device ID #</i>	388046	<i>Maximum Rated BHP</i>	755.00
<i>Device Name</i>	Emergency Generator 699622 - Building 22311	<i>Serial Number</i>	97855238
<i>Engine Use</i>	Electrical Power	<i>EPA Engine Family Name</i>	FCEXL015.AAJ
<i>Manufacturer</i>	Cummins	<i>Operator ID</i>	699622
<i>Model Year</i>	2015	<i>Fuel Type</i>	CARB Diesel - ULSD
<i>Model</i>	QSX15-G9		
<i>DRP/ISC?</i>	No	<i>Healthcare Facility?</i>	No
<i>Daily Hours</i>	8.00	<i>Annual Hours</i>	50
<i>Location</i>	Building 22311, Water Plant, San Antonio Road West, VAFB		
<i>Note</i>			
<i>Device Description</i>	Tier 2, turbocharged, diesel-fired engine equipped with a charge air cooler and electronic controls.		

**3.65 Emergency Generator 3582 - Building 23201**

<i>Device ID #</i>	111125	<i>Maximum Rated BHP</i>	99.00
<i>Device Name</i>	Emergency Generator 3582 - Building 23201	<i>Serial Number</i>	46355722
<i>Engine Use</i>	Electrical Power	<i>EPA Engine Family Name</i>	3CEXL0239AFA
<i>Manufacturer</i>	Cummins	<i>Operator ID</i>	3582
<i>Model Year</i>	2003	<i>Fuel Type</i>	CARB Diesel - ULSD
<i>Model</i>	4BT3.9-G4		
<i>DRP/ISC?</i>	No	<i>Healthcare Facility?</i>	No
<i>Daily Hours</i>	24.00	<i>Annual Hours</i>	30
<i>Location</i>	Bldg 23201 Bishop Road Vandenberg Tracking Station (VTS)		
<i>Note</i>			
<i>Device Description</i>	A Tier 1, 99 bhp diesel-fired IC engine powering an electrical generator used for backup emergency electrical power. Engine bhp is based on the engine nameplate. Ref CARB Ex Order U-R-002-0167.		

## 3.66

**Emergency Fire Water Pump - Building 23209**

<i>Device ID #</i>	391526	<i>Maximum Rated BHP</i>	86.00
<i>Device Name</i>	Emergency Fire Water Pump - Building 23209	<i>Serial Number</i>	PE4045N000698
<i>Engine Use</i>	Fire Water Pump	<i>EPA Engine Family Name</i>	GJDXL04.5141
<i>Manufacturer</i>	John Deere	<i>Operator ID</i>	706693
<i>Model Year</i>	2016	<i>Fuel Type</i>	CARB Diesel - ULSD
<i>Model</i>	4045HF280G		
<i>DRP/ISC?</i>	No	<i>Healthcare Facility?</i>	No
<i>Daily Hours</i>	24.00	<i>Annual Hours</i>	50
<i>Location</i>	Building 23209, Bishop Road, VAFB		
<i>Note</i>			
<i>Device Description</i>	Tier 3, diesel-fired, turbocharged, aftercooled, fire water pump. The John Deere engine drives equipment manufactured by Clark Fire Protection Products and has nameplates from both companies.		

## 3.67

**Emergency Generator 4375 - Building 23243**

<i>Device ID #</i>	386257	<i>Maximum Rated BHP</i>	904.00
<i>Device Name</i>	Emergency Generator 4375 - Building 23243	<i>Serial Number</i>	2016069761
<i>Engine Use</i>	Electrical Power	<i>EPA Engine Family Name</i>	DVPXL16.1ACW
<i>Manufacturer</i>	Volvo	<i>Operator ID</i>	
<i>Model Year</i>	2013	<i>Fuel Type</i>	CARB Diesel - ULSD
<i>Model</i>	TWD1643GE		
<i>DRP/ISC?</i>	No	<i>Healthcare Facility?</i>	No
<i>Daily Hours</i>	6.00	<i>Annual Hours</i>	50
<i>Location</i>	Building 23243, 23243 Bishop Rd, VAFB		
<i>Note</i>			
<i>Device Description</i>	Tier 2, turbocharged, aftercooled, diesel-fired internal combustion engine equipped with an electronic control module.		

## 3.68

**Emergency Generator 4376 - Building 23243**

<i>Device ID #</i>	386258	<i>Maximum Rated BHP</i>	904.00
<i>Device Name</i>	Emergency Generator 4376 - Building 23243	<i>Serial Number</i>	2016069326
<i>Engine Use</i>	Electrical Power	<i>EPA Engine Family Name</i>	DVPXL16.1ACW
<i>Manufacturer</i>	Volvo	<i>Operator ID</i>	4376
<i>Model Year</i>	2013	<i>Fuel Type</i>	CARB Diesel - ULSD
<i>Model</i>	TWD1643GE		
<i>DRP/ISC?</i>	No	<i>Healthcare Facility?</i>	No
<i>Daily Hours</i>	6.00	<i>Annual Hours</i>	50
<i>Location</i>	Building 23243, 23243 Bishop Rd, VAFB		
<i>Note</i>			
<i>Device Description</i>	Tier 2, turbocharged, aftercooled, diesel-fired internal combustion engine equipped with an electronic control module.		

### 3.69 Emergency Generator 4010 - Portable

<i>Device ID #</i>	113280	<i>Maximum Rated BHP</i>	145.00
<i>Device Name</i>	Emergency Generator 4010 - Portable	<i>Serial Number</i>	TBD
<i>Engine Use</i>	Electrical Power	<i>EPA Engine Family Name</i>	ACEXL0275AAG
<i>Manufacturer</i>	Cummins	<i>Operator ID</i>	4010
<i>Model Year</i>	2010	<i>Fuel Type</i>	APCD Rule 311 Diesel
<i>Model</i>	QSB5-G3 NR3		
<i>DRP/ISC?</i>	No	<i>Healthcare Facility?</i>	No
<i>Daily Hours</i>	8.00	<i>Annual Hours</i>	50
<i>Location</i>	Various Locations on VAFB		
<i>Note</i>			
<i>Device Description</i>	Tier 3, portable, turbocharged, diesel-fired, internal combustion engine equipped with a charge air cooler, direct diesel injection and an engine control module.		

### 3.70 Emergency Generator 4011 - Portable

<i>Device ID #</i>	113281	<i>Maximum Rated BHP</i>	145.00
<i>Device Name</i>	Emergency Generator 4011 - Portable	<i>Serial Number</i>	TBD
<i>Engine Use</i>	Electrical Power	<i>EPA Engine Family Name</i>	ACEXL0275AAG
<i>Manufacturer</i>	Cummins	<i>Operator ID</i>	4011
<i>Model Year</i>	2010	<i>Fuel Type</i>	CARB Diesel - ULSD
<i>Model</i>	QSB5-G3 NR3		
<i>DRP/ISC?</i>	No	<i>Healthcare Facility?</i>	No
<i>Daily Hours</i>	8.00	<i>Annual Hours</i>	50
<i>Location</i>	Various Locations on VAFB		
<i>Note</i>			
<i>Device Description</i>	Tier 3, portable, turbocharged, diesel-fired, internal combustion engine equipped with a charge air cooler, direct diesel injection and an engine control module.		

### 3.71 Emergency Generator 4012 - Portable

<i>Device ID #</i>	113282	<i>Maximum Rated BHP</i>	145.00
<i>Device Name</i>	Emergency Generator 4012 - Portable	<i>Serial Number</i>	TBD
<i>Engine Use</i>	Electrical Power	<i>EPA Engine Family Name</i>	ACEXL0275AAG
<i>Manufacturer</i>	Cummins	<i>Operator ID</i>	4012
<i>Model Year</i>	2010	<i>Fuel Type</i>	CARB Diesel - ULSD
<i>Model</i>	QSB5-G3 NR3		
<i>DRP/ISC?</i>	No	<i>Healthcare Facility?</i>	No
<i>Daily Hours</i>	8.00	<i>Annual Hours</i>	50
<i>Location</i>	Various Locations on VAFB		
<i>Note</i>			
<i>Device Description</i>	Tier 3, portable, turbocharged, diesel-fired, internal combustion engine equipped with a charge air cooler, direct diesel injection and an engine control module.		

**3.72 Emergency Generator 4013 - Portable**

<i>Device ID #</i>	113283	<i>Maximum Rated BHP</i>	145.00
<i>Device Name</i>	Emergency Generator 4013 - Portable	<i>Serial Number</i>	TBD
<i>Engine Use</i>	Electrical Power	<i>EPA Engine Family Name</i>	ACEXL0275AAG
<i>Manufacturer</i>	Cummins	<i>Operator ID</i>	4013
<i>Model Year</i>	2010	<i>Fuel Type</i>	CARB Diesel - ULSD
<i>Model</i>	QSB5-G3 NR3		
<i>DRP/ISC?</i>	No	<i>Healthcare Facility?</i>	No
<i>Daily Hours</i>	8.00	<i>Annual Hours</i>	50
<i>Location</i>	Various Locations on VAFB		
<i>Note</i>			
<i>Device Description</i>	Tier 3, portable, turbocharged, diesel-fired, internal combustion engine equipped with a charge air cooler, direct diesel injection and an engine control module.		

**3.73 Emergency Generator 4014 - Portable**

<i>Device ID #</i>	113284	<i>Maximum Rated BHP</i>	145.00
<i>Device Name</i>	Emergency Generator 4014 - Portable	<i>Serial Number</i>	TBD
<i>Engine Use</i>	Electrical Power	<i>EPA Engine Family Name</i>	ACEXL0275AAG
<i>Manufacturer</i>	Cummins	<i>Operator ID</i>	4014
<i>Model Year</i>	2010	<i>Fuel Type</i>	CARB Diesel - ULSD
<i>Model</i>	QSB5-G3 NR3		
<i>DRP/ISC?</i>	No	<i>Healthcare Facility?</i>	No
<i>Daily Hours</i>	8.00	<i>Annual Hours</i>	50
<i>Location</i>	Various Locations on VAFB		
<i>Note</i>			
<i>Device Description</i>	Tier 3, portable, turbocharged, diesel-fired, internal combustion engine equipped with a charge air cooler, direct diesel injection and an engine control module.		

**4 Coating Operations**

**4.1 Building 831 - Coating Operations**

**4.1.1 Spray Booth - Building 831**

<i>Device ID #</i>	<b>384032</b>	<i>Device Name</i>	<b>Spray Booth - Building 831</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	2.00 Horsepower (Electric Motor)
<i>Manufacturer</i>		<i>Operator ID</i>	4174
<i>Model</i>		<i>Serial Number</i>	
<i>Location Note</i>	Building 831, Vandenberg Air Force Base		
<i>Device Description</i>	One three-sided paint booth 11' w x 7' h x 6' d, equipped with 24 overspray filters, and an exhaust fan with a 2 horsepower electric motor.		

4.1.2

Coating Application Equipment - Building 831

<i>Device ID #</i>	384033	<i>Device Name</i>	Coating Application Equipment - Building 831
<i>Rated Heat Input</i>		<i>Physical Size</i>	7.00 Horsepower (Electric Motor)
<i>Manufacturer Model</i>		<i>Operator ID Serial Number</i>	
<i>Location Note</i>	Building 831, Vandenberg Air Force Base		
<i>Device Description</i>	Includes gun(s), hose(s), compressor(s), and other manually held non-mechanically operated equipment.		

## 4.2 Building 875 - Coating Operations

### 4.2.1 Spray Booth Building 875

<b>Device ID #</b>	<b>107926</b>	<b>Device Name</b>	<b>Spray Booth Building 875</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	3.00 Horsepower
<i>Manufacturer</i>	M & W	<i>Operator ID</i>	1598
<i>Model</i>	MW 9-1426 RF	<i>Serial Number</i>	
<i>Location Note</i>	Building 875, Southern Zone		
<i>Device Description</i>	Interior dimensions: 14' w x 9' h x 26' d. The booth is equipped with overspray filters and an exhaust fan driven by a 3 hp electric motor providing 16,800 cfm of air flow.		

### 4.2.2 Coating Application Equipment - Bldg 875

<b>Device ID #</b>	<b>107927</b>	<b>Device Name</b>	<b>Coating Application Equipment - Bldg 875</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	
<i>Manufacturer</i>		<i>Operator ID</i>	
<i>Model</i>		<i>Serial Number</i>	
<i>Location Note</i>	Building 875, Southern Zone		
<i>Device Description</i>			

### 4.2.3 Closed Cycle Spray Gun Cleaning System - Bldg 875

<b>Device ID #</b>	<b>107928</b>	<b>Device Name</b>	<b>Closed Cycle Spray Gun Cleaning System - Bldg 875</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	
<i>Manufacturer</i>		<i>Operator ID</i>	4131
<i>Model</i>		<i>Serial Number</i>	
<i>Location Note</i>	Building 875, Southern Zone		
<i>Device Description</i>			

### 4.3 Building 1731 - Coating Operations

#### 4.3.1 Finishing Paint Booth - Bldg 1731

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<b>Device ID #</b>	<b>391549</b>	<b>Device Name</b>	<b>Finishing Paint Booth - Bldg 1731</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	
<i>Manufacturer</i>	AFC	<i>Operator ID</i>	706728
<i>Model</i>	ECFARA2712	<i>Serial Number</i>	
<i>Location Note</i>	Building 1731, 320 Airfield Road, VAFB		
<i>Device</i>	15' wide x 9'10" high x 27' deep		
<i>Description</i>	Used to apply paints and coatings to metal and metal parts, automobiles and mobile equipment and associated parts, aerospace vehicles and components, wood products, and components including architectural appurtenances and sub-assemblies.		

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#### 4.3.2 Spray Guns, Hoses, and Hand Application Equipment Bldg 1731

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<b>Device ID #</b>	<b>391551</b>	<b>Device Name</b>	<b>Spray Guns, Hoses, and Hand Application Equipment Bldg 1731</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	1.00 Installation
<i>Manufacturer</i>		<i>Operator ID</i>	
<i>Model</i>		<i>Serial Number</i>	
<i>Location Note</i>	Building 1731, 320 Airfield Road, VAFB		
<i>Device</i>			
<i>Description</i>			

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#### 4.3.3 Enclosed Spray Gun Cleaning System - Bldg 1731

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<b>Device ID #</b>	<b>391552</b>	<b>Device Name</b>	<b>Enclosed Spray Gun Cleaning System - Bldg 1731</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	1.00 Installation
<i>Manufacturer</i>		<i>Operator ID</i>	708765
<i>Model</i>		<i>Serial Number</i>	
<i>Location Note</i>	Building 1731, 320 Airfield Road, VAFB		
<i>Device</i>			
<i>Description</i>			

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**4.4 Building 2007 - Coating Operations**

**4.4.1 Surface Coating Application - Booth Building 2007**

<i>Device ID #</i>	<b>108716</b>	<i>Device Name</i>	<b>Surface Coating Application - Booth Building 2007</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	7.50 Horsepower (Electric Motor)
<i>Manufacturer</i>	West Coast	<i>Operator ID</i>	
<i>Model</i>	WC 16-16-20	<i>Serial Number</i>	
<i>Location Note</i>	Building 2007 at Vandenberg Air Force Base, Northern Zone		
<i>Device Description</i>	Dimensions: 17' w x 16' h x 20' d. The booth is equipped with dry overspray filters, a manometer, and an exhaust fan driven by a 7.5 horsepower electric motor.		

**4.4.2 High Transfer Efficiency Coating Application Equipment 2007**

<i>Device ID #</i>	<b>108717</b>	<i>Device Name</i>	<b>High Transfer Efficiency Coating Application Equipment 2007</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	
<i>Manufacturer</i>		<i>Operator ID</i>	
<i>Model</i>		<i>Serial Number</i>	
<i>Location Note</i>	Building 2007 at Vandenberg Air Force Base, Northern Zone		
<i>Device Description</i>	Includes spray guns, hoses and a closed cycle spray gun cleaning system.		

**4.5 Building 8190 - Coating Operations**

**4.5.1 Spray Booth - Bldg 8190**

<i>Device ID #</i>	<b>105647</b>	<i>Device Name</i>	<b>Spray Booth - Bldg 8190</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	5.00 Horsepower (Electric Motor)
<i>Manufacturer</i>	Binks	<i>Operator ID</i>	1603
<i>Model</i>	ADP-HAC-25-D-5	<i>Serial Number</i>	
<i>Location Note</i>			
<i>Device Description</i>	Equipped with eight high efficiency intake air filters, one Andrea high efficiency overspray filter and an exhaust fan. The exhaust fan, rated at 12,200 CFM, is driven by an electric motor rated at 5 horsepower. Booth internal dimensions: 14 feet wide, 9 feet high, 25 feet deep. The stack diameter is 34 inches. Stack height is 27 feet.		

**4.5.2 Coating Application Equipment - Building 8190**

<i>Device ID #</i>	<b>105649</b>	<i>Device Name</i>	<b>Coating Application Equipment - Building 8190</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	
<i>Manufacturer</i>		<i>Operator ID</i>	4106
<i>Model</i>		<i>Serial Number</i>	
<i>Location Note</i>			
<i>Device Description</i>	Includes gun(s), hose(s), compressor(s), and other manually held non-mechanically operated equipment.		

**4.6 Building 9320 - Coating Operations**

**4.6.1 Spray Booth - Building 9320**

<i>Device ID #</i>	<b>384028</b>	<i>Device Name</i>	<b>Spray Booth - Building 9320</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	10.00 Horsepower (Electric Motor)
<i>Manufacturer</i>	DeVilbis	<i>Operator ID</i>	1591
<i>Model</i>	XN050216	<i>Serial Number</i>	26340,
<i>Location Note</i>			
<i>Device Description</i>	Dimensions: 16.0' w x 17.0' h x 49.0'd, equipped with a water wash overspray control system, a manometer, mfr: Dwyer II, range: -0.5" to 3.0" of water, and two (2) 5.0 horsepower (hp) exhaust fans.		

**4.6.2 Spray Booth - Building 9320**

<i>Device ID #</i>	<b>384029</b>	<i>Device Name</i>	<b>Spray Booth - Building 9320</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	1.50 Horsepower (Electric Motor)
<i>Manufacturer</i>	Binks	<i>Operator ID</i>	1592
<i>Model</i>	30-4303	<i>Serial Number</i>	
<i>Location Note</i>			
<i>Device Description</i>	One three-sided spray booth. Dimensions: 10.0' w x 8.1' h x 9.6'd, equipped with overspray filters and a 1.5 hp exhaust fan motor.		

**4.6.3 Gun Washer Recycle Device - Building 9320**

<i>Device ID #</i>	<b>384030</b>	<i>Device Name</i>	<b>Gun Washer Recycle Device - Building 9320</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	
<i>Manufacturer</i>	Herkules GWR	<i>Operator ID</i>	4129
<i>Model</i>		<i>Serial Number</i>	
<i>Location Note</i>			
<i>Device Description</i>			

**4.6.4 Coating Application Equipment - Building 9320**

<i>Device ID #</i>	<b>384031</b>	<i>Device Name</i>	<b>Coating Application Equipment - Building 9320</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	
<i>Manufacturer</i>		<i>Operator ID</i>	
<i>Model</i>		<i>Serial Number</i>	
<i>Location Note</i>			
<i>Device Description</i>	Includes gun(s), hose(s), compressor(s), and other manually held non-mechanically operated equipment.		

**4.7 Building 9327 - Coating Operations**

**4.7.1 Spray Booth - Building 9327**

<i>Device ID #</i>	<b>113676</b>	<i>Device Name</i>	<b>Spray Booth - Building 9327</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	7.50 Horsepower (Electric Motor)
<i>Manufacturer</i>	Spray-Tech	<i>Operator ID</i>	
<i>Model</i>	VFAF20-1612-C	<i>Serial Number</i>	
<i>Location Note</i>	Building 9327, VAFB		
<i>Device Description</i>	Pressurized front air flow truck booth, 20 feet long X 16 feet wide X 12 feet high. Inside pressure plenum. Equipped with a personnel access door, a 9 foot wide X 9 foot high product access door, a 42 inch exhaust fan, 36 intake filters and 36 exhaust filters.		

**4.7.2 Pre-Filter - Building 9327**

<i>Device ID #</i>	<b>113678</b>	<i>Device Name</i>	<b>Pre-Filter - Building 9327</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	
<i>Manufacturer</i>	Spray-Tech	<i>Operator ID</i>	
<i>Model</i>	M2VP0100-M	<i>Serial Number</i>	
<i>Location Note</i>	Building 9327, VAFB		
<i>Device Description</i>	Standard M2 vertical pre-filter with fourteen 24 foot by 24 foot by 1 foot thick aluminum mesh filters for outdoor use.		

**4.7.3 Spray Guns, Hoses, and Hand Application Equipment 9327**

<i>Device ID #</i>	<b>113679</b>	<i>Device Name</i>	<b>Spray Guns, Hoses, and Hand Application Equipment 9327</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	
<i>Manufacturer</i>		<i>Operator ID</i>	
<i>Model</i>		<i>Serial Number</i>	
<i>Location Note</i>	Building 9327, VAFB		
<i>Device Description</i>			

**4.8 Building 9360 - Coating Operations**

**4.8.1 Spray Booth - Bldg 9360**

<i>Device ID #</i>	<b>388390</b>	<i>Device Name</i>	<b>Spray Booth - Bldg 9360</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	65.00 Horsepower (Electric Motor)
<i>Manufacturer</i>	Thermo Air Spray Systems	<i>Operator ID</i>	703426
<i>Model</i>	TA161850MDF	<i>Serial Number</i>	TAMDF1122016
<i>Location Note</i>	Bldg 9360, 1318 New Mexico Ave., VAFB		
<i>Device Description</i>	Spray booth primarily used for coating metal parts. Plastics, wood, mobile equipment, and architectural appurtenances may also be coated. 18 feet wide X 50 feet long X 16 feet high. Equipped with two 25 hp fans and one 1.5 hp fan. Equipped with a 3-stage filter system including a 99.99% efficient HEPA filter.		

**4.8.2 Spray Guns, Hoses, and Hand App Equipment - Bldg 9360**

<i>Device ID #</i>	<b>388391</b>	<i>Device Name</i>	<b>Spray Guns, Hoses, and Hand App Equipment - Bldg 9360</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	1.00 Installation
<i>Manufacturer</i>		<i>Operator ID</i>	
<i>Model</i>		<i>Serial Number</i>	
<i>Location Note</i>	Bldg 9360, 1318 New Mexico Ave., VAFB		
<i>Device Description</i>			

**4.8.3 Automatic Spray Gun Cleaning System - Bldg 9360**

<i>Device ID #</i>	<b>388392</b>	<i>Device Name</i>	<b>Automatic Spray Gun Cleaning System - Bldg 9360</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	1.00 Installation
<i>Manufacturer</i>		<i>Operator ID</i>	
<i>Model</i>		<i>Serial Number</i>	
<i>Location Note</i>	Bldg 9360, 1318 New Mexico Ave., VAFB		
<i>Device Description</i>			

**4.8.4 Spray Booth Heater - Bldg 9360**

<i>Device ID #</i>	<b>388395</b>	<i>Device Name</i>	<b>Spray Booth Heater - Bldg 9360</b>
<i>Rated Heat Input</i>	4.125 MMBtu/Hour	<i>Physical Size</i>	4.12 MMBtu/Hour
<i>Manufacturer</i>	Midco	<i>Operator ID</i>	703427
<i>Model</i>	HMA-1	<i>Serial Number</i>	
<i>Location Note</i>	Bldg 9360, 1318 New Mexico Ave., VAFB		
<i>Device Description</i>	Fired on natural gas.		
	Spray Booth Heater		

#### 4.9 Building 10711 - Coating Operations

##### 4.9.1 Automotive Type Spray - Booth Building 10711

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<b>Device ID #</b>	<b>107930</b>	<b>Device Name</b>	<b>Automotive Type Spray - Booth Building 10711</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	
<i>Manufacturer</i>		<i>Operator ID</i>	1604
<i>Model</i>		<i>Serial Number</i>	
<i>Location Note</i>	Building 10711, VAFB		
<i>Device Description</i>	Equipped with dry overspray filters and an electric exhaust fan.		

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##### 4.9.2 High Transfer Efficiency Coating Application Equipment 10711

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<b>Device ID #</b>	<b>107931</b>	<b>Device Name</b>	<b>High Transfer Efficiency Coating Application Equipment 10711</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	
<i>Manufacturer</i>		<i>Operator ID</i>	
<i>Model</i>		<i>Serial Number</i>	
<i>Location Note</i>	Building 10711, VAFB		
<i>Device Description</i>			

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##### 4.9.3 Closed Cycle Spray Gun Cleaning System 10711

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<b>Device ID #</b>	<b>107932</b>	<b>Device Name</b>	<b>Closed Cycle Spray Gun Cleaning System 10711</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	
<i>Manufacturer</i>		<i>Operator ID</i>	4374
<i>Model</i>		<i>Serial Number</i>	
<i>Location Note</i>	Building 10711, VAFB		
<i>Device Description</i>			

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**4.9.4 Spray Booth Heater - Building 10711**

<b>Device ID #</b>	<b>111748</b>	<b>Device Name</b>	<b>Spray Booth Heater - Building 10711</b>
<i>Rated Heat Input</i>	3.700 MMBtu/Hour	<i>Operator ID</i>	3888
		<i>Serial Number</i>	46518
<i>Manufacturer Model</i>	Hastings Industries SBD-227-32-3700		
<i>Location Note</i>	Building 10711		
<i>Emission Control Basis</i>	NA		
<i>Device Description</i>	forced draft on/off Installed: September 1992		
	Spray Booth Heater		

**4.10 Various Locations Coating Operations**

**4.10.1 Oversized Vehicle and Equipment Surface Coating Operations**

<b>Device ID #</b>	<b>384072</b>	<b>Device Name</b>	<b>Oversized Vehicle and Equipment Surface Coating Operations</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	8.25 Horsepower (Electric Motor)
<i>Manufacturer Model</i>		<i>Operator ID</i>	
		<i>Serial Number</i>	
<i>Location Note</i>	Various NRO/Lockheed Martin Facilities on VAFB		
<i>Device Description</i>	Equipped with two sets of inner doors that can divide the booth into three (3) rooms, 20' w x 18' h each. The first room is 28' d and equipped with a 0.5 hp electric exhaust fan motor and is used only for surface preparation and drying coated items; no painting is done in it. The second room is 33' d with dry overspray filters and & a 7.5 hp electric exhaust fan motor. The third room is 28' deep and equipped with a 0.25 hp electric exhaust fan motor.		

5                    **AAFES Gas Station**

5.1                 **AAFES Fuel Storage Tank 1 - Building 14400**

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<b>Device ID #</b>	<b>384082</b>	<b>Device Name</b>	<b>AAFES Fuel Storage Tank 1 - Building 14400</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	12000.00
<i>Manufacturer</i>		<i>Operator ID</i>	
<i>Model</i>		<i>Serial Number</i>	
<i>Location Note</i>	Station B-14400 - AAFES		
<i>Device Description</i>	UST, Gasoline		

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5.2                 **AAFES Fuel Storage Tank 2 - Building 14400**

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<b>Device ID #</b>	<b>384083</b>	<b>Device Name</b>	<b>AAFES Fuel Storage Tank 2 - Building 14400</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	12000.00
<i>Manufacturer</i>		<i>Operator ID</i>	
<i>Model</i>		<i>Serial Number</i>	
<i>Location Note</i>	Station B-14400 - AAFES		
<i>Device Description</i>	UST, Gasoline		

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5.3                 **AAFES Fuel Storage Tank 3 - Building 14400**

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<b>Device ID #</b>	<b>384084</b>	<b>Device Name</b>	<b>AAFES Fuel Storage Tank 3 - Building 14400</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	12000.00
<i>Manufacturer</i>		<i>Operator ID</i>	
<i>Model</i>		<i>Serial Number</i>	
<i>Location Note</i>	Station B-14400 - AAFES		
<i>Device Description</i>	UST, Gasoline		

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**5.4 AAFES Fuel Dispensers - Building 14400**

<b>Device ID #</b>	<b>384085</b>	<b>Device Name</b>	<b>AAFES Fuel Dispensers - Building 14400</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	
<i>Manufacturer</i>	Dresser Wayne	<i>Operator ID</i>	
<i>Model</i>	VP1000	<i>Serial Number</i>	n/a
<i>Location Note</i>	Station B-14400 - AAFES		
<i>Device Description</i>			

**5.5 AAFES Gasoline Nozzles - Building 14400**

<b>Device ID #</b>	<b>390384</b>	<b>Device Name</b>	<b>AAFES Gasoline Nozzles - Building 14400</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	
<i>Manufacturer</i>		<i>Operator ID</i>	
<i>Model</i>		<i>Serial Number</i>	
<i>Location Note</i>	Station B-14400 - AAFES		
<i>Device Description</i>	Gasoline dispensing nozzles.		

**6 Military Gasoline Dispensing Facility**

**6.1 Military GDF Fuel Storage Tank 1 - Building 10726**

<b>Device ID #</b>	<b>109372</b>	<b>Device Name</b>	<b>Military GDF Fuel Storage Tank 1 - Building 10726</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	10000.00
<i>Manufacturer</i>		<i>Operator ID</i>	UST01
<i>Model</i>		<i>Serial Number</i>	
<i>Location Note</i>	Building 10726		
<i>Device Description</i>	UST (Tank #16), Gasoline		

**6.2 Military GDF Fuel Storage Tank 2 - Building 10726**

<b>Device ID #</b>	<b>109373</b>	<b>Device Name</b>	<b>Military GDF Fuel Storage Tank 2 - Building 10726</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	10000.00
<i>Manufacturer</i>		<i>Operator ID</i>	
<i>Model</i>		<i>Serial Number</i>	
<i>Location Note</i>	Building 10726		
<i>Device Description</i>			

**6.3 Military GDF Fuel Storage Tank 15 - Building 10726**

<b>Device ID #</b>	<b>115219</b>	<b>Device Name</b>	<b>Military GDF Fuel Storage Tank 15 - Building 10726</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	
<i>Manufacturer</i>		<i>Operator ID</i>	
<i>Model</i>		<i>Serial Number</i>	
<i>Location Note</i>	Underground, Building 10726		
<i>Device Description</i>			

**6.4 Military GDF Fuel Storage Tank 18 - Building 10726**

<b>Device ID #</b>	<b>386792</b>	<b>Device Name</b>	<b>Military GDF Fuel Storage Tank 18 - Building 10726</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	10000.00
<i>Manufacturer</i>		<i>Operator ID</i>	
<i>Model</i>		<i>Serial Number</i>	
<i>Location Note</i>			
<i>Device Description</i>			

**6.5 Military GDF Fuel Dispensers - Building 10726**

<b>Device ID #</b>	<b>109369</b>	<b>Device Name</b>	<b>Military GDF Fuel Dispensers - Building 10726</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	
<i>Manufacturer</i>	Gasboy	<i>Operator ID</i>	434
<i>Model</i>	9852KXTW1	<i>Serial Number</i>	tbd
<i>Location Note</i>	Building 10726		
<i>Device Description</i>	Military Gasoline Dispensing Facility		

**6.6 Military GDF E-85 Dispensers - Building 10726**

<b>Device ID #</b>	<b>387622</b>	<b>Device Name</b>	<b>Military GDF E-85 Dispensers - Building 10726</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	
<i>Manufacturer</i>	Dresser Wayne	<i>Operator ID</i>	
<i>Model</i>	G7202D	<i>Serial Number</i>	45535C K13
<i>Location Note</i>			
<i>Device Description</i>	2 nozzles, This upgraded model installed instead of device #115153		

**6.7 Military GDF E-85 Nozzles - Building 10726**

<b>Device ID #</b>	<b>390386</b>	<b>Device Name</b>	<b>Military GDF E-85 Nozzles - Building 10726</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	
<i>Manufacturer</i>		<i>Operator ID</i>	
<i>Model</i>		<i>Serial Number</i>	
<i>Location Note</i>	MVFF Building 10726		
<i>Device Description</i>	E-85 dispensing nozzles.		

