

Statement of Basis

**Permit to Construct No. P-2013.0015
Project ID 62498**

**Idaho State University
Pocatello, Idaho**

Facility ID 005-00029

Final

September 21, 2020

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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
GACT	Generally Available Control Technology
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
ISU	Idaho State University
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

Idaho State University's (ISU) primary campus is located in Pocatello, Idaho. The facility is comprised of educational instruction buildings, research buildings, various student housing units, activity centers, and infrastructure to support day-to-day operations at ISU.

ISU operates the following equipment: 26 boilers (25 boilers are fired exclusively on natural gas fuel; one boiler [boiler No. 4] is fired on natural gas fuel but has the capability to burn diesel fuel as an emergency fuel in the event the natural gas supply to the campus is disrupted), nine emergency generator engines, pathological waste incinerator, three spray paint booths, diesel and gasoline storage tanks, small biodiesel production source, and two small natural gas fired kilns.

Boiler No. 1 was decommissioned. Boiler No. 2 exclusively operates on natural gas. ISU will no longer use coal as an alternative fuel in boiler No. 2. The boiler exhaust baghouse previously used to control coal-burning particulate emissions is decommissioned.

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).

July 30, 2020	PTC No. P-2013.0015, A modified PTC to include existing unpermitted emissions from welding, abrasive blasting, plasma cutting, solvent cleaning, and I.C. engines, Permit status (A, but will become S upon issuance of this permit).
February 6, 2014	Convert Tier II Operating Permit to a Permit to Construct P-2013.0015, Permit status (S).
August 2, 2006	Operating Permit No. T2-030317, renewed T2 permit. Permit status (S).
November 1, 2005	PTC No. P-050306, a PTC for a new gas-fired boiler (Boiler No. 4). Permit status (S).
January 13, 2004	PTC No. P-020328, P-020328, a PTC for a pathological waste incinerator. Permit status (S).
November 16, 1999	PTC No. 005-00029, PTC for an ash barrel. Permit Status (S).
June 6, 1997	Tier II Op No. 005-00029, initial Tier II Operating Permit. Permit status (S).

Application Scope

This PTC is for a minor modification at an existing minor facility.

The applicant has proposed to include existing unpermitted emissions from the following emission units:

- Correct annual welding rod usage in the EAMES building

Application Chronology

August 27, 2020	DEQ received an email requesting the permit be re-opened.
September 21, 2020	DEQ issued the final permit and statement of basis.

TECHNICAL ANALYSIS

Emissions Units and Control Equipment

Table 1 EMISSIONS UNIT AND CONTROL EQUIPMENT INFORMATION

Sources	Control Equipment
<u>Boiler No. 2</u> Manufacturer: Babcock & Wilcox Company Model: H-1329 Manufactured date: 1947 Rating: 23 MMBtu/hr Allowable fuel type: Natural Gas	None
<u>Boiler No. 3</u> Manufacturer: Superior Company Model: Not available Manufactured date: 1957 Rating: 26.92 MMBtu/hr Allowable fuel type: Natural gas	
<u>Boiler No. 4</u> Manufacturer: Keystone Model: Victory Manufactured date: 2005 Rating: 72.84 MMBtu/hr - 60,000 lbs steam/hr Allowable Fuel Type: Natural Gas	Coen low-NOx burner
<u>Pathological Waste Incinerator</u> Manufacturer: National Incinerator Model: 2H46M Incinerator type: Dual chamber Burner type: Axial firing Waste retention time: 60 minutes Rated heating capacity: 1.6 MMBtu/hr Max. hourly combustion rate: 0.8 MMBtu/hr Fuel type: Natural gas	Secondary combustion chamber
<u>Three Paint Booths</u> Paint booth No. 1: Overspray filter – Manufacturer: GFS Wave Media filter or equivalent; Model: FL-ERP or equivalent Coating spray gun(s): Manufacturer: ANEST IWATA, Sata Jet, Devil Bliss or equivalent; transfer efficiency: 65% Paint booth No. 2: Overspray filter– Manufacturer: GFS Wave Media filter or equivalent; Model: FL-ERP or equivalent Coating spray gun(s): Manufacturer: ANEST IWATA, Sata Jet, Devil Bliss or equivalent; transfer efficiency: 65% Paint booth No. 3: Manufacturer: Graco or equivalent; Model: FL-ERP or equivalent; Coating spray gun(s): Manufacturer - Pro-Finish CSA or equivalent; Spray Gun Transfer Efficiency: 65%; PM Control Efficiency: 99 %; Filter Manufacturer: GFS or equivalent	Overspray Filters
<u>Biodiesel Production Process^(a)</u>	None
<u>Nine Emergency Generator Engines</u> Engine No. 1: Manufacturer: Generac Model 2000 Manufactured date: N/A; Construction date: before 6/12/2006 Rated capacity (bhp):211.7 Fuel: Natural gas EPA certification: None Location at ISU: Bldg. 60 Engine No. 2: Manufacturer: Spectrum Model 400DS60 Manufactured date: N/A; Construction date: before 6/12/2006 Rated capacity (bhp):542	

Fuel: Diesel
EPA certification: None
Location at ISU: Bldg. 3

Engine No. 3:
Manufacturer: Generac
Model: 6.8GN
Manufactured date: N/A; Construction date: before 6/12/2006
Rated capacity (bhp):347.2
Fuel: Natural gas
EPA certification: None
Location at ISU: Bldg. 27

Engine No. 4:
Manufacturer: Kohler
Model: 60REOZJB
Manufactured date: N/A; Construction date: before 6/12/2006
Rated capacity (bhp):1,631.5
Fuel: Diesel
EPA certification: None
Location at ISU: Bldg. 88

Engine No. 5:
Manufacturer: Generac
Model: SC400
Manufactured date: 3/24/2005; Construction date: 5/30/2007
Rated capacity (bhp):600
Fuel: Diesel
EPA certification: None
Location at ISU: Bldg. 38

Engine No. 6:
Manufacturer: Generac
Model: SD135
Manufactured date: 6/3/2008; Construction date: 7/14/2008
Rated capacity (bhp):197
Fuel: Diesel
EPA certification: Tier 3
Location at ISU: Bldg. 50

Engine No.:7:
Manufacturer: Generac
Model: SD135
Manufactured date: 5/26/2008; Construction date: 8/12/2008
Rated capacity (bhp):197
Fuel: Diesel
EPA certification: Tier 3
Location at ISU: Bldg. 8

Engine No. 8:
Manufacturer: Generac
Model: SD135
Manufactured date: 6/3/2008; Construction date: 8/13/2008
Rated capacity (bhp):197
Fuel: Diesel
EPA certification: Tier 3
Location at ISU: Bldg. 65

Engine No. 9:
Manufacturer: Generac
Model: SD600
Manufactured date: 10/22/2008; Construction date: 11/25/2008
Rated capacity (bhp):954
Fuel: Diesel
EPA certification: Tier 2
Location at ISU: Bldg. 5

Diesel and Gasoline Storage Tanks^(b)
The capacity of each tank is 5,000 gallons.

<u>Welding EAMES Building</u> Qty (18) Miller Syncrowave 250DX 907194 Qty (6) Miller Syncrowave Qty (18) Lincoln Electric Invertec V350 Pro Qty(17) Miller 70 SeriesXMT350 Qty(1) Miller XMT 304 CC/CV 70 Series <u>Welding Facilities Maintenance</u> Qty (1) Miller Syncrowave 180sd Qty (1) Miller Syncrowave 520 xmatic Qty (1) Lincoln Wirematic 255	99.0% Fume Control Filter for Stainless Steel 309 Welding Only
Plasma Cutting Abrasive Blasting Manufacturer: Econoline Model: 101717R-A Manufacturer: Allsource Model: 41500 Manufacturer: Econoline Model: 101698R-A	<u>Completely Enclosed Booths with Baghouses:</u> Manufacturer: Econoline Type: 100 CFM DK Control efficiency: 75.0% or greater for PM ₁₀ and PM _{2.5}
Solvent Cleaning Six Sinks	None
Pottery Kiln Manufacturer: Cooperworks – Custom – Built Model: P-330 Date of Construction: April 2020 Rating: 2 Burners at 0.4 MMBtu/hr each	

- a) The biodiesel process is exempt from a PTC – See Content Manager Record # 2013AAG753
- b) None are subject to NSPS subpart Kb. According to PTC application received on March 1, 2013, ISU is planning on installing a vapor recovery system on each tank in 2013 which will result in reduction in VOC emissions.

Other Emissions Units

Table 2 identifies all other air pollution emissions units existing at the facility. The only requirements that apply to the emissions units listed in Table 2 are in the facility-wide conditions located in Section 2 of this permit and 40 CFR 60 Subpart IIII located in Section 7.

Table 2 Other Air Pollution Emissions Units at the Facility

Source Description		
<u>Boiler B8</u> Manufacturer: Monitor, or equivalent Model: M723-40 Rating: 1.674 MMBtu/hr Fuel type: Natural gas	<u>Boiler B9</u> Manufacturer: Cleaver Brooks, or equivalent Model: CB 80 HP Rating: 2.678 MMBtu/hr Fuel type: Natural gas	<u>Boiler B10</u> Manufacturer: Monitor, or equivalent Model: M723-60 Rating: 2.511 MMBtu/hr Fuel type: Natural gas
<u>Boiler B11</u> Manufacturer: Pacific National, or equivalent Model: PS-60GS Rating: 2.677 MMBtu/hr Fuel type: Natural gas	<u>Boiler B12</u> Manufacturer: Sellers, or equivalent Model: 77 Commodore Rating: 3.348 MMBtu/hr Fuel type: Natural gas	<u>Boiler B13</u> Manufacturer: National BD, or equivalent Model: H2-2100A-CEBRCAG Rating: 2.1 MMBtu/hr Fuel type: Natural gas
<u>Boiler B14</u> Manufacturer: Laars, or equivalent Model: LC-2871 Rating: 2.87 MMBtu/hr Fuel type: Natural gas	<u>Boiler B15</u> Manufacturer: National, or equivalent Model: 10-66 Rating: 2.25 MMBtu/hr Fuel type: Natural gas	<u>Boiler B16</u> Manufacturer: Smith, or equivalent Model: N95-1075 Rating: 3.844 MMBtu/hr Fuel type: Natural gas
<u>Boiler B17</u> Manufacturer: Weil McLain, or equivalent Model: LGB series 1 Rating: 1.3 MMBtu/hr Fuel type: Natural gas	<u>Boiler B18</u> Manufacturer: Laars, or equivalent Model: RHCH1200NACF2FXX Rating: 1.2 MMBtu/hr Fuel type: Natural gas	<u>Boiler B19</u> Manufacturer: Not available Model: Not available Rating: 0.299 MMBtu/hr, or equivalent Fuel type: Natural gas
<u>Boiler B20</u> Manufacturer: Not available Model: 211-20-WT-1 Rating: 3.0 MMBtu/hr, or equivalent Fuel type: Natural gas	<u>Boiler B21</u> Manufacturer: HydroTherm Model: AM300 Rating: 0.299 MMBtu/hr, or equivalent Fuel type: Natural gas	<u>Boiler B22</u> Manufacturer: Raypak Model: Not available Rating: 0.726 MMBtu/hr, or equivalent Fuel type: Natural gas
<u>Kiln K23</u> Rating: 0.0028 MMBtu/hr, or equivalent Fuel type: Natural gas	<u>Kiln K24</u> Rating: 0.1 MMBtu/hr, or equivalent Fuel type: Natural gas	<u>Burnoff Furnace F25</u> Manufacturer: Johnson burner Rating: 0.2 MMBtu/hr, or equivalent Fuel type: Natural gas
<u>Melting Furnace F26</u> Manufacturer: Pyramid burner, or equivalent Rating: 0.1 MMBtu/hr Fuel type: Natural gas	<u>Boiler B27</u> Manufacturer: Crane, or equivalent Model: 66A series Rating: 1.75 MMBtu/hr Fuel type: Natural gas	<u>Boiler B28</u> Manufacturer: Crane, or equivalent Model: Sunnysdale 302 Rating: 0.525 MMBtu/hr Fuel type: Natural gas
<u>Boiler B29</u> Manufacturer: Laars, or equivalent Model: NB33854 Rating: 0.5 MMBtu/hr Fuel type: Natural gas	<u>Boiler B30</u> Manufacturer: Laars, or equivalent Model: NB 33978 Rating: 0.5 MMBtu/hr Fuel type: Natural gas	<u>Boiler B31</u> Manufacturer: A. O. Smith, or equivalent Model: TW225V-942 Rating: 0.225 MMBtu/hr Fuel type: Natural gas
<u>Boiler B32</u> Manufacturer: A. O. Smith, or equivalent Model: BT365A BBO Rating: 0.365 MMBtu/hr Fuel type: Natural gas	<u>Boiler B33</u> Manufacturer: Lochinvar Corp. Model: CHN2070 Rating: 20.7 MMBtu/hr Fuel type: Natural gas	<u>Boiler B34</u> Manufacturer: Lochinvar Corp. , or equivalent Model: CFN0990PM Rating: 0.832 MMBtu/hr Fuel type: Natural gas
<u>Boiler B35</u> Manufacturer: A. O. Smith, or equivalent Model: BTC197970/BTC275973 Rating: 0.275 MMBtu/hr Fuel type: Natural gas	<u>Boiler B36:</u> Manufacturer: Laars, or equivalent Model: RHCH1600NACF2Exx Manufactured date: 2009 Rating: 1.6 MMBtu/hr Allowable fuel type: Natural gas	<u>Boiler B37:</u> Manufacturer: Precision, or equivalent Model: FPS-58-60 equipped with a Power Flame Low-NOx burner or equivalent Manufactured date: 2013 Rating: 2.5 MMBtu/hr Allowable fuel type: Natural gas
<u>Emergency Generator No. 1</u> Manufacturer: Intermountain Power Model: Generac 2000 Burner type: Not available Rating: 0.539 MMBtu/hr Fuel type: Natural gas	<u>Emergency Generator No. 2</u> Manufacturer: Spectrum Model: 400DS60 Burner type: Not available Rating: 1.38 MMBtu/hr Fuel type: No. 1 or No. 2 fuel oil	<u>Emergency Generator No. 3</u> Manufacturer: Generac Power System Model: Generac6.8GN Burner type: Not available Rating: 0.884 MMBtu/hr Fuel type: Natural gas
<u>Emergency Generator No. 4</u> Manufacturer: Kohler Model: 60REOZJB	<u>Emergency Generator No. 5</u> Manufacturer: Generac Model: SC400	There are also five diesel emergency generator engines (No. 5 through 9) existing at ISU. These engines are subject NSPS, Subpart IIII.

