

Statement of Basis

**Permit to Construct No. P-2013.0033
Project ID 61204**

**Idaho Military Division 001-00043
Boise, Idaho**

Facility ID 001-00043

Final

J.P.

**July 31, 2013
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Permit Writer**

The purpose of this Statement of Basis is to satisfy the requirements of IDAPA 58.01.01. et seq, Rules for the Control of Air Pollution in Idaho, for issuing air permits.

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ACRONYMS, UNITS, AND CHEMICAL NOMENCLATURE

AAC	acceptable ambient concentrations
AACC	acceptable ambient concentrations for carcinogens
acfm	actual cubic feet per minute
ASTM	American Society for Testing and Materials
BACT	Best Available Control Technology
BMP	best management practices
Btu	British thermal units
CAA	Clean Air Act
CAM	Compliance Assurance Monitoring
CAS No.	Chemical Abstracts Service registry number
CBP	concrete batch plant
CEMS	continuous emission monitoring systems
cfm	cubic feet per minute
CFR	Code of Federal Regulations
CI	compression ignition
CMS	continuous monitoring systems
CO	carbon monoxide
CO ₂	carbon dioxide
CO ₂ e	CO ₂ equivalent emissions
COMS	continuous opacity monitoring systems
DEQ	Department of Environmental Quality
dscf	dry standard cubic feet
EL	screening emission levels
EPA	U.S. Environmental Protection Agency
FEC	Facility Emissions Cap
GHG	greenhouse gases
gph	gallons per hour
gpm	gallons per minute
gr	grains (1 lb = 7,000 grains)
HAP	hazardous air pollutants
HHV	higher heating value
HMA	hot mix asphalt
hp	horsepower
hr/yr	hours per consecutive 12 calendar month period
ICE	internal combustion engines
IDAPA	a numbering designation for all administrative rules in Idaho promulgated in accordance with the Idaho Administrative Procedures Act
iwg	inches of water gauge
km	kilometers
lb/hr	pounds per hour
lb/qtr	pound per quarter
m	meters
MACT	Maximum Achievable Control Technology
mg/dscm	milligrams per dry standard cubic meter
MMBtu	million British thermal units
MMscf	million standard cubic feet
NAAQS	National Ambient Air Quality Standard
NESHAP	National Emission Standards for Hazardous Air Pollutants
NO ₂	nitrogen dioxide
NO _x	nitrogen oxides
NSPS	New Source Performance Standards

O&M	operation and maintenance
O ₂	oxygen
PAH	polyaromatic hydrocarbons
PC	permit condition
PCB	polychlorinated biphenyl
PERF	Portable Equipment Relocation Form
PM	particulate matter
PM _{2.5}	particulate matter with an aerodynamic diameter less than or equal to a nominal 2.5 micrometers
PM ₁₀	particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers
POM	polycyclic organic matter
ppm	parts per million
ppmw	parts per million by weight
PSD	Prevention of Significant Deterioration
psig	pounds per square inch gauge
PTC	permit to construct
PTC/T2	permit to construct and Tier II operating permit
PTE	potential to emit
PW	process weight rate
RAP	recycled asphalt pavement
RFO	reprocessed fuel oil
RICE	reciprocating internal combustion engines
<i>Rules</i>	<i>Rules for the Control of Air Pollution in Idaho</i>
scf	standard cubic feet
SCL	significant contribution limits
SIP	State Implementation Plan
SM	synthetic minor
SM80	synthetic minor facility with emissions greater than or equal to 80% of a major source threshold
SO ₂	sulfur dioxide
SO _x	sulfur oxides
T/day	tons per calendar day
T/hr	tons per hour
T/yr	tons per consecutive 12 calendar month period
T2	Tier II operating permit
TAP	toxic air pollutants
TEQ	toxicity equivalent
T-RACT	Toxic Air Pollutant Reasonably Available Control Technology
ULSD	ultra-low sulfur diesel
U.S.C.	United States Code
VOC	volatile organic compounds
yd ³	cubic yards
µg/m ³	micrograms per cubic meter

FACILITY INFORMATION

Description

The Idaho Military Division operates an aircraft engine test facility, or hush house, which is located at Gowen Field at the Boise Airport in Boise, ID. At this facility. The aircraft engine test facility (hush house) is used for testing jet aircraft engines. Three types of tests are conducted in the facility, Trim/Power checks (single engine), Trim/Power checks (double engine), and Test Cell checks (single engine). Three power settings are utilized during each of the three tests; idle, military, and afterburner. The exhaust during the tests is directed down an approximate 79 foot long augments. At the end of the augments is a large concrete deflector angled at forty-five degrees to deflect the exhaust upward into the atmosphere.