**6.8 Military GDF Gasoline Nozzles - Building 10726**

<b>Device ID #</b>	<b>390385</b>	<b>Device Name</b>	<b>Military GDF Gasoline Nozzles - Building 10726</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	
<i>Manufacturer</i>		<i>Operator ID</i>	
<i>Model</i>		<i>Serial Number</i>	
<i>Location Note</i>	MVFF Building 10726		
<i>Device Description</i>	Gasoline dispensing nozzles.		

**6.9 Military GDF E-85 Fuel Dispenser - Building 10726**

<b>Device ID #</b>	<b>386791</b>	<b>Device Name</b>	<b>Military GDF E-85 Fuel Dispenser - Building 10726</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	
<i>Manufacturer</i>		<i>Operator ID</i>	
<i>Model</i>	Dresser Wayne E3/G720202D/2GHJKK/L	<i>Serial Number</i>	21446D
<i>Location Note</i>			
<i>Device Description</i>	2 nozzles.		

**7 POL Bulk Storage Facility**

**7.1 Tanker Truck/Trailer Unloading Equipment - Building 1706**

<b>Device ID #</b>	<b>109898</b>	<b>Device Name</b>	<b>Tanker Truck/Trailer Unloading Equipment - Building 1706</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	
<i>Manufacturer</i>		<i>Operator ID</i>	
<i>Model</i>		<i>Serial Number</i>	
<i>Location Note</i>	Building 1706, POL Bulk Storage Facility		
<i>Device Description</i>	Utilizing four (4) unloading connections and two (2) pumps, I.D. FPR3 and I.D. FPR4.		

## 7.2

**Tanker Truck/Trailer Loading Equipment - Building 1706**

<b>Device ID #</b>	<b>109899</b>	<b>Device Name</b>	<b>Tanker Truck/Trailer Loading Equipment - Building 1706</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	
<i>Manufacturer</i>		<i>Operator ID</i>	
<i>Model</i>		<i>Serial Number</i>	
<i>Location Note</i>	Building 1706, POL Bulk Storage Facility		
<i>Device Description</i>	Utilizing two (2) fillstands, filter separators, and two (2) pumps, I.D. FPI1 and I.D. FPI2, not served by a vapor recovery system. Each fillstand is equipped with one bottom loading arm.		

## 7.3

**JP-8/Jet-A Fuel Storage Tank 1703**

<b>Device ID #</b>	<b>109897</b>	<b>Device Name</b>	<b>JP-8/Jet-A Fuel Storage Tank 1703</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	420000.00 Gallons
<i>Manufacturer</i>		<i>Operator ID</i>	1238
<i>Model</i>		<i>Serial Number</i>	
<i>Location Note</i>	Tank 1703, POL Bulk Storage Facility		
<i>Device Description</i>	42.5 feet in diameter by 40 feet high, equipped with an internal floating roof, primary and secondary seals, and a geodesic dome.		

## 7.4

**JP-8/Jet-A Fuel Storage Tank 1702**

<b>Device ID #</b>	<b>109896</b>	<b>Device Name</b>	<b>JP-8/Jet-A Fuel Storage Tank 1702</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	210000.00 Gallons
<i>Manufacturer</i>		<i>Operator ID</i>	1240
<i>Model</i>		<i>Serial Number</i>	
<i>Location Note</i>	Tank 1702, POL Bulk Storage Facility		
<i>Device Description</i>	33.5 feet in diameter by 32 feet high, equipped with an internal floating roof, primary and secondary seals, and a geodesic dome.		

## 7.5

**RP-1 Internal Floating Roof Tank 1701**

<i>Device ID #</i>	<b>113960</b>	<i>Device Name</i>	<b>RP-1 Internal Floating Roof Tank 1701</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	126000.00 Gallons
<i>Manufacturer</i>		<i>Operator ID</i>	4147
<i>Model</i>		<i>Serial Number</i>	
<i>Location Note</i>	Across from Building 1705, VAFB		
<i>Device</i>	Contents: Rocket Propellant #1 (RP-1)		
<i>Description</i>	32 feet high by 26 feet in diameter. The internal floating roof is equipped with a vapor mounted primary seal and a rim mounted secondary seal. Equipped with two eight inch stilling wells and one four inch stilling well.		

## 7.6

**Electric Pump 1 - Pump House**

<i>Device ID #</i>	<b>386172</b>	<i>Device Name</i>	<b>Electric Pump 1 - Pump House</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	20.00 Horsepower (Electric Motor)
<i>Manufacturer</i>	Clyde Union	<i>Operator ID</i>	
<i>Model</i>	CUP 0H-2	<i>Serial Number</i>	
<i>Location Note</i>	VAFB		
<i>Device</i>	Bulk loading pump for Pump House 1714		
<i>Description</i>			

## 7.7

**Electric Pump 2 - Pump House**

<i>Device ID #</i>	<b>386173</b>	<i>Device Name</i>	<b>Electric Pump 2 - Pump House</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	20.00 Horsepower (Electric Motor)
<i>Manufacturer</i>	Clyde Union	<i>Operator ID</i>	
<i>Model</i>	VLK	<i>Serial Number</i>	
<i>Location Note</i>	VAFB		
<i>Device</i>	Bulk offloading pump for Pump House 1714		
<i>Description</i>			

**8 Abrasive Blasting Equipment**

**8.1 Abrasive Blasting Equipment - Building 1800**

<i>Device ID #</i>	<b>107918</b>	<i>Device Name</i>	<b>Abrasive Blasting Equipment - Building 1800</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	1.00
<i>Manufacturer</i>		<i>Operator ID</i>	
<i>Model</i>		<i>Serial Number</i>	
<i>Location Note</i>	Building 1800 Abrasive Blasting Facility, Vandenberg Air Force Base.		
<i>Device Description</i>	Consisting of blast guns, connecting hoses pots and electric powered air compressors.		

**8.2 Cartridge Dust Control Unit - Building 1800**

<i>Device ID #</i>	<b>107917</b>	<i>Device Name</i>	<b>Cartridge Dust Control Unit - Building 1800</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	
<i>Manufacturer</i>	American Air Filter International	<i>Operator ID</i>	
<i>Model</i>	Optiflo, Model 4RC32	<i>Serial Number</i>	
<i>Location Note</i>	Building 1800 Abrasive Blasting Facility, Vandenberg Air Force Base.		
<i>Device Description</i>	The unit consists of a hopper containing 32 filter cartridges with a combined total of 8,800 square feet of fabric area.		

**8.3 Containment Structure - Building 1800**

<i>Device ID #</i>	<b>107916</b>	<i>Device Name</i>	<b>Containment Structure - Building 1800</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	16000.00 scf/Minute
<i>Manufacturer</i>	West Coast	<i>Operator ID</i>	3599
<i>Model</i>	WC 16-16-20	<i>Serial Number</i>	
<i>Location Note</i>	Building 2007 Abrasive Blasting Facility, Vandenberg Air Force Base.		
<i>Device Description</i>	Dimensions: 17 feet wide by 16 feet high by 20 feet deep. The structure is equipped with: one 7.5 horsepower (hp) electric exhaust fan providing a maximum of 16,000 cubic feet per minute (cfm) of air movement.		

**8.4 Abrasive Blasting Cabinet - Building 9320**

<i>Device ID #</i>	<b>009890</b>	<i>Device Name</i>	<b>Abrasive Blasting Cabinet - Building 9320</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	5800.00 scf/Minute
<i>Manufacturer</i>	VACU-Blast Corporation	<i>Operator ID</i>	
<i>Model</i>	J7085	<i>Serial Number</i>	S-740404
<i>Location Note</i>	Building 9320 - Vandenberg Air Force Base		
<i>Device Description</i>	Dimensions: 30.0' l x 15.0' w x 12.0' h, capacity: 600 lbs, equipped with dust collector filter bags (removal efficiency = 98%), Exhaust airflow: 5,800 scfm. Unit is electrically powered.		

**8.5 Sweep-in Recovery Hoppers - Building 9320**

<i>Device ID #</i>	<b>110232</b>	<i>Device Name</i>	<b>Sweep-in Recovery Hoppers - Building 9320</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	2.00 Installation
<i>Manufacturer</i>	ABS Blast	<i>Operator ID</i>	
<i>Model</i>	0806	<i>Serial Number</i>	
<i>Location Note</i>	Building 9320, VAFB		
<i>Device Description</i>	Two (2) each approximately 50 feet long by 3 feet wide trench hoppers. Also includes a 20 feet long by 3 feet wide cross trench hopper running perpendicular to the 50 foot long hoppers. All hoppers have mechanical screw/auger assemblies that feed the media into a 100 cubic foot media storage hopper.		

**8.6 Abrasive Blasting Pot - Building 9320**

<i>Device ID #</i>	<b>112487</b>	<i>Device Name</i>	<b>Abrasive Blasting Pot - Building 9320</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	1.00 Installation
<i>Manufacturer</i>	Empire Abrasive Equipment	<i>Operator ID</i>	
<i>Model</i>	SUPER-650-6P	<i>Serial Number</i>	
<i>Location Note</i>	Building 9320, VAFB		
<i>Device Description</i>	Equipment contains small plastic balls for use as an abrasive media.		

## 8.7

**ABS Containment Structure - Building 9320**

<b>Device ID #</b>	<b>110229</b>	<b>Device Name</b>	<b>ABS Containment Structure - Building 9320</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	1.00 Installation
<i>Manufacturer</i>	ABS Blast	<i>Operator ID</i>	
<i>Model</i>		<i>Serial Number</i>	0806
<i>Location Note</i>	Building 9320, VAFB		
<i>Device Description</i>	Dimensions: approximately 20 feet wide by 60 feet long by 16 feet high. The booth is four sided with two (2) personnel doors at the side walls and one motorized roll-up door at the front		

## 8.8

**Dust Collection System - Building 9320**

<b>Device ID #</b>	<b>110230</b>	<b>Device Name</b>	<b>Dust Collection System - Building 9320</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	50.00 Horsepower (Electric Motor)
<i>Manufacturer</i>	ABS Blast	<i>Operator ID</i>	
<i>Model</i>	ADFT 4-32	<i>Serial Number</i>	
<i>Location Note</i>	Building 9320, VAFB		
<i>Device Description</i>	The unit contains 32 HEPA filter cartridges and has a total of 8,128 square feet of fabric area. The unit provides approximately 19,700 cfm of air movement. Equipped with a blower driven by a Baldor Reliance Model M4115T electric motor.		

## 8.9

**Enclosed Cleaning System - Building 9327**

<b>Device ID #</b>	<b>113680</b>	<b>Device Name</b>	<b>Enclosed Cleaning System - Building 9327</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	
<i>Manufacturer</i>		<i>Operator ID</i>	
<i>Model</i>		<i>Serial Number</i>	
<i>Location Note</i>	Building 9327, VAFB		
<i>Device Description</i>	Used to clean spray guns, cups, nozzles, bowls, and other parts during washing, rinsing, and draining procedures.		

**9 Solvents and Coatings**

**9.1 Solvents & Coatings - HAZMART2**

<b>Device ID #</b>	<b>110309</b>	<b>Device Name</b>	<b>Solvents &amp; Coatings - HAZMART2</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	
<i>Manufacturer</i>		<i>Operator ID</i>	HAZMART2
<i>Model</i>		<i>Serial Number</i>	
<i>Location Note</i>	Materials from the HazMart Pharmacy used at various locations on Vandenberg Air Force Base		
<i>Device Description</i>	Miscellaneous solvent use, and application and wipe cleaning equipment associated with new projects since October 1, 2004.		

**9.2 Solvents & Coatings - HAZMART**

<b>Device ID #</b>	<b>114277</b>	<b>Device Name</b>	<b>Solvents &amp; Coatings - HAZMART</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	
<i>Manufacturer</i>		<i>Operator ID</i>	HAZMART
<i>Model</i>		<i>Serial Number</i>	
<i>Location Note</i>	Materials from the HazMart Pharmacy used at various locations on Vandenberg Air Force Base.		
<i>Device Description</i>	Miscellaneous solvent use, and application and wipe cleaning equipment associated projects existing prior to October 1, 2004.		

**10 Landfill**

<b>Device ID #</b>	<b>115291</b>	<b>Device Name</b>	<b>Landfill</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	
<i>Manufacturer</i>		<i>Operator ID</i>	
<i>Model</i>		<i>Serial Number</i>	
<i>Location Note</i>			
<i>Device Description</i>	Municipal Solid Waste Landfill Installed in 1941		

**11                    Hypergolic Fuel Storage Facility (HSF) - Bldg 976 & 977**

**11.1                Hypergolic Fuel Vapor Destruction Equipment**

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<i>Device ID #</i>	<b>113616</b>	<i>Device Name</i>	<b>Hypergolic Fuel Vapor Destruction Equipment</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	1.00 Installation
<i>Manufacturer</i>		<i>Operator ID</i>	3417
<i>Model</i>		<i>Serial Number</i>	
<i>Location Note</i>	Various Locations on VAFB		
<i>Device Description</i>	Used for the destruction of hypergolic fuel vapors.		

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**12                    Oxidizer Storage & Handling Facility (HSF) - Bldg 974 & 975**

**12.1                Hypergolic Oxidizer Vapor Destruction Equipment**

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<i>Device ID #</i>	<b>113621</b>	<i>Device Name</i>	<b>Hypergolic Oxidizer Vapor Destruction Equipment</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	1.00 Installation
<i>Manufacturer</i>		<i>Operator ID</i>	3418
<i>Model</i>		<i>Serial Number</i>	
<i>Location Note</i>	Various Locations on VAFB		
<i>Device Description</i>	Used for the destruction of hypergolic oxidizer vapors.		

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**12.2                Oxidizer Chiller Unit**

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<i>Device ID #</i>	<b>384049</b>	<i>Device Name</i>	<b>Oxidizer Chiller Unit</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	1.50 Horsepower (Electric Motor)
<i>Manufacturer</i>		<i>Operator ID</i>	
<i>Model</i>		<i>Serial Number</i>	
<i>Location Note</i>			
<i>Device Description</i>	Equipped with an air fan driven by a 3/4 horsepower electric motor, a circulating pump driven by a 2 horsepower electric motor, and a 1.5 horsepower electric refrigerant compressor.		

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**B EXEMPT EQUIPMENT**

**1 Booth Heater - Bldg 1731**

<i>Device ID #</i>	<b>391550</b>	<i>Device Name</i>	<b>Booth Heater - Bldg 1731</b>
<i>Rated Heat Input</i>	1.220 MMBtu/Hour	<i>Physical Size</i>	1.08 MMBtu/Hour
<i>Manufacturer Model</i>	Riello RX300-33	<i>Operator ID Serial Number</i>	708766 17K 2005810500003
<i>Part 70 Insig?</i>	No	<i>District Rule Exemption:</i> 202.G.1 Combustion Equipment <= 2 MMBtu/hr	
<i>Location Note Device Description</i>	Building 1731, 320 Airfield Road, VAFB Fired on PUC quality natural gas. Equipped with a dedicated fuel meter. Booth Heater		

**2 Waste Oil/Water Recovery System - SVPP**

<i>Device ID #</i>	<b>104903</b>	<i>Device Name</i>	<b>Waste Oil/Water Recovery System - SVPP</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	
<i>Manufacturer Model</i>		<i>Operator ID Serial Number</i>	
<i>Part 70 Insig?</i>	No	<i>District Rule Exemption:</i> 202.V.1 Unheat Storage Of Lqd Org Mtls W/Bp >=300 @ 1 Atm	
<i>Location Note Device Description</i>	South Vandenberg Power Plant, VAFB		

**3 Fuel Oil Day Tanks - SVPP**

<i>Device ID #</i>	<b>104902</b>	<i>Device Name</i>	<b>Fuel Oil Day Tanks - SVPP</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	2500.00 Gallons
<i>Manufacturer Model</i>		<i>Operator ID Serial Number</i>	
<i>Part 70 Insig?</i>	No	<i>District Rule Exemption:</i> 202.V.7 Storage Of Gas W/Capacity Of <250 Gal	
<i>Location Note Device Description</i>	South Vandenberg Power Plant, VAFB Five 2,500 gallon diesel fuel storage tanks. Each tank has an associated pump.		

**C DE-PERMITTED EQUIPMENT**

**1 Emergency Generator 3315 - Building 1581**

<i>Device ID #</i>	<b>107037</b>	<i>Device Name</i>	<b>Emergency Generator 3315 - Building 1581</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	61.00 Brake Horsepower
<i>Manufacturer</i>	Cummins	<i>Operator ID</i>	3315
<i>Model</i>	4B3.9	<i>Serial Number</i>	44142793
<i>Depermitted</i>		<i>Facility Transfer</i>	
<i>Device Description</i>	A Tier 0 diesel-fired IC engine powering an electrical generator used for backup emergency electrical power.		

**2 Emergency Generator 3420 - Building 3000**

<i>Device ID #</i>	<b>384070</b>	<i>Device Name</i>	<b>Emergency Generator 3420 - Building 3000</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	1592.00 Brake Horsepower
<i>Manufacturer</i>	Caterpillar	<i>Operator ID</i>	3420
<i>Model</i>	3508B-DITA	<i>Serial Number</i>	4GM00681
<i>Depermitted</i>		<i>Facility Transfer</i>	
<i>Device Description</i>	A Tier 1 diesel fired internal combustion engine powering an electrical generator used for backup emergency electrical power.		

**3 Emergency Generator 4104 - Building 10525**

<i>Device ID #</i>	<b>388171</b>	<i>Device Name</i>	<b>Emergency Generator 4104 - Building 10525</b>
<i>Rated Heat Input</i>	2.617 MMBtu/Hour	<i>Physical Size</i>	349.00 Brake Horsepower
<i>Manufacturer</i>	Isuzu	<i>Operator ID</i>	4124
<i>Model</i>	BH-6UZ1X	<i>Serial Number</i>	6UZI-519701
<i>Depermitted</i>		<i>Facility Transfer</i>	
<i>Device Description</i>	Tier 3, diesel fired, turbocharged, internal combustion engine.		

**4 Emergency Generator 705 - Building 21150**

<i>Device ID #</i>	<b>107137</b>	<i>Device Name</i>	<b>Emergency Generator 705 - Building 21150</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	540.00 Brake Horsepower
<i>Manufacturer Model</i>	Detroit Diesel 8083-7405	<i>Operator ID</i>	705
<i>Depermitted Device</i>		<i>Serial Number</i>	8VF149700
<i>Description</i>	A Tier 0, 595 bhp diesel-fired IC engine powering an electrical generator used for backup emergency electrical power.		

**5 Emergency Generator 3318 - Building 1618**

<i>Device ID #</i>	<b>384051</b>	<i>Device Name</i>	<b>Emergency Generator 3318 - Building 1618</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	755.00 Brake Horsepower
<i>Manufacturer Model</i>	Cummins Onan KTA19-G4	<i>Operator ID</i>	3318
<i>Depermitted Device</i>		<i>Serial Number</i>	37189051
<i>Description</i>	A Tier 0 diesel-fired IC engine powering an electrical generator used for backup emergency electrical power.		

**6 Emergency Generator 3317 - Building 1629**

<i>Device ID #</i>	<b>384050</b>	<i>Device Name</i>	<b>Emergency Generator 3317 - Building 1629</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	755.00 Brake Horsepower
<i>Manufacturer Model</i>	Cummins Onan KTA19-G4	<i>Operator ID</i>	3317
<i>Depermitted Device</i>		<i>Serial Number</i>	37189065
<i>Description</i>	A Tier 0 diesel-fired IC engine powering an electrical generator used for backup emergency electrical power.		

7

**Fire Water Pump Engine 706 - Building 23209**

<b>Device ID #</b>	<b>107144</b>	<b>Device Name</b>	<b>Fire Water Pump Engine 706 - Building 23209</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	130.00 Brake Horsepower
<i>Manufacturer</i>	Cummins	<i>Operator ID</i>	706
<i>Model</i>	6BTA5.9-F2	<i>Serial Number</i>	44712926
<i>Depermitted Device</i>		<i>Facility Transfer</i>	
<i>Description</i>	Tier 0,130 bhp diesel-fired internal combustion engine powering a fire water pump.		

8

**Hot Water Boiler 3204**

<b>Device ID #</b>	<b>111779</b>	<b>Device Name</b>	<b>Hot Water Boiler 3204</b>
<i>Rated Heat Input</i>	2.970 MMBtu/Hour	<i>Physical Size</i>	2.97 MMBtu/Hour
<i>Manufacturer</i>	Parker Boiler	<i>Operator ID</i>	3024
<i>Model</i>	T2970L	<i>Serial Number</i>	50532
<i>Depermitted Device</i>		<i>Facility Transfer</i>	
<i>Description</i>	PUC-gas fired hot water boiler with forced draft and full modulation equipped with a Parker Boiler Co. PB-36LN premix metal fiber low-NOx burners rated at 12 ppm NOx. Also equipped with a Roots Series B3 positive displacement gas meter with a Roots Model IMC/W2 temperature and pressure gas volume corrector.		
	Removed on April 11, 2018. Replaced with stacked exempt units with a total combined heat input less than 2.000 MMBtu/hr.		

9

**Hot Water Boiler 3283**

<b>Device ID #</b>	<b>113533</b>	<b>Device Name</b>	<b>Hot Water Boiler 3283</b>
<i>Rated Heat Input</i>	1.255 MMBtu/Hour	<i>Physical Size</i>	1.25 MMBtu/Hour
<i>Manufacturer</i>	Lochinvar	<i>Operator ID</i>	3283
<i>Model</i>	CBN1255	<i>Serial Number</i>	H998860
<i>Depermitted Device</i>		<i>Facility Transfer</i>	
<i>Description</i>	Forced draft, fired on PUC gas, high/low fire, manufactured in 1999.		
	Removed in May 2016, replaced with non-stacked exempt units		

**10 Hot Water Boiler 3284**

<b>Device ID #</b>	<b>113534</b>	<b>Device Name</b>	<b>Hot Water Boiler 3284</b>
<i>Rated Heat Input</i>	1.255 MMBtu/Hour	<i>Physical Size</i>	1.25 MMBtu/Hour
<i>Manufacturer</i>	Lochinvar	<i>Operator ID</i>	3284
<i>Model</i>	CBN1255	<i>Serial Number</i>	F993142
<i>Depermitted</i>		<i>Facility Transfer</i>	
<i>Device Description</i>	Forced draft, fired on PUC gas, high/low fire, manufactured in 1999.		
	Removed in May 2016, replaced with non-stacked exempt units		

**11 Coating Application Equipment 7437**

<b>Device ID #</b>	<b>384073</b>	<b>Device Name</b>	<b>Coating Application Equipment 7437</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	
<i>Manufacturer</i>		<i>Operator ID</i>	
<i>Model</i>		<i>Serial Number</i>	
<i>Depermitted</i>		<i>Facility Transfer</i>	
<i>Device Description</i>	Includes gun(s), hose(s), compressor(s), and other manually held non-mechanically operated equipment. Removed in March 2019.		

**12 Spray Gun Cleaner 7437**

<b>Device ID #</b>	<b>384074</b>	<b>Device Name</b>	<b>Spray Gun Cleaner 7437</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	
<i>Manufacturer</i>	Safety Kleen	<i>Operator ID</i>	
<i>Model</i>	1111	<i>Serial Number</i>	
<i>Depermitted</i>		<i>Facility Transfer</i>	
<i>Device Description</i>	Removed in March 2019.		

**13 Process Heater 3174 - Building 7437**

<b>Device ID #</b>	<b>384061</b>	<b>Device Name</b>	<b>Process Heater 3174 - Building 7437</b>
<i>Rated Heat Input</i>	4.400 MMBtu/Hour	<i>Physical Size</i>	4.40 MMBtu/Hour
<i>Manufacturer</i>	DeVilbis	<i>Operator ID</i>	3147
<i>Model</i>	ARG-42-1	<i>Serial Number</i>	Unknown
<i>Depermitted</i>		<i>Facility Transfer</i>	
<i>Device Description</i>	natural draft on/off		
	Spray booth heater in building 7437. Removed in March 2019.		

14

**Boiler 1153**

<i>Device ID #</i>	<b>111756</b>	<i>Device Name</i>	<b>Boiler 1153</b>
<i>Rated Heat Input</i>	4.250 MMBtu/Hour	<i>Physical Size</i>	4.25 MMBtu/Hour
<i>Manufacturer</i>	Ajax Boiler	<i>Operator ID</i>	1153
<i>Model</i>	WGGFD-4250	<i>Serial Number</i>	92-43822
<i>Depermitted</i>		<i>Facility Transfer</i>	
<i>Device</i>	forced draft		
<i>Description</i>	high/low fire		
Replaced with permit exempt non-stacked Rule 360 unit			

15

**Boiler 1154**

<i>Device ID #</i>	<b>111874</b>	<i>Device Name</i>	<b>Boiler 1154</b>
<i>Rated Heat Input</i>	4.250 MMBtu/Hour	<i>Physical Size</i>	4.25 MMBtu/Hour
<i>Manufacturer</i>	Ajax Boiler	<i>Operator ID</i>	1154
<i>Model</i>	WGGFD-4250	<i>Serial Number</i>	92-43808
<i>Depermitted</i>		<i>Facility Transfer</i>	
<i>Device</i>	forced draft		
<i>Description</i>	high/low fire		
Replaced with permit exempt non-stacked Rule 360 unit			

16

**RP-1 Transfer System - SLC-2**

<i>Device ID #</i>	<b>386455</b>	<i>Device Name</i>	<b>RP-1 Transfer System - SLC-2</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	
<i>Manufacturer</i>		<i>Operator ID</i>	
<i>Model</i>		<i>Serial Number</i>	
<i>Depermitted</i>		<i>Facility Transfer</i>	
<i>Device</i>	One RP-1 transfer (loading/unloading) system containing a valve skid,		
<i>Description</i>	plumbing, inert gas pressurization, blanketing, and purging equipment and other system components.		

17 **RP-1 Transfer System - SLC-2**

<i>Device ID #</i>	<b>386454</b>	<i>Device Name</i>	<b>RP-1 Transfer System - SLC-2</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	100.00 gal/Minute
<i>Manufacturer</i>		<i>Operator ID</i>	
<i>Model</i>		<i>Serial Number</i>	
<i>Depermitted</i>		<i>Facility Transfer</i>	
<i>Device</i>	System contains a valve skid, plumbing, inert gas pressurization,		
<i>Description</i>	blanketing, and purging equipment and other system components.		

18 **Nitrogen Tetroxide Transfer System - SLC-2**

<i>Device ID #</i>	<b>384048</b>	<i>Device Name</i>	<b>Nitrogen Tetroxide Transfer System - SLC-2</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	
<i>Manufacturer</i>		<i>Operator ID</i>	
<i>Model</i>		<i>Serial Number</i>	
<i>Depermitted</i>		<i>Facility Transfer</i>	
<i>Device</i>			
<i>Description</i>			

19 **RP-1 Storage Tank - SLC-2**

<i>Device ID #</i>	<b>386453</b>	<i>Device Name</i>	<b>RP-1 Storage Tank - SLC-2</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	15000.00 Gallons
<i>Manufacturer</i>		<i>Operator ID</i>	
<i>Model</i>		<i>Serial Number</i>	
<i>Depermitted</i>		<i>Facility Transfer</i>	
<i>Device</i>	Above ground pressure vessel (aka Ready Storage Vessel), 8.5 feet in		
<i>Description</i>	diameter by 39.5 feet long.		

20 **FUT Bubblers - SLC-2**

<i>Device ID #</i>	<b>384042</b>	<i>Device Name</i>	<b>FUT Bubblers - SLC-2</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	
<i>Manufacturer</i>		<i>Operator ID</i>	
<i>Model</i>		<i>Serial Number</i>	
<i>Depermitted</i>		<i>Facility Transfer</i>	
<i>Device</i>	The launch vehicle is vented through the bubblers if the launch vehicle had		
<i>Description</i>	been pressurized prior to a launch abort. Emissions from the bubblers are negligible.		

21 **Oxidizer Scrubber Towers - SLC-2**

<b>Device ID #</b>	<b>384038</b>	<b>Device Name</b>	<b>Oxidizer Scrubber Towers - SLC-2</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	
<i>Manufacturer</i>	American Alloy Fabricators	<i>Operator ID</i>	
<i>Model</i>		<i>Serial Number</i>	
<i>Depermitted</i>		<i>Facility Transfer</i>	
<i>Device Description</i>	Trailer mounted, vertical, each 30 inches in diameter by 98 inches tall, connected in series. The multi-stage, counter flow packed scrubbers use a sodium bicarbonate solution to neutralize nitrogen tetroxide (N2O4) oxidizer to a 95% removal efficiency.		

22 **Nitrogen Tetroxide Tank - SLC-2**

<b>Device ID #</b>	<b>384043</b>	<b>Device Name</b>	<b>Nitrogen Tetroxide Tank - SLC-2</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	1020.00 Gallons
<i>Manufacturer</i>		<i>Operator ID</i>	
<i>Model</i>		<i>Serial Number</i>	
<i>Depermitted</i>		<i>Facility Transfer</i>	
<i>Device Description</i>			

23 **Fuel Scrubber System - SLC-2**

<b>Device ID #</b>	<b>384036</b>	<b>Device Name</b>	<b>Fuel Scrubber System - SLC-2</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	
<i>Manufacturer</i>		<i>Operator ID</i>	
<i>Model</i>		<i>Serial Number</i>	
<i>Depermitted</i>		<i>Facility Transfer</i>	
<i>Device Description</i>			

24

**Fuel Scrubber Towers - SLC-2**

<b>Device ID #</b>	<b>384034</b>	<b>Device Name</b>	<b>Fuel Scrubber Towers - SLC-2</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	
<i>Manufacturer</i>	American Alloy Fabricators	<i>Operator ID</i>	
<i>Model</i>	12T4H	<i>Serial Number</i>	
<i>Depermitted</i>		<i>Facility Transfer</i>	
<i>Device Description</i>	Trailer mounted, vertical, each 12 inches in diameter by 85 inches high, connected in series. The multi-stage, counter flow packed scrubbers use a citric acid solution to neutralize Aerozine 50 fuel to a 95% removal efficiency.		

25

**Fuel Scrubber Sump - SLC-2**

<b>Device ID #</b>	<b>384035</b>	<b>Device Name</b>	<b>Fuel Scrubber Sump - SLC-2</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	
<i>Manufacturer</i>	American Alloy Fabricators	<i>Operator ID</i>	
<i>Model</i>		<i>Serial Number</i>	
<i>Depermitted</i>		<i>Facility Transfer</i>	
<i>Device Description</i>	Trailer mounted, horizontal, 20 inches in diameter by 72 inches long.		

26

**A-50 Transfer System - SLC-2**

<b>Device ID #</b>	<b>384047</b>	<b>Device Name</b>	<b>A-50 Transfer System - SLC-2</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	
<i>Manufacturer</i>		<i>Operator ID</i>	
<i>Model</i>		<i>Serial Number</i>	
<i>Depermitted</i>		<i>Facility Transfer</i>	
<i>Device Description</i>			

27                      **Aerozine 50 Tank - SLC-2**

<b>Device ID #</b>	<b>384044</b>	<b>Device Name</b>	<b>Aerozine 50 Tank - SLC-2</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	850.00 Gallons
<i>Manufacturer</i>		<i>Operator ID</i>	
<i>Model</i>		<i>Serial Number</i>	
<i>Depermitted</i>		<i>Facility Transfer</i>	
<i>Device</i>			
<i>Description</i>			

28                      **Ready Storage Vessels - SLC-2**

<b>Device ID #</b>	<b>384046</b>	<b>Device Name</b>	<b>Ready Storage Vessels - SLC-2</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	
<i>Manufacturer</i>		<i>Operator ID</i>	
<i>Model</i>		<i>Serial Number</i>	
<i>Depermitted</i>		<i>Facility Transfer</i>	
<i>Device</i>			
<i>Description</i>			

29                      **Vapor Scrubbers - SLC-2**

<b>Device ID #</b>	<b>384045</b>	<b>Device Name</b>	<b>Vapor Scrubbers - SLC-2</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	15.00 kgal
<i>Manufacturer</i>	Peabody Engineering Company	<i>Operator ID</i>	
<i>Model</i>		<i>Serial Number</i>	
<i>Depermitted</i>		<i>Facility Transfer</i>	
<i>Device</i>			
<i>Description</i>			

30                      **Oxidizer Scrubber System - SLC-2**

<b>Device ID #</b>	<b>384037</b>	<b>Device Name</b>	<b>Oxidizer Scrubber System - SLC-2</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	
<i>Manufacturer</i>		<i>Operator ID</i>	
<i>Model</i>		<i>Serial Number</i>	
<i>Depermitted</i>		<i>Facility Transfer</i>	
<i>Device</i>			
<i>Description</i>			

31

**Abrasive Blasting System - Building 7438**

<b>Device ID #</b>	<b>384075</b>	<b>Device Name</b>	<b>Abrasive Blasting System - Building 7438</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	
<i>Manufacturer</i>	Clementina Clemco	<i>Operator ID</i>	2703
<i>Model</i>	GCS-2452	<i>Serial Number</i>	6315
<i>Depermitted Device</i>		<i>Facility Transfer</i>	
<i>Description</i>	The equipment has a maximum throughput of 1,200 lbs/hour, 9,600 lbs/day and 300 tons/year. The equipment operates a maximum of 8 hours/day, 200 days per year and 500 hours/year.		

32

**Solvent/Coating Operations Delta II**

<b>Device ID #</b>	<b>384052</b>	<b>Device Name</b>	<b>Solvent/Coating Operations Delta II</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	
<i>Manufacturer</i>		<i>Operator ID</i>	Delta II
<i>Model</i>		<i>Serial Number</i>	
<i>Depermitted Device</i>		<i>Facility Transfer</i>	
<i>Description</i>	Miscellaneous solvent use and coating application equipment. Equipment includes: spray guns, spray gun washers, spray cans, brushes, rollers and equipment associated with wipe cleaning.		

## Attachment 10.2 External Combustion Equipment Operational Requirements

Building	Make	Model	Device ID	Operator ID	Rule	Tune-Ups	Fuel Use Monitor	Low Use	Source Test	NOx ppmvd @3% O2	CO ppmvd @3% O2	Basis	Installed	Previous Permit
836	Parker Boiler	T2160L	111100	3872	361	Biannual	Dedicated	No	No	30	400	361	25-Jun-08	12640
836	Parker Boiler	T2160L	111101	3873	361	Biannual	Dedicated	No	No	30	400	361	25-Jun-08	12640
1819	Raypak	H7-1503	388091	682870	360	Annual	Shared	No	No	30	400	360	14-Aug-15	14566
1819	Raypak	H7-1503	388092	682871	360	Annual	Shared	No	No	30	400	360	14-Aug-15	14566
2520	Parker Boiler	T-4600LR	386176	4371	361	Biannual	Shared	No	No	30	400	361	4-Sep-13	14081
2520	Parker Boiler	T-4600LR	386177	4372	361	Biannual	Shared	No	No	30	400	361	4-Sep-13	14081
7000	AERCO	BMK 2500	391690	706481	361	Biannual	Shared	No	No	30	400	361	26-Nov-18	15065
7000	AERCO	BMK 2500	391691	706477	361	Biannual	Shared	No	No	30	400	361	26-Nov-18	15065
7015	Lochinvar	FBN1500	388149	679373	360	Annual	Shared	No	No	30	400	360	15-Oct-15	14602
7015	Lochinvar	FBN1500	388150	679380	360	Annual	Shared	No	No	30	400	360	14-Oct-15	14602
7425	Ajax	WGB-2250-D	111731	1052	361	None	Dedicated	No	No	NA	NA	361	1-Jan-83	12665-R1
8510	Patterson-Kelley	N2000-MFD	112964	3996	360	Annual	Shared	No	No	30	400	360	30-Mar-10	13329
8510	Patterson-Kelley	N2000-MFD	112965	3997	360	Annual	Shared	No	No	30	400	360	30-Mar-10	13329
9360	Midco	HMA-1	388395	703427	None - Booth Heater	None	Dedicated	No	No	NA	NA	N/A	16-Aug-16	14683
10711	Hastings Industries	SBD-227-32-3700	111748	3888	None - Booth Heater	None	No Meter	No	No	NA	NA	N/A	1-Sep-92	12672-R1
12006	Patterson-Kelley	BMK-2.0LN	112251	3930	360	Annual	Shared	No	No	30	400	360	24-Aug-09	12917
12006	Patterson-Kelley	N2000-MFD	114903	4269	360	Annual	Shared	No	No	30	400	360	14-Feb-13	13897
13850	Patterson-Kelly/Harsco	Mach C2000H	393280	4369	360	Annual	Shared	No	No	30	400	360	30-Aug-18	15258
13850	Patterson-Kelly/Harsco	Mach C2000H	386175	4370	360	Annual	Shared	No	No	30	400	360	12-Jun-13	14082

# Attachment 10.3 Internal Combustion Engines Operational Requirements

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Building	Location	Device ID	Operator ID	Make	Model	Rating (bhp)	Engine Use	Hrs/Day	Hrs/Yr	Installed
64	Oak Mountain	386456	3980	Cummins	QST30-G5	1,490	Emergency Stand-by Generator	8	50	17-Jun-10
185	185 Honda Ridge Rd	107135	564	Caterpillar	3306BDI	314	Emergency Stand-by Generator	24	30	Unknown
185	185 Honda Ridge Rd	107136	567	Caterpillar	3306BDI	314	Emergency Stand-by Generator	24	30	Unknown
383	383 Lunar Rd	112688	3976	Cummins	QSL9-G2 NR3	364	Emergency Stand-by Generator	8	50	15-Dec-09
425	425 Arguello Rd	106942	3007	Detroit Diesel	10437305.000	210	Emergency Stand-by Generator	20	20	Unknown
501	501 Perry Rd	106943	3008	Detroit Diesel	10637305.000	330	Emergency Stand-by Generator	20	20	Unknown
511	511 CDT Access Rd	114491	4005	Cummins	QXS15-G9-NR2	755	Command Transmitter E/S	16.5	100	3-Jul-05
525	525 Coast Rd	104867	818	Duetz	BF6L913	160	Pony Starter Engine	1	20	1-Jan-83
525	525 Coast Rd	104868	820	Duetz	BF6L913	160	Pony Starter Engine	1	20	1-Jan-83
525	525 Coast Rd	104869	821	Duetz	BF6L913	160	Pony Starter Engine	1	20	1-Jan-83
525	525 Coast Rd	104870	822	Duetz	BF6L913	160	Pony Starter Engine	1	20	1-Jan-83
525	525 Coast Rd	104871	823	Duetz	BF6L913	160	Pony Starter Engine	1	20	1-Jan-83
661	661 Santa Ynez Rd	386163	4320	Volvo	TAD1641GE	757	Emergency Stand-by Generator	3	50	24-Oct-13
764	764 Napa Rd	384071	3540	Caterpillar	3456 DITA	685	Emergency Stand-by Generator	24	50	19-Feb-04
830	830 Lompoc St	107000	3397	Cummins	KTA19-G3	685	Emergency Stand-by Generator	20	20	1-Jan-05
830	830 Lompoc St	111766	3906	Cummins	QST30-G5	1,490	Emergency Stand-by Generator	8	50	13-Feb-09
906	906 Mesa Rd	106944	3012	Detroit Diesel	71237406.000	750	Emergency Stand-by Generator	20	20	Unknown
929	929 Wade Rd	111765	3927	Cummins	QSM11-G4 NR3	470	Command Transmitter E/S	24	100	9-Nov-09
968	968 Mesa Road	388930	698284	John Deere	4045HFC28F	175	Emergency Water Pump	24	50	4-May-16
968	968 Mesa Road	388931	698283	John Deere	4045HFC28F	175	Emergency Water Pump	24	50	4-May-16
1559	1559 Tonto Rd	107006	3050	Caterpillar	3406B	534	Emergency Stand-by Generator	20	20	1-Jan-96
1561	1561 Tonto Rd	107031	3411	Caterpillar	3406.000	449	Emergency Stand-by Generator	20	20	1-Jan-05
1581	1581 Tangair Rd	391670	704948	Cummins	4BT3.3-G5	69	Emergency Stand-by Generator	24	50	21-Mar-19
1594	1594 Tangair Rd	384078	701500	John Deere	6068H0F8	315	Emergency Stand-by Generator	8	50	Pending
1604	1604 Tangair Rd	108889	3626	Detroit Diesel	6063-HV35	490	Emergency Stand-by Generator	8	50	1-Dec-10
1639	1639 Tangair Rd	106948	3390	Detroit Diesel	8123-7305	850	Emergency Stand-by Generator	20	20	23-May-01
1735	325 Airfield Rd	113916	4109	Volvo	TAD1641GE	757	Emergency Stand-by Generator	8	50	20-Sep-11
1747	390 Airfield Rd	112689	3639	Cummins	QXS15-G9	755	Emergency Stand-by Generator	12	50	12-Apr-10
1748	1748 Airfield Rd	107032	642	Cummins	6BT-5.9	166	Emergency Stand-by Generator	20	20	1-May-87
1762	1762 13th St	107007	3183	Cummins	6A3.4-G1	50	Emergency Stand-by Generator	20	20	1-Jan-01
1764	1764 13th St	106939	643	Caterpillar	D330	78	Emergency Stand-by Generator	20	20	Unknown
1768	1768 Cross Rd	386330	3573	Cummins	QXS15-G9 NR2	750	Emergency Stand-by Generator	24	50	1-Jul-04
1819	1819 New South Rd	387721	678120	Cummins	QXS15-G9	755	Emergency Stand-by Generator	16	50	19-Jun-15
1829	1829 Rhea Rd	107141	645	Caterpillar	3208.000	270	Emergency Water Pump	N/A	N/A	1-Jan-93
1829	1829 Rhea Rd	107142	649	Caterpillar	3208.000	270	Emergency Water Pump	N/A	N/A	1-Jan-93
1916	1916 El Rancho Rd	384077	3791	Caterpillar	C15 DITA	563	Emergency Stand-by Generator	7	50	2-May-08
1917	1917 El Rancho Rd	384076	3548	Caterpillar	D3456	680	Emergency Stand-by Generator	24	50	30-Jun-04
1919	1919 El Rancho Rd	111769	3921	John Deere	4045DF120	67	Emergency Water Pump	N/A	N/A	30-Apr-08

# Attachment 10.3 Internal Combustion Engines Operational Requirements (Cont.)

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Building	Location	Device ID	Operator ID	Make	Model	Rating (bhp)	Engine Use	Hrs/Day	Hrs/Yr	Installed
1937	1937 El Rancho Rd	107088	3329	John Deere	6081AF001C	251	Emergency Stand-by Generator	24	30	15-Nov-01
1962	1962 Tow Rd	384058	3549	Cummins	6CTAA8.3G3	317	Emergency Stand-by Generator	24	50	4-Oct-04
1964	1964 Sercho Rd	384057	3550	Cummins	6CTAA8.3G3	317	Emergency Stand-by Generator	24	50	Unknown
1965	1965 Parquee Rd	384060	3790	Cummins	QSL9-G2	364	Emergency Stand-by Generator	11	50	28-Apr-08
1971	1971 Mina Rd	384056	3551	Cummins	6CTAA8.3G3	317	Emergency Stand-by Generator	24	50	24-Jul-04
1972	1972 Mina Rd	384055	3552	Cummins	6CTAA8.3G3	317	Emergency Stand-by Generator	24	50	Unknown
2305	2305 33rd St	107143	655	Caterpillar	3306D1	231	Emergency Water Pump	N/A	N/A	1-May-94
2500	2500 Arizona Ave	384069	3181	Caterpillar	3508DITA	1,200	Emergency Stand-by Generator	24	30	1-May-99
2520	2520 Nevada Ave	384066	3814	Cummins	QST30-G5	1,490	Emergency Stand-by Generator	8	50	16-May-08
3000	3000 29th St	391956	711384	Cummins	QST30-G5 NR2	1,490	Emergency Stand-by Generator	8	50	11-Jul-18
3000	3000 29th St	391955	711280	Cummins	QST30-G5 NR2	1,490	Emergency Stand-by Generator	8	50	11-Jul-18
6510	85 13th St	110735	3815	Cummins	QSL9-G3 NR3	399	Emergency Stand-by Generator	10	50	30-Oct-08
7025	1750 10th Street	386557	661867	Mitsubishi	S16R-Y2PTAW2-1	2,923	Emergency Stand-by Generator	4	50	8-Apr-16
7425	386 10th St	112253	3936	Cummins	6CT8.3-G2	207	Training Engine - Generator	7.5	600	11-Feb-09
8195	1522 Nevada Ave.	113917	4116	Cummins	QSL9-G2 NR3	364	Emergency Stand-by Generator	8	50	18-Aug-11
8317	344 8th Street	114377	4123	Cummins	QSB7-G3 NR3	250	Emergency Stand-by Generator	8	50	26-Mar-12
8401	1521 Utah Ave	110201	3747	Cummins	QSX15-G9	755	Emergency Stand-by Generator	3	50	12-Oct-07
8401	1521 Iceland Ave	391957	711413	Cummins	QSX15-G9	755	Emergency Stand-by Generator	15	50	29-Aug-18
8510	1521 Iceland Ave	106946	3052	Caterpillar	3512STD	1,592	Emergency Stand-by Generator	20	20	1-Jun-90
10314	1206 California Blvd	388044	678837	Cummins	QSB5-G3 NR3	145	Emergency Stand-by Generator	8	50	16-Nov-15
10525	723 Nebraska Ave	390424	74037489	Cummins	QSB7-G5 NR3	324	Emergency Stand-by Generator	24	50	4-May-17
10579	747 Nebraska Ave	107038	589	Cummins	KTTA 19-G2	750	Emergency Stand-by Generator	20	20	1-Jan-98
10660	1160 New Mexico Ave	107004	698	Cummins	L634T-V10148C	68	Emergency Stand-by Generator	20	20	1-Jan-88
11439	1172 Iceland Ave	386166	652232	Cummins	QSB5-G3 NR3	145	Emergency Stand-by Generator	3	50	25-Jun-15
12000	867 Washington Ave	114696	4268	Caterpillar	C27	1,141	Emergency Stand-by Generator	8	50	4-Jul-05
12006	865 Washington Ave	112255	3928	Cummins	QSK60-G6 NR2	2,922	Emergency Stand-by Generator	2	50	10-Aug-09
12006	865 Washington Ave	112256	3929	Cummins	QSK60-G6 NR2	2,922	Emergency Stand-by Generator	2	50	10-Aug-09
13850	338 South Dakota Avenue	388045	678768	Cummins	QSL9-G7	464	Emergency Stand-by Generator	8	50	22-Sep-15
21150	150 Cotar Rd	391888	713136	Volvo	TAD1350GE	382	Emergency Stand-by Generator	24	50	13-Nov-18
21203	203 Firefighter Rd	109236	3642	Cummins	QSX15-G9	755	Command Transmitter E/S	3	100	15-May-07
22321	San Antonio Road West	388046	699622	Cummins	QSX15-G9	755	Emergency Stand-by Generator	8	50	7-Jun-16
23201	201 Bishop Rd	111125	3582	Cummins	4BT3.9-G4	99	Emergency Stand-by Generator	24	30	1-Sep-04
23209	209 Bishop Rd	391526	706693	John Deere	4045HF280G	86	Emergency Water Pump	N/A	N/A	2-Jun-17
23243	23243 Bishop Rd	386257	4375	Volvo	TWD1643GE	904	Emergency Stand-by Generator	6	50	18-Jul-13
23243	23243 Bishop Rd	386258	4376	Volvo	TWD1643GE	904	Emergency Stand-by Generator	6	50	18-Jul-13
NA	Various Locations	113280	4010	Cummins	QSB5-G3 NR3	145	Emergency Stand-by Generator	8	50	8-Oct-11
NA	Various Locations	113281	4011	Cummins	QSB5-G3 NR3	145	Emergency Stand-by Generator	8	50	8-Oct-11
NA	Various Locations	113282	4012	Cummins	QSB5-G3 NR3	145	Emergency Stand-by Generator	8	50	8-Oct-11
NA	Various Locations	113283	4013	Cummins	QSB5-G3 NR3	145	Emergency Stand-by Generator	8	50	8-Oct-11
NA	Various Locations	113284	4014	Cummins	QSB5-G3 NR3	145	Emergency Stand-by Generator	8	50	8-Oct-11

## Attachment 10.4 Coating Operations

Building Number	Equipment Location	Device No.	Operator ID	Booth Filter Type	Spray Gun Cleaner?	Booth Heater	lb/day	ton/year	Year Installed	Current Permit	Historical Permit
831	831 Clark St	384032	4174	Overspray Filters	Yes - OID 4130	No	11.20	0.55	1991	PT-70 13968-R2	8350-R6
875	875 Sweeney Rd	107926	1598	Overspray Filters	Yes - OID 4131	No	5.61	0.73	1991	PT-70 13968-R2	8580-R5
1731	320 Airfield Rd	391549	706728	Dry Overspray Filters	Yes - OID 708766	Yes - Exempt DID 391550	2.30	0.03	2019	PT-70 13968-R2	14968
2007	2007 Astral Rd	108716	1600	Dry Overspray Filters	Yes - OID 4134	No	7.76	1.01	2013	PT-70 13968-R2	8630-R7
8190	1580 Nevada Ave	105647	1603	Overspray Filters	No	Yes - Exempt DID 105648	9.36	1.21	1993	PT-70 13968-R2	9088-R4
9320	334 6th St	384028	1591	Water Wash Overspray System	Yes - OID 4129	No	4.80	0.62	1983	PT-70 13968-R2	8629-R6
9320	334 6th St	384029	1592	Overspray Filters	Yes - OID 4129	No			1983	PT-70 13968-R2	8629-R6
9327	1346 New Mexico Ave	113676	4096	Rear Exhaust Plenum	Yes - OID 4101	Yes - Exempt DID 113677	9.36	1.22	2011	PT-70 13968-R2	13493
9360	1318 New Mexico	388395	703426	Three Stage HEPA Filter	Yes - OID 703428	Yes - Permitted DID 388395			2016	PT-70 13968-R2	14683
10711	433 Herado Ave	107930	1604	Dry Overspray Filters	Yes - OID 4374	Yes - Permitted DID 111748	11.26	1.47	1993	PT-70 13968-R2	8932-R5
Various NRO/Lockheed Martin Facilities	Not Applicable	384072	Oversized Vehicle Surface Coating	Not Applicable	Not Applicable	Not Applicable	7.6	0.49	Not Applicable	PT-70 13968-R2	15283

Notes:

1. Device No's 384028 and 384029 have combined emission limits.
2. Device No's 113676 and 388395 have combined emission limits.
3. Emissions from coating of oversized equipment exempt from Rule 339.D.9 requirements are accounted for under DID #384072, conducted at buildings 300, 8310 and/or 1731.

## Attachment 10.5 Miscellaneous Equipment

Building Number	Equipment Location	Device No.	Operator ID	Device Type	Daily Throughput Limit	Annual Throughput Limit	Throughput Units	Daily Mass Limit	Quarterly Mass Limit	Annual Mass Limit	Mass Units	Year of Installation
1701	173 Airfield Rd	113960	4147	Bulk Fuel Storage Facility; RP-1	21,600	245,600	gallons	1.02	N/A	4.41	lbs ROC	2017
1706	173 Airfield Rd	109896	1240	Bulk Fuel Storage Facility; JP-8/Jet-A	NA	2,040,000	gallon	N/A	N/A	0.28	tons ROC	1992
1706	173 Airfield Rd	109897	1238	Bulk Fuel Storage Facility; JP-8/Jet-A	NA			N/A	N/A			
2007	150 Taurus Rd	107916	3599	Abrasive Blasting Operations	2.00	500	tons	0.00065	N/A	0.163	ton PM	2010
5500	Various Locations	110309	HAZMART2	Miscellaneous Solvent Usage	NA	NA	NA	22.73	500	2,000	lbs ROC	2004
5500	Various Locations	114277	HAZMART	Miscellaneous Solvent Usage	NA	NA	NA	24	N/A	6,336	lbs ROC	<1999
9320	334 6th St	009890	1859	Abrasive Blasting Operations	2.40	250	tons	0.000312	N/A	0.032	tons PM	Unknown
9320	334 6th St	110229	3907	Abrasive Blasting Operations	6.64	1,726	tons	0.0004315	N/A	0.112	tons PM	2008
9505	180 Landfill Rd	115291	3399	Landfill Gas	NA	NA	NA	N/A	N/A	1.297	tons ROC	1941
974/975	974 Mesa Rd	104788	4173	Scrubber (OVSS); Nitrogen Tetroxide	NA	NA	NA	62.16	N/A	440	lbs NOx	1991
976/977	976 Mesa Rd	104655	4172	Scrubber (FVSS); Aerozine-50 Fuel	NA	NA	NA	23.04	N/A	100	lbs ROC	1991
10726	442 Washington Ave	109369	434	Military Gasoline Dispensing Facility	NA	1,200,000	gallon	2.53	N/A	920	lb ROC	Unknown
10726	442 Washington Ave	387622	3508	E-85 GDF with Phase 1 VRS	NA				N/A			2014
10726	442 Washington Ave	386791	21446D	E-85 GDF with Phase 1 VRS	NA				N/A			
14400	1107 Utah Ave	384085	3415	AAFES Gasoline Dispensing Facility	NA	4,800,000	gallon	16.54	N/A	6,040	lb ROC	2007
NA	Various Locations	113616	3417	Microwave Reactor System for Hypergolic Fuel Vapors	NA	2	event	0.57	16.00	16.00	lb ROC	2006
NA	Various Locations	113621	3418	Microwave Reactor System for Hypergolic Oxidizer Vapors	NA	2	event	0.01	0.20	0.20	lb NOx	2006

Notes:

1. The AAFES motor vehicle fueling facility at Building 10726 has combined gasoline and E-85 throughput and emission limits.
2. Jet-A/JP-8 bulk fuel storage tanks (DID# 109896 and 109897) have combined throughput and emission limits.

## **Attachment 10.6 Vapor Recovery System Testing Requirements**

**TABLE T**

**VAPOR RECOVERY SYSTEM TESTING REQUIREMENTS FOR GDF AT AAFES  
GDF Bldg.14400**

<i>Static Leak Decay Testing</i>	<p><u>Bi-annual testing required.</u> The permittee shall conduct and successfully pass Static Leak Decay testing two times per year (at least 165 days between tests, but not to exceed 195 days between tests). Routine testing shall consist of two compliance tests per year according to the test protocols approved by the ARB (TP-201.3).</p>
<i>Vapor-to-Liquid Ratio Testing</i>	<p><u>Bi-annual testing required.</u> The permittee shall conduct and successfully pass Vapor-to-Liquid Ratio testing two times per year (at least 165 days between tests, but not to exceed 195 days between tests). Routine testing shall consist of two compliance tests per year according to the test protocols approved by the ARB. (Exhibit 5)</p>
<i>Additional Phase I Tests</i>	<p><u>Pressure/Vacuum Vent Valve.</u> The permittee shall conduct and successfully pass the following Phase I VRS test during initial startup (only required for new or rebuilt stations): Leak Rate and Cracking Pressure of Pressure/Vacuum Vent Valve test (TP-201.E)</p> <p><u>Annual testing required.</u> The permittee shall conduct and successfully pass the following Phase I VRS test one time per year (at least 360 days between tests, but not to exceed 410 days between tests): Static Torque of Phase I Adapters (TP-201.1B). Routine testing shall consist of at least one compliance test per year.</p> <p><u>Triennial testing required.</u> The permittee shall conduct and successfully pass the following Phase I VRS test one time every three years (+/- 30 days of the three year test anniversary date): Pressure Integrity Check of the Drop Tube/Drain Valve Assembly (TP-201.1C/D). Routine testing shall consist of at least one compliance test every three years.</p>
<i>Additional Healy Phase II EVR Tests</i>	<p><u>Annual testing required.</u> (a) Determination of Static Pressure Performance of the Healy Clean Air Separator (Exhibit 4); (b) Healy Vacuum Integrity Tests B-3 through B-6 (Side B of the Healy VP100 Test Form). Test B-5 shall be supplemented by a concurrent Side A/B test. Routine testing shall consist of at least one compliance test per year.</p> <p><u>Initial startup tests required.</u> In addition to the above tests, the following tests shall be performed during initial startup of the Healy Phase II EVR system: (a) Tank Manifold Tie-Test (TP-201.3C); (b) Dynamic Back Pressure Test (TP-201.4, Methodology 4). As an alternative test, the V/L test per Exhibit 5 may be performed in lieu of TP-201.4 provided that at least 2 gallons of product are introduced into the system through each dispenser riser prior to conducting the test; (c) maximum product flow rate test for each dispenser (time the flow a gallon to determine the flow rate in units of gpm); (d) Healy Positive Pressure Leak Check Test A-3 (Side A of the Healy VP100 Test Form).</p>

*Additional ISD Tests*

Annual testing required: ISD Operability Test Procedure (Exhibit 9 or Exhibit 10).

The tests listed above, and any other VRS specific tests required in the applicable Executive Orders, are required to be performed by the permittee at initial startup and ongoing thereafter according to the time frames indicated. At any time, the District may require the permittee to perform any applicable ARB Test Procedure if operational VRS problems are observed.

All Static Leak Decay tests are subject to the following requirements: (a) during the test the tank ullage shall meet the requirements specified in TP-201.3 - Determination of 2 Inch WC Static Pressure Performance of Vapor Recovery Systems of Dispensing Facilities; (b) no fuel drops shall occur within 3 hours prior to the test; (c) no other Static Leak Tests shall occur within 24 hours prior to the test.

Compliance test results (including initial failures) shall be documented by using SBCAPCD or ARB approved reporting forms<sup>8</sup>. Document all failures by detailing the cause(s) and corrective action(s) taken to eliminate the failure(s) on District Form ENF-99. "Successfully passing" a test means that all test results indicate compliance initially, without replacing, adjusting or repairing any equipment, part or item of the VRS. Example: If initial testing indicates a failure, and the equipment is adjusted, retested, and then passes, this is considered a failed test and shall be noted as such in the repair records and reporting forms.

Components and/or systems failing any of the above required tests shall not be used to dispense or receive gasoline until the system is reported and the system successfully passes the required test(s), unless the permittee contacts the District (961-8802, #2) to obtain Rule 505 "Breakdown" protection for the failed equipment for 24 hours. Components unable to be repaired within 24 hours must be removed from service unless a variance is obtained from the District Hearing Board. All failed equipment shall be tagged as "out of order" until repaired.

The Compliance Tests must be arranged for in accordance with the applicable permit condition(s).

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<sup>8</sup> see the District's Gasoline Station Webpage at <https://www.ourair.org/gas-station/>.

## VAPOR RECOVERY SYSTEM TESTING REQUIREMENTS FOR GDF AT BUILDING 10726 (TANK #1)

*Static Leak Decay Testing* Bi-annual testing required. The permittee shall conduct and successfully pass Static Leak Decay testing two times per year (at least 165 days between tests, but not to exceed 195 days between tests). Routine testing shall consist of two compliance tests per year according to the test protocols approved by the ARB (TP-201.3).

*Vapor-to-Liquid Ratio Testing* Bi-annual testing required. The permittee shall conduct and successfully pass Vapor-to-Liquid Ratio testing two times per year (at least 165 days between tests, but not to exceed 195 days between tests). Routine testing shall consist of two compliance tests per year according to the test protocols approved by the ARB. (Exhibit 5)

*Additional Phase I Tests* Pressure/Vacuum Vent Valve. The permittee shall conduct and successfully pass the following Phase I VRS test during initial startup (only required for new or rebuilt stations): Leak Rate and Cracking Pressure of Pressure/Vacuum Vent Valve test (TP-201.E)

Annual testing required. The permittee shall conduct and successfully pass the following Phase I VRS test one time per year (at least 360 days between tests, but not to exceed 410 days between tests): Static Torque of Phase I Adapters (TP-201.1B). Routine testing shall consist of at least one compliance test per year.

Triennial testing required. The permittee shall conduct and successfully pass the following Phase I VRS test one time every three years (+/- 30 days of the three year test anniversary date): Pressure Integrity Check of the Drop Tube/Drain Valve Assembly (TP-201.1C/D). Routine testing shall consist of at least one compliance test every three years.

*Additional Healy Phase II EVR Tests* Annual testing required. (a) Determination of Static Pressure Performance of the Healy Clean Air Separator (Exhibit 4); (b) Healy Vacuum Integrity Tests B-3 through B-6 (Side B of the Healy VP100 Test Form). Test B-5 shall be supplemented by a concurrent Side A/B test. Routine testing shall consist of at least one compliance test per year.

The tests listed above, and any other VRS specific tests required in the applicable Executive Orders, are required to be performed by the permittee at initial startup and ongoing thereafter according to the time frames indicated. At any time, the District may require the permittee to perform any applicable ARB Test Procedure if operational VRS problems are observed.

All Static Leak Decay tests are subject to the following requirements: (a) during the test the tank ullage shall meet the requirements specified in TP-201.3 - Determination of 2 Inch WC Static Pressure Performance of Vapor Recovery Systems of Dispensing Facilities; (b) no fuel drops shall occur within 3 hours prior to the test; (c) no other Static Leak Tests shall occur within 24 hours prior to the test.

Compliance test results (including initial failures) shall be documented by using SBCAPCD or ARB approved reporting forms<sup>9</sup>. Document all failures by detailing the cause(s) and corrective action(s) taken to eliminate the failure(s) on District Form ENF-99. "Successfully passing" a test means that all test results indicate compliance initially, without replacing, adjusting or repairing any equipment, part or item of the VRS. Example: If initial testing indicates a failure, and the equipment is adjusted, retested, and then passes, this is considered a failed test and shall be noted as such in the repair records and reporting forms.

Components and/or systems failing any of the above required tests shall not be used to dispense or receive gasoline until the system is reported and the system successfully passes the required test(s), unless the permittee contacts the District (961-8802, #2) to obtain Rule 505 "Breakdown" protection for the failed equipment for 24 hours. Components unable to be repaired within 24 hours must be removed from service unless a variance is obtained from the District Hearing Board. All failed equipment shall be tagged as "out of order" until repaired.

The Compliance Tests must be arranged for in accordance with the applicable permit condition(s).

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<sup>9</sup> see the District's Gasoline Station Webpage at <https://www.ourair.org/gas-station/>.

## VAPOR RECOVERY SYSTEM TESTING REQUIREMENTS FOR GDF AT BUILDING 10726 (TANK #15 E-85 & TANK #18 E-85)

- Phase I EVR Tests*      Testing required. These tests shall be performed per the listed ARB test procedure and the applicable Executive Order:
- (a) Annual test: Static Torque of Phase I Adapters per ARB TP-201.1B.
  - (b) Annual test: Static Leak Decay Test using ARB TP-201.3.
  - (c) Triennial test: Pressure Integrity Check of the Drop Tube/Drain Valve Assembly per ARB TP-201.1C/D.
  - (d) As requested by District: Drop Tube/Drain Valve Assembly Leak Test per ARB TP-201.1C (or TP-201.1D if equipped with a flapper valve).

*Time Frames Defined*      Annual tests shall occur at least 350 days between tests, but not to exceed 410 days between tests.

Triennial tests shall occur one time every three years (+/- 30 days of the three year test anniversary date).

The tests listed above, and any other VRS specific tests required in the applicable Executive Orders, are required to be performed by the permittee at initial startup and ongoing thereafter according to the time frames indicated. At any time, the District may require the permittee to perform any applicable ARB Test Procedure if operational VRS problems are observed.

All Static Leak Decay tests are subject to the following requirements: (a) during the test the tank ullage shall meet the requirements specified in TP-201.3 - Determination of 2 Inch WC Static Pressure Performance of Vapor Recovery Systems of Dispensing Facilities; (b) no fuel drops shall occur within 3 hours prior to the test; (c) no other Static Leak Tests shall occur within 24 hours prior to the test.

Compliance test results (including initial failures) shall be documented by using SBCAPCD or ARB approved reporting forms<sup>10</sup>. Document all failures by detailing the cause(s) and corrective action(s) taken to eliminate the failure(s) on District Form ENF-99. "Successfully passing" a test means that all test results indicate compliance initially, without replacing, adjusting or repairing any equipment, part or item of the VRS. Example: If initial testing indicates a failure, and the equipment is adjusted, retested, and then passes, this is considered a failed test and shall be noted as such in the repair records and reporting forms.

Components and/or systems failing any of the above required tests shall not be used to dispense or receive gasoline until the system is reported and the system successfully passes the required test(s), unless the permittee contacts the District (961-8802, #2) to obtain Rule 505 "Breakdown" protection for the failed equipment for 24 hours. Components unable to be repaired within 24 hours must be removed from service unless a variance is obtained from the District Hearing Board. All failed equipment shall be tagged as "out of order" until repaired.

The Compliance Tests must be arranged for in accordance with the applicable permit condition(s).

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<sup>10</sup> see the District's Gasoline Station Webpage at <https://www.ourair.org/gas-station/>.

## Vapor Recovery System Facility Repair Log and Testing Records

The permittee shall maintain a Facility Repair Log and maintain the results of all VRS Testing Records as noted below:

1. **Facility Repair Log:** A Repair Logs that includes the information below. APCD Form ENF –99<sup>1</sup> shall be used. An alternative log form may be used if approved, in advance, by the APCD.
  - Date and time the problem was detected (e.g., component malfunction, defect, ISD Warning alarm, ISD Failure alarm, reconnection of breakaways)
  - Date and time the component was removed from service
  - Date and time the call for service was placed (including calls for service due to an ISD Warning alarm or ISD Failure alarm)
  - Date of actual service for which the component or defect was repaired or replaced (indicate if the ISD Failure alarm was “cleared”)
  - Name of the person performing the service and telephone number
  - Affiliation (company name) of the person performing the service
  - Indicate whether the service call was due to an ISD Warning alarm or ISD Failure alarm
  - Provide a short description of the service performed and list each component repaired, serviced, or removed, (include the component(s) manufacturer's (or re-manufacturer's) name and model number
  - Receipts for parts used in the repair and, if applicable, work orders, which shall include the name and signature of the person responsible for performing the repairs shall be made available to the APCD upon request
  - Any other information specifically required by the applicable Executive Orders
  
2. **Testing Records:** Records of all Maintenance and Compliance Tests, and any other VRS specific tests required in the applicable Executive Orders that include:
  - The date and start time of each test;
  - The type of test (specify ARB TP number);
  - Name(s), employer (or affiliation), address and phone number of the person(s) performing the tests;
  - Test data and calibration data for all equipment used;
  - Date and time each test is completed and the facility owner/operator is notified of the test results. For a test that fails, a description of the reason(s) for the test failure shall also be included; and
  - For a retest following a failed test, a description of the repairs performed prior to the retest (or a cross-reference to the Facility Repair Log above).
  - Completed CARB or APCD-approved reporting forms.

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<sup>1</sup> see the APCD’s Gasoline Station Webpage at [www.sbcapcd.org/eng/compliance/gasoline/gasoline.htm](http://www.sbcapcd.org/eng/compliance/gasoline/gasoline.htm)

# Attachment 10.7 Fuel Storage Tank PTE Calculations

ATTACHMENT 1

## Internal Floating Roof Tank Calculation

Permit to Operate 8688-R4

Tanks 1702 and 1703, POL Bulk Storage Facility (Bldg 1706) VAFB

### 1. Storage Tank Data Entry

	Symbol	Value	Units	Notes
tank rim-seal system type	seal type	liq - rim secondary		Supplied by applicant
is the tank equipped with a dome roof?	dome	yes		ibid.
tank construction type	tank type	welded		ibid.
tank diameter	diameter	D 42.5	feet	ibid.
annual throughput	daily TP	Q 48,571	barrels/year	ibid.
tank condition	condition	lite rust		ibid.

### 2. Liquid Data Entry

	Symbol	Value	Units	Notes
liquid type	liquid type	jet kerosene		Supplied by applicant
product molecular weight	M <sub>V</sub>	130	lb/lb-mole	AP-42, Ch. 7, Table 7.1-2
vapor pressure	pressure	P 0.05000	psia	AP-42, Ch. 7, Table 7.1-2

### 3. Resultant Computed Values

	Symbol	Value	Units	Notes
zero wind speed rim seal loss factor	K <sub>Ra</sub>	0.3	lb-mole/ft-year	AP-42, Ch. 7, Table 7.1-8, p. 7.1-89
wind speed dependent rim seal loss factor	K <sub>Rb</sub>	0.6	lb-mole/(mph) <sup>3</sup> ft-yr	ibid.
seal-related wind speed exponent	n	0.3	dimensionless	ibid.
average ambient wind speed at tank site	v	0.0	mph	dome-covered rooftop is not subject to wind
vapor pressure function	P*	0.00	dimensionless	AP-42, Ch. 7, Eq. 2-3, p. 7.1-19
product factor	K <sub>C</sub>	1	dimensionless	AP-42, Ch. 7, p. 7.1-20
clingage factor	C	0.0015	bb/1000 ft <sup>2</sup>	AP-42, Ch. 7, Table 7.1-10, p. 7.1-94
liquid density	W <sub>L</sub>	7.00	lb/gal	AP-42, Ch. 7, Table 7.1-2, p. 7.1-76
deck fitting loss factor	F <sub>F</sub>	561.65	lb-mole/year	AP-42, Ch. 7, Eq. 2-6, p. 7.1-21
number of columns	N <sub>C</sub>	1	dimensionless	AP-42, Ch. 7, Table 7.1-11, p. 7.1-94
effective column diameter	F <sub>C</sub>	1.0	feet	AP-42, Ch. 7, note 3, p. 7.1-21
vapor reactivity (fraction ROG)	R	1.000	dimensionless	CARB reactivity profiles & APCD Rule 102
deck seam loss per unit seam length factor	K <sub>D</sub>	0.00	lb-mole/ft-year	AP-42, Ch. 7, p. 7.1-22
deck seam length	S <sub>D</sub>	0	ft/ft <sup>2</sup>	AP-42, Ch. 7, Table 7.1-16, p. 7.1-99

### Results

	lb/hour	lb/day	TPY
rim seal loss (L <sub>R</sub> ) =	0.000	0.004	0.001
withdrawal loss (L <sub>WD</sub> ) =	0.001	0.032	0.006
deck fitting loss (L <sub>F</sub> ) =	0.007	0.170	0.031
deck seam loss (L <sub>D</sub> ) =	0.000	0.000	0.000
<b>L<sub>T</sub> =</b>	<b>0.01</b>	<b>0.21</b>	<b>0.04</b>

### Where:

$$L_T = L_R + L_{WD} + L_F + L_D$$

$$L_R = (K_{Ra} + K_{Rb} \times v^n) \times D \times P^* \times M_V \times K_C \times R$$

$$L_{WD} = [(0.943) \times Q \times C \times W_L/D] \times (1 + (N_C \times F_C / D))$$

$$L_F = F_F \times P^* \times M_V \times K_C$$

$$L_D = K_D \times S_D \times D^2 \times P^* \times M_V \times K_C$$

## LOADING RACK EMISSION CALCULATION PROGRAM

Attachment: **2**  
 Company: **VAFB**  
 Facility: **Bldg 1706 - POL**  
 File Name: **PTO 8688-R4**

Reference: Loading Rack  
 Rack Type: Enter X as Appropriate      S Factor

Submerged loading of a clean cargo tank	0.50
Submerged loading: Dedicated normal service	0.60
Submerged loading: Dedicated vapor balance service	1.00
Splash loading of a clean cargo tank	1.45
Splash loading: Dedicated normal service	1.45
Splash loading: Dedicated vapor balance service	1.00

Input data	Reference
S = Saturation Factor <b>0.60</b>	See AP-42 Table 4.4-1      2
M = Molecular Weight <b>130</b>	Crude Oil: Default = 50 lb/lb-mole      3
P = True Vapor Pressure (psia) <b>0.050</b>	See AP-42 Table 7.1-2 (5th ed. - Jan. 95)      6
T = Liquid Temperature °R <b>520</b>	<u>60 °F + 460 = °R</u> 5
R = Loading Rate (bbl/hr) <b>428.57</b>	<u>18,000</u> gallons (42 gallons = 1 bbl)      1
C = Storage Capacity (bbl) <b>917</b>	<u>38,500</u> gallons (42 gallons = 1 bbl)      1
A = Annual Production (bbl) <b>48,571</b>	<u>2,040,000</u> gallons (42 gallons = 1 bbl)      1
eff = Vapor Recovery Efficiency <b>0.00</b>	Default = 0.95      1
ROC/THC = Reactivity <b>1.000</b>	Crude Oil: Default = 0.885

HLPD = hours loading per day = (C/R) if < 24	<u>2.14</u>	hours/day
HLPY = hours loading per year = (A/R) =	<u>113.33</u>	hours/year
L <sub>L</sub> = Loading loss (lb/1000 gal) = 12.46 (S)(P)(M)/T =	<u>0.0935</u>	lb/1000 gal

**Total Uncontrolled Hydrocarbon Losses:**

**Hourly**  
 THL<sub>H</sub> = (THL<sub>A</sub>/HLPY) = 1.68 lbs/hr

**Daily**  
 THL<sub>D</sub> = (THL<sub>H</sub>)(HLPD) = 3.60 lbs/day

**Annual**  
 THL<sub>A</sub> = (L<sub>L</sub>)(A)(42 gal/bbl)( 1 ton/2,000 lbs)(ROC/THC) = 0.10 TPY

**Total Controlled Hydrocarbon Losses:**

**Hourly**  
 THL<sub>H</sub> = (THL<sub>A</sub>/HLPY)(1-eff) = 1.68 lbs/hr

**Daily**  
 THL<sub>D</sub> = (THL<sub>H</sub>)(HLPD)(1-eff) = 3.60 lbs/day

**Annual**  
 THL<sub>A</sub> = (L<sub>L</sub>)(A)(42 gal/bbl)( 1 ton/2,000 lbs)(1-eff)(ROC/THC) = tons/year = 0.10 TPY

Processed by: **PES**

Date: **06/04/07**

Notes:

1. Data provided by the applicant
2. AP-42, (Chapter 5, 5th Edition), Table 5.2-1
3. If not otherwise provided, crude oil is assumed to be 50 lb/lb-mole.
4. If not otherwise provided, vapor pressure is calculated from CARB AB-2588 Guidelines, page 103, eq. 25
5. R is calculated by adding 460 to °F.
6. AP-42, (Chapter 7, 5th Edition), Table 7.1-2

**LOADING RACK EMISSION CALCULATION (ver 3.0)**

Attachment: **A**  
 Company: **VAFB**  
 Facility: **Tank 1701 - RP-1 Tank**  
 File Name:

Reference: Loading Rack  
 Rack Type: Enter X as Appropriate      S Factor

Submerged loading of a clean cargo tank	_____	0.50
Submerged loading: Dedicated normal service	<u>  X  </u>	0.60
Submerged loading: Dedicated vapor balance service	_____	1.00
Splash loading of a clean cargo tank	_____	1.45
Splash loading: Dedicated normal service	_____	1.45
Splash loading: Dedicated vapor balance service	_____	1.00

Input data	Reference
S = Saturation Factor	<b>0.60</b>
M = Molecular Weight	<b>175</b>
P = True Vapor Pressure (psia)	<b>0.020</b>
T = Liquid Temperature °R	<b>520</b>
R = Loading Rate (bbl/hr)	<b>840.00</b>
C = Storage Capacity (bbl)	<b>3,000</b>
D = Daily Loading Rate (bbl)	<b>480</b>
A = Annual Loading Rate (bbl)	<b>5,848</b>
eff = Vapor Recovery Efficiency	<b>0.00</b>
ROC/THC = Reactivity	<b>1.000</b>
See AP-42 Table 4.4-1	2
Crude Oil: Default = 50 lb/lb-mole	3
See AP-42 Table 12.3-5	1
$60^{\circ}\text{F} + 460 = ^{\circ}\text{R}$	5
35,280 gallons (42 gallons = 1 bbl)	1
126,000 gallons (42 gallons = 1 bbl)	1
20,160 gallons (42 gallons = 1 bbl)	1
245,616 gallons (42 gallons = 1 bbl)	1
Default = 0.95	1
Crude Oil: Default = 0.885	

HLPD = hours loading per day = (D/R) if < 24 =	<b>0.57</b>	<b>hours/day</b>
HLPY = hours loading per year = (A/R) =	<b>6.96</b>	<b>hours/year</b>
L <sub>L</sub> = Loading loss (lb/1000 gal) = 12.46 (S)(P)(M)/T =	<b>0.0503</b>	<b>lb/1000 gal</b>

**Total Uncontrolled Hydrocarbon Losses:**

**Hourly**  
 THL<sub>H</sub> = (R)(42 gal/bbl)(L<sub>L</sub>/1000) = **1.78 lbs/hr**

**Daily**  
 THL<sub>D</sub> = (THL<sub>H</sub>)(HLPD) = **1.01 lbs/day**

**Annual**  
 THL<sub>A</sub> = (HLPY)((THL<sub>H</sub>)(1/2000)) = **0.006 TPY**

**Total Controlled Hydrocarbon Losses:**

**Hourly**  
 THL<sub>HC</sub> = (THL<sub>H</sub>)(1-eff) = **1.78 lbs/hr**

**Daily**  
 THL<sub>DC</sub> = (THL<sub>D</sub>)(1-eff) = **1.01 lbs/day**

**Annual**  
 THL<sub>AC</sub> = (THL<sub>A</sub>)(1-eff) = **0.006 TPY**

Processed by: **PES**

Date: **August 30, 2019**

# Attachment 10.8 Abrasive Blasting Equipment Emission Calculations

Location:	VAFB - Building 1800		
Device:	#107916		
<b>CABINET STYLE ABRASIVE BLASTING UNIT - SAND W/ DUST FILTER BAGS</b>			
<u>VARIABLES/ASSUMPTIONS</u>			
			<u>Basis</u>
EF	Emission Factor	13 lb PM/ton Sand	Note 1
A	Quantity of abrasive used per minute of operation =	8.33 lb/min	application
D	Daily Operating Schedule =	8 hr/day	application
DY	Operating Days Per Year	260 days/year	application
Y	Annual Operating Schedule =	2,080 hr/year	application
E	Cartridge Filter Efficiency =	95 % mass	VAFB
Q	Blower Rating =	16,000 scfm	application
	PM10 /PM Fraction =	1.0	APCD
TPD	Abrasive Used Per Day	2.00 tons/day	application
TPY	Abrasive Used Per Year	500 tons/year	application
<u>CALCULATIONS</u>			
( I ) <i>Mass Emission Rates</i>			
	Hourly: = (EF) * TPD * (1/HPD) * (100-E/100)	0.163 lbs/hr	PM and PM10
	Daily: = (Hourly Emissions) * HPD	1.300 lbs/day	PM and PM10
	Annual: = (EF) * (TPY) * (1/2,000) * (100-E/100)	0.163 tons/yr	PM and PM10
( II ) <i>Process Weight per Hour</i>			
	PWH: = 2,000 * TPD / HPD	500.0 pounds per hour	
( III ) <i>Particulate Concentration</i>			
	PC: = (Hourly Emissions) * (1/60) * 7,000 * (1/Q)	0.0012 gr/dscf	PM
<u>Notes:</u>			
(1) From AP-42 Chapter 13.2.6 emission factor based on sand blasting mild steel panels.			
(2) All assumptions and material throughput and composition data (if any) originates from data contained in either the original permit application(s) or from the supplement(s) to those application(s) thereof, where available and applicable.			
(3) APCD assumed efficiency of filter and PM10/PM ratio.			
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Location: VAFB - Building 9320  
 Device: 9890

**CABINET STYLE ABRASIVE BLASTING UNIT - ALUMINUM OXIDE w/ DUST FILTER BAGS**

VARIABLES/ASSUMPTIONS

			<u>Basis</u>
EF	Emission Factor	13 lb PM/ton AlO <sub>3</sub>	Note 1
A	Quantity of abrasive used per minute of operation =	10 lb/min	application
D	Daily Operating Schedule =	8 hr/day	application
Y	Annual Operating Schedule =	832 hr/year	application
E	Cartridge Filter Efficiency =	98 % mass	APCD
Q	Blower Rating =	5800 scfm	application
	PM10 /PM Fraction =	1.0	APCD

CALCULATIONS

(I) *Mass Emission Rates*

Hourly:	$[(EF)*(A) * (60) * (1 - E)*]$	0.078 lbs/hr	PM and PM10
Daily:	$[(EF)*(A) * (D * 60) * (1 - E)]$	0.624 lbs/day	PM and PM10
Annual:	$[(EF)*(A) * (Y * 60) * (1 - E)] / [(2000)]$	0.032 tons/yr	PM and PM10

(II) *Process Weight per Hour*

PWH:	$[A * 60]$	600 pounds per hour
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(III) *Particulate Concentration*

PC:	$\{[(EF)*(A) * 7000* (1 - E)] / (Q)\}$	0.0016 gr/dscf	PM
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Notes:

- (1) From AP-42 Chapter 13.2.6 emission factor based on sand blasting mild steel panels.
- (2) All assumptions and material throughput and composition data (if any) originates from data contained in either the original permit application(s) or from the supplement(s) to those application(s) thereof, where available and applicable.
- (3) APCD assumed efficiency of filter and PM10/PM ratio.

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Location: VAFB - Building 9320  
 Device: #110229

**CABINET STYLE ABRASIVE BLASTING UNIT - SAND w/ DUST FILTER BAGS**

VARIABLES/ASSUMPTIONS

			<u>Basis</u>
EF	Emission Factor	13 lb PM/ton Sand	Note 1
A	Quantity of abrasive used per minute of operation =	27.67 lb/min	application
D	Daily Operating Schedule =	8 hr/day	application
DY	Operating Days Per Year	260 days/year	application
Y	Annual Operating Schedule =	2,080 hr/year	application
E	Cartridge Filter Efficiency =	99 % mass	VAFB
Q	Blower Rating =	16,000 scfm	application
	PM10 /PM Fraction =	1.0	APCD
TPD	Abrasive Used Per Day	6.64 tons/day	application
TPY	Abrasive Used Per Year	1,726 tons/year	application

CALCULATIONS

( I ) *Mass Emission Rates*

Hourly:	= (EF) * TPD * (1/HPD) * (100-E/100)	0.108 lbs/hr	PM and PM10
Daily:	= (Hourly Emissions) * HPD	0.863 lbs/day	PM and PM10
Annual:	= (EF) * (TPY) * (1/2,000) * (100-E/100)	0.112 tons/yr	PM and PM10

( II ) *Process Weight per Hour*

PWH:	= 2,000 * TPD / HPD	1,660.0 pounds per hour
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( III ) *Particulate Concentration*

PC:	= (Hourly Emissions) * (1/60) * 7,000 * (1/Q)	0.0008 gr/dscf	PM
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Notes:

- (1) From AP-42 Chapter 13.2.6 emission factor based on sand blasting mild steel panels.
- (2) All assumptions and material throughput and composition data (if any) originates from data contained in either the original permit application(s) or from the supplement(s) to those application(s) thereof, where available and applicable.
- (3) APCD assumed efficiency of filter and PM10/PM ratio.

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## Attachment 10.9 Landfill Emission Calculations

### VAFB LANDFILL FUGITIVE EMISSIONS

Date Landfill Opened 1941  
 Current Year 2019

Uncontrolled Landfill Fugitive Emission Formula per AP-42

$$M_{\text{NMOC}} = 2L_0R(e^{-kc} - e^{-kt})(C_{\text{NMOC}})(3.6 \times 10^{-9})$$

Name	Variable	Value	Units
Refuse methane generation potential <sup>2</sup>	L <sub>o</sub>	100	m <sup>3</sup> /Mg
Average annual acceptance (as of June 30, 2017) <sup>3</sup>	R	11,224.93	Mg/yr
Methane generation constant <sup>2</sup>	k	0.02	1/yr
Years since closure	c	0	yrs
Age of landfill	t	78	yrs
Concentration of NMOC	C <sub>NMOC</sub>	600	ppmv (as hexane)
Conversion factor	--	3.60E-09	--

Uncontrolled NMOC Emissions, Mg/yr	3.83	Mg NMOC/yr
Uncontrolled NMOC Emissions, tons/yr	4.22	tons NMOC/year
Fugitive ROC <sup>4</sup> Emissions to Atmosphere, tons/yr	3.93	tons ROC/year
Fugitive ROC <sup>4</sup> Emissions to Atmosphere, lb/day	21.52	lb ROC/day

Notes:

1. Mass Conversion from Mg to ton= 1.1024
2. Reference: AP-42 Section 2.4 for Municipal Solid Waste Landfills (October 2008)
3. Calculated using current waste in place and age of landfill from first half 2019 CVR report.
4. ROC/NMOC = 0.93 (ref: SBCAPCD Rule 341, Staff Report September 18, 1997)

## Attachment 10.10 Permits Incorporated into PT70 / PTO 13968-R2

PERMIT TYPE	ISSUE DATE	DESCRIPTION	SUBJECT TO NSR
PTO 14362	8/24/2018	Conversion of Tank 1701 from a diesel Tank to a RP-1 Tank.	Yes
PTO 15012	9/7/2018	Replace clean air separator at Bldg 14400.	Yes
PTO 14969	9/18/2018	Installation of a new diesel-fired emergency fire water pump at Building 23209. 2016. 324 bhp Cummins.	Yes
PTO Mod 13968-02	2/28/2019	Revise ambient air monitoring language	No
PTO 14246	5/17/2019	Convert existing exempt diesel tank to E-85 and install a new dispenser at Building 10726.	Yes
PTO 15181	5/24/2019	Operation of a new diesel-fired emergency backup generator at Building 8401. 2017, Cummins Model QSX15-G9 rated at 755 bhp	Yes
PTO 15175	5/29/2019	Installation of two new diesel-fired emergency backup generator at Building 3000. 2017, Cummins Model QST30-G% NR2 rated at 1,490 bhp each.	Yes
PTO 14926	7/1/2019	Operation of a new diesel-fired emergency backup generator at Building 10525. 2016. 324 bhp Cummins.	Yes
PT-70 ADM 15437	9/17/2019	Change Title V Responsible Official from Colonel Michael S. Hough to Colonel Anthony J. Mastalir.	No
PTO 14968	**	Installation of a new paint spray booth and exempt booth heater at Building 1731.	Yes
PTO 15043	**	Operation of a new diesel-fired emergency backup generator at Building 1581. 2016. 69 bhp Cummins. Replaces Device ID 10737.	Yes
PTO 15065	**	Replace boilers with two new hot-water boilers in building 7000.	Yes
PTO 15141	**	Operation of a new diesel-fired emergency backup generator at Building 21150. 2017 382 bhp Volvo Penta.	Yes
PTO 15258	**	Identical replacement of a burner in one of two boilers located in building 13850	Yes
PTO 15283	**	Convert emissions from the existing paint booth at Bldg 7137 (Device #384072) to a surface coating operation used to coat oversized and mobile equipment outside of a paint booth.	Yes

\*\* = Final PTOs issued at issuance of this permit.

# Attachment 10.11 Exempt Equipment

**Table 10-1. Permit Exempt Internal Combustion Engines**

Part 70 Permit 13968-R2, Vandenberg Air Force Base

Building Number	Equipment Location	Operator ID	Make	Model	EPA Family Name/Tier	Rating (bhp)	Fuel	Category	Basis for Exemption
<b>Stationary</b>									
51	51 Station Rd	3063	Ford	LSG87516005A	NA	104	LPG	Emergency Stand-by Generator	202.F.1.d
475	475 Comm Ave	3083	Cummins	GTA 28	NA	500	LPG	Emergency Stand-by Generator	202.F.1.d
490	490 Arguello Rd	3914	Kubota	F2803-BG-ES02	0	44.8	Diesel	Emergency Stand-by Generator	202.F.1.e
518	518 CDT Access Rd	3603	Kubota	F2803-BG-ES	4KBXL02.8BCC/II	44.8	Diesel	Emergency Stand-by Generator	202.F.1.e
700	700 Kelp Rd	713358	Kubota	D1703-M-BG-ET01	NA	24.3	Diesel	Emergency Stand-by Generator	202.F.1.e
752	759 Napa Rd	3054	Cummins	F2803	0	42	Diesel	Emergency Stand-by Generator	202.F.1.e
752	759 Napa Rd	3932	Kubota	F2803-BG-ES	5KBXL02.8BCC/II	42	Diesel	Emergency Stand-by Generator	202.F.1.e
799	799 Coast Rd	703337	Kohler	KDI 1903TCR/G18C	NA	49	Diesel	Emergency Stand-by Generator	202.F.1.e
865	865 Arguello Rd	3072	Ford	CSG-6491-6005-A	NA	77	LPG	Emergency Stand-by Generator	202.F.1.d
866	866 Arguello Rd	3278	Lister	LP3A 74	NA	27	LPG	Emergency Stand-by Generator	202.F.1.d
964	964 Mesa Rd	677064	John Deere	4024TF281D	NA	45	Diesel	Emergency Stand-by Generator	202.F.1.e
966	966 Mesa Rd	677065	John Deere	4024TF281D	NA	45	Diesel	Emergency Stand-by Generator	202.F.1.e
1501	1501 Tangair Rd	4177	John Deere	3029DF120	0	47	Diesel	Emergency Stand-by Generator	202.F.1.e
1524	Off Tangier and Shuttle Access Rds	3190	Lister	VL51.9V6DZRB	0	19	Diesel	Emergency Stand-by Generator	202.F.1.e
1530	1530 Rollo Rd	4067	Cummins	GGMC-7530039	NA	55	LPG	Emergency Stand-by Generator	202.F.1.d
1577	1577 May Rd	632	Ford	CSG-6491-6005A	NA	77	LPG	Emergency Stand-by Generator	202.F.1.d
1579	1579 June Rd	635	Hercules	D2300X308	0	45	Diesel	Emergency Stand-by Generator	202.F.1.e
1591	1591 Tangair	677066	Yanmar	4TNE84-EK	2YDXL2.00F4N	13	Diesel	Emergency Stand-by Generator	202.F.1.e
1592	1031 California	677067	Yanmar	4TNE84-EK	2YDXL2.00F4N	13	Diesel	Emergency Stand-by Generator	202.F.1.e
1735	325 Airfield Rd	677068	Caterpillar	XQ350	NA	569	Diesel	Generator, TSE RN 101091	202.F.2
1737	340 Airfield Rd	3804	Cummins	LPW 4	0	18	Diesel	Emergency Stand-by Generator	202.F.1.e
1740	359 Airfield Rd	4003	Ford	ESG642	NA	77	LPG	Emergency Stand-by Generator	202.F.1.d
1743	355 Airfield Rd	3567	Ford	LSG-8751-6005-A	NA	173	LPG	Emergency Stand-by Generator	202.F.1.d
1841	1841 Rhea Rd	4113	Kubota	D1703	AKBXL02.2FCD/I-IV	25	Diesel	Emergency Stand-by Generator	202.F.1.e
1905	1905 Orion Rd	3019	Perkins	CM-335	NA	38	Diesel	Emergency Stand-by Generator	202.F.1.e
6601	1785 Utah Ave	3396	Generac	A4350	NA	173	LPG	Emergency Stand-by Generator	202.F.1.d
6670	1655 Utah Ave	3068	Generac	7.4 L	NA	173	NG	Emergency Stand-by Generator	202.F.1.d

Building Number	Equipment Location	Operator ID	Make	Model	EPA Family Name/Tier	Rating (bhp)	Fuel	Category	Basis for Exemption
6819	1031 California	3597	Kubota	F2803-BG-ES	NA	45	Diesel	Emergency Stand-by Generator	202.F.1.d
8310	351 8th St	869	Ford	LSG-4231-6005F	NA	50	LPG	Emergency Stand-by Generator	202.F.1.d
8510	1521 Iceland Ave	3053	Generac	93A013958	NA	170	NG	Emergency Stand-by Generator	202.F.1.d
11477	1273 Utah Ave	3187	Yanmar	4TNV84T-BGKL	0	27	Diesel	Emergency Stand-by Generator	202.F.1.e
13675	108 Colorado Ave	766	Ford	CSG-6491-6005-F	NA	90	LPG	Emergency Stand-by Generator	202.F.1.d
13730	127 Colorado Ave	3952	Mitsubishi	SDS8450	NA	95	LPG	Emergency Stand-by Generator	202.F.1.d
14300	135 Wyoming	765	Ford	LSG-4231-6005-F	NA	57	LPG	Emergency Stand-by Generator	202.F.1.d
23160	160 Grant Rd	3605	Kubota	F2803-BG-ES	4KBXL02.8BCC/II	44.8	Diesel	Emergency Stand-by Generator	202.F.1.e
23215	215 Bishop Rd	770	Waukesha	L7042GL	NA	1466	NG	Emergency Stand-by Generator	202.F.1.d
23215	215 Bishop Rd	771	Waukesha	L7042GL	NA	1466	NG	Emergency Stand-by Generator	202.F.1.d
<b>Portable</b>									
Basewide	Various Locations	4293	John Deere	4045HF285	BJDXL06.8117/III	115	Diesel	Chipper Engine, PERP RN 157630	202.F.2
Basewide	Various Locations	645481	John Deere	4045HF285	BJDXL06.8117/III	140	Diesel	APU on Vacuum Truck, PERP RN 160694	202.F.2
Basewide	Various Locations	667306	Cummins	QSB3.3	ECEXL03.3ADA/I-IV	100	Diesel	Auxiliary Power, PERP RN 165532	202.F.2
Basewide	Various Locations	4368	John Deere	4045HF285	BJDXL06.8117/III	140	Diesel	Vacuum Pump, PERP RN 160694	202.F.2
Basewide	Various Locations	594	Onan	DJC	0	22	Diesel	Generator	202.F.1.e
Basewide	Various Locations	3985	John Deere	6068HF485	8JDXL06.8101/III	315	Diesel	Generator, PERP RN 146695	202.F.2
Basewide	Various Locations	4015	John Deere	4045TF280	9JDXL04.5112/III	80	Diesel	Water Pump, PERP RN 149555	202.F.2
Basewide	Various Locations	4016	John Deere	4045TF280	9JDXL04.5112/III	80	Diesel	Water Pump, PERP RN 149556	202.F.2
Basewide	Various Locations	4017	John Deere	4045TF280	9JDXL04.5112/III	80	Diesel	Water Pump, PERP RN 149557	202.F.2
Basewide	Various Locations	4307	Cummins	QSC	ACEXL0505AAE/III	260	Diesel	Air Compressor, PERP RN 158388	202.F.2
Basewide	Various Locations	3903	John Deere	3029TF270D	4JDXL02.9050/II	64	Diesel	Generator, TSE RN 101091	202.F.2
Basewide	Various Locations	695013	Honda	GX620	Unknown	20	Gasoline	Pressure Washer	202.F.1.e
Basewide	Various Locations	700047	Kohler	KDI 2504TCR/G18A	FKHXL2.48TCR	74	Diesel	Generator, PERP RN 173572	202.F.1.e

Building Number	Equipment Location	Operator ID	Make	Model	EPA Family Name/Tier	Rating (bhp)	Fuel	Category	Basis for Exemption
Basewide	Various Locations	700099	Kohler	KDI 2504TCR/G18A	FKHXL2.48TCR	74	Diesel	Generator, PERP RN 173573	202.F.1.e
Basewide	Various Locations	700100	Volvo Penta	TAD1170VE	GVPXL10.8CJA	320	Diesel	Generator, PERP RN 173574	202.F.1.e
Basewide	Various Locations	709118	Onan	DJC	Unknown	22	Diesel	Generator	202.F.1.e
Basewide	Various Locations	709119	Onan	DJC	Unknown	22	Diesel	Generator	202.F.1.e
Basewide	Various Locations	709120	Onan	DJC	Unknown	22	Diesel	Generator	202.F.1.e
Basewide	Various Locations	714350	Hydro Engineering	5/3000GHO	Unknown	12	Gasoline	Pressuer Washer	202.F.1.e
Basewide	Various Locations	717151	Cummins	QSB6.7	GCEXL06.7A A K	260	Diesel	Air Compressor, PERP RN 179153	202.F.1.e
Basewide	Various Locations	717152	Cummins	QSB6.7 260	GCEXL06.7A A K	260	Diesel	Air Compressor PERP RN 179154	202.F.1.e
Basewide	Various Locations	698117	Caterpillar	3738/2500	EFPXL03.4ADC	115	Diesel	Generator, PERP RN 172855	202.F.2
Basewide	Various Locations	702142	Cummins	QSB4.5	GCEXL04.5A A H	155	Diesel	Generator, PERP RN 174907	202.F.2
Flightline	Various Locations	3613	Hollingsworth	A/M32A-86D	0	148	Diesel	Generator, TSE RN 101091	202.F.2
Flightline	Various Locations	3614	Hollingsworth	A/M32A-86D	0	148	Diesel	Generator, TSE RN 101091	202.F.2
Flightline	Various Locations	3615	Hollingsworth	A/M32A-86D	0	148	Diesel	Generator, TSE RN 101091	202.F.2
Flightline	Various Locations	3616	Hollingsworth	A/M32A-86D	0	148	Diesel	Generator, TSE RN 101091	202.F.2
Flightline	Various Locations	3617	Hollingsworth	A/M32A-86D	0	148	Diesel	Generator, TSE RN 101091	202.F.2
Flightline	Various Locations	3618	Hollingsworth	A/M32A-86D	0	148	Diesel	Generator, TSE RN 101091	202.F.2
81	81 Station Rd	3946	Isuzu	A-6BGIT	0	155	Diesel	Generator, TSE RN 101091	202.F.2
525	525 Coast Rd	3992	John Deere	4024TF281	8JDXL02.4074/IV	49	Diesel	Air Compressor	202.F.1.e
525	525 Coast Rd	3993	John Deere	4024TF281	8JDXL02.4074/IV	49	Diesel	Air Compressor	202.F.1.e
525	525 Coast Rd	3994	John Deere	4024TF281	8JDXL02.4074/IV	49	Diesel	Air Compressor	202.F.1.e
525	525 Coast Rd	3995	John Deere	4024TF281	8JDXL02.4074/IV	49	Diesel	Air Compressor	202.F.1.e
525	525 Coast Rd	4021	John Deere	4024TF281	8JDXL02.4074/IV	49	Diesel	Air Compressor	202.F.1.e
525	525 Coast Rd	4022	John Deere	4024TF281	8JDXL02.4074/IV	49	Diesel	Air Compressor	202.F.1.e
525	525 Coast Rd	4023	John Deere	4024TF281	8JDXL02.4074/IV	49	Diesel	Air Compressor	202.F.1.e
525	525 Coast Rd	4024	John Deere	4024TF281	8JDXL02.4074/IV	49	Diesel	Air Compressor	202.F.1.e
525	525 Coast Rd	4296	Perkins	GR65815	AH3XL2.22TCC/I-IV	49	Diesel	Generator	202.F.1.e

Building Number	Equipment Location	Operator ID	Make	Model	EPA Family Name/Tier	Rating (bhp)	Fuel	Category	Basis for Exemption
525	525 Coast Rd	707871	Duetz AG	D2.9 L4	GD2XL02.9021	49	Diesel	Air Compressor	202.F.1.e
525	525 Coast Rd	707880	Duetz AG	D2.9 L4	GD2XL02.9021	49	Diesel	Air Compressor	202.F.1.e
964	Mesa Rd	677064	John Deere	4024TF281D	DJDXL02.4215/I-IV	45	Diesel	Generator	202.F.1.e
966	Mesa Rd	677065	John Deere	4024TF281D	DJDXL02.4215/I-IV	45	Diesel	Generator	202.F.1.e
1620C	1620 Aero Rd	3316	Teledyne Continental	TM 20	0	38	Gasoline	Generator	202.F.1.e
1704	173 Airfield Rd	718068	Cummins	QSB5-G11	JCEXL04.5AAJ	169	Diesel	Generator, PERP RN 182216	202.F.2
1704	173 Airfield Rd	718669	Cummins	QSB5-G11	JCEXL04.5AAJ	169	Diesel	Generator, PERP RN 182217	202.F.2
1705	173 Airfield Rd	3421	Isuzu	SGNSC	0	49	Diesel	Self Generating Nitrogen Cart, TSE RN 101091	202.F.1.e and 202.F.4.a
1735	325 Airfield Rd	4298	Cummins	4BT3.9G4	I	99	Diesel	Generator, TSE RN 101091	202.F.2
1735	325 Airfield Rd	4299	Cummins	4BT3.9G4	I	99	Diesel	Generator, TSE RN 101091	202.F.2
1735	325 Airfield Rd	4300	Cummins	4BT3.9G4	I	99	Diesel	Generator, TSE RN 101091	202.F.2
1735	325 Airfield Rd	4301	Cummins	4BT3.9G4	I	99	Diesel	Generator, TSE RN 101091	202.F.2
1735	325 Airfield Rd	4310	Duetz	B4M1008	I	38.8	Diesel	Generator, TSE RN 101091	202.F.1.e and 202.F.4.a
1735	325 Airfield Rd	4311	Deutz	B4M1008	I	38.8	Diesel	Generator, TSE RN 101091	202.F.1.e and 202.F.4.a
1735	325 Airfield Rd	653788	Perkins	GP65664N	Unknown	38.8	JP-8	Start cart, TSE RN 101091	202.F.1.f and 202.D.2
1735	325 Airfield Rd	653789	Perkins	GP65664N	Unknown	38.8	JP-8	Start cart, TSE RN 101091	202.F.1.f and 202.D.2
1735	325 Airfield Rd	677068	Caterpillar	XQ350	Unknown	569	Diesel	Auxiliary Power, TSE RN 101091	202.F.2
1746	373 Airfield Rd	ICE02	Garrett	GTCP85-180C	NA	100	JP-8	Turbine Compressor - Aircraft Engine Starting, TSE RN 101091	202.D.2
1746 and Flightline	Various Locations	2055	Garrett	GTCP85-180C	NA	100	JP-8	Turbine Compressor - Aircraft Engine Starting, TSE RN 101091	202.F.1.d
3000	3000 29 <sup>th</sup> St	4072	Kubota	D1503 M BG ET02e	9KBXL01.5FCC/IV	24	Diesel	Generator	202.F.1.e
3000	3000 29 <sup>th</sup> St	4073	Kubota	D1503 M BG ET02e	9KBXL01.5FCC/IV	24	Diesel	Generator	202.F.1.e
3000	3000 29th St	3516	Duetz	BF4M1013E	2DZXL07.1005/I	119	Diesel	Generator, PERP RN 120369	202.F.2
3000	3000 29th St	3517	Duetz	BF4M1013E	2DZXL07.1005/I	119	Diesel	Generator, PERP RN 123070	202.F.2
3000	3000 29th St	3912	Cummins	QSC 8.3	7CEXL0505AAE/III	260	Diesel	Generator, PERP RN 141898	202.F.2
3000	3000 29th St	3913	Cummins	QSC 8.3	7CEXL0505AAE/III	260	Diesel	Generator, PERP RN 141899	202.F.2
3000	3000 29th St	3949	Duetz	TCD2013L042V	8DZXL04.8064/III	172	Diesel	Generator, PERP RN 144722	202.F.2
3000	3000 29th St	3950	Duetz	TCD2013L042V	8DZXL04.8064/III	172	Diesel	Generator, PERP RN 144723	202.F.2

Building Number	Equipment Location	Operator ID	Make	Model	EPA Family Name/Tier	Rating (bhp)	Fuel	Category	Basis for Exemption
3000	3000 29th St	3982	Isuzu	BU-4JJ1T	8SZXL03.0UTB/I-IV	57	Diesel	Generator, PERP RN 146503	202.F.2
3000	3000 29th St	4317	Isuzu	BI-4HK1X	BSZXL05.21XB/III	173	Diesel	Payload Transport Spt, PERP RN 159459	202.F.2
3000	3000 29th St	652758	John Deere	4045HFG93A, B	CJDXL06.8210/I-IV	166	Diesel	Auxiliary Power, PERP RN 1692910	202.F.2
5425	2010 20th St	3602	Kawasaki	BWT 200	0	23	Gasoline	Grounds Maintenance Equipment	202.F.1.f
7425	386 10th St	3735	John Deere	3029TF270D	4JDXL02.9050/II	64	Diesel	Air Compressor, TSE RN 101091	202.F.2
7425	386 10th St	3736	John Deere	3029TF270D	4JDXL02.9050/II	64	Diesel	Air Compressor, TSE RN 101091	202.F.2
7501	172 10th St	3419	John Deere	4045DF150	2JDXL06.8016/I	80	Diesel	Air Compressor, TSE RN 101091	202.F.2
8314	374 8th St	3820	John Deere	3029TF270D	0	56	Diesel	Generator, TSE RN 101091	202.F.2
8314	374 8th St	3821	John Deere	3029TF270D	0	56	Diesel	Generator, TSE RN 101091	202.F.2
8425	1411 Utah Ave	4124	Isuzu	BH-6UZ1X	ASZXL09.8HXB/III	349	Diesel	Generator, PERP RN 154640	202.F.2
8425	1411 Utah Ave	696	Cummins	NT855G3	0	390	Diesel	Generator, TSE RN 101091	202.F.2
8425	1411 Utah Ave	708	Caterpillar	5R5635 (MEP-007B)	0	235	Diesel	Generator, TSE RN 101091	202.F.2
8425	1411 Utah Ave	3027	Cummins	NT-855-G3 (MEP-009B)	0	390	Diesel	Generator, TSE RN 101091	202.F.2
8425	1411 Utah Ave	3035	John Deere	6059T	0	80	Diesel	Generator, TSE RN 101091	202.F.2
8425	1411 Utah Ave	3037	John Deere	6059T (MEP-806A)	0	80	Diesel	Generator, TSE RN 101091	202.F.2
8425	1411 Utah Ave	3038	John Deere	6059T (MEP-806A)	0	80	Diesel	Generator, TSE RN 101091	202.F.2
8425	1411 Utah Ave	3193	Isuzu	C240	0	30	Diesel	Generator, TSE RN 101091	202.F.1.e and 202.F.4.a
8425	1411 Utah Ave	3194	Isuzu	C240	0	30	Diesel	Generator, TSE RN 101091	202.F.1.e and 202.F.4.a
8425	1411 Utah Ave	3817	Caterpillar	3126	III	216	Diesel	Generator, TSE RN 101091	202.F.2
8425	1411 Utah Ave	3818	Caterpillar	3126	III	216	Diesel	Generator, TSE RN 101091	202.F.2
8425	1411 Utah Ave	4034	Onan	DN4M 1	0	24.1	Diesel	Generator, TSE RN 101091	202.F.1.e and 202.F.4.a
8425	1411 Utah Ave	4035	Onan	DN4M 1	0	24.1	Diesel	Generator, TSE RN 101091	202.F.1.e and 202.F.4.a
8425	1411 Utah Ave	4143	John Deere	4045TF151A	2JDXL06.8014/I	215	Diesel	Generator, TSE RN 101091	202.F.2
8425	1411 Utah Ave	712927	John Deere	4045TF151	2JDXL06.8014	92	Diesel	Generator, TSE RN 101091	202.F.2
9320	334 6 <sup>th</sup> St	3328	Perkins	3.1524	NA	42	Diesel	Air Compressor	202.F.1.e
9320	334 6th St	4095	Caterpillar	C4.4	APKXL04.4NJ1/III	130	Diesel	Air Compressor, PERP RN 153516	202.F.2
9320	334 6th St	4097	Caterpillar	C4.4	APKXL04.4NJ1/III	130	Diesel	Air Compressor, PERP RN 153517	202.F.2
10711	433 Herado Ave	762	Teledyne Continental	TMD-20	0	32.5	Diesel	Generator	202.F.1.e
10715	416 Washington Ave	4294	Caterpillar	C2.2	BH3XL2.22N4T/I-IV	60	Diesel	Other, PERP RN 157631	202.F.2

Building Number	Equipment Location	Operator ID	Make	Model	EPA Family Name/Tier	Rating (bhp)	Fuel	Category	Basis for Exemption
10715	416 Washington Ave	3902	John Deere	4045DF150B	3JDXL04.8046/I	78	Diesel	Air Compressor, TSE RN 101091	202.F.2
10715	416 Washington Ave	703412	John Deere	4045TF275	6JDXL06.8082	110	Diesel	Generator, TSE RN 101091	202.F.2
10717	430 Washington Ave	3892	John Deere	4045DF150B	2JDXL06.8046/I	78	Diesel	Air Compressor, TSE RN 101091	202.F.2
10717	430 Washington Ave	3894	John Deere	4045TF270	5JDXL04.5083/II	99	Diesel	Sweeper, 2nd Engine, TSE RN 101091	202.F.2
10717	430 Washington Ave	4288	John Deere	4045HF280	AJDXL04.5111/III	50	Diesel	Generator, TSE RN 101091	202.F.2
10717	430 Washington Ave	4364	Kubota	V3600-T-ETO2	Unknown	63	Diesel	Water Pump, TSE RN 101091	202.F.2
10717	430 Washington Ave	644516	Kubota	V3600-T-ETO2	Unknown	63	Diesel	Water Pump, TSE RN 101091	202.F.2
12000	867 Washington Ave	3558	Onan	DNAE 4493833	0	16	Diesel	Generator, TSE RN 101091	202.F.1.e and 202.F.4.a
12000	867 Washington Ave	3559	Onan	DNAE 4493833	0	16	Diesel	Generator, TSE RN 101091	202.F.1.e and 202.F.4.a
12000	867 Washington Ave	3644	John Deere	606BTF151 (MEP-806B)	0	134	Diesel	Generator, TSE RN 101091	202.F.2
12000	867 Washington Ave	3808	Yanmar	40E0RZD	0	82	Diesel	Generator, TSE RN 101091	202.F.2
12000	867 Washington Ave	3809	Yanmar	40E0RZD	0	82	Diesel	Generator, TSE RN 101091	202.F.2
12000	867 Washington Ave	4008	John Deere	606BTF151 (MEP-806B)	0	134	Diesel	Generator, TSE RN 101091	202.F.2
12000	867 Washington Ave	4009	John Deere	606BTF151 (MEP-806B)	0	134	Diesel	Generator, TSE RN 101091	202.F.2
12000	867 Washington Ave	3394	Onan	DNAE 4493833	0	16	Diesel	Generator, TSE RN 101091	202.F.1.e and 202.F.4.a
12000	867 Washington Ave	703347	John Deere	6068TF151 (MEP-806B)	2JDXL06.8014	134	Diesel	Generator, TSE RN 101091	202.F.2

NA = Not Applicable

NG = Natural Gas

LPG = Liquefied Propane Gas

RN = Registration Number

**Table 10-2. Permit Exempt External Combustion Equipment**

*Part 70 Permit 13968-R2, Vandenberg Air Force Base*

Building Number	Equipment Location	Operator ID	Make	Model	Model Year	Rating (MMBtu/hr)	Fuel	Type of Unit	Basis for Exemption
75	75 Station Rd	3629	Patterson-Kelley	SN-700	NA	0.7	LPG	Boiler	202.G.1
475	475 Comm Ave	705824	Cleaver Brooks	CFC-700-1500-125HW	NA	1.5	LPG	Boiler	202.G.1
490	490 Arguello Rd	704772	York	TG9S120D16MP11A	NA	0.12	LPG	Boiler	202.G.1
490	490 Arguello Rd	4156	Takag	T-K3	NA	0.199	LPG	Water Heater	202.G.1
542	542 Coast Rd	704775	Duncane	FPBB100A5	NA	0.1	NG	Furnace	202.G.1
542	542 Coast Rd	704778	American Water Heater Co	BFG6140T403NO	NA	0.04	NG	Water Heater	202.G.1
657	657 VHF Rd	981	Lennox	G1404-60-13	NA	0.06	LPG	Furnace	202.G.1
657	657 VHF Rd	676394	Dayton	GF9S060B12UP11J	NA	0.06	LPG	Furnace	202.G.1
660	660 Santa Ynez Ridge Rd	707832	Lochinvar	CHL0502	NA	0.5	NG	Boiler	202.G.1
765	765 Napa Rd	1007	Sterling-Alton	GMIF-50	NA	0.625	NG	Furnace	202.G.1
789	Napa Rd	707833	Lennox	G50UH-60C-110X-05	NA	0.5	NG	Furnace	202.G.1
789	Napa Rd	4333	Rheem	22DV50F	NA	0.038	NG	Water Heater	202.G.1
799	799 Coast Rd	707834	Lochinvar	KBN106	NA	0.105	NG	Boiler	202.G.1
799	799 Coast Rd	707835	Lochinvar	KBN106	NA	0.106	NG	Boiler	202.G.1
799	799 Coast Rd	694968	A.O. Smith	BT 100 300	NA	0.075	NG	Water Heater	202.G.1
840	840 Clark St	4001	Lochinvar	KBN285	NA	0.285	NG	Boiler	202.G.1
840	840 Clark St	4002	Lochinvar	KBN285	NA	0.285	NG	Boiler	202.G.1
848	848 Clark St	3223	Lennox	G16Q5X-100-5	NA	0.1	NG	Furnace	202.G.1
860	860 Clark St	3228	Bryant	376CA V060115	NA	0.115	NG	Furnace	202.G.1
860	860 Clark St	3229	Bryant	376CA V060115	NA	0.115	NG	Furnace	202.G.1
861	891 Clark St	3646	Hydrotherm	KN-6	NA	0.6	NG	Boiler	202.G.1
870	870 Stroop Rd	694919	Lochinvar	KBN400	NA	0.399	NG	Boiler	202.G.1
871	871 Tuttle St	3811	Raypak	H3-0652B	NA	0.65	NG	Boiler	202.G.1
871	871 Tuttle St	698766	Raypak	H7-0700A	NA	0.7	NG	Boiler	202.G.1
875	875 Sweeney Rd	676461	Vangaurd	SA469	NA	0.038	NG	Boiler	202.G.1
875	875 Sweeney Rd	4040	Ajax Boiler	WPG-1050	NA	1.05	NG	Boiler	202.G.1
1335	1335 Koa Rd	3171	Day & Nite	383KA V048111	NA	0.11	LPG	Furnace	202.G.1
1335	1335 Koa Rd	3172	Day & Nite	383KA V048111	NA	0.11	LPG	Furnace	202.G.1
1335	1335 Koa Rd	3173	Day & Nite	383KA V36070	NA	0.11	LPG	Furnace	202.G.1
1335	1335 Koa Rd	3368	Day & Nite	383KA V060111	NA	0.11	LPG	Furnace	202.G.1
1335	1335 Koa Rd	3850	Rheem	RCD156-82-1	NA	0.156	NG	Water Heater	202.G.1
1338	1338 Koa Rd	3216	Markel	HFSF	NA	0.1	LPG	Furnace	202.G.1
1350	Koa Rd	4347	York	P4HUB12L08001B	NA	0.1	LPG	Furnace	202.G.1
1350	Koa Rd	4337	Rheem	42VR40-34PF	NA	0.034	LPG	Water Heater	202.G.1
1506	1559 Tonto Rd	4086	Raypak	H7-0753	NA	0.299	NG	Boiler	202.G.1
1506	1559 Tonto Rd	4087	Raypak	H7-0753	NA	0.299	NG	Boiler	202.G.1

Building Number	Equipment Location	Operator ID	Make	Model	Model Year	Rating (MMBtu/hr)	Fuel	Type of Unit	Basis for Exemption
1521	1521 Taco Rd	3116	Lennox	G23Q5/6-125-1	NA	0.125	LPG	Furnace	202.G.1
1521	1521 Taco Rd	3117	Lennox	G23Q5/6-125-1	NA	0.125	LPG	Furnace	202.G.1
1530	1530 Rollo Rd	3217	Payne	PH8UAA036065	NA	0.066	NG	Furnace	202.G.1
1544	1544 35th St	3230	Payne	U-FURNACE-NATURAL GAS-BLDG 1544	NA	0.78	NG	Furnace	202.G.1
1545	1545 35th St	3224	Teledyne Laars	HH0320MN20CCA KXX	NA	0.32	NG	Boiler	202.G.1
1545	1545 35th St	3225	Teledyne Laars	HH0320MN20CCA KXX	NA	0.32	NG	Boiler	202.G.1
1546	1546 Talo Rd	698361	Bradford White	URGI40T6N	NA	0.034	NG	Water Heater	202.G.1
1546A	1546A Talo Rd	3986	Patterson-Kelley	N2000-MFD	NA	2	NG	Boiler	202.G.1
1546B	1546B Talo Rd	3987	Patterson-Kelley	N2000-MFD	NA	2	NG	Boiler	202.G.1
1555	1555 Talo Rd	3653	Raypak	H3-0652A	NA	0.65	NG	Boiler	202.G.1
1555	1555 Talo Rd	3652	Raypak	H8-0992A	NA	0.99	NG	Boiler	202.G.1
1555	1555 Talo Rd	4179	American Proline	FG6140T403N0	NA	0.036	NG	Water Heater	202.G.1
1555	1555 Talo Rd	4180	Bradford White	G52-40T34-3N	NA	0.036	NG	Water Heater	202.G.1
1559	1559 Tonto Rd	697049	Rbi-Dominator	DB400	NA	0.399	NG	Boiler	202.G.1
1559	1559 Tonto Rd	1032	Lochinvar	CBN1210	NA	1.21	NG	Boiler	202.G.1
1559	1559 Tonto Rd	658416	Bradford White	U140T6FRN	NA	0.04	NG	Water Heater	202.G.1
1577	1577 May Rd	910	Lennox	G14Q4-5-100-6	NA	0.1	LPG	Furnace	202.G.1
1579	1579 June Rd	707836	Lennox	G61MP-60C-111-09	NA	0.1	LPG	Furnace	202.G.1
1610	1610 Tangair Rd	913	Raypak	H8-0992	NA	0.99	LPG	Boiler	202.G.1
1610	1610 Tangair Rd	912	Raypak	H8-0992	NA	0.99	LPG	Boiler	202.G.1
1628	1628 Aero Rd	676712	York	DH036N014N2AAA 1A	NA	0.05	LPG	Furnace	202.G.1
1628	1628 Aero Rd	676538	Carrier	CNRVT4821ACAABAA	NA	0.08	LPG	Furnace	202.G.1
1628	1628 Aero Rd	676539	Carrier	CNRVT4821ACAABAA	NA	0.08	LPG	Furnace	202.G.1
1628	1628 Aero Rd	707998	York	CNRVT4821ACAAAAA	NA	0.08	LPG	Furnace	202.G.1
1628	1628 Aero Rd	676540	Carrier	CNRVT6024ACAABAA	NA	0.1	LPG	Furnace	202.G.1
1628	1628 Aero Rd	676719	York	DHUC-TO36N100A	NA	0.1	LPG	Furnace	202.G.1
1628	1628 Aero Rd	676722	York	DHUC-TO36N100A	NA	0.1	LPG	Furnace	202.G.1
1628	1628 Aero Rd	707999	York	DH036N014N2AAA 1A	NA	0.1	LPG	Furnace	202.G.1
1628	1628 Aero Rd	707800	Bradford White	U440T6FRN	NA	0.04	LPG	Water Heater	202.G.1
1632	1632 Tangair Rd	3120	Reznor	TR125	NA	0.125	LPG	Furnace	202.G.1
1632	1632 Tangair Rd	3203	Reznor	TR125	NA	0.125	LPG	Furnace	202.G.1
1659	1659 Mono Rd	3235	Lennox	G23Q5/6-150-4	NA	0.15	LPG	Furnace	202.G.1
1705	173 Airfield Rd	700460	Carrier	58STX135-16	NA	0.132	NG	Furnace	202.G.1
1705	173 Airfield Rd	701731	American Water Heater Co	G62-40T34-3N	NA	0.034	NG	Water Heater	202.G.1
1707	185 Airfield Rd	701732	Bradford White	M440T6FBN	NA	0.04	NG	Water Heater	202.G.1
1728	302 Airfield Rd	3951	Lochinvar	CHN751	NA	0.75	NG	Boiler	202.G.1
1728	302 Airfield Rd	3833	A.O. Smith	FCG-100 300	NA	0.075	NG	Water Heater	202.G.1

Building Number	Equipment Location	Operator ID	Make	Model	Model Year	Rating (MMBtu/hr)	Fuel	Type of Unit	Basis for Exemption
1731	320 Airfield Rd	3654	Raypak	H3-0752A	NA	0.75	NG	Boiler	202.G.1
1731	320 Airfield Rd	708767	Rheem	40T06EN38U0	NA	0.038	NG	Water Heater	202.G.1
1735	325 Airfield Rd	713406	Bradford White	URG240T6N	NA	0.01	NG	Water Heater	202.G.1
1737	340 Airfield Rd	694920	Patterson-Kelley	N1000-MFD	NA	1	NG	Boiler	202.G.1
1737	340 Airfield Rd	694969	Patterson-Kelley	N1000-MFD	NA	1	NG	Boiler	202.G.1
1737	340 Airfield Rd	929	American Standard	GSI-40T34-3N	NA	0.034	NG	Water Heater	202.G.1
1737	340 Airfield Rd	4056	A.O. Smith	FGR 40 248E	NA	0.038	NG	Water Heater	202.G.1
1740	359 Airfield Rd	3236	Day & Nite	376C	NA	0.074	NG	Furnace	202.G.1
1740	359 Airfield Rd	3282	Reznor	TR75	NA	0.075	NG	Furnace	202.G.1
1740	359 Airfield Rd	3281	Reznor	HCRGB175-S	NA	0.15	NG	Furnace	202.G.1
1740	359 Airfield Rd	3988	A.O. Smith	FCG 100 300	NA	0.751	NG	Water Heater	202.G.1
1743	355 Airfield Rd	3923	Raypak	H3-0302B	NA	0.3	NG	Boiler	202.G.1
1743	355 Airfield Rd	3924	Raypak	H3-0302B	NA	0.3	NG	Boiler	202.G.1
1743	355 Airfield Rd	4057	Bradford White	M4403T6EN12	NA	0.04	NG	Water Heater	202.G.1
1746	373 Airfield Rd	4151	American Water Heater Co	G61-40T34-3N	NA	0.034	NG	Water Heater	202.G.1
1749	391 Airfield Rd	698205	Reznor	UDAS-75	NA	0.075	NG	Furnace	202.G.1
1749	391 Airfield Rd	698206	Reznor	UDAS-75	NA	0.075	NG	Furnace	202.G.1
1749	391 Airfield Rd	698207	Reznor	UDAS-75	NA	0.075	NG	Furnace	202.G.1
1749	391 Airfield Rd	698208	Reznor	UDAS-75	NA	0.075	NG	Furnace	202.G.1
1749	391 Airfield Rd	3238	Lennox	GS11D2100	NA	0.08	NG	Furnace	202.G.1
1749	391 Airfield Rd	947	Lennox	GS11D2100	NA	0.1	NG	Furnace	202.G.1
1749	391 Airfield Rd	658417	Bradford White	U140T6FRN	NA	0.04	NG	Water Heater	202.G.1
1785	1785 13th St	3239	Payne	395CA V048091	NA	0.088	LPG	Furnace	202.G.1
1785	1785 13th St	950	Lennox	G14Q3-80-2	NA	0.85	LPG	Furnace	202.G.1
1800	150 Taurus Rd	3942	Patterson-Kelley	N2000-MFD	NA	1.999	LPG	Boiler	202.G.1
1806	1806 Taurus Rd	4289	Parker Boiler Co.	G672RL	NA	0.672	LPG	Boiler	202.G.1
1810	1810 El Rancho Rd	656947	Dayton	3E407D	NA	0.06	LPG	Furnace	202.G.1
1810	1810 El Rancho Rd	657188	Dayton	3E407D	NA	0.06	LPG	Furnace	202.G.1
1810	1810 El Rancho Rd	3123	Tempstar	NTC5125BKB2	NA	0.125	LPG	Furnace	202.G.1
1810	1810 El Rancho Rd	648940	Bradford White	M440T6FSX	NA	0.0436	LPG	Water Heater	202.G.1
1824	1824 Brio Rd	3659	Hydrotherm	AM-150	NA	0.135	LPG	Boiler	202.G.1
1833	1833 Tethys Rd	3660	Hydrotherm	AM-150	NA	0.135	LPG	Boiler	202.G.1
1871	1871 Star Rd	3851	Polaris	PGI0501302PV	NA	0.13	NG	Boiler	202.G.1
1871	1871 Star Rd	3852	Polaris	PGI0501302PV	NA	0.13	NG	Boiler	202.G.1
1871	1871 Star Rd	3853	Polaris	PGI0501302PV	NA	0.13	NG	Boiler	202.G.1
1930	1930 Astral Rd	4356	Lennox	TGLS100C20MP11A	NA	0.1	LPG	Furnace	202.G.1
1930	1930 Astral Rd	714341	Airtemp	VG 7SA 108C- 35C1	NA	1	LPG	Furnace	202.G.1

Building Number	Equipment Location	Operator ID	Make	Model	Model Year	Rating (MMBtu/hr)	Fuel	Type of Unit	Basis for Exemption
1930	1930 Astral Rd	714343	Airtemp	VG 7SA 108C- 35C1	NA	1	LPG	Furnace	202.G.1
1930	1930 Astral Rd	963	American Standard	G52-40T60-4PLPW	NA	0.06	LPG	Water Heater	202.G.1
2500	2500 Arizona Ave	717170	Rbi	SW250	NA	0.25	NG	Boiler	202.G.1
2500	2500 Arizona Ave	3373	Bryan Steam Corp	DR450-W-FDG-LX	NA	0.45	NG	Boiler	202.G.1
2500	2500 Arizona Ave	4071	A.O. Smith	BTR-200-110	NA	0.199	NG	Water Heater	202.G.1
2505	2505 32nd St	3375	Trane	TUD100C945H4	NA	0.1	NG	Furnace	202.G.1
2530	2530 Arizona	703348	A.O. Smith	BT 100 230	NA	0.075	NG	Water Heater	202.G.1
3000	3000 29th St	703338	Parker Boiler Co.	TC600L	NA	1.9	NG	Boiler	202.G.1
3000	3000 29th St	703339	Parker Boiler Co.	TC600L	NA	1.9	NG	Boiler	202.G.1
5002	Santa Barbara Ave	707837	Dayton	FG9B08012UP11C	NA	0.08	NG	Furnace	202.G.1
5002	Santa Barbara Ave	676740	American	GVF443TV	NA	0.04	NG	Water Heater	202.G.1
5010	Santa Barbara Ave	676752	Carrier	58MSA080--1--20	NA	0.08	NG	Furnace	202.G.1
5010	Santa Barbara Ave	707838	A.O. Smith	BTN 200 108	NA	0.2	NG	Water Heater	202.G.1
6005	6005 Santa Barbara Ave	3219	Rheem	RGDD-08NE-GR	NA	0.08	NG	Furnace	202.G.1
6005	6005 Santa Barbara Ave	4290	American Water Heater Co	CG32-75T75-4NOV	NA	0.075	NG	Water Heater	202.G.1
6015	6015 Santa Barbara Ave	4221	Dayton	FG9B08012UP11C	NA	0.075	NG	Furnace	202.G.1
6015	6015 Santa Barbara Ave	4338	Bradford White	M4403T6EN12	NA	0.04	NG	Water Heater	202.G.1
6419	6419 15th St	3666	Laars Heating Systems	JVS100NDJS	NA	0.1	NG	Boiler	202.G.1
6444	351 14th St	3244	Tempstar	GNJ075M16C1	NA	0.075	NG	Furnace	202.G.1
6447	6447 14th St	4222	Payne	PG8JAA048090ADJA	NA	0.088	NG	Furnace	202.G.1
6447	6447 14th St	676761	Munching Contender	MC-50	NA	0.05	NG	Water Heater	202.G.1
6510	85 13th St	4058	Raypak	H3-0752B	NA	0.75	NG	Boiler	202.G.1
6510	85 13th St	676770	Carrier	58MSA080--2--20	NA	0.08	NG	Furnace	202.G.1
6523	137 13th St	714349	Bradford White	URGI40T6N	NA	0.034	NG	Water Heater	202.G.1
6523	137 13th St	714348	Raypak	H7-108AR-PS	NA	0.11	NG	Boiler	202.G.1
6523	137 13th St	707930	Raypak	H7-850A	NA	0.85	NG	Boiler	202.G.1
6523	137 13th St	708039	Raypak	H7-850A	NA	0.85	NG	Boiler	202.G.1
6523	137 13th St	676790	American Water Heater Co	DCG31100S1996N	NA	0.199	NG	Water Heater	202.G.1
6525	105 13th St	676800	American Appliance Mfg Co	DSID250-100-1	NA	0.25	NG	Water Heater	202.G.1
6527	65 13th St	3810	Raypak	H3-0652B	NA	0.65	NG	Boiler	202.G.1
6601	1785 Utah Ave	661827	Raypak	H7-0500A	NA	0.5	NG	Boiler	202.G.1
6601	1785 Utah Ave	664578	Raypak	H7-2004A	NA	1.99	NG	Boiler	202.G.1
6601	1785 Utah Ave	3376	Lennox	G14Q4-80-6	NA	0.088	NG	Furnace	202.G.1
6601	1785 Utah Ave	3667	American Water Heater Co	CG32-75T75-4NV	NA	0.0751	NG	Water Heater	202.G.1
6601	1785 Utah Ave	4282	American Water Heater Co	CG32-75T75-4NOV	NA	0.0751	NG	Water Heater	202.G.1
6607	1761 Utah Ave	704769	American Water Heater Co	BFG6140T403N0	NA	0.04	NG	Water Heater	202.G.1
6607	1761 Utah Ave	704767	Rheem	RGD05NAUER	NA	0.05	NG	Water Heater	202.G.1

Building Number	Equipment Location	Operator ID	Make	Model	Model Year	Rating (MMBtu/hr)	Fuel	Type of Unit	Basis for Exemption
6670	1655 Utah Ave	4121	Patterson-Kelley	N2000-MFD	NA	2	NG	Boiler	202.G.1
6670	1655 Utah Ave	4122	Patterson-Kelley	N2000-MFD	NA	2	NG	Boiler	202.G.1
6670	1655 Utah Ave	657189	Rheem	GNU100-250	NA	0.25	NG	Water Heater	202.G.1
6710	32 13th St	3989	Raypak	H3-0401	NA	0.375	NG	Boiler	202.G.1
6710	32 13th St	4182	American	G62 40T34-3N	NA	0.034	NG	Water Heater	202.G.1
6816	6816 Igloo Rd	2619	Air-Fan	KE3-112	NA	0.2	NG	Furnace	202.G.1
6817	50 13th St	4339	Lochinvar	CHN0502	NA	0.5	NG	Boiler	202.G.1
7011	826 13th St	4068	Cleaver Brooks	CFC-700-750-60HW	NA	1.5	NG	Boiler	202.G.1
7015	806 13th Street	698107	Bradford White	D100L199E3N	NA	0.199	NG	Water Heater	202.G.1
7025	1602 California	708770	Patterson-Kelley	C1050	NA	1.05	NG	Boiler	202.G.1
7025	1602 California	708771	Patterson-Kelley	C1050	NA	1.05	NG	Boiler	202.G.1
7050	818 13th St	3627	Ajax Boiler	WPG1050	NA	1	NG	Boiler	202.G.1
7050	818 13th St	3628	Ajax Boiler	WPG1050	NA	1	NG	Boiler	202.G.1
7403	393 10th St	698034	Raypak	D1150600292	NA	0.6	NG	Boiler	202.G.1
7403	393 10th St	701733	Bradford White	M4403T6EN12	NA	0.04	NG	Water Heater	202.G.1
7403	393 10th St	676807	Bradford White	58MSA080-2-20	NA	0.08	NG	Water Heater	202.G.1
7420	340 10th St	676815	York	P4HUC20L08001A	NA	0.1	NG	Furnace	202.G.1
7420	340 10th St	676816	York	P4HUC20L08001A	NA	0.1	NG	Furnace	202.G.1
7420	340 10th St	676817	Bradford White	MI40T6EN12	NA	0.04	NG	Water Heater	202.G.1
7425	836 10th Street	698138	Raypak	H7-0500A	NA	0.5	NG	Boiler	202.G.1
7425	836 10th Street	698139	Raypak	H7-0500A	NA	0.5	NG	Boiler	202.G.1
7425	386 10th St	676818	Bradford White	M4403T6EN12	NA	0.04	NG	Water Heater	202.G.1
7430	348 8th St	3379	Carrier	58XXC120-LG	NA	0.135	NG	Furnace	202.G.1
7430	348 8th St	3378	Reznor	HXC225-6-S-2-E	NA	0.2	NG	Furnace	202.G.1
7437	1556 New Mexico Ave	1053	Ajax Boiler	WG-350	NA	0.35	NG	Boiler	202.G.1
7437	1556 New Mexico Ave	3941	Ajax Boiler	WRFG-840	NA	0.84	NG	Boiler	202.G.1
7437	1556 New Mexico Ave	676819	Bradford White	M440T6FBN	NA	0.04	NG	Water Heater	202.G.1
7501	172 10th St	3812	Lochinvar	CHN651	NA	0.65	NG	Boiler	202.G.1
7501	172 10th St	3813	Lochinvar	CHN651	NA	0.65	NG	Boiler	202.G.1
7501	172 10th St	3855	Bradford White	G52-40T34-3N	NA	0.034	NG	Water Heater	202.G.1
7523	156th 10th Street	4060	Raypak	H7-2003	NA	1.999	NG	Boiler	202.G.1
7523	156th 10th Street	4061	Raypak	H7-2003	NA	1.999	NG	Boiler	202.G.1
7525	1579 Utah Ave	3919	American Water Heater Co	PG1034-100-2NV	NA	0.1	NG	Water Heater	202.G.1
8173	1524 Nevada Ave	4319	Raypak	H7-2003	NA	1.999	NG	Boiler	202.G.1
8173	1524 Nevada Ave	657191	Dristeam	GTS99-400-DI	NA	0.4	NG	Steam Humidifier	202.G.1
8173	1524 Nevada Ave	659960	Dristeam	GTS99-400-DI	NA	0.4	NG	Steam Humidifier	202.G.1
8173	1524 Nevada Ave	698745	Bradford White	ULG275H763N	NA	0.076	NG	Water Heater	202.G.1

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8175	1520 Nevada Ave	3677	Hydrotherm	AM-300	NA	0.299	NG	Boiler	202.G.1
8175	1520 Nevada Ave	704761	Raypak	WH1-0402	NA	0.399	NG	Boiler	202.G.1
8175	1520 Nevada Ave	701734	Rheem	G75-75N-2	NA	0.0751	NG	Water Heater	202.G.1
8195	1522 Nevada Ave	4020	Laars Heating Systems	PNCH1000NACN2CXN	NA	0.99996	NG	Boiler	202.G.1
8195	1522 Nevada Ave	698399	Bradford White	URGI40T6N	NA	0.034	NG	Water Heater	202.G.1
8250	1529 California Blvd	3680	Hydrotherm	AM-300	NA	0.299	NG	Boiler	202.G.1
8250	1529 California Blvd	3826	Hydrotherm	AM-300	NA	0.299	NG	Boiler	202.G.1
8290	1472 Nevada Ave	4184	Raypak	H9-1262B	NA	1.262	NG	Boiler	202.G.1
8290	1472 Nevada Ave	3682	American Appliance Mfg Co	DSID199-85-1	NA	0.199	NG	Water Heater	202.G.1
8305	385 8th St	3683	Ajax Boiler	WNG-350	NA	0.35	NG	Boiler	202.G.1
8305	385 8th St	676821	American	ESG 41	NA	0.033	NG	Water Heater	202.G.1
8305	385 8th St	701735	Bradford White	U140T6FRN	NA	0.04	NG	Water Heater	202.G.1
8310	351 8th St	2627	Fulton Pulse Combust	PHW 1000	NA	1	NG	Boiler	202.G.1
8310	351 8th St	2670	Fulton Pulse Combust	PHW 1000	NA	1	NG	Boiler	202.G.1
8310	351 8th St	695764	Fulton Pulse Combust	PHW-1000LE	NA	1	NG	Boiler	202.G.1
8310	351 8th St	653777	Vangaurd	6E763	NA	0.0343	NG	Water Heater	202.G.1
8310	351 8th St	3684	A.O. Smith	BTR200 104	NA	0.16	NG	Water Heater	202.G.1
8312	376 8th St	4308	Comfort Aire	GMUH125-E5A	NA	0.125	NG	Furnace	202.G.1
8312	376 8th St	4309	Comfort Aire	GMUH125-E5A	NA	0.125	NG	Furnace	202.G.1
8312	376 8th St	4219	A.O. Smith	FGR40240	NA	0.038	NG	Water Heater	202.G.1
8314	374 8th St	4025	Patterson-Kelley	N750-MFD	NA	0.75	NG	Boiler	202.G.1
8314	374 8th St	4026	Patterson-Kelley	N750-MFD	NA	0.75	NG	Boiler	202.G.1
8314	374 8th St	3857	American Water Heater Co	G62-40T34-3N	NA	0.034	NG	Water Heater	202.G.1
8317	344 8th Street	701736	Bradford White	G52-40T34-3N	NA	0.034	NG	Water Heater	202.G.1
8337	321 6th St	3630	Patterson-Kelley	N-700	NA	0.7	NG	Boiler	202.G.1
8337	321 6th St	3631	Patterson-Kelley	N-700	NA	0.7	NG	Boiler	202.G.1
8337	321 6th St	1066	Raypak	H0824A CCCRCBX	NA	0.825	NG	Boiler	202.G.1
8337	321 6th St	676822	Bradford White	M440T6FBN	NA	0.04	NG	Water Heater	202.G.1
8339	308 8th St	4185	American Water Heater Co	G61-40T34-3N	NA	0.034	NG	Water Heater	202.G.1
8401	1521 Utah Ave	648903	Raypak	H7-0300A	NA	0.3	NG	Boiler	202.G.1
8401	1521 Utah Ave	648927	Raypak	H7-0300A	NA	0.3	NG	Boiler	202.G.1
8401	1521 Utah Ave	4043	Raypak	H7-1503	NA	1.5	NG	Boiler	202.G.1
8401	1521 Utah Ave	4044	Raypak	H7-1503	NA	1.5	NG	Boiler	202.G.1
8415	178 8th St	1073	Ajax Boiler	WGB-1750	NA	1.75	NG	Boiler	202.G.1
8425	1411 Utah Ave	3382	Lennox	G20Q5/6X-100-7	NA	0.08	NG	Furnace	202.G.1
8425	1411 Utah Ave	3383	Lennox	G20Q5/6X-100-7	NA	0.1	NG	Furnace	202.G.1
8500	1515 Iceland Ave	4088	Raypak	H7-2003	NA	1.999	NG	Boiler	202.G.1

Building Number	Equipment Location	Operator ID	Make	Model	Model Year	Rating (MMBtu/hr)	Fuel	Type of Unit	Basis for Exemption
8500	1515 Iceland Ave	4089	Raypak	H7-2003	NA	1.999	NG	Boiler	202.G.1
8500	1515 Iceland Ave	3745	Bradford White	D100L1993N	NA	0.199	NG	Water Heater	202.G.1
8500	1515 Iceland Ave	3858	American Water Heater Co	DCG31100S1996N	NA	0.199	NG	Water Heater	202.G.1
8505	1539 Iceland Ave	3688	American Appliance Mfg Co	DSID250-100	NA	0.25	NG	Water Heater	202.G.1
8510	1521 Iceland Ave	4069	Patterson-Kelley	N-750MFD	NA	0.75	NG	Boiler	202.G.1
8510	1521 Iceland Ave	4070	Patterson-Kelley	N-750MFD	NA	0.75	NG	Boiler	202.G.1
8510	1521 Iceland Ave	4331	American Water Heater Co	G62-40T34-3N	NA	0.034	NG	Water Heater	202.G.1
8510	1521 Iceland Ave	714347	General Electric	GG40T06TXK00	NA	0.038	NG	Water Heater	202.G.1
9005	725 Washington Ave	3861	Lochinvar	EWN150PM	NA	0.15	NG	Boiler	202.G.1
9005	725 Washington Ave	3862	Lochinvar	EWN150PM	NA	0.15	NG	Boiler	202.G.1
9005	725 Washington Ave	3859	Lochinvar	CBN0745	NA	0.745	NG	Boiler	202.G.1
9005	725 Washington Ave	3860	Lochinvar	CBN0745	NA	0.745	NG	Boiler	202.G.1
9190	1382 Nevada Ave	676823	Patterson-Kelley	C-300LNX	NA	0.3	NG	Boiler	202.G.1
9190	1382 Nevada Ave	709144	AO Smith	BTH-400A300	NA	0.399	NG	Boiler	202.G.1
9190	1382 Nevada Ave	4186	Patterson-Kelley	C-300LNX	NA	0.3	NG	Boiler	202.G.1
9192	1390 Nevada Ave	676358	Raypak	WH7-0300A	NA	0.3	NG	Boiler	202.G.1
9192	1390 Nevada Ave	676359	Raypak	WH7-0300A	NA	0.3	NG	Boiler	202.G.1
9192	1390 Nevada Ave	676360	Raypak	H7-0500A	NA	0.5	NG	Boiler	202.G.1
9192	1390 Nevada Ave	676361	Raypak	H7-0500A	NA	0.5	NG	Boiler	202.G.1
9307	356 6th St	3697	Raypak	H3-0902	NA	0.9	NG	Boiler	202.G.1
9307	356 6th St	676824	Bradford White	U15036FRN	NA	0.04	NG	Water Heater	202.G.1
9320	334 6th St	3636	Lochinvar	CBN1796	NA	1.79	NG	Boiler	202.G.1
9320	334 6th St	676825	Modine	HFG400AMRHN23F2	NA	0.2	NG	Furnace	202.G.1
9320	344 6th St	694974	Bradford White	U140T6FRN	NA	0.04	NG	Water Heater	202.G.1
9334	360 6th St	3698	Raypak	WH3-0502	NA	0.5	NG	Boiler	202.G.1
9334	360 6th St	4190	American Water Heater Co	FGI40T403NO	NA	0.04	NG	Water Heater	202.G.1
9340	372 6th St	3621	Trane	YCD150D4L0AA	NA	0.15	NG	Furnace	202.G.1
9340	372 6th St	3623	Trane	YCD150C4L0BB	NA	0.15	NG	Furnace	202.G.1
9340	372 6th St	3624	Trane	YCH180BN4L0DE	NA	0.25	NG	Furnace	202.G.1
9340	372 6th St	3622	Trane	BYC130G4H0DA	NA	0.3	NG	Furnace	202.G.1
9340	372 6th St	694975	Trane	Y1A C060A4RLA	NA	0.06	NG	Furnace	202.G.1
9340	372 6th St	701725	Trane	YHC060A4RLAIM	NA	0.6	NG	Furnace	202.G.1
9340	372 6th St	3247	Reznor	HCRGB75-5-2	NA	0.75	NG	Furnace	202.G.1
9340	372 6th St	3625	Trane	BYC060F4L0BB	NA	0.875	NG	Furnace	202.G.1
9340	372 6th St	4191	American Water Heater Co	GVF433TN	NA	0.033	NG	Water Heater	202.G.1
9340	372 6th St	4192	Rheem	82V40-2	NA	0.033	NG	Water Heater	202.G.1
9340	372 6th St	4193	A.O. Smith	FCGI00270	NA	0.04	NG	Water Heater	202.G.1

Building Number	Equipment Location	Operator ID	Make	Model	Model Year	Rating (MMBtu/hr)	Fuel	Type of Unit	Basis for Exemption
9340	372 6th St	3863	A.O. Smith	FCG 100 270	NA	0.075	NG	Water Heater	202.G.1
9360	1318 New Mexico Ave	698360	Raypak	H3-HD301	NA	0.299	NG	Boiler	202.G.1
9360	1318 New Mexico Ave	676826	Bradford White	U140T6FRN	NA	0.04	NG	Water Heater	202.G.1
10122	706 Washington Ave	694976	Trane	TUEID140A9601AD	NA	0.14	NG	Furnace	202.G.1
10122	706 Washington Ave	676827	Reznor	SCE175-6	NA	0.175	NG	Furnace	202.G.1
10122	706 Washington Ave	3250	Lennox	G20Q5/6X-100-7	NA	0.1	NG	Furnace	202.G.1
10122	706 Washington Ave	676828	Reznor	SSCBL400-6-S-2	NA	0.4	NG	Furnace	202.G.1
10122	706 Washington Ave	4194	A.O. Smith	FGR75232	NA	0.075	NG	Water Heater	202.G.1
10130	737 Washington Ave	676831	Green Heck	IG-109-H10-HZ	NA	0.075	NG	Furnace	202.G.1
10130	737 Washington Ave	676836	Trane	YHC072A4RYA2TD1B0A0A20600	NA	0.12	NG	Furnace	202.G.1
10130	737 Washington Ave	676837	Trane	YHC072A4RYA2TD1B0A0A20600	NA	0.12	NG	Furnace	202.G.1
10130	737 Washington Ave	676829	Green Heck	IGX-110-H12-HZ	NA	0.1	NG	Furnace	202.G.1
10130	737 Washington Ave	676830	Green Heck	IGX-112-H22-HZ	NA	0.2	NG	Furnace	202.G.1
10130	737 Washington Ave	676832	Green Heck	IG-112-H20-HZ	NA	0.2	NG	Furnace	202.G.1
10130	737 Washington Ave	676833	Green Heck	IG-112-H20-HZ	NA	0.2	NG	Furnace	202.G.1
10130	737 Washington Ave	676834	Trane	YHC092A4RZA2YD1B0A0A20600	NA	0.2	NG	Furnace	202.G.1
10130	737 Washington Ave	676835	Trane	YHC092A4RZA2YD1B0A0A20600	NA	0.12	NG	Furnace	202.G.1
10130	737 Washington Ave	694977	Trane	YHC092A4RZA2YD1B0A0A20600	NA	0.2	NG	Furnace	202.G.1
10130	737 Washington Ave	4295	Riverside Hydronics	2000W	NA	2	NG	Water Heater	202.G.1
10144	712 Washington Ave	656862	Raypak	P-2005	NA	1.5	NG	Boiler	202.G.1
10144	712 Washington Ave	656863	Raypak	P-2005	NA	1.5	NG	Boiler	202.G.1
10144	712 Washington Ave	658900	Bradford White	T65693N	NA	0.065	NG	Water Heater	202.G.1
10144	712 Washington Ave	658898	Takag	T-M50-N	NA	0.38	NG	Water Heater	202.G.1
10250	100 Alaska	694980	Reznor	FE50	NA	0.5	NG	Furnace	202.G.1
10250	100 Alaska	694981	Reznor	FE50	NA	0.5	NG	Furnace	202.G.1
10250	100 Alaska	694982	Reznor	FE50	NA	0.5	NG	Furnace	202.G.1
10250	100 Alaska	694983	Reznor	FE50	NA	0.5	NG	Furnace	202.G.1
10260	101 Community Loop	3351	Reznor	5CE125-6-5	NA	0.125	NG	Furnace	202.G.1
10314	1206 California Blvd	656935	Bradford White	M2XR75S6BN	NA	0.07645	NG	Water Heater	202.G.1
10317	1204 California Blvd	676839	Trane	TUD1C100A9601AB	NA	0.01	NG	Furnace	202.G.1
10317	1204 California Blvd	694984	Trane	TUD1C100A9601AB	NA	0.1	NG	Furnace	202.G.1
10317	1204 California Blvd	711980	Bradford White	URG240T6N	NA	0.04	NG	Water Heater	202.G.1
10343	718 Community Loop	3252	Lennox	G50UH-60C-110X-07	NA	0.11	NG	Furnace	202.G.1
10343	718 Community Loop	3253	Lennox	G50UH-60C-110X-07	NA	0.11	NG	Furnace	202.G.1
10343	718 Community Loop	2614	Modine	DFG300SFRNN10A 1	NA	0.3	NG	Furnace	202.G.1
10343	718 Community Loop	2615	Modine	DFG300SFRNN10A 1	NA	0.3	NG	Furnace	202.G.1
10343	718 Community Loop	706526	Bradford White	URG240T6N	NA	0.04	NG	Water Heater	202.G.1

Building Number	Equipment Location	Operator ID	Make	Model	Model Year	Rating (MMBtu/hr)	Fuel	Type of Unit	Basis for Exemption
10363	720 Community Loop	676842	Lennox	G50UH-60C-110X-05	NA	0.11	NG	Furnace	202.G.1
10363	720 Community Loop	3355	Lennox	G20Q3/4X-125-3	NA	0.125	NG	Furnace	202.G.1
10363	720 Community Loop	3356	Lennox	G20Q3/4X-125-3	NA	0.125	NG	Furnace	202.G.1
10363	720 Community Loop	676841	Lennox	G20Q3/4X-125-7	NA	0.125	NG	Furnace	202.G.1
10364	722 Community Loop	4197	Vangaurd	5A U69	NA	0.038	NG	Water Heater	202.G.1
10366	730 Community Loop	3871	Accutemp	GF1201B4800	NA	0.095	NG	Food Prep Burner	202.K.1
10366	730 Community Loop	694988	Unknown	U-BURNER-NATURAL GAS-BLDG 10366	NA	0.095	NG	Food Prep Burner	202.G.1
10366	730 Community Loop	3287	Bryant	395CA V060111	NA	0.11	NG	Furnace	202.G.1
10366	730 Community Loop	694985	Bryant	395CA V060111	NA	0.11	NG	Furnace	202.G.1
10366	730 Community Loop	694986	Bryant	395CA V060111	NA	0.11	NG	Furnace	202.G.1
10366	730 Community Loop	3353	Lennox	G16Q5X-100-5	NA	0.1	NG	Furnace	202.G.1
10366	730 Community Loop	3354	Lennox	G16Q5X-100-5	NA	0.1	NG	Furnace	202.G.1
10366	730 Community Loop	694987	Bradford White	U140T6FRN	NA	0.04	NG	Water Heater	202.G.1
10366	730 Community Loop	3865	A.O. Smith	FCG 100 270	NA	0.075	NG	Water Heater	202.G.1
10373	724 Community Loop	3357	Lennox	G20Q5/6X-100-2	NA	0.1	NG	Furnace	202.G.1
10373	724 Community Loop	4202	A.O. Smith	40248E	NA	0.038	NG	Water Heater	202.G.1
10375	CoastHills Credit Union	676849	Carrier	48GSN036060511--	NA	0.06	NG	Furnace	202.G.1
10375	CoastHills Credit Union	676843	Lennox	TGA090H2B	NA	0.13	NG	Furnace	202.G.1
10375	CoastHills Credit Union	676844	Lennox	TGA090H2B	NA	0.13	NG	Furnace	202.G.1
10375	CoastHills Credit Union	676846	Lennox	TGA090H2B	NA	0.13	NG	Furnace	202.G.1
10400	728 Community Loop	3701	Ajax Boiler	WFG-800-LN	NA	0.8	NG	Boiler	202.G.1
10503	711 Nebraska Ave	4000	Raypak	WH1-0402	NA	0.399	NG	Boiler	202.G.1
10503	711 Nebraska Ave	4203	Bradford White	M4403T6EN12	NA	0.04	NG	Water Heater	202.G.1
10510	1142 California Blvd	1845	Duke	FBB-NC-120	NA	0.096	NG	Boiler	202.G.1
10510	1142 California Blvd	4090	American Standard	BCG380T1506NOX	NA	0.154	NG	Water Heater	202.G.1
10525	723 Nebraska Ave	1099	Ajax Boiler	WGH-850S	NA	0.85	NG	Boiler	202.G.1
10525	723 Nebraska Ave	4340	Vangaurd	5A U69	NA	0.038	NG	Water Heater	202.G.1
10525	723 Nebraska Ave	676854	Bradford White	M440T6FBN	NA	0.04	NG	Water Heater	202.G.1
10577	747 Nebraska Ave	4276	Raypak	H7-0500	NA	0.5	NG	Boiler	202.G.1
10577	747 Nebraska Ave	4277	Raypak	H7-0500	NA	0.5	NG	Boiler	202.G.1
10577	747 Nebraska Ave	4278	Raypak	H7-0500	NA	0.5	NG	Boiler	202.G.1
10577	747 Nebraska Ave	4279	Raypak	H7-0500	NA	0.5	NG	Boiler	202.G.1
10660	1160 New Mexico Ave	707840	Raypak	H3-HD401	NA	0.399	NG	Boiler	202.G.1
10660	1160 New Mexico Ave	707839	American Water Heater Co	BCL3100T1996NOX	NA	0.199	NG	Water Heater	202.G.1
10711	433 Herado Ave	3134	Reznor	HXE350-6	NA	0.35	NG	Furnace	202.G.1
10711	433 Herado Ave	676862	Reznor	PDH350-2	NA	0.35	NG	Furnace	202.G.1
10711	433 Herado Ave	676860	Reznor	PDH400A-2	NA	0.4	NG	Furnace	202.G.1

Building Number	Equipment Location	Operator ID	Make	Model	Model Year	Rating (MMBtu/hr)	Fuel	Type of Unit	Basis for Exemption
10711	433 Herado Ave	695630	Weater Rite	TOT-215-HH	NA	0.612	NG	Furnace	202.G.1
10711	433 Herado Ave	676857	Weater Rite	ARTT218HHL	NA	0.855	NG	Furnace	202.G.1
10711	433 Herado Ave	657194	Weater Rite	TOT-218-HH	NA	0.858	NG	Furnace	202.G.1
10711	433 Herado Ave	694989	Weater Rite	TOT-221-HHR	NA	1.6	NG	Furnace	202.G.1
10711	433 Herado Ave	4304	American Water Heater Co	CG32-75T75-4NOV	NA	0.075	NG	Water Heater	202.G.1
10713	431 Herado Ave	657197	Bryant	311JAV066110ADJA	NA	0.11	NG	Furnace	202.G.1
10713	431 Herado Ave	4205	Bradford White	M4403T6EN12	NA	0.04	NG	Water Heater	202.G.1
10715	416 Washington Ave	694990	York	LY85100C20UH11C	NA	0.1	NG	Furnace	202.G.1
10715	416 Washington Ave	700461	York	LY8S100C20UH11C	NA	0.01	NG	Furnace	202.G.1
10715	416 Washington Ave	3358	Western	250-F9A	NA	0.25	NG	Furnace	202.G.1
10717	430 Washington Ave	3359	Caffers-Sattler	U80-3	NA	0.08	NG	Furnace	202.G.1
10717	430 Washington Ave	4206	Bradford White	M4403T6EN12	NA	0.04	NG	Water Heater	202.G.1
10717	430 Washington Ave	713405	Bradford White	URG240T6N	NA	0.04	NG	Water Heater	202.G.1
10728	1251 California Blvd	4321	American	HCG3100T1993N	NA	0.1999	NG	Water Heater	202.G.1
11013	1036 California Blvd	3971	Mestek Inc.	GT-400	NA	0.399	NG	Boiler	202.G.1
11013	1036 California Blvd	706417	Bradford White	URGI40T6N	NA	0.034	NG	Water Heater	202.G.1
11025	964 Utah Ave	4220	American Water Heater Co	BF66140T403NO	NA	0.04	NG	Water Heater	202.G.1
11040	41 Santa Inez Ave	3137	Magic Chef	EG66-55D-5	NA	0.055	NG	Furnace	202.G.1
11040	41 Santa Inez Ave	3138	Magic Chef	EG66-55D-5	NA	0.055	NG	Furnace	202.G.1
11041	71 Santa Inez Ave	676868	Raypak	H7-0500A	NA	0.5	NG	Boiler	202.G.1
11041	71 Santa Inez Ave	676871	Raypak	H7-0500A	NA	0.5	NG	Boiler	202.G.1
11041	41 Santa Inez Ave	4315	Bradford White	M440T6FBN	NA	0.04	NG	Water Heater	202.G.1
11041	71 Santa Inez Ave	676865	Heat Transfer Products	PH199-55	NA	0.199	NG	Water Heater	202.G.1
11041	71 Santa Inez Ave	676866	Heat Transfer Products	PH199-55	NA	0.199	NG	Water Heater	202.G.1
11042	91 Santa Inez Ave	676881	Raypak	H7-0500A	NA	0.5	NG	Boiler	202.G.1
11042	91 Santa Inez Ave	676882	Raypak	H7-0500A	NA	0.5	NG	Boiler	202.G.1
11042	91 Santa Inez Ave	676875	Heat Transfer Products	PH199-55	NA	0.199	NG	Water Heater	202.G.1
11042	91 Santa Inez Ave	676878	Heat Transfer Products	PH199-55	NA	0.199	NG	Water Heater	202.G.1
11070	758 Nebraska Ave	3141	Raypak	W1-0263B-BEDHDAA	NA	0.21648	NG	Boiler	202.G.1
11070	758 Nebraska Ave	657204	Raypak	WH1-HD301	NA	0.299	NG	Boiler	202.G.1
11070	758 Nebraska Ave	704759	Parker Boiler Co.	20L	NA	0.86	NG	Boiler	202.G.1
11070	758 Nebraska Ave	695001	Reznor	RPB225-8-S	NA	0.225	NG	Furnace	202.G.1
11070	758 Nebraska Ave	695002	Reznor	RPB350-8-S	NA	0.35	NG	Furnace	202.G.1
11070	758 Nebraska Ave	695003	Reznor	RPB350-8-S	NA	0.35	NG	Furnace	202.G.1
11070	758 Nebraska Ave	695004	Reznor	RPBL500-8	NA	0.5	NG	Furnace	202.G.1
11070	758 Nebraska Ave	695005	Reznor	RPBL500-8	NA	0.5	NG	Furnace	202.G.1
11070	758 Nebraska Ave	695006	Reznor	RPBL500-8	NA	0.5	NG	Furnace	202.G.1

Building Number	Equipment Location	Operator ID	Make	Model	Model Year	Rating (MMBtu/hr)	Fuel	Type of Unit	Basis for Exemption
11070	758 Nebraska Ave	695007	Reznor	RPB175-8-S	NA	0.175	NG	Furnace	202.G.1
11070	758 Nebraska Ave	695008	Reznor	RPB125-8-S-2-H	NA	0.125	NG	Furnace	202.G.1
11070	758 Nebraska Ave	695009	Reznor	RPB175-8-S	NA	0.175	NG	Furnace	202.G.1
11070	758 Nebraska Ave	695010	Reznor	RPB175-8-S	NA	0.175	NG	Furnace	202.G.1
11070	758 Nebraska Ave	695011	Reznor	RPB175-8-S	NA	0.175	NG	Furnace	202.G.1
11070	758 Nebraska Ave	694992	Reznor	RPB125-8-S	NA	0.125	NG	Furnace	202.G.1
11070	758 Nebraska Ave	694993	Reznor	RPB125-8-S-2-H	NA	0.125	NG	Furnace	202.G.1
11070	758 Nebraska Ave	694997	Reznor	RPB125-8-S-2-H	NA	0.125	NG	Furnace	202.G.1
11070	758 Nebraska Ave	694991	Reznor	RPB175-8-S	NA	0.175	NG	Furnace	202.G.1
11070	758 Nebraska Ave	694994	Reznor	RPB175-8-S	NA	0.175	NG	Furnace	202.G.1
11070	758 Nebraska Ave	694995	Reznor	RPB175-8-S	NA	0.175	NG	Furnace	202.G.1
11070	758 Nebraska Ave	695000	Reznor	RPB175-8-S	NA	0.175	NG	Furnace	202.G.1
11070	758 Nebraska Ave	694996	Reznor	RPB225-8-S	NA	0.25	NG	Furnace	202.G.1
11070	758 Nebraska Ave	694998	Reznor	RPB225-8-S	NA	0.25	NG	Furnace	202.G.1
11070	758 Nebraska Ave	694999	Reznor	RPB225-8-S	NA	0.25	NG	Furnace	202.G.1
11146	1028 Iceland Ave	659343	York	LY8S100C20UH11C	NA	0.1	NG	Furnace	202.G.1
11146	1028 Iceland Ave	659365	York	GY8S160E30UH21C	NA	0.16	NG	Furnace	202.G.1
11146	1028 Iceland Ave	659346	York	GY8S160E30UH21C	NA	0.16	NG	Furnace	202.G.1
11152	301 Guam Ave	3260	Carrier	PG8UAA060111	NA	0.11	NG	Furnace	202.G.1
11165	1207 New Mexico Ave	3360	Bryant	376CA V060115	NA	0.115	NG	Furnace	202.G.1
11165	1207 New Mexico Ave	4341	Bradford White	M4403T6EN12	NA	0.04	NG	Water Heater	202.G.1
11177	Iceland Ave	704017	Bradford White	URGI40T6N	NA	0.034	NG	Water Heater	202.G.1
11248	869 Iceland Ave	3361	Raypak	H1-0263	NA	0.264	NG	Boiler	202.G.1
11248	869 Iceland Ave	4343	American Proline	FG6140T403N0	NA	0.04	NG	Water Heater	202.G.1
11352	247 Nebraska Ave	676888	Raypak	H4-0042R	NA	0.042	NG	Boiler	202.G.1
11352	247 Nebraska Ave	676890	Payne	PG8UAA066111	NA	0.11	NG	Furnace	202.G.1
11352	247 Nebraska Ave	676892	Payne	PG8UAA066111	NA	0.11	NG	Furnace	202.G.1
11352	247 Nebraska Ave	676894	Lennox	ML180UH110XP60C-01	NA	0.11	NG	Furnace	202.G.1
11352	247 Nebraska Ave	4344	Bradford White	M4403T6EN12	NA	0.04	NG	Water Heater	202.G.1
11432	1114 Iceland Ave	676897	Sterling	RTE-100-D	NA	0.085	NG	Furnace	202.G.1
11432	1114 Iceland Ave	676899	Sterling	RTE-100-D	NA	0.085	NG	Furnace	202.G.1
11432	1114 Iceland Ave	676901	Sterling	RTE-100-D	NA	0.085	NG	Furnace	202.G.1
11433	1130 Iceland Ave	4350	Reznor	HCRGB75	NA	0.075	NG	Furnace	202.G.1
11433	1130 Iceland Ave	4351	Reznor	HCRGB75	NA	0.075	NG	Furnace	202.G.1
11433	1130 Iceland Ave	4352	Reznor	HCRGB75	NA	0.075	NG	Furnace	202.G.1
11433	1130 Iceland Ave	4353	Reznor	HCRGB75	NA	0.075	NG	Furnace	202.G.1
11433	1130 Iceland Ave	4354	Reznor	HCRGB75	NA	0.075	NG	Furnace	202.G.1

Building Number	Equipment Location	Operator ID	Make	Model	Model Year	Rating (MMBtu/hr)	Fuel	Type of Unit	Basis for Exemption
11433	1130 Iceland Ave	4355	Reznor	HCRGB75	NA	0.075	NG	Furnace	202.G.1
11433	1130 Iceland Ave	648941	Bradford White	U140T6FRN	NA	0.04	NG	Water Heater	202.G.1
11439	1172 Iceland Ave	3637	Parker Boiler Co.	T760LR	NA	0.76	NG	Boiler	202.G.1
11439	1172 Iceland Ave	676903	Trane	YCP036F3LOAD	NA	0.04	NG	Furnace	202.G.1
11439	1172 Iceland Ave	676904	Trane	YCP036F3LOAD	NA	0.04	NG	Furnace	202.G.1
11439	1172 Iceland Ave	4223	Lennox	G51MP-600-110-08	NA	0.11	NG	Furnace	202.G.1
11439	1172 Iceland Ave	676905	Bradford White	M4403T6EN12	NA	0.036	NG	Water Heater	202.G.1
11442	1115 Iceland Ave	701737	Trane	4Y CZ6060A1120AB	NA	0.12	NG	Furnace	202.G.1
11442	1115 Iceland Ave	701738	Trane	4Y CZ6060A1120AB	NA	0.12	NG	Furnace	202.G.1
11477	1273 Utah Ave	1110	Teledyne Laars	TL80-199NS	NA	0.199	NG	Boiler	202.G.1
11477	1273 Utah Ave	656889	Raypak	WH1-HD251	NA	0.25	NG	Boiler	202.G.1
11510	1209 Utah Ave	676911	York	P4HUC20L09201A	NA	0.115	NG	Furnace	202.G.1
11510	1209 Utah Ave	706527	Bradford White	U130T6FRN	NA	0.032	NG	Water Heater	202.G.1
11777	California Blvd and Utah Ave	3713	Bradford White	M4403T6EN12	NA	0.04	NG	Water Heater	202.G.1
12000	867 Washington Ave	4110	Hydrotherm	KN-10	NA	1	NG	Boiler	202.G.1
12000	867 Washington Ave	4111	Hydrotherm	KN-10	NA	1	NG	Boiler	202.G.1
12006	865 Washington Ave	4346	Pvi	250P125A-TPL	NA	0.199	NG	Water Heater	202.G.1
12901	1102 Buelton Drive	658409	A.O. Smith	BTL 199 104	NA	0.199	NG	Boiler	202.G.1
12901	1102 Buelton Drive	3371	Lennox	G20Q3X-75-7	NA	0.075	NG	Furnace	202.G.1
12901	1102 Buelton Drive	4224	Lennox	G20Q3X-75-7	NA	0.075	NG	Furnace	202.G.1
12903	1104 Buelton Drive	4225	Lennox	G20Q3X-75-7	NA	0.075	NG	Furnace	202.G.1
12903	1104 Buelton Drive	4226	Lennox	G20Q3X-75-7	NA	0.075	NG	Furnace	202.G.1
12903	1104 Buelton Drive	4210	Bradford White	D100L1993N	NA	0.199999	NG	Water Heater	202.G.1
12905	1106 Buelton Drive	4227	Lennox	G20Q3X-75-7	NA	0.075	NG	Furnace	202.G.1
12905	1106 Buelton Drive	4228	Lennox	G20Q3X-75-7	NA	0.075	NG	Furnace	202.G.1
12905	1106 Buelton Drive	676921	American Water Heater Co	CG32-75T75-4NOV	NA	0.0751	NG	Water Heater	202.G.1
12907	1108 Buelton Drive	4229	Lennox	G20Q3X-75-7	NA	0.075	NG	Furnace	202.G.1
12907	1108 Buelton Drive	707841	Bradford White	URGI40T6N	NA	0.034	NG	Water Heater	202.G.1
12911	1103 Buelton Drive	4230	Lennox	G20Q3X-75-7	NA	0.075	NG	Furnace	202.G.1
12911	1103 Buelton Drive	4231	Lennox	G20Q3X-75-7	NA	0.075	NG	Furnace	202.G.1
12911	1103 Buelton Drive	4213	American Appliance	DSID2501001	NA	0.25	NG	Water Heater	202.G.1
12913	1105 Buelton Drive	4232	Lennox	G20Q3X-75-7	NA	0.075	NG	Furnace	202.G.1
12913	1105 Buelton Drive	4233	Lennox	G20Q3X-75-7	NA	0.075	NG	Furnace	202.G.1
12913	1105 Buelton Drive	4214	Bradford White	M475S6CN12	NA	0.075	NG	Water Heater	202.G.1
12915	1107 Buelton Drive	4234	Lennox	G20Q3X-75-7	NA	0.075	NG	Furnace	202.G.1
12915	1107 Buelton Drive	4235	Lennox	G20Q3X-75-7	NA	0.075	NG	Furnace	202.G.1
12915	1107 Buelton Drive	4215	American Appliance	DSID200-100G	NA	0.199	NG	Water Heater	202.G.1

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12915	1107 Buellton Drive	713407	Bradford White	UC6100M2703N	NA	0.27	NG	Water Heater	202.G.1
13001	181 Oregon Ave	3262	Carrier	58WA V091-16	NA	0.088	NG	Furnace	202.G.1
13001	181 Oregon Ave	3263	Carrier	58WA V091-16	NA	0.088	NG	Furnace	202.G.1
13001	181 Oregon Ave	3264	Carrier	58WA V091-16	NA	0.088	NG	Furnace	202.G.1
13001	181 Oregon Ave	3265	Carrier	58WA V091-16	NA	0.088	NG	Furnace	202.G.1
13005	189 Oregon Ave	4314	Reznor	CAUA250-S	NA	0.25	NG	Furnace	202.G.1
13005	189 Oregon Ave	676922	Frazer-Johnson	250-C-33	NA	0.75	NG	Furnace	202.G.1
13007	251 Oregon Ave	1114	Raypak	H1-0624	NA	0.627	NG	Boiler	202.G.1
13007	251 Oregon Ave	3718	A.O. Smith	BTR198100	NA	0.199	NG	Water Heater	202.G.1
13007	251 Oregon Ave	3720	Bradford White	D100L1993N	NA	0.19999	NG	Water Heater	202.G.1
13007	251 Oregon Ave	3719	Bradford White	D100L1993N	NA	0.19999	NG	Water Heater	202.G.1
13022	285 Kansas Ave	3143	Reznor	XE400-8-S-E	NA	0.4	NG	Furnace	202.G.1
13022	285 Kansas Ave	707842	Bradford White	M4403T6EN12	NA	0.036	NG	Water Heater	202.G.1
13121	377 South Dakota Ave	2679	Hydrotherm	AM-300	NA	0.299	NG	Boiler	202.G.1
13121	377 South Dakota Ave	3916	Hydrotherm	AM-300	NA	0.299	NG	Boiler	202.G.1
13121	377 South Dakota Ave	3917	Hydrotherm	AM-300	NA	0.299	NG	Boiler	202.G.1
13121	377 South Dakota Ave	2661	Raypak	W1-0514A-DEDRDAA	NA	0.5119	NG	Boiler	202.G.1
13123	2151 South Dakota Ave	3722	Hydrotherm	AM-300	NA	0.299	NG	Boiler	202.G.1
13123	2151 South Dakota Ave	3723	Hydrotherm	AM-300	NA	0.299	NG	Boiler	202.G.1
13123	2151 South Dakota Ave	3990	Hydrotherm	AM-300	NA	0.299	NG	Boiler	202.G.1
13123	2151 South Dakota Ave	2660	Raypak	W1-0514A-DEDRDAA	NA	0.512	NG	Boiler	202.G.1
13137	1031 California	703917	Raypak	H7-0500A	NA	0.5	NG	Boiler	202.G.1
13137	1031 California	703918	Raypak	H7-0500A	NA	0.5	NG	Boiler	202.G.1
13137	1031 California	703919	Raypak	H7-0500A	NA	0.5	NG	Boiler	202.G.1
13137	1031 California	703920	Raypak	H7-0500A	NA	0.5	NG	Boiler	202.G.1
13143	"O" St and Kansas Ave	1119	Raypak	H3-0624A-CCCRCAA	NA	0.627	NG	Boiler	202.G.1
13143	"O" St and Kansas Ave	1120	Raypak	H3-0624A-CCCRCAA	NA	0.627	NG	Boiler	202.G.1
13321	261 South Dakota Ave	703942	Raypak	H7-0300A	NA	0.3	NG	Boiler	202.G.1
13321	261 South Dakota Ave	704757	Raypak	H7-0300A	NA	0.3	NG	Boiler	202.G.1
13321	261 South Dakota Ave	704758	Raypak	H7-0300A	NA	0.3	NG	Boiler	202.G.1
13321	261 South Dakota Ave	3270	Raypak	W2-0624	NA	0.627	NG	Boiler	202.G.1
13323	215 South Dakota Ave	4198	Raypak	H7-0300	NA	0.3	NG	Boiler	202.G.1
13323	215 South Dakota Ave	4199	Raypak	H7-0300	NA	0.3	NG	Boiler	202.G.1
13323	215 South Dakota Ave	4200	Raypak	H7-0300	NA	0.3	NG	Boiler	202.G.1
13323	215 South Dakota Ave	656895	Raypak	WH3-0752B	NA	0.75	NG	Boiler	202.G.1
13330	781 "N" St	701726	Trane	GFAA10GDA	NA	0.1	NG	Furnace	202.G.1
13330	781 "N" St	701727	Trane	GLND035	NA	0.35	NG	Furnace	202.G.1

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13330	781 "N" St	701728	Trane	GLND035	NA	0.35	NG	Furnace	202.G.1
13330	781 "N" St	701729	Trane	GLND035	NA	0.35	NG	Furnace	202.G.1
13330	781 "N" St	701730	Trane	GLND035	NA	0.35	NG	Furnace	202.G.1
13330	781 "N" St	4115	Takag	T-M50	NA	0.36	NG	Water Heater	202.G.1
13330	781 "N" St	4099	Parker Boiler Co.	40L	NA	1.68	NG	Boiler	202.G.1
13330	781 "N" St	4100	Parker Boiler Co.	40L	NA	1.68	NG	Boiler	202.G.1
13640	641 Utah Ave	707843	Lochin var	CHN0992	NA	0.99	NG	Boiler	202.G.1
13640	641 Utah Ave	707844	A.O. Smith	BTN 199C 108	NA	0.199	NG	Water Heater	202.G.1
13675	108 Colorado Ave	704072	Raypak	H7-0300A	NA	0.3	NG	Boiler	202.G.1
13675	108 Colorado Ave	3727	A.O. Smith	BTC 200 920	NA	0.199	NG	Water Heater	202.G.1
13700	124 South Dakota Ave	3868	Bradford White	D100L1993N	NA	0.199999	NG	Water Heater	202.G.1
13848	278 South Dakota Ave	707846	Raypak	H3-HD401	NA	0.399	NG	Boiler	202.G.1
13848	278 South Dakota Ave	707845	American Standard	HE100-199 AS	NA	0.199	NG	Water Heater	202.G.1
13850	338 South Dakota Ave	667596	Bradford White	EF100T399E3NA2	NA	0.39	NG	Water Heater	202.G.1
13850	338 South Dakota Ave	667598	Bradford White	EF-100T399E3N2	NA	0.39	NG	Water Heater	202.G.1
13851	1200 Santa Maria Ave	4270	Heat Transfer Products	PH199-55	NA	0.199	NG	Boiler	202.G.1
13852	1201 Santa Maria Ave	4041	Heat Transfer Products	PH199-55	NA	0.199	NG	Boiler	202.G.1
13852	1201 Santa Maria Ave	4092	Heat Transfer Products	PH199-55	NA	0.199	NG	Boiler	202.G.1
13852	1201 Santa Maria Ave	710165	Heat Transfer Products	PH199-55	NA	0.199	NG	Boiler	202.G.1
13853	1101 Santa Maria Ave	4271	Heat Transfer Products	PH199-55	NA	0.199	NG	Boiler	202.G.1
13853	1101 Santa Maria Ave	4272	Heat Transfer Products	PH199-55	NA	0.199	NG	Boiler	202.G.1
13854	1103 Santa Maria Ave	658408	Heat Transfer Products	PH199-55	NA	0.199	NG	Boiler	202.G.1
13854	1103 Santa Maria Ave	658411	Heat Transfer Products	PH199-55	NA	0.199	NG	Boiler	202.G.1
13855	1001 Santa Maria Ave	707847	Heat Transfer Products	PH199-55	NA	0.199	NG	Boiler	202.G.1
13855	1001 Santa Maria Ave	707848	Heat Transfer Products	PH199-55	NA	0.199	NG	Boiler	202.G.1
13856	1002 Santa Maria Ave	707849	Heat Transfer Products	PH199-55	NA	0.199	NG	Boiler	202.G.1
13856	1002 Santa Maria Ave	7078450	Heat Transfer Products	PH199-55	NA	0.199	NG	Boiler	202.G.1
13857	1104 Guadalupe Ave	676923	Heat Transfer Products	PH199-55	NA	0.199	NG	Boiler	202.G.1
13857	1104 Guadalupe Ave	676924	Heat Transfer Products	PH199-55	NA	0.199	NG	Boiler	202.G.1
13858	1102 Guadalupe Ave	4274	Heat Transfer Products	PH199-55	NA	0.199	NG	Boiler	202.G.1
13858	1102 Guadalupe Ave	4275	Heat Transfer Products	PH199-55	NA	0.199	NG	Boiler	202.G.1
13859	1202 Guadalupe Ave	658410	Heat Transfer Products	PH199-55	NA	0.199	NG	Boiler	202.G.1
13859	1202 Guadalupe Ave	676925	Heat Transfer Products	PH199-55	NA	0.199	NG	Boiler	202.G.1
13860	1200 Guadalupe Ave	4042	Heat Transfer Products	PH199-55	NA	0.199	NG	Boiler	202.G.1
13860	1200 Guadalupe Ave	659473	Heat Transfer Products	PH199-55	NA	0.199	NG	Boiler	202.G.1
13861	1201 Guadalupe Ave	676926	Heat Transfer Products	PH199-55	NA	0.199	NG	Boiler	202.G.1
13861	1201 Guadalupe Ave	676927	Heat Transfer Products	PH199-55	NA	0.199	NG	Boiler	202.G.1

Building Number	Equipment Location	Operator ID	Make	Model	Model Year	Rating (MMBtu/hr)	Fuel	Type of Unit	Basis for Exemption
13862	1101 Guadalupe Ave	4303	Heat Transfer Products	PH199-55	NA	0.199	NG	Boiler	202.G.1
13862	1101 Guadalupe Ave	3779	Lennox	HM30-100-1	NA	0.1	NG	Boiler	202.G.1
13863	1103 Guadalupe Ave	3918	Heat Transfer Products	SSVH-130-45SB	NA	0.13	NG	Boiler	202.G.1
13863	1103 Guadalupe Ave	704088	Heat Transfer Products	PH199-55	NA	0.199	NG	Boiler	202.G.1
13864	1105 Guadalupe Ave	707851	Heat Transfer Products	PH199-55	NA	0.199	NG	Boiler	202.G.1
13864	1105 Guadalupe Ave	707852	Heat Transfer Products	PH199-55	NA	0.199	NG	Boiler	202.G.1
13865	1001 Guadalupe Ave	707853	Heat Transfer Products	PH199-55	NA	0.199	NG	Boiler	202.G.1
13865	1001 Guadalupe Ave	707854	Heat Transfer Products	PH199-55	NA	0.199	NG	Boiler	202.G.1
13866	1103 Guadalupe Ave	707855	Heat Transfer Products	PH199-55	NA	0.199	NG	Boiler	202.G.1
13866	1103 Guadalupe Ave	707856	Heat Transfer Products	PH199-55	NA	0.199	NG	Boiler	202.G.1
14300	135 Wyoming Ave	707857	A.O. Smith	BTR 275 118	NA	0.275	NG	Water Heater	202.G.1
14300	135 Wyoming Ave	3732	A.O. Smith	BTH 300A 970	NA	0.3	NG	Water Heater	202.G.1
14400	1107 Utah Ave	4348	York	PS8A12L040UH11A	NA	0.04	NG	Furnace	202.G.1
14400	1107 Utah Ave	4349	York	P58C20L100UH11A	NA	0.1	NG	Furnace	202.G.1
16130	201 Korina Ave	3299	York	P3HUD20L10401A	NA	0.13	NG	Furnace	202.G.1
16135	203 Korina Ave	3300	York	P3HUD20L10401A	NA	0.13	NG	Furnace	202.G.1
16140	205 Korina Ave	3301	York	P3HUD20L10401A	NA	0.13	NG	Furnace	202.G.1
16140	205 Korina Ave	3302	York	P3HUD20L10401A	NA	0.13	NG	Furnace	202.G.1
16170	100 Montana Ave	3155	Raypak	W2-0333C-BEAHDAA	NA	0.333	NG	Boiler	202.G.1
16170	100 Montana Ave	3154	Raypak	H6-1468A-CEBRADB	NA	1.467	NG	Boiler	202.G.1
16200	587 Summersill Ave	707858	Raypak	H9-1262B	NA	1.26	NG	Boiler	202.G.1
17595	800 California Blvd	3372	Bryant	383KA V048091	NA	0.088	NG	Furnace	202.G.1
21150	150 Cotar Rd	3258	Hydrotherm	MR-1200BPV	NA	0.3	LPG	Boiler	202.G.1
21150	150 Cotar Rd	4359	Hydrotherm	MR-1200BPV	NA	0.3	LPG	Boiler	202.G.1
21150	150 Cotar Rd	4360	Hydrotherm	MR-1200BPV	NA	0.3	LPG	Boiler	202.G.1
21150	150 Cotar Rd	4361	Hydrotherm	MR-1200BPV	NA	0.3	LPG	Boiler	202.G.1
21308	End of Gun Rd	3273	Raypak	H1-0183	NA	0.186	LPG	Boiler	202.G.1
21308	End of Gun Rd	714346	Bradford White	RG240T6X	NA	0.036	NG	Water Heater	202.G.1
23201	201 Bishop Rd	4059	Raypak	H3-0181	NA	0.181	NG	Boiler	202.G.1
23225	225 Bishop Rd	708772	Camus	DRNH-2000-WSI	NA	2	NG	Boiler	202.G.1
23225	225 Bishop Rd	708773	Camus	DRNH-2000-WSI	NA	2	NG	Boiler	202.G.1
23228	228 Bishop Rd	4266	Lennox	G51MP-60C-110-07	NA	0.11	NG	Furnace	202.G.1
23228	228 Bishop Rd	4267	Lennox	G51MP-60C-110-01	NA	0.11	NG	Furnace	202.G.1
23235	235 Bishop Rd	2683	Hydrotherm	AM-100	NA	0.1	NG	Boiler	202.G.1

NA = Not Available

NG = Natural Gas

LPG = Liquefied Propane Gas

**Table 10-3. Other Permit Exempt Operations**

*Part 70 Permit 13968-R2, Vandenberg Air Force Base*

Building Number	Equip. Location	Operator ID	Device Type	Hourly Limit	Daily Limit	Quarterly Limit	Annual Limit	Units	Basis for Exemption
NA	Mira and Tangier Rds	648635	EOD Range	NA	500	NA	8000	lbs C-4 donor charge	202.P.13
		3568		NA		8.5	lbs TNT	202.P.13	
		648634		NA		440	lbs ANFO(a)	202.P.13	
		648636		NA		756	lbs dynamite	202.P.13	
NA	Various Locations	650037	Wood Chipper	NA	24	NA	8760	Hr	202
Various	Entire Base	NA	Architectural Coating	NA	NA	NA	NA	NA	202.D.14
976/977	976 Mesa Rd	674098	AST; Aerozine50; 2528 Gallons	NA	24	NA	8760	Hr	202.V.2
81	81 Station Rd	3947	AST; Diesel; 205 Gallons	NA	24	NA	8760	Hr	202.V.2
525	525 Coast Rd	1230	AST; Diesel; 2500 Gallons	NA	24	NA	8760	Hr	202.V.2
525	525 Coast Rd	1226	AST; Diesel; 2500 Gallons	NA	24	NA	8760	Hr	202.V.2
525	525 Coast Rd	1228	AST; Diesel; 2500 Gallons	NA	24	NA	8760	Hr	202.V.2
525	525 Coast Rd	1224	AST; Diesel; 2500 Gallons	NA	24	NA	8760	Hr	202.V.2
525	525 Coast Rd	1229	AST; Diesel; 2500 Gallons	NA	24	NA	8760	Hr	202.V.2
753	853 Arguello Rd	4172	Scrubber; Fuel (FVSS)	NA	NA	NA	NA	NA	202.D.6
753	853 Arguello Rd	4173	Scrubber; Nitrogen Tetroxide (OVSS)	NA	NA	NA	NA	NA	202.D.6
831	831 Clark St	4130	Spray Gun Washer	NA	8	NA	2080	Hr	202.U.2-3
854	864 Arguello Rd	3533	Solvent Cleaning Machine	NA	8	NA	2080	Hr	202.U.2-3
875	875 Sweeney Rd	1854	Abrasive Blasting Operations	NA	NA	NA	97500	lbs	202.H.1
875	875 Sweeney Rd	4131	Spray Gun Washer	NA	8	NA	2080	Hr	202.U.2-3
875	875 Sweeney Rd	4157	Solvent Cleaning Machine	NA	8	NA	2080	Hr	202.U.2-3
1345	1350 Koa Rd	3277	AST; Diesel; 1,000 Gallons	NA	24	NA	8760	Hr	202.V.2
1583	1583 Tangair	3741	Fire Training Facility	NA	NA	NA	NA	NA	202.P.11
1624	1624 Aero Rd	1220	AST; Diesel; 235 Gallons	NA	24	NA	8760	Hr	202.V.2
1624	1624 Aero Rd	1232	AST; Gasoline; 235 Gallons	NA	24	NA	8760	Hr	202.V.7
1624	1624 Aero Rd	1234	AST; Gasoline; 235 Gallons	NA	24	NA	8760	Hr	202.V.7
1699	1699 Airfield Rd	1250	AST; Diesel; 20,000 Gallons	NA	24	NA	8760	Hr	202.V.2
1704	173 Airfield Rd	1249	AST; Diesel; 20,000 Gallons	NA	24	NA	8760	Hr	202.V.2
1728	302 Airfield Rd	4137	Solvent Cleaning Machine	NA	8	NA	2080	Hr	202.U.2-3
1731	320 Airfield Rd	4139	AST; Diesel; 500 Gallons	NA	24	NA	8760	Hr	202.V.2
1731	320 Airfield Rd	4322	Solvent Cleaning Machine	NA	8	NA	2080	Hr	202.U.2-3
1737	340 Airfield Rd	3521	Abrasive Blasting Operations	NA	NA	NA	416	Hr	202.H.1
1749	391 Airfield Rd	3633	Abrasive Blasting Operations	NA	NA	NA	416	Hr	202.H.1
1749	391 Airfield Rd	4158	Solvent Cleaning Machine	NA	8	NA	2080	Hr	202.U.2-3
1788	Site 13C/ABRES	698263	Soil Vapor Extraction System	NA	NA	NA	NA	Hr	FFSRA
3000	3000 29th St	4358	Solvent Cleaning Machine	NA	8	NA	2080	Hr	202.U.2-3
5425	2010 20th St	3438	AST; Diesel; 240 Gallons	NA	24	NA	8760	Hr	202.V.2