Source Description		
Burner type: Not available Rating: 4.154 MMBtu/hr Fuel type: No. 1 or No. 2 fuel oil	Burner type: Not available Rating: 1.526 MMBtu/hr Fuel type: No. 1 or No. 2 fuel oil	Refer to Section 7 of this PTC.
<u>Art Department Ash Barrel</u> Burns wood chips and paper Burns less than 100 lb/hr and 1,000 lb/yr Located 100 meters from property line	<u>Biodiesel Production Process – Portable Unit</u> The process is exempt from permitting	<u>Emergency Generator No. 1</u> Manufacturer: Kohler Model: KG40 Burner type: Spark Ignition Rating: 65 hp Fuel type: LP-NG Subject to NSPS 40 CFR 60 Subpart III, refer to section 7 of this PTC
<u>Emergency Generator No. 2</u> Manufacturer: Kohler Model: 40REOZK Burner type: Compression Ignition Rating: 65 hp Fuel type: Diesel Subject to NSPS 40 CFR 60 Subpart III, refer to section 7 of this PTC	<u>Emergency Generator No. 3</u> Manufacturer: CAT Model: C9 200KW Burner type: Compression Ignition Rating: 322 hp Fuel type: Diesel Subject to NSPS 40 CFR 60 Subpart III, refer to section 7 of this PTC	<u>Emergency Generator No. 5</u> Manufacturer: CAT Model: C9 200 KW Burner type: Compression Ignition Rating: 322 hp Fuel type: Diesel Subject to NSPS 40 CFR 60 Subpart III, refer to section 7 of this PTC
<u>Emergency Generator No. 4</u> Manufacturer: ONAN Model: 4BTA3.9-G5 Burner type: Compression Ignition Rating: 55 hp Fuel type: Diesel Subject to NSPS 40 CFR 60 Subpart III, refer to section 7 of this PTC	<u>Emergency Generator No. 6</u> Manufacturer: ONAN Model: 4B3.9-G2 Burner type: Compression Ignition Rating: 55 hp Fuel type: Diesel Subject to NSPS 40 CFR 60 Subpart III, refer to section 7 of this PTC	<u>Emergency Generator No. 8</u> Manufacturer: ONAN Model: 4B3.9-G2 Burner type: Compression Ignition Rating: 55 hp Fuel type: Compression Ignition Subject to NSPS 40 CFR 60 Subpart III, refer to section 7 of this PTC
<u>Emergency Generator No. 7</u> Manufacturer: Kohler Model: 25REZG Burner type: Spark Ignition Rating: 40 hp Fuel type: Natural Gas Subject to NSPS 40 CFR 63 Subpart ZZZZ, refer to section 2 of this PTC	<u>Emergency Generator No. 9</u> Manufacturer: Generac Model: QT025A Burner type: Spark Ignition Rating: 40 hp Fuel type: Natural Gas Subject to NSPS 40 CFR 60 Subpart III, refer to section 7 of this PTC	<u>Emergency Generator No. 11</u> Manufacturer: Kohler Model: 60ROZJ81 Burner type: Compression Ignition Rating: 96 hp Fuel type: Diesel Non-Stationary I.C. Engine, not applicable to 40 CFR 63 ZZZZ or 40 CFR 60 IIII
<u>Emergency Generator No. 10</u> Manufacturer: ONAN Model: 30.0EK-15R/23545M Burner type: Spark Ignition Rating: 48 hp Fuel type: Natural Gas Subject to NSPS 40 CFR 60 Subpart III, refer to section 7 of this PTC		

Emissions Inventories

Potential to Emit

IDAPA 58.01.01 defines Potential to Emit as the maximum capacity of a facility or stationary source to emit an air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of the facility or source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored or processed, shall be treated as part of its design if the limitation or the effect it would have on emissions is state or federally enforceable. Secondary emissions do not count in determining the potential to emit of a facility or stationary source.

Using this definition of potential to emit an emission inventory was developed for all emissions units existing at the facility, including exempted sources A complete emission inventory is shown in the PTC application that was received on April 6, 2020, and the supplemental information received by DEQ May 19, 2020.

Appendix A of this statement of basis contains a detailed presentation of the calculations and assumptions used to determine the uncontrolled potential to emit (PTE), pre-project PTE, and post-project PTE for all criteria air pollutants, HAPs, TAPs.

Further, the processing emissions fees were estimated based on the pre-project PTE and post-project PTE that were submitted by the applicant and verified by DEQ staff in the PTC application. These emissions are presented in Appendix A of this S.O.B. The PTC fee calculation sheet is shown in Appendix C of this memo.

The following table presents a summary of the uncontrolled PTE for regulated air pollutants as submitted by the applicant and verified by DEQ staff.

Uncontrolled Potential to Emit

Using the definition of Potential to Emit, uncontrolled Potential to Emit is then defined as the maximum capacity of a facility or stationary source to emit an air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of the facility or source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored or processed, shall **not** be treated as part of its design **since** the limitation or the effect it would have on emissions **is not** state or federally enforceable.

The uncontrolled Potential to Emit is used to determine if a facility is a “Synthetic Minor” source of emissions. Synthetic Minor sources are facilities that have an uncontrolled Potential to Emit for regulated air pollutants or HAP above the applicable Major Source threshold without permit limits.

The following table presents the uncontrolled Potential to Emit for regulated air pollutants as submitted by the Applicant and verified by DEQ staff. See Appendix A for a detailed presentation of the calculations and the assumptions used to determine emissions for each emissions unit.

Table 2 UNCONTROLLED POTENTIAL TO EMIT FOR REGULATED AIR POLLUTANTS

Source	PM ₁₀ /PM _{2.5}	SO ₂	NO _x	CO	VOC
	T/yr	T/yr	T/yr	T/yr	T/yr
Point Sources					
Boiler No. 1	-	-	-	-	-
Boiler No. 2	0.75	0.06	9.88	8.30	0.54
Boiler No. 3	0.88	0.069	5.78	9.71	0.64
Boiler No. 4	2.38	0.19	15.6	26.3	1.72
Boiler No. 36 (Bldg 65)	0.052	0.004	0.69	0.58	0.038
Boiler No. 37 (Bldg 38)	0.082	0.006	0.87	0.90	0.059
Fuel Tank No. 1 – Diesel	-	-	-	-	0.001
Fuel Tank No. 2 – Gasoline	-	-	-	-	0.58
Paint Booth No. 1 (EAMES Bldg)	2.95	-	-	-	7.09
Paint Booth No. 2 (EAMES Bldg)	2.95	-	-	-	7.09
Paint Booth No. 3 (EAMES Bldg)	1.40	-	-	-	3.28
Shop Baghouse No. 1 (Bldg 22)	2.06	-	-	-	-
Emergency Generators Nos. 1-4	0.43	0.40	6.89	2.64	0.37
Emergency Generators Nos. 5-9	0.18	0.007	5.68	1.03	0.25
Pathological Waste Incinerator	0.30	0.320	1.17	0.090	0.040
Boilers (items 8-22, 27-34, and 35 in Table 2; Kilns and Furnaces (Items 23-26 in Table 2)	0.97	0.08	12.88	10.82	0.710
Welding EAMES Building	1.26	-	-	-	-
Welding Facilities Maintenance	0.003	-	-	-	-
Plasma Cutting	0.10	-	5.51	-	-
Abrasive Blasting	0.00025	-	-	-	-
Solvent Cleaning	-	-	-	-	1.4
Pottery Kiln	0.03	0.002	0.34	0.29	0.02
Total, Point Sources	16.75	1.14	65.29	60.66	23.83

The following table presents the uncontrolled Potential to Emit for HAP pollutants as submitted by the Applicant and verified by DEQ staff. See Appendix A for a detailed presentation of the calculations and the assumptions used to determine emissions for each emissions unit. For this operation uncontrolled Potential to Emit is based upon a worst-case for operation of the facility of 8,760 hr/yr (24 hr/day x 365 day/yr). Then, the worst-case maximum HAP Potential to Emit was determined for this operation.

Table 3 UNCONTROLLED POTENTIAL TO EMIT FOR HAZARDOUS AIR POLLUTANTS

Hazardous Air Pollutants	PTE (T/yr)
2-Methylnaphthalene	8.2E-08
3-Methylchloranthrene	6.2E-09
Acenaphthene	6.2E-09
Acenaphthylene	6.2E-09
Anthracene	8.2E-09
Antimony	2.3E-05
Arsenic	6.9E-07
Benzene	7.2E-06
Benzo(a)anthracene	6.2E-09
Benzo(a)pyrene	4.1E-09
Benzo(b)fluoranthene	6.2E-09
Benzo(g,h,i)perylene	4.1E-09
Benzo(k)fluoranthene	6.2E-09
Beryllium	3.3E-09
Beryllium	4.1E-08
Cadmium	3.8E-06
Chromium	2.0E-02
Chromium	4.8E-06
Chrysene	6.2E-09
Cobalt	5.3E-07
Cobalt	2.9E-07
Dibenzo(a,h)anthracene	4.1E-09
Dichlorobenzene	4.1E-06
Fluoranthene	1.0E-08
Fluorene	9.6E-09
Formaldehyde	2.6E-04
Hexane	6.2E-03
Indeno(1,2,3-cd)pyrene	6.2E-09
Manganese	6.9E-02
Manganese	1.3E-06
Mercury	8.9E-07
Naphthalene	2.1E-06
Naphthalene	2.1E-06
Nickel	1.4E-02
PAH Max. total	2.3E-06
Phenanathrene	5.8E-08
Polycyclic Org. Matter (POM, 7-PAH Group)	3.9E-08
Pyrene	1.7E-08
Selenium	8.2E-08
Toluene	1.2E-05
3-Methylchloranthrene	6.2E-09
Total	0.11

Pre-Project Potential to Emit

Pre-project Potential to Emit is used to establish the change in emissions at a facility as a result of this project.

The following table presents the pre-project potential to emit for all criteria pollutants from all emissions units at the facility as submitted by the Applicant and verified by DEQ staff. See Appendix A for a detailed presentation of the calculations of these emissions for each emissions unit.

Table 4 PRE-PROJECT POTENTIAL TO EMIT FOR REGULATED AIR POLLUTANTS

Source	PM ₁₀ /PM _{2.5}	SO ₂	NO _x	CO	VOC
	T/yr ^(a)	T/yr ^(a)	T/yr ^(a)	T/yr ^(a)	T/yr ^(a)
Boiler No. 1	-	-	-	-	-
Boiler No. 2	0.12	0.01	1.63	1.37	0.09
Boiler No. 3	0.77	0.06	5.08	8.53	0.56
Boiler No. 4	1.90	0.15	12.8	21.10	1.38
Boiler No. 36 (Bldg 65)	0.052	0.004	0.69	0.58	0.038
Boiler No. 37 (Bldg 38)	0.082	0.006	0.87	0.90	0.059
Fuel Tank No. 1 - Diesel	-	-	-	-	0.001
Fuel Tank No. 2 - Gasoline	-	-	-	-	0.58
Paint Booth No. 1 (Bldg 48)	0.02	-	-	-	3.88
Paint Booth No. 2 (Bldg 48)	0.02	-	-	-	3.88
Paint Booth No. 3 & Maintenance Shop (Bldg 22)	0.01	-	-	-	1.80
Emergency Generators Nos. 1-4	0.43	0.40	6.89	2.64	0.37
Emergency Generators Nos. 5-9	0.18	0.007	5.68	1.03	0.25
Pathological Waste Incinerator	0.30	0.320	1.17	0.090	0.040
Boilers (items 8-22, 27-34, and 35 in Table 2; Kilns & Furnaces (Items 23-26 in Table 2)	0.98	0.080	12.89	10.83	0.710
Pre-Project Totals	4.86	1.04	47.70	47.07	13.64

a) Controlled average emission rate in tons per year is an annual average, based on the proposed annual operating schedule and annual limits.

Post Project Potential to Emit

Post project Potential to Emit is used to establish the change in emissions at a facility and to determine the facility's classification as a result of this project. Post project Potential to Emit includes all permit limits resulting from this project.

The following table presents the post project Potential to Emit for criteria pollutants from all emissions units at the facility as determined by DEQ staff. See Appendix A for a detailed presentation of the calculations of these emissions for each emissions unit.

Table 5 POST PROJECT POTENTIAL TO EMIT FOR REGULATED AIR POLLUTANTS

Source	PM ₁₀ /PM _{2.5}	SO ₂	NO _x	CO	VOC
	T/yr ^(a)	T/yr ^(a)	T/yr ^(a)	T/yr ^(a)	T/yr ^(a)
Boiler No. 1	-	-	-	-	-
Boiler No. 2	0.12	0.01	1.63	1.37	0.09
Boiler No. 3	0.77	0.061	5.08	8.53	0.56
Boiler No. 4	1.90	0.15	12.8	21.1	1.38
Boiler No. 36 (Bldg 65)	0.052	0.004	0.69	0.58	0.038
Boiler No. 37 (Bldg 38)	0.082	0.006	0.87	0.90	0.059
Fuel Tank No. 1 – Diesel	0.000	0	0	0	0.001
Fuel Tank No. 2 – Gasoline	0.000	0	0	0	0.58
Paint Booth No. 1 (EAMES Bldg)	0.02	0	0	0	3.88
Paint Booth No. 2 (EAMES Bldg)	0.02	0	0	0	3.88
Paint Booth No. 3 (EAMES Bldg)	0.01	-	-	-	1.80
Emergency Generators Nos. 1-4	0.43	0.40	6.89	2.64	0.37
Emergency Generators Nos. 5-9	0.18	0.007	5.68	1.03	0.25
Pathological Waste Incinerator	0.30	0.320	1.17	0.090	0.040
Boilers (items 8-22, 27-34, and 35 in Table 2; Kilns and Furnaces (Items 23-26 in Table 2)	0.98	0.080	12.89	10.83	0.710
Welding EAMES Building	0.20	-	-	-	-
Welding Facilities Maintenance	0.0005	-	-	-	-
Plasma Cutting	0.0001	-	0.008	-	-
Abrasive Blasting	0.00005	-	-	-	-
Solvent Cleaning	-	-	-	-	0.0008
Pottery Kiln	0.03	0.002	0.3	0.3	0.02
Post Project Totals	5.09	1.04	48.01	47.37	13.66

a) Controlled average emission rate in tons per year is an annual average, based on the proposed annual operating schedule and annual limits.

Change in Potential to Emit

The change in facility-wide potential to emit is used to determine if a public comment period may be required and to determine the processing fee per IDAPA 58.01.01.225. The following table presents the facility-wide change in the potential to emit for criteria pollutants.

Table 6 CHANGES IN POTENTIAL TO EMIT FOR REGULATED AIR POLLUTANTS

Source	PM ₁₀ /PM _{2.5}	SO ₂	NO _x	CO	VOC
	T/yr	T/yr	T/yr	T/yr	T/yr
Pre-Project Potential to Emit	4.86	1.04	47.70	47.07	13.64
Post Project Potential to Emit	5.09	1.04	48.01	47.37	13.66
Changes in Potential to Emit	0.23	0.00	0.31	0.30	0.02

Non-Carcinogenic TAP Emissions

A summary of the estimated PTE for emissions increase of non-carcinogenic toxic air pollutants (TAP) is provided in the following table.

Pre- and post-project, as well as the change in, non-carcinogenic TAP emissions are presented in the following table:

Table 7 PRE- AND POST PROJECT POTENTIAL TO EMIT FOR NON-CARCINOGENIC TOXIC AIR POLLUTANTS

Non-Carcinogenic Toxic Air Pollutants	Pre-Project 24-hour Average Emissions Rates for Units at the Facility (lb/hr)	Post Project 24-hour Average Emissions Rates for Units at the Facility (lb/hr)	Change in 24-hour Average Emissions Rates for Units at the Facility (lb/hr)	Non-Carcinogenic Screening Emission Level (lb/hr)	Exceeds Screening Level? (Y/N)
Aluminum oxide	0.00E-03	4.75E-05	4.75E-05	3.30E-02	No
Antimony compounds	0.00E-03	1.75E-06	1.75E-06	6.67E-01	No
Calcium Carbonate	0.00E-03	2.19E-07	2.19E-07	3.30E-02	No
Chromium	0.00E-03	3.55E-05	3.55E-05	3.30E-03	No
Cobalt	0.00E-03	4.34E-06	4.34E-06	1.30E-02	No
Copper	0.00E-03	1.12E-04	1.12E-04	2.00E+01	No
Dichlorobenzene	0.00E-03	9.41E-07	9.41E-07	1.20E+01	No
Hexane	0.00E-03	1.41E-03	1.41E-03	3.33E-01	No
Iron Oxide Fume	0.00E-03	1.09E-03	1.09E-03	9.10E-05	No
Fluoranthene	0.00E-03	2.35E-09	2.35E-09	1.67E-01	No
Fluorides, as F	0.00E-03	5.75E-06	5.75E-06	1.33E-01	No
Kaolin	0.00E-03	2.19E-07	2.19E-07	6.70E-02	No
Manganese	0.00E-03	5.12E-03	5.12E-03	6.67E-01	No
Magnesium	0.00E-03	2.95E-05	2.95E-05	2.00E-01	No
Mercury	0.00E-03	2.65E-05	2.65E-05	2.00E-01	No
Mica	0.00E-03	1.09E-06	1.09E-06	3.33E-01	No
Molybdenum	0.00E-03	5.45E-05	5.45E-05	3.33E+00	No
Naphthalene	0.00E-03	4.78E-07	4.78E-07	1.18E+02	No
Pentane	0.00E-03	2.04E-03	2.04E-03	7.00E-03	No
Phosphorous	0.00E-03	1.25E-05	1.25E-05	1.30E-02	No
Selenium	0.00E-03	1.88E-08	1.88E-08	6.70E-03	No
Silica	0.00E-03	8.46E-05	8.46E-05	6.67E-01	No
Silica - amorphous	0.00E-03	3.50E-06	3.50E-06	6.67E-01	No
Silicon	0.00E-03	5.04E-04	5.04E-04	2.50E+01	No
Toluene	0.00E-03	2.67E-06	2.67E-06	3.00E-03	No
Vanadium, as V2O5	0.00E-03	1.87E-05	1.87E-05	6.67E-01	No
Zinc	0.00E-03	2.35E-05	2.35E-05	3.33E-01	No
Zirconium	0.00E-03	4.66E-07	4.66E-07	3.30E-02	No

All changes in emissions rates for non-carcinogenic TAP were below EL (screening emissions level) as a result of this project. Therefore, modeling is not required for any non-carcinogenic TAP because none of the 24-hour average non-carcinogenic screening ELs identified in IDAPA 58.01.01.585 were exceeded.

Carcinogenic TAP Emissions

A summary of the estimated PTE for emissions increase of carcinogenic toxic air pollutants (TAP) is provided in the following table.

Table 8 PRE- AND POST PROJECT POTENTIAL TO EMIT FOR CARCINOGENIC TOXIC AIR POLLUTANTS

Carcinogenic Toxic Air Pollutants	Pre-Project Annual Average Emissions Rates for Units at the Facility (lb/hr)	Post Project Annual Average Emissions Rates for Units at the Facility (lb/hr)	Change in Annual Average Emissions Rates for Units at the Facility (lb/hr)	Carcinogenic Screening Emission Level (lb/hr)	Exceeds Screening Level? (Y/N)
Arsenic	0.00E-03	1.6E-07	1.6E-07	1.50E-06	No
Benzene	0.00E-03	1.6E-06	1.6E-06	8.00E-04	No
Beryllium	0.00E-03	9.4E-09	9.4E-09	2.80E-05	No
Cadmium	0.00E-03	8.6E-07	8.6E-07	3.70E-06	No
Chromium+6	0.00E-03	8.3E-07	8.3E-07	5.60E-07	Yes
2-Methylnaphthalene	0.00E-03	1.9E-08	1.9E-08	9.10E-05	No
3-Methylchloranthrene	0.00E-03	1.4E-09	1.4E-09	9.10E-05	No
Acenaphthene	0.00E-03	1.4E-09	1.4E-09	9.10E-05	No
Acenaphthylene	0.00E-03	1.4E-09	1.4E-09	9.10E-05	No
Anthracene	0.00E-03	1.9E-09	1.9E-09	9.10E-05	No
Benzo(a)pyrene	0.00E-03	1.4E-09	1.4E-09	9.10E-05	No
Benzo(g,h,i)perylene	0.00E-03	9.4E-10	9.4E-10	9.10E-05	No
Formaldehyde	0.00E-03	5.9E-05	5.9E-05	5.10E-04	No
Fluorene	0.00E-03	2.2E-09	2.2E-09	9.10E-05	No
Naphthalene	0.00E-03	4.8E-07	4.8E-07	9.10E-05	No
Nickel	0.00E-03	1.3E-05	1.1E-05	2.70E-05	No
PAH Max. total	0.00E-03	5.4E-07	5.4E-07	9.10E-05	No
Phenanathrene	0.00E-03	1.3E-08	1.3E-08	9.10E-05	No
Polycyclic Org. Matter (POM, 7-PAH Group)	0.00E-03	8.9E-09	8.9E-09	2.00E-06	No
Pyrene	0.00E-03	3.9E-09	3.9E-09	9.10E-05	No

a) Polycyclic Organic Matter (POM) is considered as one TAP comprised of: benzo(a)anthracene, benzo(b)fluoranthene, benzo(k)fluoranthene, dibenzo(a,h)anthracene, chrysene, indeno(1,2,3-cd)pyrene, benzo(a)pyrene. The total is compared to benzo(a)pyrene.

All changes in emissions rates for carcinogenic TAP were not below EL (screening emissions level) as a result of this project. Therefore, modeling is not required but a T-RACT analysis is, for any carcinogenic TAP where the annual average carcinogenic screening ELs identified in IDAPA 58.01.01.586 were exceeded.

T-RACT Analysis

DEQ is satisfied that Idaho State University, adhering to the conditions of this permit will not exceed any applicable acceptable ambient concentration (AAC) or AAC for carcinogens (AACC) for TAPs, except those TAPs using T-RACT analysis to demonstrate pre-construction compliance. As described in the Emissions Inventories Section previously, most of the uncontrolled TAP emission rate estimates were found to be less than their corresponding emission screening level (EL) listed in Section 585-586 of IDAPA 58.01.01. For those TAPs, the requirements under Section 210.05 are met and no further procedures for demonstrating preconstruction compliance are required.

For the TAPs that exceed the EL in Section 585-586 of IDAPA 58.01.01, preconstruction compliance was demonstrated under the rules for toxic air pollutant reasonably available control technology (T-RACT) as specified in Sections 210.12-14 of IDAPA 58.01.01.

In accordance with IDAPA 58.01.01.210.12, the proposed T-RACT ambient concentrations at the point of compliance for each applicable TAP are less than, or equal to, the T-RACT ambient concentration (i.e., less than 10 times the applicable AACC listed in IDAPA 58.01.01.586).

In accordance with IDAPA 58.01.01.210.14, this T-RACT analysis included consideration of available control technologies and/or “The application of a design, equipment, work practice or operational requirement, or combination thereof”, for compliance with the T-RACT requirements. This included a search of EPA’s RACT, BACT, LAER Clearinghouse to identify available control technologies. Control measures were determined to be not feasible based upon consideration of the technological feasibility for this process/operation, the economic feasibility, energy requirements, and environmental impacts.

In accordance with IDAPA 58.01.01.210.12.d and 58.01.01.210.14.e, emission limits and other permit conditions for each T-RACT pollutant have been incorporated into the permit as summarized in the table above to assure that the facility will be operated in the manner described in the preconstruction compliance demonstration. A detailed T-RACT analysis is provided on the DEQ website.

Post Project HAP Emissions

The following table presents the post project potential to emit for HAP pollutants from all emissions units at the facility as submitted by the Applicant and verified by DEQ staff. See Appendix A for a detailed presentation of the calculations of these emissions for each emissions unit.

Table 9 HAZARDOUS AIR POLLUTANTS EMISSIONS POTENTIAL TO EMIT SUMMARY

Hazardous Air Pollutants	PTE (T/yr)
2-Methylnaphthalene	8.2E-08
3-Methylchloranthrene	6.2E-09
Acenaphthene	6.2E-09
Acenaphthylene	6.2E-09
Anthracene	8.2E-09
Antimony	1.1E-06
Arsenic	6.9E-07
Benzene	7.2E-06
Benzo(a)anthracene	6.2E-09
Benzo(a)pyrene	4.1E-09
Benzo(b)fluoranthene	6.2E-09
Benzo(g,h,i)perylene	4.1E-09
Benzo(k)fluoranthene	6.2E-09
Beryllium	4.8E-11
Beryllium	4.1E-08
Cadmium	3.8E-06
Chromium	2.9E-04
Chromium	4.8E-06
Chrysene	6.2E-09
Cobalt	8.2E-06
Cobalt	2.9E-07
Dibenzo(a,h)anthracene	4.1E-09
Dichlorobenzene	4.1E-06
Fluoranthene	1.0E-08
Fluorene	9.6E-09
Formaldehyde	2.6E-04
Hexane	6.2E-03
Indeno(1,2,3-cd)pyrene	6.2E-09
Manganese	9.7E-03
Manganese	1.3E-06
Mercury	8.9E-07
Naphthalene	2.1E-06
Naphthalene	2.1E-06
Nickel	4.9E-05
PAH Max. total	2.3E-06
Phenanathrene	5.8E-08
Polycyclic Org. Matter (POM, 7-PAH Group)	3.9E-08
Pyrene	1.7E-08
Selenium	8.2E-08

Hazardous Air Pollutants	PTE (T/yr)
Toluene	1.2E-05
Totals	0.02

Ambient Air Quality Impact Analyses

An Ambient Air Quality Impact Analyses was not conducted/needed for this project.

REGULATORY ANALYSIS

Attainment Designation (40 CFR 81.313)

The facility is located in Bannock County, which is designated as attainment or unclassifiable for PM_{2.5}, PM₁₀, SO₂, NO₂, CO, and Ozone. Refer to 40 CFR 81.313 for additional information.

Facility Classification

The AIRS/AFS facility classification codes are as follows:

For HAPs (Hazardous Air Pollutants) Only:

- A = Use when any one HAP has permitted emissions > 10 T/yr or if the aggregate of all HAPS (Total HAPs) has permitted emissions > 25 T/yr.
- SM80 = Use if a synthetic minor (uncontrolled HAPs emissions are > 10 T/yr or if the aggregate of all uncontrolled HAPs (Total HAPs) emissions are > 25 T/yr and permitted emissions fall below applicable major source thresholds) and the permit sets limits > 8 T/yr of a single HAP or ≥ 20 T/yr of Total HAPs.
- SM = Use if a synthetic minor (uncontrolled HAPs emissions are > 10 T/yr or if the aggregate of all uncontrolled HAPs (Total HAPs) emissions are > 25 T/yr and permitted emissions fall below applicable major source thresholds) and the permit sets limits < 8 T/yr of a single HAP and/or < 20 T/yr of Total HAPs.
- B = Use when the potential to emit (i.e. uncontrolled emissions and permitted emissions) are below the 10 and 25 T/yr HAP major source thresholds.
- UNK = Class is unknown.

For All Other Pollutants:

- A = Use when permitted emissions of a pollutant are > 100 T/yr.
- SM80 = Use if a synthetic minor for the applicable pollutant (uncontrolled emissions are > 100 T/yr and permitted emissions fall below 100 T/yr) and permitted emissions of the pollutant are ≥ 80 T/yr.
- SM = Use if a synthetic minor for the applicable pollutant (uncontrolled emissions are > 100 T/yr and permitted emissions fall below 100 T/yr) and permitted emissions of the pollutant are < 80 T/yr.
- B = Use when the potential to emit (i.e. uncontrolled emissions and permitted emissions) are below the 100 T/yr major source threshold.
- UNK = Class is unknown.

Table 10 REGULATED AIR POLLUTANT FACILITY CLASSIFICATION

Pollutant	Uncontrolled PTE (T/yr)	Permitted PTE (T/yr)	Major Source Thresholds (T/yr)	AIRS/AFS Classification
PM	16.75	5.09	100	B
PM ₁₀	16.75	5.09	100	B
PM _{2.5}	16.75	5.09	100	B
SO ₂	1.14	1.04	100	B
NO _x	65.29	48.01	100	B
CO	60.66	47.37	100	B
VOC	23.83	13.66	100	B
HAP (single)	6.9E-02	9.7E-03	10	B
Total HAPs	0.11	0.02	25	B

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 new emissions sources. 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.

Other Rules as Applicable

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 Conditions 2.7, 2.8, and 2.9.

IDAPA 58.01.01.676-677 Standards for New and Existing Sources

The fuel burning equipment located at this facility, with a maximum rated input of less than ten (10) million BTU per hour, are subject to a particulate matter limitation of 0.015 gr/dscf of effluent gas corrected to 3% oxygen by volume when combusting gaseous fuels. Fuel-Burning Equipment is defined as any furnace, boiler, apparatus, stack and all appurtenances thereto, used in the process of burning fuel for the primary purpose of producing heat or power by indirect heat transfer. This requirement is assured in the facility-wide section of the permit. IDAPA 58.01.01.676 applies to 26 natural gas-fired boilers existing at the facility – refer to Tables 1 and 2 of this statement of basis. This requirement is assured by Permit Conditions 2.12.

Also, the fuel burning equipment located at this facility, with a maximum rated input of ten (10) million BTU per hour or more, is subject to a particulate matter limitation of 0.05 gr/dscf of effluent gas corrected to 3% oxygen by volume when combusting liquid fuels. IDAPA 58.01.01.676 applies to Boiler No. 4 at the facility in which the facility requested the option of firing the boiler with diesel as an emergency fuel in the event that the natural gas supply to the campus is disrupted. This requirement is assured by Permit Condition 2.12.

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

IDAPA 58.01.01.301 Requirement to Obtain Tier I Operating Permit

Post project facility-wide emissions from this facility do not have a potential to emit greater than 100 tons per year for PM₁₀, SO₂, NO_x, CO, and VOC or 10 tons per year for any one HAP or 25 tons per year for all HAP combined as demonstrated previously in the Emissions Inventories Section of this analysis. Therefore, the facility is not a Tier I source in accordance with IDAPA 58.01.01.006 and the requirements of IDAPA 58.01.01.301 do not apply.

PSD Classification (40 CFR 52.21)

40 CFR 52.21 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)

40 CFR 60 Subpart Dc Standards of Performance for Small Industrial-commercial-Institutional steam Generating Units

40 CFR 60.40c, Applicability and delegation of authority

In accordance with 40 CFR 60.40c(a), this subpart applies to each steam generating unit for which construction, modification, or reconstruction is commenced after June 9, 1989, and that has a maximum design heat input capacity greater than 10 MMBtu/hr and less than or equal to 100 MMBtu/hr.

The Heat Plant boilers (Boilers Nos. 1, 2, 3, and 4) at ISU all fall within the applicable heat input capacity range but only Boiler No. 4 was constructed after the applicability date. Boilers Nos. 2 and 3 were constructed in 1947 and 1957, respectively and were not modified or reconstructed since their construction dates.

With regard to Boiler No. 1 (rated capacity: 32.05 MMBtu/hr) there was no information in Tier II OP No. T2-030317, issued to ISU on August 2, 2006 to determine if the boiler was not subject to NSPS Subpart Dc. Nevertheless, Boiler No. 1 has been decommissioned by ISU, and therefore, the boiler is not included in this permitting action.

It should be noted that the coal combustion capability in Boiler No. 2 is eliminated. The boiler will be operated exclusively on natural gas. Also, the baghouse that is associated with Boiler No. 2 has been decommissioned.

Boiler No. 3 (rated capacity: 26.92 MMBtu/hr) annual allowable natural gas throughput limitation was increased by 30 MMscf/yr to 203 MMscf/yr. This increase in the annual fuel consumption will not trigger the definition of modification under 40 CFR 60.2; and therefore, Boiler No. 3 is still not subject to 40 CFR 60, Subpart Dc.

Boiler No. 4 (rated capacity: 72.84 MMBtu/hr) is subject to 40 CFR 60, Subpart Dc. ISU will normally operate the boiler with natural gas as main fuel but is pursuing with this permitting action the use of diesel fuel only during emergency. Diesel fuel falls under the definitions of distillate oil in 40 CFR 60.41c. The boiler annual allowable natural gas throughput limitation was increased by 30 MMscf/yr to 498 MMscf/yr. Also, when the boiler was purchased, it had the potential capability to burn diesel fuel oil, but the facility did not burn diesel in the boiler. However, the applicable requirements for burning diesel fuel oil at the affected facility in Subpart Dc were not addressed in permit No. T2-030317, issued on August 2, 2006. For this permitting action, the Subpart Dc requirements that are associated with burning fuel oil in the boiler (i.e., PM, SO₂, and opacity limits) are included in the PTC. There is no provision in Subpart Dc that exempt these requirements on the affected facility (Boiler No. 4) during periods of emergency in which the permittee requested to use the diesel fuel oil in the boiler.

The permit conditions associated with the fuel oil usage in Boiler No. 4 are included in the permit. These permit conditions are: Permit Condition 5.3 (PM standard of 0.030 lb/MMBtu heat input, per 40 CFR 60.43c(e)(1)); Permit Condition 5.4 (SO₂ standard of 0.50 lb/MMBtu heat input, per 40 CFR 60.42c(d); and Permit Condition 5.5 (Opacity standard of 20% [6-minute average], except for one 6-minute period per hour of not more than 27% opacity, per 40 CFR 60.43c(c)).

The permittee requested to revise Permit Condition 5.10 (Compliance and Performance Test Methods), which requires the permittee to conduct a PM performance test when the boiler is operating on diesel fuel. The request is to revise that permit condition to include a requirement to perform the test until such time when ISU actually operates the boiler on diesel fuel. DEQ revised Permit Condition 5.10 to read as follows:” In accordance with 40 CFR 60.45c(a), the operator of an affected facility shall conduct an initial performance test as required under 40 CFR 60.8 after startup with diesel fuel to demonstrate compliance with the particulate matter standards of 40 CFR 60.43c (i.e., Permit Condition 5.3).” The revision made to Permit Condition 5.10 was based on the requirements on 40 CFR 60.8 (Performance Tests), which states “*In accordance with 40 CFR 60.8 (Performance Tests), “(a) Except as specified in paragraphs (a)(1), (a)(2), (a)(3), and (a)(4) of this section, within 60 days after achieving the maximum production rate at which the affected facility will be operated, but not later than 180 days after initial startup of such facility, or at such other times specified by this subpart, and at such other times as may be required by the Administrator under section 114 of the Act, the owner or operator of such facility shall conduct performance test(s) and furnish the Administrator a written report of the results of such performance test(s).”*

Therefore, DEQ determined that the PM performance tests will not be required until the facility actually starts combusting diesel fuel in the boiler. The tests will be performed in accordance with 40 CFR 60.8.

It should be noted that Boiler No. 4 is equipped with Coen low-NOx burner. The permit does not include NOx emissions limits because modeling for any criteria air pollutants emissions was not triggered for this permitting action. For more information regarding modeling for criteria air pollutants, please refer to Appendix B of this SoB.

40 CFR 60 Subpart Kb Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced after July 23, 1984

ISU has one 5,000 gallon diesel fuel storage tank and one 5,000 gallon gasoline storage tank and both were constructed in 1998.

In accordance with 40 CFR 60.110b (Applicability and designation of affected facility) the affected facility to which this subpart applies is each storage vessel with a capacity greater than or equal to 75 cubic meters (m³) or approximately 19,813 gallons that is used to store volatile organic liquids for which construction, reconstruction, or modification is commenced after July 23, 1984. The capacity of the storage tanks at ISU is each less than 19,813 gallons threshold, and therefore, Subpart Kb does not apply to the tanks.

40 CFR 60 Subpart Ce Emission Guidelines and Compliance Times for Hospital/Medical/Infectious Waste Incinerators

ISU has one pathological incinerator installed at the Life Science Building (#65) used to incinerate animal tissue and cadavers.

In accordance with the definition of 40 CFR 60 of Subpart Ce (§ 60.31e Definitions), “terms used but not defined in this subpart have the meaning given them in the Clean Air Act and in subparts A, B, and Ec of this part.” In accordance with Subpart Ec (§ 60.51c Definitions) “*pathological waste* means waste material consisting of only human or animal remains, anatomical parts, and/or tissue, the bags/containers used to collect and transport the waste material, and animal bedding (if applicable).”

In accordance with 40 CFR Part 60.32e(2) of Subpart Ce (Designated facilities), for incinerators built between 6/20/96 and 12/1/08, a combustor is not subject to this subpart when only pathological waste, low-level radioactive waste, and/or chemotherapeutic waste is burned, provided the owner or operator of the combustor notifies the administrator of an exemption claim; and keeps records on a calendar quarter basis of the periods of time when only pathological waste, low-level radioactive waste, and/or chemotherapeutic waste is burned.

§ 60.4206 How long must I meet the emission standards if I am an owner or operator of a stationary CI internal combustion engine?

The emission standards of § 60.4205 must be met over the entire life of the engines that are subject to this section of the subpart at ISU.

§ 60.4207 What fuel requirements must I meet if I am an owner or operator of a stationary CI internal combustion engine subject to this subpart?

In accordance with § 60.4207(b), all diesel fuel must meet the requirements of 40 CFR 80.510(b). In accordance with 40 CFR 80.510(b), the diesel fuel will have a maximum sulfur content of 15 ppm and a minimum cetane index of 40 or a maximum aromatic content of 35 volume percent. This requirement is assured by Permit Condition 7.4.

§ 60.4208 What is the deadline for importing or installing stationary CI ICE produced in previous model years?

The generator engines at the facility are existing engines; therefore, this section does not apply to the engines at ISU.

§ 60.4209 What are the monitoring requirements if I am an owner or operator of a stationary CI internal combustion engine?

In accordance with § 60.4209(a), each engine that does not meet the standards applicable to non-emergency engines must be equipped with a non-resettable hour meter. All ISU emergency engines that are subject to subpart IIII meet the non-emergency emission standards (Tier 2 or Tier 3 certification). The installation of non-resettable hour meter(s) is/are included as a requirement in this PTC and is assured by Permit Condition 7.6.

§ 60.4209(b) is not applicable since none of the ISU's generator engines are subject to the emission standards of § 60.4204.

§ 60.4210 What are my compliance requirements if I am a stationary CI internal combustion engine manufacturer?

This section does not apply to ISU since the facility is not an engine manufacturer.

§ 60.4211 What are my compliance requirements if I am an owner or operator of a stationary CI internal combustion engine?

In accordance with § 60.4211(a), the engines that are subject to Subpart IIII at the facility must be operated and maintained according to the manufacturer's written instructions and only emission-related setting changes are permitted by the manufacturer are allowed. This requirement is assured by Permit Condition 7.5.

In accordance with § 60.4211(c), all emergency engines of 2007 model year and later must be certified to meet the emission standards of § 60.4205(b). All engines must be installed and configured according to the manufacturer's specifications. This requirement is assured by Permit Condition 7.5.

In accordance with § 60.4211(f), operation of emergency engines for maintenance checks, readiness testing, emergency demand response or voltage/frequency deviations is limited to 100 hours/year. There is no time limit on the use of emergency engines in emergency situations. The emergency engines maybe operated up to 50 hours/year in certain non-emergency situations, but the 50 hours is counted against the 100 hours per year for maintenance testing and emergency demand response. This requirement is assured by Permit Condition 7.5.

In accordance with § 60.4211(g), if any engine is not installed, configured, operated and maintained according to the manufacturer's emission-related instructions, compliance must be demonstrated by keeping a maintenance plan and records and by conducting an initial performance test to demonstrate with the applicable emission standards. For engines greater than 500 HP, the performance test must be repeated every 3 years or 8,760 hours of operations, whichever comes first.

This section of the subpart does not apply to the emergency engines at ISU. All emergency engines must be installed and configured according to the manufacturer's specifications and must be certified to meet the emission

The only requirements that apply to the emergency generator engines Nos. 1 through 4 are in the facility-wide conditions located in Section 2 of this permit.

40 CFR 63 Subpart JJJJJ NESHAP for Industrial, Commercial and Institutional Boilers
Area Sources

§ 63.11193 Am I subject to this subpart?

You are subject to this subpart if you own or operate an industrial, commercial, or institutional boiler as defined in § 63.11237 that is located at, or is part of, an area source of hazardous air pollutants (HAP), as defined in § 63.2, except as specified in § 63.11195.

The requirements of this subpart do not apply to ISU because the facility is an area source that owns or operates boilers that meet the excluded definitions in 40 CFR 63.11195.

§ 63.11195 Are any boilers not subject to this subpart?

The types of boilers listed in paragraphs (a) through (k) of this section are not subject to this subpart and to any requirements in this subpart.

The ISU's boilers fall under a category included in this section and; therefore, are not subject to this subpart and to any requirements in this subpart.

- (e) A gas-fired boiler as defined in this subpart
- (f) A hot water heater as defined in this subpart

§ 63.11237 What definitions apply to this subpart?

Terms used in this subpart are defined in the Clean Air Act, in § 63.2 (the General Provisions), and in this section as follows. The definition in this section that apply to ISU is as follows:

Gas-fired boiler includes any boiler that burns gaseous fuels not combined with any solid fuels and burns liquid fuel only during periods of gas curtailment, gas supply interruption, startups, or periodic testing on liquid fuel. Periodic testing of liquid fuel shall not exceed a combined total of 48 hours during any calendar year.

Hot water heater means a closed vessel with a capacity of no more than 120 U.S. gallons in which water is heated by combustion of gaseous, liquid, or biomass fuel and hot water is withdrawn for use external to the vessel. Hot water boilers (*i.e.*, not generating steam) combusting gaseous, liquid, or biomass fuel with a heat input capacity of less than 1.6 million Btu per hour are included in this definition. The 120 U.S. gallon capacity threshold to be considered a hot water heater is independent of the 1.6 million Btu per hour heat input capacity threshold for hot water boilers. Hot water heater also means a tankless unit that provides on-demand hot water.

According to the PTC application that DEQ received from ISU on March 1, 2013, all of the boilers at ISU are included in the definitions above. All boilers at the facility are fired with natural gas fuel. Boiler No. 4, however, has the ability to fire diesel fuel, but this option will only be used in an emergency situation if the natural gas supply to the campus is disrupted. Any operational testing ISU does with Boiler No. 4 operating with diesel fuel will be limited to less than 48 hours during any calendar year. Pursuant to 40 CFR 63.11237, Permit Condition 5.8 limits ISU for the hour of operations during testing the boiler on diesel fuel oil. Permit Condition 5.9 is to monitor and record the hours of operations of the boiler during operational testing on diesel fuel.

40 CFR 63 Subpart CCCCC NESHAP for Source Category: Gasoline Dispensing Facilities
ISU operates a 5,000 gallon gasoline storage tank for refueling university vehicles.

§ 63.11110 What is the purpose of this subpart?

This subpart establishes national emission limitations and management practices for HAP emitted from the loading of gasoline storage tanks at gasoline dispensing facilities (GDF). This subpart also establishes requirements to demonstrate compliance with the emission limitations and management practices.

§ 63.11111 Am I subject to the requirements in this subpart?

(a) The affected source to which this subpart applies is each GDF that is located at an area source. The affected source includes each gasoline cargo tank during the delivery of product to a GDF and also includes each storage tank.

(b) If your GDF has a monthly throughput of less than 10,000 gallons of gasoline, you must comply with the requirements in § 63.11116. In the PTC application, the permittee indicates that a monthly throughput of GDF will be less than 10,000 gallons in which the facility requested to comply with. Therefore, this requirement is included in the PTC and is assured in Permit Condition 8.2.

(e) An affected source shall, upon request by the Administrator, demonstrate that their monthly throughput is less than the 10,000-gallon threshold level, as applicable. Records required under this paragraph shall be kept for a period of 5 years. This requirement is assured by Permit Condition 8.7.

§ 63.11112 Am I subject to the requirements in this subpart?

In accordance with 40 CFR 63.11112(a), this subpart applies to gasoline storage tanks and associated equipment components in vapor or liquid service at ISU (the affected source at ISU is an existing source because it was constructed before 11/9/06). This requirement is assured in Permit Condition 8.2.

§ 63.11113 When do I have to comply with this subpart?

In accordance with 40 CFR 63.11113(b), if you have an existing affected source, you must comply with the standards in this subpart no later than January 10, 2011. This requirement is assured in Permit Condition 8.5.

§ 63.11115 What are my general duties to minimize emissions?

Each owner or operator of an affected source under this subpart must comply with the requirements of paragraphs (a) and (b) of this section.

In accordance with 40 CFR 63.11115(a), each owner or operator must operate and maintain each affected source in a manner consistent with safety and good air pollution control practices for minimizing emissions. This requirement is set in Permit Condition 8.3.

§ 63.11116 Requirements for facilities with monthly throughput of less than 10,000 gallons of gasoline.

(a) You must not allow gasoline to be handled in a manner that would result in vapor releases to the atmosphere for extended periods of time. Measures to be taken include, but are not limited to, the following:

- (1) Minimize gasoline spills;
- (2) Clean up spills as expeditiously as practicable;
- (3) Cover all open gasoline containers and all gasoline storage tank fill-pipes with a gasketed seal when not in use;
- (4) Minimize gasoline sent to open waste collection systems that collect and transport gasoline to reclamation and recycling devices, such as oil/water separators.

(b) You are not required to submit notifications or reports as specified in § 63.11125, § 63.11126, or subpart A of this part, but you must have records available within 24 hours of a request by the Administrator to document your gasoline throughput.

(c) You must comply with the requirements of this subpart by the applicable dates specified in § 63.11113.

(d) Portable gasoline containers that meet the requirements of 40 CFR part 59, subpart F, are considered acceptable for compliance with paragraph (a)(3) of this section.

The requirements of 40 CFR 63.11116(a)(1)-(4) are addressed in Permit Condition 8.4. Sections (b), (c), and (d) of § 63.11116 are addressed in Permit Conditions 8.4, 8.5, 8.7, and 8.8.

§ 63.11117- § 63.11124 Requirements, Notifications and Reports

These sections of the subpart only apply to affected facilities with monthly gasoline throughput of more than 10,000 gallons. Therefore, they are not applicable to ISU.

§ 63.11125 What are my recordkeeping requirements?

In accordance with 40 CFR 63.11115(b), you must keep applicable records and submit reports as specified in 40 CFR 63.11125(d) and 40 CFR 63.11126(b).

In accordance with 40 CFR 63.11125(d), each owner or operator of an affected source under this subpart shall keep records as specified in paragraphs (d)(1) and (2) of this section.

- (1) Records of the occurrence and duration of each malfunction of operation (*i.e.*, process equipment) or the air pollution control and monitoring equipment.
- (2) Records of actions taken during periods of malfunction to minimize emissions in accordance with § 63.11115(a), including corrective actions to restore malfunctioning process and air pollution control and monitoring equipment to its normal or usual manner of operation.

These requirements are included Permit Condition 8.6.

In accordance with 40 CFR 63.11126(b), each owner or operator of an affected source under this subpart shall report, by March 15 of each year, the number, duration, and a brief description of each type of malfunction which occurred during the previous calendar year and which caused or may have caused any applicable emission limitation to be exceeded. The report must also include a description of actions taken by an owner or operator during a malfunction of an affected source to minimize emissions in accordance with § 63.11115(a), including actions taken to correct a malfunction. No report is necessary for a calendar year in which no malfunctions occurred. This requirement is addressed in Permit Condition 8.9.

It should be noted that 40 CFR 63.11126(a) does not apply to the facility because this section of the subpart is for facilities with monthly throughput of 100,000 gallons of gasoline or more.

§ 63.11131 Who implements and enforces this subpart?

In accordance with 40 CFR 63.11131, this subpart can be implemented and enforced by the U.S. EPA or a delegated authority such as the Idaho DEQ. As of July 1, 2013, the EPA had not delegated authority of this subpart to Idaho DEQ.

§ 63.11132 What definitions apply to this subpart?

The definitions of this subpart apply to the facility.

40 CFR 63 Subpart HHHHHH NESHAP: Paint Stripping and Miscellaneous Surface Coating Operations at Area Sources

ISU applies paints and coatings in the automotive spray booths Nos. 1 and 2 that may contain one or more of the target HAPs of chromium, lead, manganese, nickel or cadmium. Therefore, NESHAP Subpart HHHHHH: Paint Stripping and Miscellaneous Surface Coating Operations does apply.

§ 63.11169 What is the purpose of this subpart?

In accordance with § 63.11169, this subpart establishes national emission standards for HAP for area sources involved in any of the activities in paragraphs (a) through (c) of this section, such as autobody refinishing operations that encompass motor vehicle and mobile equipment spray-applied surface coating operations. This subpart also establishes requirements to demonstrate initial and continuous compliance with the emission standards contained herein.

§ 63.11170 Am I subject to this subpart?

In accordance with § 63.11170(a)(1), you are subject to this subpart if the owner or operator performs paint stripping using methylene chloride (MeCl) for the removal of dried paint (including, but not limited to, paint, enamel, varnish, shellac, and lacquer) from wood, metal, plastic, and other substrates. In accordance with the PTC application received on March 1, 2013, the MeCl is not used at the automotive paint booths; therefore, this section of the subpart does not apply to the facility. Permit Condition 9.4, however, prohibits the permittee from using MeCl to remove paint at the facility, as a State reasonable permit condition in accordance with the Rules.

In accordance with § 63.11170(a)(2), you are subject to this subpart if the owner or operator performs spray application of coatings, as defined in § 63.11180, to motor vehicles and mobile equipment including operations that are located in stationary structures at fixed locations, and mobile repair and refinishing operations that travel to the customer's location, except spray coating applications that meet the definition of facility maintenance in § 63.11180. However, if you are the owner or operator of a motor vehicle or mobile equipment surface coating operation, you may petition the Administrator for an exemption from this subpart if you can demonstrate, to the satisfaction of the Administrator, that your spray apply no coatings that contain the target HAP, as defined in § 63.11180. Petitions must include a description of the coatings that you spray apply and your certification that you do not spray apply any coatings containing the target HAP. If circumstances change such that you intend to spray apply coatings containing the target HAP, you must submit the initial notification required by 63.11175 and comply with the requirements of this subpart. This section of the MACT applies to ISU because the facility uses one or more of the target HAPs.

§ 63.11171 How do I know if my source is considered a new source or an existing source?

- (a) This subpart applies to each new and existing affected area source engaged in the activities listed in § 63.11170, with the exception of those activities listed in § 63.11169(d) of this subpart.
- (b) The affected source is the collection of all of the items listed in paragraphs (b)(1) through (6) of this section. Not all affected sources will have all of the items listed in paragraphs (b)(1) through (6) of this section.

- (1) Mixing rooms and equipment;
- (2) Spray booths, ventilated prep stations, curing ovens, and associated equipment;
- (3) Spray guns and associated equipment;
- (4) Spray gun cleaning equipment;
- (5) Equipment used for storage, handling, recovery, or recycling of cleaning solvent or waste paint; and
- (6) Equipment used for paint stripping at paint stripping facilities using paint strippers containing MeCl.

In accordance with § 63.11171(b), the painting operation at ISU is a collection of mixing equipment; spray booths and associated equipment; spray guns and associated equipment; spray gun cleaning equipment; and equipment used for storage, handling, recovery, or recycling of cleaning solvent or waste paint. Paint stripping is not proposed as an activity.

- (c) An affected source is a new source if it meets the criteria in paragraphs (c)(1) and (c)(2) of this section.

(1) You commenced the construction of the source after September 17, 2007 by installing new paint stripping or surface coating equipment. If you purchase and install spray booths, enclosed spray gun cleaners, paint stripping equipment to reduce MeCl emissions, or purchase new spray guns to comply with this subpart at an existing source, these actions would not make your existing source a new source.

(2) The new paint stripping or surface coating equipment is used at a source that was not actively engaged in paint stripping and/or miscellaneous surface coating prior to September 17, 2007.

In accordance with § 63.11174(b), an owner or operator of an area source subject to this subpart is exempt from the obligation to obtain a permit under 40 CFR part 70 or 71 provided that a permit under 40 CFR 70.3 (a) or 71.3(a) is not required for a reason other than becoming an area source subject to this subpart. This permit application and permitting action involve a PTC, and will not utilize the requirements and procedures in the State Tier I operating permit under IDAPA 58.01.01.300-399.

§ 63.11175 What notifications must I submit?

In accordance with § 63.11175(a), because the facility is a surface coating operation subject to this subpart, the initial notification required by § 63.9(b) must be submitted. For this operation at ISU, the initial notification must be submitted no later than on or before March 11, 2011. This requirement is assured in Permit Condition 9.11 and in Table 9.2 of the PTC.

In accordance with § 63.11175(b), because the facility is an existing source, the permittee is not required to submit a separate notification of compliance status in addition to the initial notification specified in paragraph (a) of this subpart provided the permittee was able to certify compliance on the date of the initial notification, as part of the initial notification, and the permittee's compliance status has not since changed. The permittee is required to submit the information specified in paragraphs (b)(1) through (4) of this section with the Notification of Compliance Status. This requirement is assured in Permit Condition 9.11.

§ 63.11176 What reports must I submit?

In accordance with § 63.11176(a), because the permittee is an owner or operator of a surface coating equipment affected source, the permittee is required to submit a report in each calendar year in which information previously submitted in either the initial notification required by § 63.11175(a), Notification of Compliance, or previous annual notification of changes report submitted under this paragraph, has changed. Deviations from the relevant requirements in § 63.11173(a) through (d) or § 63.11173(e) through (g) on the date of the report will be deemed to be a change. The annual notification of changes report must be submitted prior to March 1 of each calendar year when reportable changes have occurred and must include the information specified in paragraphs (a)(1) through (2) of this section. These requirements are addressed in Permit Conditions 9.11 and 9.12.

Because the facility has not proposed to conduct paint stripping operations, the MeCl minimization plan, in accordance with § 63.11173(b), requirements are not applicable to ISU.

§ 63.11177 What records must I keep?

In accordance with § 63.11177, because the permittee is the owner or operator of a surface coating operation, the permittee must keep the records specified in paragraphs (a) through (d) and (g) of this section. Because the permittee has not proposed to conduct paint stripping operations, the requirements of paragraphs (e) and (f) of this section are not applicable. The following paragraphs of this section are applicable

- (a) Certification that each painter has completed the training specified in § 63.11173(f) with the date of initial training and most recent refresher.
- (b) Booth exhaust filter efficiency documentation.
- (c) Spray gun HVLP-equivalent transfer efficiency documentation.
- (d) Copies of any notification submitted as required by § 63.11175 and copies of any report submitted as required by § 63.11176.
- (g) Records of any deviation from the requirements in § 63.11173, § 63.11174, § 63.11175, or § 63.11176. These records must include the date and time period of the deviation, and a description of the nature of the deviation and the actions taken to correct the deviation.

These requirements are addressed in Permit Condition 9.10.

§ 63.11178 In what form and for how long must I keep my records?

In accordance with 40 CFR 63.11178(a), because the permittee is an owner or operator of an affected source, the permittee must maintain copies of the records specified in 40 CFR 63.11177 for a period of at least five years after the date of each record. Copies of records must be kept on site and in a printed or electronic form that is readily accessible for inspection for at least the first two years after their date, and may be kept off-site after that two year period. This requirement is assured in Permit Condition 9.10.

§ 63.11179 Who implements and enforces this subpart?

In accordance with § 63.11179(a), this subpart can be implemented and enforced by U.S. Environmental Protection Agency (EPA), or a delegated authority. At the time of this permitting action, the EPA has not delegated authority to the State of Idaho. However, IDAPA 58.01.01.107.03 incorporates by reference all Federal Clean Air Act requirements including 40 CFR 63, Subpart HHHHHH. Therefore, the requirements of this subpart have been placed in the permit. This requirement is assured in Permit Conditions 9.12 and 9.13.

§ 63.11180 What definitions do I need to know?

Terms used in this subpart are defined in accordance with § 63.11180. Some of the definitions in subpart are applicable to the facility at ISU, as applicable.

Paint booth No. 3 (Maintenance Shop) is not subject 40 CFR 63, Subpart HHHHHH. In accordance with 40 CFR 63.11169(c), the maintenance shop spray booth is not subject to this subpart since per the PTC application none of the coatings used at the paint booth No. 3 contain any of the Target HAPs (i.e., chromium [Cr], lead [Pb], manganese [Mn], nickel [Ni] or cadmium [Cd]); and the facility does not use methylene chloride (MeCl) at the shop. Coatings are generally applied to wood surfaces. In addition, the shop falls under the definition of *Facility Maintenance*, as defined in 40 CFR 63.11180. These requirements are included in Permit Conditions 9.17 and 9.18 as reasonable permit conditions.

Permit Conditions Review

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

Revised Permit Condition 10.3

Was revised to reflect the emission limits of the revised annual welding rod material usage in the EAMES building in permit condition 10.5.

Revised Permit Condition 10.5

Was revised to reflect the revised annual welding rod usage limits in the EAMES building.

PUBLIC REVIEW

Public Comment Opportunity

An opportunity for public comment period on the application was not provided in accordance with IDAPA 58.01.01.209.01.c or IDAPA 58.01.01.404.01.c.

APPENDIX A – EMISSIONS INVENTORIES

Table 3-1

Emissions from Abrasive Blasting
Idaho State University, Pocatello, Idaho

AUTM - Automotive mechanics program
 ACRR - Automotive collision, repair and refinishing
 DESL - Diesel mechanics program (mechanical repair of diesel engines)
 On-Site Power - Repair of emergency generators

ACRR Econoline Model 101717R-A
 AUTM Allsource Model 41500
 DESL Econoline Model 101698R-A

Glass beads in all three: AUTM, DESL, and ACRR. Each have a collection system—self- contained. AUTM may use it 3 or 4 hours a semester. ACRR perhaps two hours a week. DESL 10 hours per semester. All residue is collected, labeled, and removed by TSO.

Sample Calculation:

Controlled particulate emissions from media blasting with glass media (lbs/hr) =

Assume 150 lbs glass beads/year * 1 media cycles *
 0.009 lbs. PM/1 lb media emission factor

150 * 1 * 0.009 = 1.4 lbs./hr.

Equipment	Estimated Unrestricted New Media Usage ¹	Estimated Restricted New Media Usage	Media	Media Cycles	Emission Factor PM (lbs./lb. media) ²	PM Uncontrolled Emissions		Emission Factor PM ₁₀ (lbs./lb. media) ²	PM ₁₀ Uncontrolled Emissions		Emission Factor PM _{2.5} (lbs./lb. media) ²	PM _{2.5} Uncontrolled Emissions	
	lb/yr	lb/yr				lb/hr (24-hr. average) ¹	lb/yr		lb/hr (24-hr. average) ¹	lb/yr		lb/hr (24-hr. average) ¹	lb/yr
Econoline 101717R-A Allsource Model 41500 Econoline 101698R-A	3,780	300	Glass Beads	1	0.0091	7.1E-04	2.7E+00	0.0013	1.0E-04	3.9E-01	0.0001	1.0E-05	3.9E-02
					Filter Control Efficiency	PM Controlled Emissions		Filter Control Efficiency	PM ₁₀ Controlled Emissions		Filter Control Efficiency	PM _{2.5} Controlled Emissions	
					75%	lb/hr ¹	lb/yr	75%	lb/hr ¹	lb/yr	75%	lb/hr ¹	lb/yr
						1.8E-04	6.8E-01		2.5E-05	9.8E-02		2.5E-06	9.8E-03

TAP Emissions Summary	CAS No.	TAP Type (24 hr or Annual Avgd EL)	Constituent Concentration (max wt%)	Screening Emission Level (lb/hr)	Uncontrolled Emissions (lb/hr)	Controlled Emissions (lb/hr)	Controlled Emissions (lb/yr)	% EL
Silicon Dioxide	7631-86-9	585 (24 hr)	100%	6.7E-01	2.7E+00	1.8E-04	6.8E-01	0.0%

HAP Emissions Summary	Controlled Emissions (tons/yr)
No known HAPs emitted	

¹Assume operating hours max. 4 hours/day, 5 days/week, 4 weeks/month, 8 months/year

² State of Iowa Department of Natural Resources:

Glass beads PM₁₀total 9.1 lbs./1,000 lbs. abrasive (0.91%); PM₁₀ 1.3 lbs./1,000 lbs. abrasive (0.0013 lbs./lb.; 0.13%); PM_{2.5} 0.13 lbs./1,000 lbs. abrasive (0.00013 lbs./lb.; 0.013%)

APCD Abrasive Blasting Glass Bead 15 lbs. TSP and PM₁₀ /ton (0.0075 lbs./lb) 8/23/99

³Econoline: Dan (800/253-9968), dan.d@sandblasting.com: 100 CFM DK Econoline bag filter estimated to be 90% efficient @2.5 micron diam; no written documentation provided; apply 75%.

Table 3-2
Welding Process Emissions — EAMES Building
Idaho State University, Pocatello, Idaho

Chemical Composition Based on Test Report
 Chemical Composition Based on AWS Max. Specification

Electrode	Daily Material Issued (lbs.) ¹	Daily Material Consumed (minus solid waste) (lbs.) ¹	Chemical Composition Based on Test Report														
			Al	Cr	Cr+6	Co	Cu	Fe	Mg	Mn	Molyb	Ni	Silicon	P	Zirconium	Vanadium	
			7429-90-5	7440-47-3	18540-29-9	7440-48-4	7440-50-8	1309-37-1	1309-48-4	7439-96-5	7439-98-7	7440-02-0	7440-21-3	7723-14-0	7440-67-7	1314-62-1	
¹ Hobart 418 E7018, 1/8" diameter SMAW rod	65	65		0.05%						1.24%	0.01%	0.11%	0.60%	0.009%		0.01%	
¹ Lincoln Fleetweld 5P+ E6010 SMAW rod, 1/8" diameter	36	36		0.04%						0.79%	0.02%	0.04%	0.32%	0.017%		0.01%	
¹ Lincoln SuperArcL-56 ER 70S-6 GMAW wire, .035 diam	18	18		0.05%				0.22%		1.6%	0.01%	0.04%	0.87%	0.010%		0.01%	
¹ Lincoln Outershield ER71-T FCAW 5/64" diameter	19	19		0.20%				0.35%		1.60%	0.30%	0.50%	0.50%	0.01%		0.08%	
¹ Pinnacle ER 70S-2 GTAW rod, 3/32" and 1/8 diameter	9	9	0.071%	0.027%				0.17%		1.17%	0.007%	0.012%	0.53%	0.013%	0.057%	0.004%	
¹ ER 309L-16 GTAW rod 1/8" diameter	10	10		25%				0.75%		2.5%	0.75%	14.0%	0.65%	0.03%			
¹ Blue Demon 309L-16 SMAW 1/8" diameter	24	24		23.83%				0.02%		0.58%	0.34%	12.59%	0.69%	0.022%			
TAP			X	X	X	X	X	X	X	X	X	X	X	X	X	X	
HAP			585	585	586	585	585	585	585	585	585	586	585	585	585	585	
				X	X	X	X			X		X					
Restricted Emissions			PM	Al	Cr	Cr+6	Co	Cu	Fe	Mg	Mn	Molyb	Ni	Silicon	P	Zirconium	Vanadium
Unrestricted Uncontrolled PM and TAP Fume (lbs./year)		2.51E+03															
Restricted Uncontrolled PM and TAP Fume (lbs./year)		3.99E+02	5.59E-03	2.43E-01	9.39E-02	1.63E-02	1.77E-01	0.00E+00	0.00E+00	1.94E+01	1.65E-01	1.87E-01	1.98E+00	4.87E-02	4.48E-03	6.49E-02	
^{3,3,4,5} Restricted Uncontrolled PM and TAP Fume (lbs./day)		2.67E+00	3.49E-05	2.57E-02	2.14E-02	1.02E-04	1.53E-03	0.00E+00	0.00E+00	1.23E-01	1.88E-03	2.53E-02	1.36E-02	3.50E-04	2.80E-05	4.06E-04	
Restricted Uncontrolled PM and TAP Hourly (24-hour average 585 TAPs, annual-average 586 TAPs) Fume Emissions (lbs./hr)		1.11E-01	1.45E-06	1.07E-03	1.07E-05	4.24E-06	6.36E-05	0.00E+00	0.00E+00	5.14E-03	7.83E-05	2.13E-05	5.69E-04	1.46E-05	1.17E-06	1.69E-05	
Restricted Controlled 309L and Uncontrolled Other PM and TAP Fume (lbs./year)		3.98E+02	5.59E-03	9.28E-02	5.98E-03	1.63E-02	1.74E-01	0.00E+00	0.00E+00	1.94E+01	1.60E-01	6.09E-02	1.97E+00	4.85E-02	4.48E-03	6.49E-02	
Restricted Controlled 309L PM and TAP Fume (lbs./day)		2.49E+00	3.49E-05	8.17E-04	2.50E-04	1.02E-04	1.01E-03	0.00E+00	0.00E+00	1.21E-01	1.00E-03	6.22E-04	1.21E-02	2.97E-04	0.00E+00	4.04E-04	
Restricted Controlled 309L and Uncontrolled Other PM and TAP Hourly Fume Emissions (24-hour average 585 TAPs, annual-average 586 TAPs) (lbs./hr)		1.04E-01	1.45E-06	3.40E-05	6.83E-07	4.24E-06	4.20E-05	0.00E+00	0.00E+00	5.06E-03	4.17E-05	6.95E-06	5.03E-04	1.24E-05	0.00E+00	1.68E-05	
EL			6.67E-01	3.30E-02	5.60E-07	3.30E-03	1.30E-02	3.33E-01	6.67E-01	6.70E-02	3.33E-01	2.75E-05	6.67E-01	7.00E-03	3.33E-01	3.00E-03	
Notes:			NO	NO	YES	NO											
			0%	0.10%	12%	0.13%	0.32%	0%	0%	7.55%	0.01%	25%	0.08%	0.18%	0.00%	0.56%	

SMAW Unused Material/Recycling Factor = 40%
 GTAW Unused Material/Recycling Factor = 10%
 GMAW Unused Material/Recycling Factor = 5%
 Conservative Production Increase Factor = 170%
 309L Fume Control Efficiency = 99% E5

% EL		122%		% EL		25%	
Cr+6 Contribution	total lbs./day	0.0213654	0.0213654	Ni Contribution	total lbs./day	0.025336	0.025336
Blue Demon 309L-16 SMAW 1/8" diameter	0.0206457	Blue Demon 309L-16 SMAW 1/8"	0.017314	ER 309L-16 GTAW rod	0.007650	E6010 SMAW rod, 1/8" diameter	0.000144
ER 309L-16 GTAW rod	0.0006830	ER 309L 16 GTAW rod	0.000130	E7018 SMAW rod, 1/8" diameter	0.000075	E6010 SMAW rod, 1/8" diameter	0.000144
E6010 SMAW rod, 1/8" diameter	0.0000360	E7018 SMAW rod, 1/8" diameter	0.000130	ER71-T FCAW 5/64" diameter	0.0000000	ER70S-6 GMAW wire, .035 diam	0.000018
ER 70S2 GTAW rod, 3/32" and 1/8 diameter	0.0000007	ER70S-6 GMAW wire, .035 diameter	0.0000000	ER 70S2 GTAW rod, 3/32" and 1/8"	0.000006		

¹ Restricted annual consumption of electrodes and wire provided by ISU, all based on max. estimated lbs. daily use assumed 5 days/week, 4 weeks/month, 8 months/yr except 309L GTAW and 309L SMAW: 309L GTAW based on estimated max. daily use 6 ozs. (0.4 lbs.), 15 students, 4 days/week for 2 weeks; and 309L SMAW based on estimated 22.5 ozs. (1.4 lbs) max. daily use, 10 students, 4 days/week for 1 week.
² Chemical composition from AWS max. specification.
^{3,4,5} PM and selected TAP/HAP emission factors for materials listed in AP-42, 12.19. See below.

⁷ SDAPCD 699 Gas Metal Arc Welding (GMAW), Unspecified Electrode, General District-ARB-NASSCO GMAW Emission Estimation Procedure

	GMAW, MIG, TIG	SMAW, FCAW	unspecified
Default fume rates (lbs fume/lbs rod)	1.0%	2.0%	5.0%
Default fume Correction Factor	54.6%	28.7%	100.0%
Default Cr+6 conversion rates	5.0%	63.0%	10.0%
default emission factor (lbs./lbs. rod)	CI (lbs. TAP/lbs. rod)		
PM10 (PM2.5)	0.01		
	Cr+3 0.01*0.5464* 95*CI		
	Cr+6 0.01*0.5464* 05*CI		
	Cobalt 0.01*0.5464*CI		
	Manganese 0.01*0.5464*CI		
	Nickel 0.01*0.5464*CI		
	Lead 0.01*0.5464*CI		
	Metals w/o EF 0.01*0.5464*CI		

From AP-42, 12.19

Electrode	TAP	lbs/1000 lbs electrode	fume generation
¹ E7018 SMAW rod		18.4	1.84%
	Cr	Cr+6	Cobalt
	0.0006%	ND	0.0001%
¹ E6010 SMAW rod		25.6	2.56%
	Cr	Cr+6	Cobalt
	0.0003%	0.0001%	ND
¹ 70S-6 GMAW wire		5.2	0.52%
	Cr	Cr+6	Cobalt
	0.0001%	ND	0.0001%
¹ ER71-T FCAW 5/64" diameter		12.2	1.22%
	Cr	Cr+6	Cobalt
	0.0002%	ND	0.0001%

AWS Specification-Max%	Cr	Cu	Mn	Mo	Ni	P	Si	Si	V
ERT0S-2	0.15%	0.50%	1.40%	0.15%	0.15%	0.025%	0.70%	0.70%	0.50%
ERT0S-3	0.15%	0.50%	1.40%	0.15%	0.15%	0.025%	0.75%	0.75%	0.50%
ERT0S-4	0.15%	0.50%	1.5%	0.15%	0.15%	0.025%	0.85%	0.85%	0.50%
ERT0S-6	0.15%	0.50%	1.9%	0.15%	0.15%	0.025%	1.15%	1.15%	0.50%
ERT0S-7	0.15%	0.50%	2.0%	0.15%	0.15%	0.025%	0.80%	0.80%	0.50%
ERT0S-8	0.15%	0.50%	1.9%	0.15%	0.15%	0.025%	1.10%	1.10%	0.50%

Table 3-4
On-site Engines
Idaho State University, Pocatello, Idaho

Generator Number	Generator 1	Generator 2	Generator 3	Generator 4	Generator 5	Generator 6
Manufacturer Name	KOHLER	KOHLER	CAT	CAT	ONAN	ONAN
Serial Number	33MDGMGP0009	33FYGMGP0003	CAT000C9ANTX00819	CAT000C9ANTX0082	I980791218	I980791217
Model Number	KG40	40REOZK	C9 200KW	C9 200KW	4BTA3.9-G5	4B3.9-G2
Horsepower Rating	65	65	322	322	55	55
Date manufactured	2019	2019	2019	2019	1998	1998
Date installed	2019	2019	2019	2019	2008	1999
Fuel	LP-NG	DIESEL	DIESEL	DIESEL	DIESEL	DIESEL
Spark Ignition* or Compression Ignition	SI	CI	CI	CI	CI	CI
40 CFR 60 IIII existing: O&M, hour meter, O&M records					X	X
40 CFR 60 IIII new: EPA Cert.; or	X	X				
40 CFR 60 IIII new: Initial Performance Test, notification, annual records			X	X		
40 CFR 60 JJJ new: EPA Cert. or emission limits						
EPA Certification or Test Results	Test Results/Cert	Test Results/Cert	Test Results/Cert	Test Results/Cert	NA	NA

Table 3-4
On-site Engines
Idaho State University, Pocatello, Idaho

Generator Number	Generator 7	Generator 8	Generator 9	Generator 10	Generator 11
Manufacturer Name	ONAN	KOHLER	GENERAC	KOHLER	ONAN
Serial Number	F060935352	SGM32BCTS	5454857	323123B10	D810566199
Model Number	4B3.9-G2	25REZG	QT025A	60ROZJ81	30.OEK-15R/23545M
Horsepower Rating	55	40	40	96	48
Date manufactured	2006	2014	2009	2006	1981
Date installed	2000	2014	2011	2010	1995
Fuel	DIESEL	NG	NG	DIESEL	NG
Spark Ignition* or Compression Ignition	CI	SI	SI	CI	SI
40 CFR 60 IIII existing: O&M, hour meter, O&M records					X
40 CFR 60 IIII new: EPA Cert.; or	no cert available	X	X	no cert available	
40 CFR 60 IIII new: Initial Performance Test, notification, annual records	CO Test Result Exceed Stnd?				
40 CFR 60 JJJ new: EPA Cert. or emission limits					NA
EPA Certification or Test Results		Test Results/Cert	Test Results/Cert		NA

**Table 3-5
Cold Solvent Degreasing Emissions
Idaho State University, Pocatello, Idaho**

Location of Unit	Number of Units	tons emissions/yearunit ¹	Total Estimated Annual Emissions (tons.)	COMMENT
AUTM	3	0.33	1.0	1 of 4 units rarely used.
DESL	1	0.33	0.3	1 of 2 units rarely used.
On Site Power	1	0.33	0.3	
Total			1.7	

Solvent Name ²	Density	Solids	VOC	Petroleum distillates, hydrotreated light 64742-47-8 (VM & P Naphtha 8032-32-4)
Safety Kleen	lb/gal	Weight Percentage Content Data	Weight Percentage Content Data	
	6.7%	0%	100.00%	100.00%

Emissions	Solids	VOC	VOC	VM & P Naphtha	VM & P Naphtha
	Estimated Emissions	Estimated Emissions	Estimated Emissions	Estimated Emissions	TAP 585 EL
	(lbs./yr.)	(lbs./yr.)	(tons/yr.)	(lbs./hr)	(lbs./hr)
	0.0	1.7	0.0008	0.0003	91.3

Notes:

¹ U.S.EPA AP-42, Fifth Edition, Volume I, Chapter 4: Evaporation Loss Sources, Table 4.6-2, Solvent Loss Emission Factors For Degreasing Operations, April 1981.

Note from Table 4.6-2: c. Emissions generally would be higher for manufacturing units and lower for maintenance units.
Note from Table 4.6-3: d. A manual or mechanically assisted cover would contribute 6 - 18% reduction; draining parts 15 seconds within the degreaser, 7 - 20%; and storing waste solvent in containers, an additional 15 - 45%.

² Assume all solvent used equivalent to Safety Kleen Premium Solvent New and Recycled.

³ solvent emission factor likely overestimates emissions; use averaged through year likely underestimates potential max /day.

Table P1 Plasma Cutting Emissions
Idaho State University

Plasma Cutter	Material	Estimated Max Unrestricted Hours Operation ¹		Estimated Max Restricted Hours Operation ²		TAP Constituents ³	CAS Number	Constituent Concentration (max wt%) ³	Emission Factor (lbs./hr.) ⁴	Unrestricted Uncontrolled Emissions		Restricted Uncontrolled Emissions		Cyclone Efficiency (%)	Control Equipment Efficiency (%)	Unrestricted Controlled Emissions		Restricted Controlled Emissions	
		hrs./day	hrs./yr	hrs./day	hrs./yr					lb/hr	lb/yr	lb/hr	lb/yr			lb/hr	lb/yr		
		24	8,760.0	1.00	12														
	Steel					Chromium Total	7440-47-3	0.04%	0.02	9.5E-06	8.3E-02	4.0E-07	1.1E-04	0%	0%	9.5E-06	8.3E-02	4.0E-07	1.1E-04
						Chromium +6 ⁵	7440-47-3			8.8E-08	7.7E-04	1.2E-10	1.1E-06			8.8E-08	7.7E-04	1.2E-10	1.1E-06
						Copper	7440-50-8	0.020%		4.8E-06	4.2E-02	2.0E-07	5.7E-05			4.8E-06	4.2E-02	2.0E-07	5.7E-05
						Iron	1309-37-1	99.0%		2.4E-02	2.1E+02	9.8E-04	2.8E-01			2.4E-02	2.1E+02	9.8E-04	2.8E-01
						Manganese	7439-96-5	0.861%		2.1E-04	1.8E+00	8.5E-06	2.5E-03			2.1E-04	1.8E+00	8.5E-06	2.5E-03
						Molybdenum	7439-98-7	0.02%		4.8E-06	4.2E-02	2.0E-07	5.7E-05			4.8E-06	4.2E-02	2.0E-07	5.7E-05
						Nickel	7440-02-0	0.02%		4.8E-06	4.2E-02	6.5E-09	5.7E-05			4.8E-06	4.2E-02	6.5E-09	5.7E-05
						Phosphorus	7723-14-0	0.0170%		4.0E-06	3.5E-02	1.7E-07	4.9E-05			4.0E-06	3.5E-02	1.7E-07	4.9E-05
						Silicon	7440-21-3	0.0210%		5.0E-06	4.4E-02	2.1E-07	6.0E-05			5.0E-06	4.4E-02	2.1E-07	6.0E-05
						Carbon		0.1887%		4.5E-05	3.9E-01	1.9E-06	5.4E-04			4.5E-05	3.9E-01	1.9E-06	5.4E-04
						Nitrogen		Not Reported											
						Sulfur		0.0043%		1.0E-06	9.0E-03	4.3E-08	1.2E-05			1.0E-06	9.0E-03	4.3E-08	1.2E-05
	Conservative Production Factor Increase	125%																	

Steel	TAP Emissions Summary	TAP Type (24 hr or Annual Avgd EL)	EL	Unrestricted Uncontrolled Emissions (lb/hr)	Restricted Uncontrolled Emissions (lb/hr)	Restricted Controlled Emissions (lb/hr)	Unrestricted Uncontrolled TAP Less Than EL?	Restricted Controlled TAP Less Than EL	Restricted Controlled TAP % of EL
	Chromium	585 (24 hr)	3.30E-02	9.5E-06	4.0E-07	4.0E-07	Yes	Yes	0.00%
	Chromium+6	586 (Annual)	5.60E-07	8.8E-08	1.2E-10	1.2E-10	Yes	Yes	0.02%
	Copper Fume	585 (24 hr)	1.30E-02	4.8E-06	2.0E-07	2.0E-07	Yes	Yes	0.00%
	Iron Oxide Fume	585 (24 hr)	3.33E-01	2.4E-02	9.8E-04	9.8E-04	Yes	Yes	0.3%
	Manganese Fume	585 (24 hr)	6.70E-02	2.1E-04	8.5E-06	8.5E-06	Yes	Yes	0.01%
	Molybdenum	585 (24 hr)	3.33E-01	4.8E-06	2.0E-07	2.0E-07	Yes	Yes	0.000%
	Nickel	586 (Annual)	2.75E-05	4.8E-06	6.5E-09	6.5E-09	Yes	Yes	0.0%
	Phosphorus	585 (24 hr)	7.00E-03	4.0E-06	1.7E-07	1.7E-07	Yes	Yes	0.00%
	Silicon	585 (24 hr)	6.67E-01	5.0E-06	2.1E-07	2.1E-07	Yes	Yes	0.0000%

HAP Emissions Summary	Restricted Controlled Emissions (lb/yr)	Restricted Controlled Emissions (tons/yr)
Chromium	1.1E-04	5.7E-08
Manganese	2.5E-03	1.2E-06
Nickel	5.7E-05	2.9E-08

Steel	Criteria Pollutant Emissions Summary	Unrestricted Uncontrolled Emissions (lbs./yr)	Unrestricted Uncontrolled Emissions (tons/yr)	Restricted Uncontrolled Emissions (lbs./yr)	Restricted Uncontrolled Emissions (tons/yr)	Restricted Uncontrolled Emissions (lbs./hr)			
	PM _{2.5/10}	0.024	208.611	0.1043	0.00099	0.28577	0.00014	0.000992	0.28577

Gas density	specific grav ai	0.004189 lbs NO2/liter			
NO2 X	1.58				
Air	1.205 kg/m ³	1.00			
sp. Grav gas = pGas/pAir	(X) / 1.205 = 1.58	1.58 * 1.205 = X = 1.904 kg/m ³ NO2			
	1.904 kg NO2/m ³ =				
Emission Factor	4.4-5.5 liters NOx/minute dry steel and stainless steel 8 mm				
@5 l/min NOx	(5 liters/min.) X (4.189E-3 lbs NO2/liter) = 0.0209 lbs NO2/min				
assume NOx=NO2	2.1E-2 lbs NO2/min X 60 min/hr = 1.257 lbs NO2/hr				
NOx lbs/hr	lbs/yr	tons/yr	lbs/yr	tons/yr	% of BRC
1.257	@8760 11011.3	@8760 5.5	@restricted 15.1	@restricted 0.01	0.2%

1 gram = 0.0022046 lbs.

Notes

- Unrestricted uncontrolled media usage based on maximum actual use rate prorated from 1 hrs/day, 5 days/week, 52 weeks/yr (2000 hrs/yr) to 24 hrs/day, 7 days/week, 52 weeks/yr (8760 hrs/yr) dry cutting.
- ISU Facilities Department estimates 1 hours plasma cutting per year; for conservative estimate of emissions assume 1 hour/day and 1 day each month, increased 120% for future increase;
- TAP material composition for steel from example steel SDS.
- 180 milligrams of respirable particulate/minute dry cutting steel and 111 milligrams of respirable particulate/minute dry cutting stainless steel. M.A.Ebadian. Size Distribution and Rate of Production of Airborne Particulate Matter Generated During Metal Cutting. U.S. Department of Energy, Office of Environmental Management, Office of Science and Technology.
- Emission Factor 0.0022 lbs Cr+6/lbs per lb Cr. From South Coast Air Quality Management District, Page 1 of 9, App. Numbers 480171/2, Coating, Printing, Aerospace and Chemical Operations Team, Reviewed by Application Processing and Calculations, Date 07/30/08, American Security Products, Inc., Jul-08.
- 4.4-5.5 liters NOx/minute dry cutting 8mm steel and stainless steel, EPA AP-42, Chapter 12, Other Emission Factor Documents, "Emission of fume, nitrogen oxides and noise in plasma cutting of stainless and mild steel", "Emission of fume, nitrogen oxides and noise in plasma cutting of stainless and mild steel", Bromssen B. et al, The Swedish Institute of Production Engineering Research, March, 1994, <http://www.epa.gov/ttn/chie/efdocs/welding.pdf>

Table K-1 Kiln Heater Combustion Emissions
Idaho State University

Sources	No. of units	Input Duty	
		BTU/hr	MMBTU/hr
Pottery Kiln	2	400,000	0.8
Total	2		0.8

Operating Assumptions: 0.8 MMBtu/hr ÷ 1,020 MMBtu/MMsc = 7.84E-04 MMscf/hr
24 hr/day 8,760 hr/yr³

cf/hr
784 Fuel Use:
0.01882 MMscf/day
6.871 MMscf/year

Criteria Air Pollutants	Emission Factor ¹	Emissions			Greenhouse Gas Emissions ³	
	lb/MMscf	lb/hr	T/yr	T/yr		
NO ₂	100	0.08	0.34	4	CO ₂ = 0.054 kg/scf Natural Gas 4.1E+02 Tons/year	
CO	84	0.07	0.29	10	CH ₄ = 0.00103 g/scf Natural Gas 7.8E-03 Tons/year	
PM ₁₀ ⁴	7.6	0.01	0.03	2	N ₂ O = 0.0001 g/scf Natural Gas 7.8E-03 Tons/year	
PM _{2.5} ⁴	7.6	0.01	0.03	1	Total CO ₂ e = CO ₂ + (CH ₄ * 25) * (N ₂ O * 298)	
SO ₂	0.6	0.0005	0.002	4	CO ₂ e = 410.63 Tons/year	
VOC	5.5	0.00	0.02	4		
Lead	0.0005	0.0000004	1.7E-06	0.06		
		2.8E-04	lb/month			
Total Criteria Emissions (ton/yr) = 0.68						

Hazardous & Toxic Air Pollutants (HAP & TAP)	Emission Factor ¹	Emissions		Modeling Threshold	Modeling Required?	
	lb/MMscf	lb/hr ²	T/yr	TAP Screening Emission Level		
PAH HAPs						
2-Methylnaphthalene	2.40E-05	1.88E-08	8.2E-08	9.1E-05 lb/hr	No	0%
3-Methylchloranthrene	1.80E-06	1.41E-09	6.2E-09	2.5E-06 lb/hr	No	0%
Acenaphthene	1.80E-06	1.41E-09	6.2E-09	9.1E-05 lb/hr	No	0%
Acenaphthylene	1.80E-06	1.41E-09	6.2E-09	9.1E-05 lb/hr	No	0%
Anthracene	2.40E-06	1.88E-09	8.2E-09	9.1E-05 lb/hr	No	0%
Benzo(a)anthracene	1.80E-06	1.41E-09	6.2E-09		See POM	
Benzo(a)pyrene	1.20E-06	9.41E-10	4.1E-09	2.0E-06 lb/hr	See POM	
Benzo(b)fluoranthene	1.80E-06	1.41E-09	6.2E-09		See POM	
Benzo(g,h,i)perylene	1.20E-06	9.41E-10	4.1E-09	9.1E-05 lb/hr	No	0%
Benzo(k)fluoranthene	1.80E-06	1.41E-09	6.2E-09		See POM	
Chrysene	1.80E-06	1.41E-09	6.2E-09		See POM	
Dibenzo(a,h)anthracene	1.20E-06	9.41E-10	4.1E-09		See POM	
Fluoranthene	3.00E-06	2.35E-09	1.0E-08	9.1E-05 lb/hr	No	0%
Fluorene	2.80E-06	2.20E-09	9.6E-09	9.1E-05 lb/hr	No	0%
Indeno(1,2,3-cd)pyrene	1.80E-06	1.41E-09	6.2E-09		See POM	
Naphthalene	6.10E-04	4.78E-07	2.1E-06	3.33 lb/hr	No	0%
Naphthalene	6.10E-04	4.78E-07	2.1E-06	9.1E-05 lb/hr	No	1%
Phenanthrene	1.70E-05	1.33E-08	5.8E-08	9.1E-05 lb/hr	No	0%
Pyrene	5.00E-06	3.92E-09	1.7E-08	9.1E-05 lb/hr	No	0%
PAH Max. total		5.4E-07	2.3E-06			
Polycyclic Org. Matter (POM, 7-PAH Group)		8.94E-09	3.9E-08	2.0E-06 lb/hr	No	0%
Non-PAH HAPs						
Benzene	2.10E-03	1.65E-06	7.2E-06	8.0E-04 lb/hr	No	0%
Dichlorobenzene	1.20E-03	9.41E-07	4.1E-06	20 lb/hr	No	0%
Formaldehyde	7.50E-02	5.88E-05	2.6E-04	5.1E-04 lb/hr	No	12%
Hexane	1.80E+00	1.41E-03	6.2E-03	12 lb/hr	No	0%
Toluene	3.40E-03	2.67E-06	1.2E-05	25 lb/hr	No	0%
Non-HAP Organic Compounds						
7,12-Dimethylbenz(a)anthracene	1.60E-05	1.25E-08	5.5E-08			
Butane	2.10E+00	1.65E-03	7.2E-03			
Ethane	3.10E+00	2.43E-03	1.1E-02			
Pentane	2.60E+00	2.04E-03	8.9E-03	118 lb/hr	No	0%
Propane	1.60E+00	1.25E-03	5.5E-03			
Metal HAPs⁴						
Arsenic	2.00E-04	1.57E-07	6.9E-07	1.5E-06 lb/hr	No	10%
Beryllium	1.20E-05	9.41E-09	4.1E-08	2.8E-05 lb/hr	No	0%
Cadmium	1.10E-03	8.63E-07	3.8E-06	3.7E-06 lb/hr	No	23%
Chromium	1.40E-03	1.10E-06	4.8E-06	0.033 lb/hr	No	0%
Cobalt	8.40E-05	6.59E-08	2.9E-07	0.0033 lb/hr	No	0%
Manganese	3.80E-04	2.98E-07	1.3E-06	0.067 lb/hr	No	0%
Mercury	2.60E-04	2.04E-07	8.9E-07	0.003 lb/hr	No	0%
Nickel	2.10E-03	1.65E-06	7.2E-06	2.7E-05 lb/hr	No	6%
Selenium	2.40E-05	1.88E-08	8.2E-08	0.013 lb/hr	No	0%
Non-HAP Metals⁴						
Barium	4.40E-03	3.45E-06	1.5E-05	0.033 lb/hr	No	0%
Copper	8.50E-04	6.67E-07	2.9E-06	0.013 lb/hr	No	0%
Molybdenum	1.10E-03	8.63E-07	3.8E-06	0.333 lb/hr	No	0%
Vanadium	2.30E-03	1.80E-06	7.9E-06	0.003 lb/hr	No	0%
Zinc	2.90E-02	2.27E-05	1.0E-04	0.667 lb/hr	No	0%
Total HAP Emissions (ton/yr) = 0.006						

Notes:
1. Emission factors taken from AP-42, Section 1.4 Natural Gas Combustion (7/98)
2. TAPs lb/hr emissions are 24-hour averages unless shown in bold. Bold emissions are annual averages for carcinogens.
3. Greenhouse Gas Emission: Greenhouse gas emission factors taken from Table A-1, EPA Greenhouse Gas Inventory Guidance Direct Emissions from

Table 4-1
Unrestricted Uncontrolled Facility-Wide NSR Regulated Pollutant Emissions
Idaho State University, Pocatello, Idaho

Table 4-1a: Pre-Project Potential to Emit (based on maximum continuous operations)

Emissions Unit (Note 1)	tons/year						
	PM _{2.5}	PM ₁₀	SO ₂	NO _x	CO	VOC	THAPs
Boiler No. 1	0	0	0	0	0	0	0
Boiler No. 2	0.75	0.75	0.06	9.88	8.30	0.54	0.19
Boiler No. 3	0.88	0.88	0.069	5.78	9.71	0.64	0.22
Boiler No. 4	2.38	2.38	0.19	15.6	26.3	1.72	0.60
Boiler No. 36 (Bldg 65)	0.052	0.052	0.004	0.69	0.58	0.038	0.013
Boiler No. 37 (Bldg 38)	0.082	0.082	0.006	0.87	0.90	0.059	0.021
Fuel Tank No. 1- Diesel	0.000	0.000	0	0	0	0.001	0.001
Fuel Tank No. 2- Gasoline	0.000	0.000	0	0	0	0.58	0.583
Paint Booth No. 1 (Bldg 48)	2.95	2.95	0	0	0	7.09	7.4
Paint Booth No. 2 (Bldg 48)	2.95	2.95	0	0	0	7.09	7.4
Paint Booth No. 3 (Bldg 22)	1.40	1.40	0	0	0	3.28	1.2
Shop Baghouse No. 1 (Bldg 22)	2.06	2.06	0	0	0	0	0
Emergency Generators Nos. 1-4 ²	0.43	0.43	0.40	6.89	2.64	0.37	0.018
Emergency Generators Nos. 5-9 ³	0.18	0.18	0.007	5.68	1.03	0.25	0.25
Incinerator ⁴	0.30	0.30	0.320	1.17	0.090	0.040	1.3
Boilers (Items 8-22, 27-34, and 35)	0.98	0.98	0.080	12.89	10.83	0.710	0.5
Kilns & Furnaces (Items 23-26)							
Abrasive Blasting	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Welding - EAMES Building	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Welding - Facilities	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cold Solvent Degreasing	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Plasma Cutting	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pottery Kiln	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pre-Project Totals¹	15.4	15.4	1.1	59.5	60.4	22.4	19.7
Total							159

Table 4-1b: Post-Project Potential to Emit (based on maximum continuous operations)

Emissions Unit	PM _{2.5}	PM ₁₀	SO ₂	NO ₂	CO	VOC	HAPs
	tons/yr						
Boiler No. 1	0	0	0	0	0	0	0
Boiler No. 2	0.75	0.75	0.06	9.88	8.30	0.54	0.19
Boiler No. 3	0.88	0.88	0.069	5.78	9.71	0.64	0.22
Boiler No. 4	2.38	2.38	0.19	15.6	26.3	1.72	0.60
Boiler No. 36 (Bldg 65)	0.052	0.052	0.004	0.69	0.58	0.038	0.013
Boiler No. 37 (Bldg 38)	0.082	0.082	0.006	0.87	0.90	0.059	0.021
Fuel Tank No. 1- Diesel	0.000	0.000	0	0	0	0.001	0.001
Fuel Tank No. 2- Gasoline	0.000	0.000	0	0	0	0.58	0.583
Paint Booth No. 1 (Bldg 48)	2.95	2.95	0	0	0	7.09	7.4
Paint Booth No. 2 (Bldg 48)	2.95	2.95	0	0	0	7.09	7.4
Paint Booth No. 3 (Bldg 22)	1.40	1.40	0	0	0	3.28	1.2
Shop Baghouse No. 1 (Bldg 22)	2.06	2.06	0	0	0	0	0
Emergency Generators Nos. 1-4	0.43	0.43	0.40	6.89	2.64	0.37	0.018
Emergency Generators Nos. 5-9	0.18	0.18	0.007	5.68	1.03	0.25	0.25
Incinerator ⁴	0.30	0.30	0.320	1.17	0.090	0.040	1.3
Boilers (Items 8-22, 27-34, and 35)	0.97	0.97	0.08	12.88	10.82	0.710	0.5
Kilns & Furnaces (Items 23-26)							
Abrasive Blasting	0.00025	0.0025	0.00	0.00	0.00	0.00	0.00
Welding - EAMES Building	1.26	1.26	0.00	0.00	0.00	0.00	0.10726
Welding - Facilities	0.003	0.003	0.00	0.00	0.00	0.00	0.00734
Cold Solvent Degreasing	0.00	0.00	0.00	0.00	0.00	0.0008	0.00000
Plasma Cutting	0.10	0.104	0.00	5.51	0.00	0.0000	0.0000001
Pottery Kiln	0.03	0.03	0.002	0.34	0.29	0.02	0.006
Post-Project Totals	16.8	16.8	1.1	65.3	60.7	22.4	19.8
Total							166

Table 4-1c: Changes in Potential to Emit (based on maximum continuous operations)

Emissions Unit	PM _{2.5}	PM ₁₀	SO ₂	NO ₂	CO	VOC	HAPs
	tons/yr						
Boiler No. 1	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Boiler No. 2	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Boiler No. 3	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Boiler No. 4	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Boiler No. 36 (Bldg 65)	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Boiler No. 37 (Bldg 38)	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fuel Tank No. 1- Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fuel Tank No. 2- Gasoline	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paint Booth No. 1 (Bldg 48)	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paint Booth No. 2 (Bldg 48)	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paint Booth No. 3 (Bldg 22)	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Shop Baghouse No. 1 (Bldg 22)	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Emergency Generators Nos. 1-4	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Emergency Generators Nos. 5-9	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Incinerator ⁴	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Boilers (Items 8-22, 27-34, and 35)							
Kilns & Furnaces (Items 23-26)	-0.005	-0.005	-0.00004	-0.006	-0.005	-0.0003	-0.0008
Abrasive Blasting	0.0002	0.002	0.00	0.00	0.00	0.00	0.00000
Welding - EAMES Building	1.3	1.3	0.00	0.00	0.00	0.00	0.10726
Welding - Facilities	0.003	0.003	0.00	0.00	0.00	0.00	0.00734
Cold Solvent Degreasing	0.00	0.00	0.00	0.00	0.00	0.0008	0.00000
Plasma Cutting	0.10	0.10	0.00	5.51	0.00	0.0000	0.0000001
Pottery Kiln	0.03	0.03	0.002	0.34	0.29	0.019	0.006
Post-Project Totals	1.39	1.39	0.002	5.84	0.28	0.02	0.12
Total							7.5

Note 1: Values from Statement of Basis, PTC No. P-2013-0015, January 28, 2014.

Table 4-2
Restricted Controlled Facility-Wide NSR Regulated Pollutant Emissions
 Idaho State University, Pocatello, Idaho

Table 4-2a: Pre-Project Potential to Emit

Emissions Unit (Note 1)	tons/year							Total
	PM _{2.5}	PM ₁₀	SO ₂	NO _x	CO	VOC	THAPs	
Boiler No. 1	0	0	0	0	0	0	0	
Boiler No. 2	0.12	0.12	0.01	1.63	1.37	0.09	0.03	
Boiler No. 3	0.77	0.77	0.061	5.08	8.53	0.56	0.20	
Boiler No. 4	1.90	1.93	0.15	12.8	21.1	1.38	0.48	
Boiler No. 36 (Bldg 65)	0.052	0.052	0.004	0.69	0.58	0.038	0.013	
Boiler No. 37 (Bldg 38)	0.082	0.082	0.006	0.87	0.90	0.059	0.021	
Fuel Tank No. 1- Diesel	0.000	0.000	0	0	0	0.001	0.001	
Fuel Tank No. 2- Gasoline	0.000	0.000	0	0	0	0.58	0.010	
Paint Booth No. 1 (Bldg 48)	0.02	0.02	0	0	0	3.88	4.1	
Paint Booth No. 2 (Bldg 48)	0.02	0.02	0	0	0	3.88	4.1	
Paint Booth No. 3 (Bldg 22)	0.01	0.01	0	0	0	1.80	0.6	
Shop Baghouse No. 1 (Bldg 22)	0.02	0.02	0	0	0	0	0	
Emergency Generators Nos. 1-4 ²	0.43	0.43	0.40	6.89	2.64	0.37	0.018	
Emergency Generators Nos. 5-9 ³	0.18	0.18	0.007	5.68	1.03	0.25	0.25	
Incinerator ⁴	0.30	0.30	0.320	1.17	0.090	0.040	1.3	
Boilers (Items 8-22, 27-34, and 35) Kilns & Furnaces (Items 23-26)	0.98	0.98	0.080	12.89	10.83	0.710	0.5	
Abrasive Blasting	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Welding - EAMES Building	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Welding - Facilities	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Cold Solvent Degreasing	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Plasma Cutting	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Pottery Kiln	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Pre-Project Totals¹	4.9	4.9	1.0	47.7	47.1	13.6	11.6	114

Table 4-2b: Post-Project Potential to Emit (based on permit conditions proposed)

Emissions Unit	PM _{2.5}	PM ₁₀	SO ₂	NO ₂	CO	VOC	HAPs	Total
	tons/yr							
Boiler No. 1	0	0	0	0	0	0	0	
Boiler No. 2	0.12	0.12	0.01	1.63	1.37	0.09	0.03	
Boiler No. 3	0.77	0.77	0.061	5.08	8.53	0.56	0.20	
Boiler No. 4	1.90	1.93	0.15	12.8	21.1	1.38	0.48	
Boiler No. 36 (Bldg 65)	0.052	0.052	0.004	0.69	0.58	0.038	0.013	
Boiler No. 37 (Bldg 38)	0.082	0.082	0.006	0.87	0.90	0.059	0.021	
Fuel Tank No. 1- Diesel	0.000	0.000	0	0	0	0.001	0.001	
Fuel Tank No. 2- Gasoline	0.000	0.000	0	0	0	0.58	0.010	
Paint Booth No. 1 (Bldg 48)	0.02	0.02	0	0	0	3.88	4.1	
Paint Booth No. 2 (Bldg 48)	0.02	0.02	0	0	0	3.88	4.1	
Paint Booth No. 3 (Bldg 22)	0.01	0.01	0	0	0	1.80	0.6	
Shop Baghouse No. 1 (Bldg 22)	0.02	0.02	0	0	0	0	0	
Emergency Generators Nos. 1-4	0.43	0.43	0.40	6.89	2.64	0.37	0.018	
Emergency Generators Nos. 5-9	0.18	0.18	0.007	5.68	1.03	0.25	0.25	
Incinerator ⁴	0.30	0.30	0.320	1.17	0.090	0.040	1.3	
Boilers (Items 8-22, 27-34, and 35) Kilns & Furnaces (Items 23-26)	0.98	0.98	0.080	12.89	10.83	0.710	0.5	
Abrasive Blasting	0.00005	0.00005	0.00	0.00	0.00	0.00	0.00	
Welding - EAMES Building	0.20	0.20	0.00	0.00	0.00	0.00	0.00979	
Welding - Facilities	0.0005	0.0005	0.00	0.00	0.00	0.00	0.00029	
Cold Solvent Degreasing	0.00	0.00	0.00	0.00	0.00	0.0008	0.00000	
Plasma Cutting	0.0001	0.0001	0.00	0.008	0.00	0.00	0.000001	
Pottery Kiln	0.03	0.03	0.002	0.3	0.3	0.02	0.006	
Post-Project Totals	5.1	5.1	1.0	48.0	47.4	13.7	11.6	115

Table 4-2c: Changes in Potential to Emit (based on permit conditions proposed)

Emissions Unit	PM _{2.5}	PM ₁₀	SO ₂	NO ₂	CO	VOC	HAPs	Total
	tons/yr							
Boiler No. 1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Boiler No. 2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Boiler No. 3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Boiler No. 4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Boiler No. 36 (Bldg 65)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Boiler No. 37 (Bldg 38)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Fuel Tank No. 1- Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Fuel Tank No. 2- Gasoline	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Paint Booth No. 1 (Bldg 48)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Paint Booth No. 2 (Bldg 48)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Paint Booth No. 3 (Bldg 22)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Shop Baghouse No. 1 (Bldg 22)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Emergency Generators Nos. 1-4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Emergency Generators Nos. 5-9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Incinerator ⁴	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Boilers (Items 8-22, 27-34, and 35) Kilns & Furnaces (Items 23-26)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Abrasive Blasting	0.00005	0.00005	0.00	0.00	0.00	0.00	0.00000	
Welding - EAMES Building	0.1991	0.1991	0.00	0.00	0.00	0.00	0.00979	
Welding - Facilities	0.0005	0.0005	0.00	0.00	0.00	0.00	0.00029	
Cold Solvent Degreasing	0.00	0.00	0.00	0.00	0.00	0.0008	0.00000	
Plasma Cutting	0.0001	0.0001	0.00	0.008	0.00	0.0000	0.000001	
Pottery Kiln	0.03	0.03	0.00	0.344	0.29	0.0189	0.006490	
Post-Project Totals	0.23	0.23	0.002	0.35	0.29	0.02	0.02	0.89

Note 1: Values from Statement of Basis, PTC No. P-2013-0015, January 28, 2014.

Table 4-3
Regulated Criteria Pollutant Emissions Increase
Idaho State University, Pocatello, Idaho

Max Restricted Controlled PTE Criteria Air Pollutants	Estimated Emission Rate	10% Significant Emission Rate	BRC Exemption
	(T/yr)	(T/yr)	Below 10% Sig. Rate? (Y/N)
NO ₂	3.5E-01	4	Yes
CO	2.9E-01	10	Yes
PM	2.3E-01	2.5	Yes
PM ₁₀	2.3E-01	1.5	Yes
PM _{2.5}	2.3E-01	1	Yes
SO _x	2.1E-03	4	Yes
VOC	2.0E-02	4	Yes
Lead	1.7E-06	0.06	Yes

IDAPA.58.01.01.221: Category 1 Exemption

Below Regulatory Concern. The maximum capacity of a source to emit an air pollutant under its physical and operational design considering limitations on emissions such as air pollution control equipment, restrictions on hours of operation and restrictions on the type and amount of material combusted, stored or processed shall be less than ten percent (10%) of the significant emission rates (State of Idaho Guideline for Performing Air Quality Impact Analyses, Dec. ID AQ-011 [September 2013]).

Table 4-4
 Toxic Air Pollutant Emissions Increase
 Idaho State University, Pocatello, Idaho

Non-Carcinogenic Toxic Air Pollutant (24 hr Average)	Restricted Controlled Hourly Emissions		Controlled Emission Change (lb/hr)	Screening Emission Level (lb/hr)	Controlled Exceeds TAP EL?
	Pre-Project (lb/hr)	Post Project (lb/hr)			
Aluminum oxide	0	4.75E-05	4.75E-05	6.67E-01	No
Antimony compounds	0	1.75E-06	1.75E-06	3.30E-02	No
Calcium Carbonate	0	2.19E-07	2.19E-07	6.67E-01	No
Chromium	0	3.55E-05	3.55E-05	3.30E-02	No
Cobalt	0	4.34E-06	4.34E-06	3.30E-03	No
Copper	0	1.12E-04	1.12E-04	1.30E-02	No
Dichlorobenzene	0	9.41E-07	9.41E-07	2.00E+01	No
Hexane	0	1.41E-03	1.41E-03	1.20E+01	No
Iron Oxide Fume	0	1.09E-03	1.09E-03	3.33E-01	No
Fluoranthene	0	2.35E-09	2.35E-09	9.10E-05	No
Fluorides, as F	0	5.75E-06	5.75E-06	1.67E-01	No
Kaolin	0	2.19E-07	2.19E-07	1.33E-01	No
Manganese	0	5.12E-03	5.12E-03	6.70E-02	No
Magnesium	0	2.95E-05	2.95E-05	6.67E-01	No
Mercury	0	2.65E-05	2.65E-05	2.00E-01	No
Mica	0	1.09E-06	1.09E-06	2.00E-01	No
Molybdenum	0	5.45E-05	5.45E-05	3.33E-01	No
Naphthalene	0	4.78E-07	4.78E-07	3.33E+00	No
Pentane	0	2.04E-03	2.04E-03	1.18E+02	No
Phosphorous	0	1.25E-05	1.25E-05	7.00E-03	No
Selenium	0	1.88E-08	1.88E-08	1.30E-02	No
Silica	0	8.46E-05	8.46E-05	6.70E-03	No
Silica - amorphous	0	3.50E-06	3.50E-06	6.67E-01	No
Silicon	0	5.04E-04	5.04E-04	6.67E-01	No
Toluene	0	2.67E-06	2.67E-06	2.50E+01	No
Vanadium, as V2O5	0	1.87E-05	1.87E-05	3.00E-03	No
Zinc	0	2.35E-05	2.35E-05	6.67E-01	No
Zirconium	0	4.66E-07	4.66E-07	3.33E-01	No
Carcinogenic Toxic Air Pollutant (Annual Average)	Restricted Controlled Hourly Emissions		Emission Change (lb/hr)	Screening Emission Level (lb/hr)	Controlled Exceeds TAP EL?
	Pre-Project (lb/hr)	Post Project (lb/hr)			
Arsenic	0	1.6E-07	1.6E-07	1.50E-06	No
Benzene	0	1.6E-06	1.6E-06	8.00E-04	No
Beryllium	0	9.4E-09	9.4E-09	2.80E-05	No
Cadmium	0	8.6E-07	8.6E-07	3.70E-06	No
Chromium+6	0	8.3E-07	8.3E-07	5.60E-07	Yes
2-Methylnaphthalene	0	1.9E-08	1.9E-08	9.10E-05	No
3-Methylchloranthrene	0	1.4E-09	1.4E-09	9.10E-05	No
Acenaphthene	0	1.4E-09	1.4E-09	9.10E-05	No
Acenaphthylene	0	1.4E-09	1.4E-09	9.10E-05	No
Anthracene	0	1.9E-09	1.9E-09	9.10E-05	No
Benzo(a)pyrene	0	1.4E-09	1.4E-09	9.10E-05	No
Benzo(g,h,i)perylene	0	9.4E-10	9.4E-10	9.10E-05	No
Formaldehyde	0	5.9E-05	5.9E-05	5.10E-04	No
Fluorene	0	2.2E-09	2.2E-09	9.10E-05	No
Naphthalene	0	4.8E-07	4.8E-07	9.10E-05	No
Nickel	0	1.3E-05	1.3E-05	2.70E-05	No

Table 4-5
Hazardous Air Pollutant Emissions Increase
Idaho State University, Pocatello, Idaho

Hazardous Air Pollutant	Unrestricted Uncontrolled Potential to Emit (tons/yr)	Restricted Controlled Potential to Emit (tons/yr)
2-Methylnaphthalene	8.2E-08	8.2E-08
3-Methylchloranthrene	6.2E-09	6.2E-09
Acenaphthene	6.2E-09	6.2E-09
Acenaphthylene	6.2E-09	6.2E-09
Anthracene	8.2E-09	8.2E-09
Antimony	2.3E-05	1.1E-06
Arsenic	6.9E-07	6.9E-07
Benzene	7.2E-06	7.2E-06
Benzo(a)anthracene	6.2E-09	6.2E-09
Benzo(a)pyrene	4.1E-09	4.1E-09
Benzo(b)fluoranthene	6.2E-09	6.2E-09
Benzo(g,h,i)perylene	4.1E-09	4.1E-09
Benzo(k)fluoranthene	6.2E-09	6.2E-09
Beryllium	3.3E-09	4.8E-11
Beryllium	4.1E-08	4.1E-08
Cadmium	3.8E-06	3.8E-06
Chromium	2.0E-02	2.9E-04
Chromium	4.8E-06	4.8E-06
Chrysene	6.2E-09	6.2E-09
Cobalt	5.3E-07	8.2E-06
Cobalt	2.9E-07	2.9E-07
Dibenzo(a,h)anthracene	4.1E-09	4.1E-09
Dichlorobenzene	4.1E-06	4.1E-06
Fluoranthene	1.0E-08	1.0E-08
Fluorene	9.6E-09	9.6E-09
Formaldehyde	2.6E-04	2.6E-04
Hexane	6.2E-03	6.2E-03
Indeno(1,2,3-cd)pyrene	6.2E-09	6.2E-09
Manganese	6.9E-02	9.7E-03
Manganese	1.3E-06	1.3E-06
Mercury	8.9E-07	8.9E-07
Naphthalene	2.1E-06	2.1E-06
Naphthalene	2.1E-06	2.1E-06

Nickel	1.4E-02	4.9E-05
PAH Max. total	2.3E-06	2.3E-06
Phenanathrene	5.8E-08	5.8E-08
Polycyclic Org. Matter (POM, 7-PAH Group)	3.9E-08	3.9E-08
Pyrene	1.7E-08	1.7E-08
Selenium	8.2E-08	8.2E-08
Toluene	1.2E-05	1.2E-05
TOTAL =	0.11	0.02