Permitting History

The following information was derived from a review of the permit files available to DEQ. Permit status is noted as active and in effect (A) or superseded (S).

December 2, 1996	001-00043, Modification to the permit for the aircraft engine test facility, or hush house, Permit status (A, but will become S upon issuance of this permit)
May 19, 1994	001-00043, Initial permit for the aircraft engine test facility, or hush house, Permit status (S)

Application Scope

This permitting project is to change the fuel use requirement listed in the current permit. Currently the permit lists the following requirement:

- The fuel combusted in the aircraft engine testing facility shall be JP-4 or JP-8 fuel and shall not exceed two hundred forty six thousand, one hundred forty gallons per year (246,140 gal/yr).

The facility has proposed to change the requirement as follows:

- The fuel combusted in the aircraft engine testing facility shall be ~~JP-4 or JP-8 fuel~~ Jet A fuel (aviation jet fuel) and shall not exceed two hundred forty six thousand, one hundred forty gallons per year (246,140 gal/yr).

EPA publication AP-42, Section 3.1 (4/00), for stationary gas turbines lists emissions factors for distillate oil-fired turbines with no differentiation between fuel designations (i.e. JP-4, JP-8, or Jet A). Therefore, it was assumed that there is no proposed change in potential emissions at the facility as a result of this project.

In addition, the MSDSs provided with the application state that Jet Fuel Stock, Jet A, Aviation Jet Fuel A, JP-5, JP-8, and DERD are all synonymous. Therefore, the requirement will be modified as follows:

- The fuel combusted in the aircraft engine testing facility shall be ~~JP-4 or JP-8 fuel~~ Jet Fuel (Jet Fuel Stock, Jet A, Aviation Jet Fuel A, JP-4, JP-5, JP-8, and DERD) and shall not exceed two hundred forty six thousand, one hundred forty gallons per year (246,140 gal/yr).

Application Chronology

May 14, 2013	DEQ received an application and an application fee.
June 3, 2013	DEQ determined that the application was complete.
June 25, 2013	DEQ made available the draft permit and statement of basis for applicant review.
July 2, 2013	DEQ received the permit processing fee.
July 31, 2013	DEQ issued the final permit and statement of basis.

TECHNICAL ANALYSIS

Emissions Units and Control Equipment

Table 1 EMISSIONS UNIT AND CONTROL EQUIPMENT INFORMATION

Source ID No.	Sources	Control Equipment	Emission Point ID No.
N/A	Aircraft engine test facility (hush house)	N/A	Hush house exhaust

Emissions Inventories

As discussed previously, there is no proposed change in emissions units or potential emissions at the facility as a result of this project. Therefore, no emissions calculations were performed for this project and facility-wide emissions are assumed to be those calculated for the December 2, 1996 project for permit 001-00043.

Ambient Air Quality Impact Analyses

As discussed previously, there is no proposed change in emissions units or potential emissions at the facility as a result of this project. Therefore, an ambient air quality impact analysis was not performed for this project per DEQ policy.

REGULATORY ANALYSIS

Attainment Designation (40 CFR 81.313)

The facility is located in Northern Ada County, which is designated as attainment or unclassifiable for PM_{2.5}, PM₁₀, SO₂, NO₂, CO, and Ozone, a maintenance area for PM₁₀ and CO, and an area of concern for PM_{2.5} and Ozone. Refer to 40 CFR 81.313 for additional information.

Facility Classification

As discussed previously, there is no proposed change in emissions units or potential emissions at the facility as a result of this project. Therefore, the facility classification is not changing as a result of this project.

Permit to Construct (IDAPA 58.01.01.201)

IDAPA 58.01.01.201 Permit to Construct Required

The permittee has requested that a PTC be issued to the facility for the proposed existing unmodified emissions source. Therefore, a permit to construct is required to be issued in accordance with IDAPA 58.01.01.220. This permitting action was processed in accordance with the procedures of IDAPA 58.01.01.200-228.

Tier II Operating Permit (IDAPA 58.01.01.401)

IDAPA 58.01.01.401 Tier II Operating Permit

The application was submitted for a permit to construct (refer to the Permit to Construct section), and an optional Tier II operating permit has not been requested. Therefore, the procedures of IDAPA 58.01.01.400-410 were not applicable to this permitting action.