Building Number	Equip. Location	Operator ID	Device Type	Hourly Limit	Daily Limit	Quarterly Limit	Annual Limit	Units	Basis for Exemption
5425	2010 20th St	3439	AST; Gasoline; 240 Gallons	NA	24	NA	8760	Hr	202.V.7
7437	1556 New Mexico Ave	SK002	Spray Gun Washer	NA	8	NA	2080	Hr	202.U.2-3
8190	1580 Nevada Ave	3978	Abrasive Blasting Operations	NA	NA	NA	416	Hr	202.H.1
8310	351 8th St	4138	Solvent Cleaning Machine - Vapor	NA	NA	NA	NA	NA	202.U.2-3
8415	178 8th St	4164	Abrasive Blasting Operations	NA	NA	NA	NA	NA	202.H.1
8415	178 8th St	4153	Solvent Cleaning Machine	NA	8	NA	2080	Hr	202.U.2-3
9320	334 6th St	4129	Spray Gun Washer	NA	8	NA	2080	Hr	202.U.2-3
9320	334 6th St	4152	Solvent Cleaning Machine	NA	8	NA	2080	Hr	202.U.2-3
9320	334 6th St	4318	Abrasive Blasting Operations	NA	NA	NA	NA	NA	202.H.1
9320	334 6th St	705831	Abrasive Blasting Operations	NA	NA	NA	NA	NA	202.H.1
9360	1318 New Mexico Ave	4283	Abrasive Blasting Operations	NA	NA	NA	NA	NA	202.H.1
9360	1318 New Mexico Ave	4165	Solvent Cleaning Machine	NA	8	NA	2080	Hr	202.U.2-3
9505	180 Landfill Rd	3164	AST; Diesel; 500 Gallons	NA	24	NA	8760	Hr	202.V.2
10711	433 Herado Ave	4126	Solvent Cleaning Machine	NA	8	NA	2080	Hr	202.U.2-3
10711	433 Herado Ave	4374	Spray Gun Washer	NA	8	NA	2080	Hr	202.U.2-3
10711	433 Herado Ave	703462	Abrasive Blasting Operations	NA	NA	NA	NA	NA	202.H.1
10713	431 Herado Ave	3954	Solvent Cleaning Machine	NA	8	NA	2080	Hr	202.U.2-3
10723	Nevada Ave	1214	AST; Diesel; 4,000 Gallons	NA	24	NA	8760	Hr	202.V.2
10726	442 Washington Ave	UST04	UST; Biodiesel; 10,000 gallons	NA	24	NA	8760	Hr	202.V.2
21155	155 Corral Rd	4165	Solvent Cleaning Machine	NA	8	NA	2080	Hr	202.U.2-3
21330	End of Gun Road	3493	Small Arms Range	NA	NA	NA	NA	NA	202.D.10
		636301							
		641666							
		636300							
		636302							

NA = Not Available

RN = Registered Number

FFSRA = Federal Facility Site Remediation Agreement

# Attachment 10.12 Fee Statement

## FEE STATEMENT

PT-70/Reeval No. 13968 - R2

FID: 00201 Vandenberg AFB 30th Space Wing / SSID: 01195



### Device Fee

Device No.	Device Name	Fee Schedule	Qty of Fee Units	Fee per Unit	Fee Units	Max or Min. Fee Apply?	Number of Same Devices	Pro Rate Factor	Device Fee	Penalty Fee?	Fee Credit	Total Fee per Device
006080	Turbine Generator A	A3	44.080	551.72	Per 1 million Btu input	Max	1	1.000	7,382.27	0.00	0.00	7,382.27
006081	Turbine Generator B	A3	44.080	551.72	Per 1 million Btu input	Max	1	1.000	7,382.27	0.00	0.00	7,382.27
006082	Turbine Generator C	A3	44.080	551.72	Per 1 million Btu input	Max	1	1.000	7,382.27	0.00	0.00	7,382.27
006083	Turbine Generator D	A3	44.080	551.72	Per 1 million Btu input	Max	1	1.000	7,382.27	0.00	0.00	7,382.27
006084	Turbine Generator E	A3	44.080	551.72	Per 1 million Btu input	Max	1	1.000	7,382.27	0.00	0.00	7,382.27
104867	Starter Engine 818 - Bldg 525	A1.a	1.000	73.54	Per equipment	No	1	1.000	73.54	0.00	0.00	73.54
104868	Starter Engine 820 - Bldg 525	A1.a	1.000	73.54	Per equipment	No	1	1.000	73.54	0.00	0.00	73.54
104869	Starter Engine 821 - Bldg 525	A1.a	1.000	73.54	Per equipment	No	1	1.000	73.54	0.00	0.00	73.54
104870	Starter Engine 822 - Bldg 525	A1.a	1.000	73.54	Per equipment	No	1	1.000	73.54	0.00	0.00	73.54
104871	Starter Engine 823 - Bldg 525	A1.a	1.000	73.54	Per equipment	No	1	1.000	73.54	0.00	0.00	73.54
111100	Hot-Water Boiler 3872	A3	2.160	551.72	Per 1 million Btu input	No	1	1.000	1,191.72	0.00	0.00	1,191.72
111101	Hot-Water Boiler 3873	A3	2.160	551.72	Per 1 million Btu input	No	1	1.000	1,191.72	0.00	0.00	1,191.72
388091	Hot Water Boiler #1	A3	1.500	551.72	Per 1 million Btu input	No	1	1.000	827.58	0.00	0.00	827.58
388092	Hot Water Boiler #2	A3	1.500	551.72	Per 1 million Btu input	No	1	1.000	827.58	0.00	0.00	827.58
386176	Boiler #1	A3	4.600	551.72	Per 1 million Btu input	No	1	1.000	2,537.91	0.00	0.00	2,537.91
386177	Boiler #2	A3	4.600	551.72	Per 1 million Btu input	No	1	1.000	2,537.91	0.00	0.00	2,537.91

391690	Boiler #1	A3	2.500	551.72	Per 1 million Btu input	No	1	1.000	1,379.30	0.00	0.00	1,379.30
391691	Boiler #2	A3	2.500	551.72	Per 1 million Btu input	No	1	1.000	1,379.30	0.00	0.00	1,379.30
388149	Hot Water Boiler 679373	A3	1.500	551.72	Per 1 million Btu input	No	1	1.000	827.58	0.00	0.00	827.58
388150	Hot Water Boiler 679380	A3	1.500	551.72	Per 1 million Btu input	No	1	1.000	827.58	0.00	0.00	827.58
112964	Hot Water Boiler 3996	A3	2.000	551.72	Per 1 million Btu input	No	1	1.000	1,103.44	0.00	0.00	1,103.44
112965	Hot Water Boiler 3997	A3	2.000	551.72	Per 1 million Btu input	No	1	1.000	1,103.44	0.00	0.00	1,103.44
112251	Boiler 3930	A3	2.000	551.72	Per 1 million Btu input	No	1	1.000	1,103.44	0.00	0.00	1,103.44
114903	Boiler 4269	A3	2.000	551.72	Per 1 million Btu input	No	1	1.000	1,103.44	0.00	0.00	1,103.44
111731	Boiler 1052	A3	2.250	551.72	Per 1 million Btu input	No	1	1.000	1,241.37	0.00	0.00	1,241.37
386174	Boiler 4369	A3	2.000	551.72	Per 1 million Btu input	No	1	1.000	1,103.44	0.00	0.00	1,103.44
386175	Boiler 4370	A3	2.000	551.72	Per 1 million Btu input	No	1	1.000	1,103.44	0.00	0.00	1,103.44
386456	Emergency Generator 3980 - Building 64	A1.a	1.000	73.54	Per equipment	No	1	1.000	73.54	0.00	0.00	73.54
107135	Emergency Generator 564 - Building 185	A1.a	1.000	73.54	Per equipment	No	1	1.000	73.54	0.00	0.00	73.54
107136	Emergency Generator 567 - Building 185	A1.a	1.000	73.54	Per equipment	No	1	1.000	73.54	0.00	0.00	73.54
112688	Emergency Generator 3976 - Building 383	A1.a	1.000	73.54	Per equipment	No	1	1.000	73.54	0.00	0.00	73.54
106942	Emergency Generator 3007 - Building 425	A1.a	1.000	73.54	Per equipment	No	1	1.000	73.54	0.00	0.00	73.54
106943	Emergency Generator 3008 Building 501	A1.a	1.000	73.54	Per equipment	No	1	1.000	73.54	0.00	0.00	73.54
114491	Emergency Generator 4005 - Building 511	A1.a	1.000	73.54	Per equipment	No	1	1.000	73.54	0.00	0.00	73.54
386163	Standby Diesel Fired Generator Set - Building 661	A1.a	1.000	73.54	Per equipment	No	1	1.000	73.54	0.00	0.00	73.54
384071	Emergency Generator 3540 - Building 764	A1.a	1.000	73.54	Per equipment	No	1	1.000	73.54	0.00	0.00	73.54
111766	Emergency Generator 3906 - Building 830	A1.a	1.000	73.54	Per equipment	No	1	1.000	73.54	0.00	0.00	73.54
107000	Emergency Generator 3397 - Building 830	A1.a	1.000	73.54	Per equipment	No	1	1.000	73.54	0.00	0.00	73.54
106944	Emergency Generator 3012 - Building 906	A1.a	1.000	73.54	Per equipment	No	1	1.000	73.54	0.00	0.00	73.54
111765	Emergency Generator 3927 - Building 929	A1.a	1.000	73.54	Per equipment	No	1	1.000	73.54	0.00	0.00	73.54

388930	Fire Water Pump Engine 698204 - Building 968	A1.a	1.000	73.54	Per equipment	No	1	1.000	73.54	0.00	0.00	73.54
391888	Emergency Generator 713136 - Bldg 21150	A3	2.865	551.72	Per 1 million Btu input	No	1	1.000	1,580.68	0.00	0.00	1,580.68
388931	Fire Water Pump Engine 688931 - Building 968	A1.a	1.000	73.54	Per equipment	No	1	1.000	73.54	0.00	0.00	73.54
107006	Emergency Generator 3050 - Building 1559	A1.a	1.000	73.54	Per equipment	No	1	1.000	73.54	0.00	0.00	73.54
107031	Emergency Generator 3411 - Building 1561	A1.a	1.000	73.54	Per equipment	No	1	1.000	73.54	0.00	0.00	73.54
391670	Emergency Generator 704948 - Bldg 1581	A3	0.517	551.72	Per 1 million Btu input	No	1	1.000	285.24	0.00	0.00	285.24
384078	Emergency Generator 4039 - Building 1594	A1.a	1.000	73.54	Per equipment	No	1	1.000	73.54	0.00	0.00	73.54
108889	Emergency Generator 3626 - Building 1604	A1.a	1.000	73.54	Per equipment	No	1	1.000	73.54	0.00	0.00	73.54
106948	Emergency Generator 3390 - Building 1639	A1.a	1.000	73.54	Per equipment	No	1	1.000	73.54	0.00	0.00	73.54
113916	Emergency Generator 4109 - Building 1735	A1.a	1.000	73.54	Per equipment	No	1	1.000	73.54	0.00	0.00	73.54
112689	Emergency Generator 3639 - Building 1747	A1.a	1.000	73.54	Per equipment	No	1	1.000	73.54	0.00	0.00	73.54
107032	Emergency Generator 642 - Building 1748	A1.a	1.000	73.54	Per equipment	No	1	1.000	73.54	0.00	0.00	73.54
107007	Emergency Generator 3183 - Building 1762	A1.a	1.000	73.54	Per equipment	No	1	1.000	73.54	0.00	0.00	73.54
106939	Emergency Generator 643 - Building 1764	A1.a	1.000	73.54	Per equipment	No	1	1.000	73.54	0.00	0.00	73.54
386330	Emergency Generator 3573 - Building 1768	A1.a	1.000	73.54	Per equipment	No	1	1.000	73.54	0.00	0.00	73.54
387721	Emergency Generator 678120 - Building 1819	A1.a	1.000	73.54	Per equipment	No	1	1.000	73.54	0.00	0.00	73.54
107141	Fire Water Pump Engine 645 - Building 1829	A1.a	1.000	73.54	Per equipment	No	1	1.000	73.54	0.00	0.00	73.54
107142	Fire Water Pump Engine 649 - Building 1829	A1.a	1.000	73.54	Per equipment	No	1	1.000	73.54	0.00	0.00	73.54
384077	Emergency Generator 3791 - Building 1916	A1.a	1.000	73.54	Per equipment	No	1	1.000	73.54	0.00	0.00	73.54
384076	Emergency Generator 3548 - Building 1917	A1.a	1.000	73.54	Per equipment	No	1	1.000	73.54	0.00	0.00	73.54
111769	Fire Water Pump Engine 3921 - Building 1919	A1.a	1.000	73.54	Per equipment	No	1	1.000	73.54	0.00	0.00	73.54
107088	Emergency Generator 3329 - Building 1937	A1.a	1.000	73.54	Per equipment	No	1	1.000	73.54	0.00	0.00	73.54
384058	Emergency Generator 3549 - Building 1962	A1.a	1.000	73.54	Per equipment	No	1	1.000	73.54	0.00	0.00	73.54
384057	Emergency Generator 3550 - Building 1964	A1.a	1.000	73.54	Per equipment	No	1	1.000	73.54	0.00	0.00	73.54

384060	Emergency Generator 3790 - Building 1965	A1.a	1.000	73.54	Per equipment	No	1	1.000	73.54	0.00	0.00	73.54
384056	Emergency Generator 3551 - Building 1971	A1.a	1.000	73.54	Per equipment	No	1	1.000	73.54	0.00	0.00	73.54
384055	Emergency Generator 3552 - Building 1972	A1.a	1.000	73.54	Per equipment	No	1	1.000	73.54	0.00	0.00	73.54
107143	Fire Water Pump Engine 655 - Building 2305	A1.a	1.000	73.54	Per equipment	No	1	1.000	73.54	0.00	0.00	73.54
384069	Emergency Generator 3181 - Building 2500	A1.a	1.000	73.54	Per equipment	No	1	1.000	73.54	0.00	0.00	73.54
384066	Emergency Generator 3814 - Building 2520	A1.a	1.000	73.54	Per equipment	No	1	1.000	73.54	0.00	0.00	73.54
391955	Emergency Generator 711280 - Building 3000	A1.a	1.000	73.54	Per equipment	No	1	1.000	73.54	0.00	0.00	73.54
391956	Emergency Generator 711384 - Building 3000	A1.a	1.000	73.54	Per equipment	No	1	1.000	73.54	0.00	0.00	73.54
110735	Emergency Generator 3815 - Building 6510	A1.a	1.000	73.54	Per equipment	No	1	1.000	73.54	0.00	0.00	73.54
386557	Emergency Generator 653765 - Building 7025	A1.a	1.000	73.54	Per equipment	No	1	1.000	73.54	0.00	0.00	73.54
112253	Training Engine 3936 - Building 7425	A1.a	1.000	73.54	Per equipment	No	1	1.000	73.54	0.00	0.00	73.54
110201	Emergency Generator 3747 - Building 8401	A1.a	1.000	73.54	Per equipment	No	1	1.000	73.54	0.00	0.00	73.54
391957	Emergency Generator 711413 - Building 8401	A1.a	1.000	73.54	Per equipment	No	1	1.000	73.54	0.00	0.00	73.54
113917	Emergency Generator 4116 - Building 8195	A1.a	1.000	73.54	Per equipment	No	1	1.000	73.54	0.00	0.00	73.54
114377	Emergency Generator 4123 - Building 8317	A1.a	1.000	73.54	Per equipment	No	1	1.000	73.54	0.00	0.00	73.54
106946	Emergency Generator 3052 - Building 8510	A1.a	1.000	73.54	Per equipment	No	1	1.000	73.54	0.00	0.00	73.54
388044	Emergency Generator 678837 - Building 10314	A1.a	1.000	73.54	Per equipment	No	1	1.000	73.54	0.00	0.00	73.54
390424	Emergency Generator 706876 - Building 10525	A1.a	1.000	73.54	Per equipment	No	1	1.000	73.54	0.00	0.00	73.54
107038	Emergency Generator 589 - Building 10579	A1.a	1.000	73.54	Per equipment	No	1	1.000	73.54	0.00	0.00	73.54
107004	Emergency Generator 698 - Building 10660	A1.a	1.000	73.54	Per equipment	No	1	1.000	73.54	0.00	0.00	73.54
386166	Emergency Generator 699 - Building 11439	A1.a	1.000	73.54	Per equipment	No	1	1.000	73.54	0.00	0.00	73.54
114696	Emergency Generator 4268 - Building 12000	A1.a	1.000	73.54	Per equipment	No	1	1.000	73.54	0.00	0.00	73.54
112255	Emergency Generator 3928 - Building 12006	A1.a	1.000	73.54	Per equipment	No	1	1.000	73.54	0.00	0.00	73.54
112256	Emergency Generator 3929 - Building 12006	A1.a	1.000	73.54	Per equipment	No	1	1.000	73.54	0.00	0.00	73.54

388045	Emergency Generator - Building 13850	A1.a	1.000	73.54	Per equipment	No	1	1.000	73.54	0.00	0.00	73.54
109236	Emergency Generator (CT-1) 3642 - Building 21203	A1.a	1.000	73.54	Per equipment	No	1	1.000	73.54	0.00	0.00	73.54
388046	Emergency Generator 699622 - Building 22311	A1.a	1.000	73.54	Per equipment	No	1	1.000	73.54	0.00	0.00	73.54
111125	Emergency Generator 3582 - Building 23201	A1.a	1.000	73.54	Per equipment	No	1	1.000	73.54	0.00	0.00	73.54
391526	Emergency Fire Water Pump - Building 23209	A1.a	1.000	73.54	Per equipment	No	1	1.000	73.54	0.00	0.00	73.54
386257	Emergency Generator 4375 - Building 23243	A1.a	1.000	73.54	Per equipment	No	1	1.000	73.54	0.00	0.00	73.54
386258	Emergency Generator 4376 - Building 23243	A1.a	1.000	73.54	Per equipment	No	1	1.000	73.54	0.00	0.00	73.54
113280	Emergency Generator 4010 - Portable	A1.a	1.000	73.54	Per equipment	No	1	1.000	73.54	0.00	0.00	73.54
113281	Emergency Generator 4011 - Portable	A1.a	1.000	73.54	Per equipment	No	1	1.000	73.54	0.00	0.00	73.54
113282	Emergency Generator 4012 - Portable	A1.a	1.000	73.54	Per equipment	No	1	1.000	73.54	0.00	0.00	73.54
113283	Emergency Generator 4013 - Portable	A1.a	1.000	73.54	Per equipment	No	1	1.000	73.54	0.00	0.00	73.54
113284	Emergency Generator 4014 - Portable	A1.a	1.000	73.54	Per equipment	No	1	1.000	73.54	0.00	0.00	73.54
384032	Spray Booth - Building 831	A2	2.000	38.13	Per total rated hp	No	1	1.000	76.26	0.00	0.00	76.26
384033	Coating Application Equipment - Building 831	A1.a	1.000	73.54	Per equipment	No	1	1.000	73.54	0.00	0.00	73.54
107926	Spray Booth Building 875	A2	3.000	38.13	Per total rated hp	No	1	1.000	114.39	0.00	0.00	114.39
107927	Coating Application Equipment - Bldg 875	A1.a	1.000	73.54	Per equipment	No	1	1.000	73.54	0.00	0.00	73.54
107928	Closed Cycle Spray Gun Cleaning System - Bldg 875	A1.a	1.000	73.54	Per equipment	No	1	1.000	73.54	0.00	0.00	73.54
391549	Finishing Paint Booth - Bldg 1731	A2	3.000	38.13	Per total rated hp	No	1	1.000	114.39	0.00	0.00	114.39
391551	Spray Guns, Hoses, and Hand Application Equipment Bldg 1731	A1.a	1.000	73.54	Per equipment	No	1	1.000	73.54	0.00	0.00	73.54
391552	Enclosed Spray Gun Cleaning System - Bldg 1731	A1.a	1.000	73.54	Per equipment	No	1	1.000	73.54	0.00	0.00	73.54
108716	Surface Coating Application - Booth Building 2007	A2	7.500	38.13	Per total rated hp	No	1	1.000	285.98	0.00	0.00	285.98
108717	High Transfer Efficiency Coating Application Equipment 2007	A1.a	1.000	73.54	Per equipment	No	1	1.000	73.54	0.00	0.00	73.54
105647	Spray Booth - Bldg 8190	A2	5.000	38.13	Per total rated hp	No	1	1.000	190.65	0.00	0.00	190.65
105649	Coating Application Equipment - Building 8190	A1.a	1.000	73.54	Per equipment	No	1	1.000	73.54	0.00	0.00	73.54

384028	Spray Booth - Building 9320	A2	10.000	38.13	Per total rated hp	No	1	1.000	381.30	0.00	0.00	381.30
384029	Spray Booth - Building 9320	A2	1.500	38.13	Per total rated hp	Min	1	1.000	73.07	0.00	0.00	73.07
384030	Gun Washer Recycle Device - Building 9320	A1.a	1.000	73.54	Per equipment	No	1	1.000	73.54	0.00	0.00	73.54
384031	Coating Application Equipment - Building 9320	A1.a	1.000	73.54	Per equipment	No	1	1.000	73.54	0.00	0.00	73.54
113676	Spray Booth - Building 9327	A2	7.500	38.13	Per total rated hp	No	1	1.000	285.98	0.00	0.00	285.98
113678	Pre-Filter - Building 9327	A1.a	1.000	73.54	Per equipment	No	1	1.000	73.54	0.00	0.00	73.54
113679	Spray Guns, Hoses, and Hand Application Equipment - Bldg 9327	A1.a	1.000	73.54	Per equipment	No	1	1.000	73.54	0.00	0.00	73.54
388390	Spray Booth - Bldg 9360	A2	65.000	38.13	Per total rated hp	No	1	1.000	2,478.45	0.00	0.00	2,478.45
388391	Spray Guns, Hoses, and Hand App Equipment - Bldg 9360	A1.a	1.000	73.54	Per equipment	No	1	1.000	73.54	0.00	0.00	73.54
388392	Automatic Spray Gun Cleaning System - Bldg 9360	A1.a	1.000	73.54	Per equipment	No	1	1.000	73.54	0.00	0.00	73.54
388395	Spray Booth Heater - Bldg 9360	A3	4.125	551.72	Per 1 million Btu input	No	1	1.000	2,275.85	0.00	0.00	2,275.85
107930	Automotive Type Spray - Booth Building 10711	A1.a	1.000	73.54	Per equipment	No	1	1.000	73.54	0.00	0.00	73.54
107931	High Transfer Efficiency Coating Application Equipment 10711	A1.a	1.000	73.54	Per equipment	No	1	1.000	73.54	0.00	0.00	73.54
107932	Closed Cycle Spray Gun Cleaning System 10711	A1.a	1.000	73.54	Per equipment	No	1	1.000	73.54	0.00	0.00	73.54
111748	Spray Booth Heater - Building 10711	A3	3.700	551.72	Per 1 million Btu input	No	1	1.000	2,041.36	0.00	0.00	2,041.36
384072	Oversized Vehicle and Equipment Surface Coating Operations	A2	8.250	38.13	Per total rated hp	No	1	1.000	314.57	0.00	0.00	314.57
390384	AAFES Gasoline Nozzles - Building 14400	F.3	24.000	77.22	Per nozzle	No	1	1.000	1,853.28	0.00	0.00	1,853.28
390385	Military GDF Gasoline Nozzles - Building 10726	F.3	2.000	77.22	Per nozzle	No	1	1.000	154.44	0.00	0.00	154.44
387622	Military GDF E-85 Dispensers - Building 10726	A8.b	1.000	551.54	Per permit	No	1	1.000	551.54	0.00	0.00	551.54
109898	Tanker Truck/Trailer Unloading Equipment - Building 1706	A1.a	1.000	73.54	Per equipment	No	1	1.000	73.54	0.00	0.00	73.54
109899	Tanker Truck/Trailer Loading Equipment - Building 1706	A1.a	1.000	73.54	Per equipment	No	1	1.000	73.54	0.00	0.00	73.54
109897	JP-8/Jet-A Fuel Storage Tank 1703	A6	420.000	4.22	Per 1000 gallons	No	1	1.000	1,772.40	0.00	0.00	1,772.40
109896	JP-8/Jet-A Fuel Storage Tank 1702	A6	210.000	4.22	Per 1000 gallons	No	1	1.000	886.20	0.00	0.00	886.20
113960	RP-1 Internal Floating Roof Tank 1701	A6	126.000	4.22	Per 1000 gallons	No	1	0.368	195.67	0.00	0.00	195.67
386172	Electric Pump 1 - Pump House	A2	20.000	38.13	Per total rated hp	No	1	0.368	280.64	0.00	0.00	280.64

386173	Electric Pump 2 - Pump House	A2	20.000	38.13	Per total rated hp	No	1	0.368	280.64	0.00	0.00	280.64
107918	Abrasive Blasting Equipment - Building 1800	A1.a	1.000	73.54	Per equipment	No	1	1.000	73.54	0.00	0.00	73.54
009890	Abrasive Blasting Cabinet - Building 9320	A1.a	1.000	73.54	Per equipment	No	1	1.000	73.54	0.00	0.00	73.54
110232	Sweep-in Recovery Hoppers - Building 9320	A1.a	2.000	73.54	Per equipment	No	2	1.000	294.16	0.00	0.00	294.16
112487	Abrasive Blasting Pot - Building 9320	A1.a	1.000	73.54	Per equipment	No	1	1.000	73.54	0.00	0.00	73.54
110229	ABS Containment Structure - Building 9320	A1.a	1.000	73.54	Per equipment	No	1	1.000	73.54	0.00	0.00	73.54
110230	Dust Collection System - Building 9320	A2	1.000	38.13	Per total rated hp	Min	1	1.000	73.07	0.00	0.00	73.07
113680	Enclosed Cleaning System - Building 9327	A1.a	1.000	73.54	Per equipment	No	1	1.000	73.54	0.00	0.00	73.54
110309	Solvents & Coatings - HAZMART2	A1.a	1.000	73.54	Per equipment	No	1	1.000	73.54	0.00	0.00	73.54
114277	Solvents & Coatings - HAZMART	A1.a	1.000	73.54	Per equipment	No	1	1.000	73.54	0.00	0.00	73.54
115291	Landfill	A1.a	1.000	73.54	Per equipment	No	1	1.000	73.54	0.00	0.00	73.54
113616	Hypergolic Fuel Vapor Destruction Equipment	A1.a	1.000	73.54	Per equipment	No	1	1.000	73.54	0.00	0.00	73.54
113621	Hypergolic Oxidizer Vapor Destruction Equipment	A1.a	1.000	73.54	Per equipment	No	1	1.000	73.54	0.00	0.00	73.54
<b>Device Fee Sub-Totals =</b>									<b>\$82,789.89</b>	<b>\$0.00</b>	<b>\$0.00</b>	
<b>Device Fee Total =</b>												<b>\$82,789.89</b>

**Permit Fee**

Fee Based on Devices

**\$82,789.89**

**Fee Statement Grand Total = \$82,789**

Notes:

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- (1) Fee Schedule Items are listed in District Rule 210, Fee Schedule "A".
  - (2) The term "Units" refers to the unit of measure defined in the Fee Schedule.

## Attachment 10.13 ENVVEST History

In 1997 VAFB developed an Environmental Investment (ENVVEST) Compliance Plan to reduce emissions at the stationary source. One component of the plan was to retrofit or replace a number of boilers to reduce NO<sub>x</sub> emissions. The ENVVEST program is no longer in force, but this attachment documents the locations at which boilers were retrofit or replaced as part of the program.

The following units were identified by the ENVVEST Compliance Plan dated June 27, 2008.

<b>Building</b>	<b>Make</b>	<b>Model</b>	<b>Rating</b>	<b># of Units</b>
836	Kewanee	LSW125G	4.500	1
2007	Kewanee	M-205-KGO	2.050	1
3000	Ajax	WPG2500	4.980	2
6523	Parker Brothers	T2970L	2.970	1
6601	Ajax Boiler	WBG-2000	2.000	1
7015	Parker Brothers	T1995L	1.995	1
8510	Ajax	HPG2500	2.500	1
9005	PVI Industries	80WBHE100A-TP	1.250	1
10145	Parker Brothers	48L	3.990	2
11777	Kewanee	M-155-KG	1.680	1
12000	Hydrotherm	AM 300	1.794	6
13321	Hydrotherm	AM 300	0.897	3
13323	Hydrotherm	AM 300	0.897	3
13330	Ajax Boiler	SRFG-40	3.500	2