Visible Emissions (IDAPA 58.01.01.625)

IDAPA 58.01.01.625 Visible Emissions

The sources of PM₁₀ emissions at this facility are subject to the State of Idaho visible emissions standard of 20% opacity. This requirement is assured by Permit Condition 2.3.

Title V Classification (IDAPA 58.01.01.300, 40 CFR Part 70)

IDAPA 58.01.01.301

Requirement to Obtain Tier I Operating Permit

As discussed previously, there is no proposed change in emissions units or potential emissions at the facility as a result of this project. Therefore, the facility will not be reclassified as requiring a Title V permit as a result of this project.

PSD Classification (40 CFR 52.21)

40 CFR 52.51

Prevention of Significant Deterioration of Air Quality

The facility is not a major stationary source as defined in 40 CFR 52.21(b)(1), nor is it undergoing any physical change at a stationary source not otherwise qualifying under paragraph 40 CFR 52.21(b)(1) as a major stationary source, that would constitute a major stationary source by itself as defined in 40 CFR 52. Therefore in accordance with 40 CFR 52.21(a)(2), PSD requirements are not applicable to this permitting action. The facility is not a designated facility as defined in 40 CFR 52.21(b)(1)(i)(a), and does not have facility-wide emissions of any criteria pollutant that exceed 250 T/yr.

NSPS Applicability (40 CFR 60)

The facility is not subject to any NSPS requirements 40 CFR Part 60.

NESHAP Applicability (40 CFR 61)

The proposed source is not an affected source subject to NESHAP in 40 CFR 61, and this permitting action does not alter the applicability status of existing affected sources at the facility.

MACT Applicability (40 CFR 63)

The facility is not subject to any MACT standards in 40 CFR Part 63.

Permit Conditions Review

This section describes the permit conditions for this initial permit or only those permit conditions that have been added, revised, modified or deleted as a result of this permitting action.

Existing Permit Condition 2.1

The fuel combusted in the aircraft engine testing facility shall be ~~JP-4 or JP-8~~ fuel and shall not exceed two hundred forty six thousand, one hundred forty gallons per year (246,140 gal/yr).

Revised Permit Condition 2.4

The fuel combusted in the aircraft engine testing facility shall be Jet A fuel (aviation jet fuel) and shall not exceed two hundred forty six thousand, one hundred forty gallons per year (246,140 gal/yr).

This permit condition has been revised to remove the reference to JP-4 or JP-8 fuel and include a reference to Jet A fuel at the request of the Applicant.

PUBLIC REVIEW

Public Comment Opportunity

Because this permitting action does not authorize an increase in emissions, an opportunity for public comment period was not required or provided in accordance with IDAPA 58.01.01.209.04 or IDAPA 58.01.01.404.04.

APPENDIX A – FACILITY DRAFT COMMENTS

The following comments were received from the facility on July 2, 2013:

Facility Comment: Permit Condition 2.4: As we discussed yesterday, please modify the draft permit language from authorizing use of “JP-4 or JP-8” fuel at our Hush House, to authorizing use of “Jet Fuel (Jet Fuel Stock, Jet A, Aviation Jet Fuel A, JP-5, JP-8, DERD, JP-4)” at our Hush House.

DEQ Response: The requested change will be made to the permit.

APPENDIX B – PROCESSING FEE

PTC Fee Calculation

Instructions:

Fill in the following information and answer the following questions with a Y or N. Enter the emissions increases and decreases for each pollutant in the table.

Company: Idaho Military Division 001-00043
Address: East end of runway, Building 1515,
 Gowen Field
City: Boise
State: ID
Zip Code: 83705
Facility Contact: James Hawkes
Title: Environmental Manager
AIRS No.: 001-00043

- N** Does this facility qualify for a general permit (i.e. concrete batch plant, hot-mix asphalt plant)? Y/N
- N** Did this permit require engineering analysis? Y/N
- N** Is this a PSD permit Y/N (IDAPA 58.01.01.205.04)

Emissions Inventory			
Pollutant	Annual Emissions Increase (T/yr)	Annual Emissions Reduction (T/yr)	Annual Emissions Change (T/yr)
NO _x	0.0	0	0.0
SO ₂	0.0	0	0.0
CO	0.0	0	0.0
PM10	0.0	0	0.0
VOC	0.0	0	0.0
TAPS/HAPS	0.0	0	0.0
Total:	0.0	0	0.0
Fee Due	\$ 250.00		

Comments:

