



STATE OF IDAHO  
DEPARTMENT OF  
ENVIRONMENTAL QUALITY

1410 North Hilton • Boise, Idaho 83706-1255 • (208) 373-0502

September 10, 2002

Dirk Kempthorne, Governor  
C. Stephen Alfred, Director

**CERTIFIED MAIL No. 7000 1670 0013 9128 6737**

Fred Hutchison, Safety Officer  
University of Idaho  
Environmental Health and Safety  
1108 W. 6th St.  
Moscow, ID 83844-2030

RE: AIRS Facility No. 057-00025, University of Idaho, Moscow  
Final Tier II Operating Permit

Dear Mr. Hutchison:

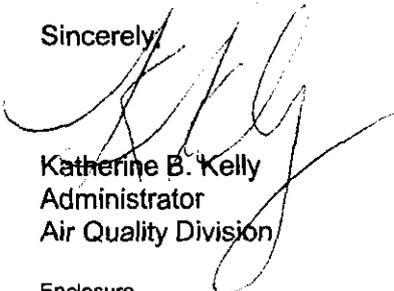
The Department of Environmental Quality (Department) is issuing Tier II Operating Permit and Permit to Construct No. 057-00025 for the University of Idaho campus located in Moscow in accordance with the *Rules for the Control of Air Pollution in Idaho*, IDAPA 58.01.01.400 through 470 and 58.01.01.200-228, respectively.

The enclosed permit is effective immediately, and is based on the information contained in your application and all relevant comments received during the public comment period. Modification to and/or renewal of this permit shall be requested in a timely manner in accordance with the *Rules for the Control of Air Pollution in Idaho*.

Kerby Cole of the Lewiston Regional Office will contact you regarding a meeting with the Department to discuss the permit terms and requirements. In addition to your facility's plant manager, the Department recommends the following representatives attend the meeting: your responsible official, environmental contact, and any operations staff responsible for day-to-day compliance with the permit conditions.

You, as well as any other entity, may have the right to appeal this final agency action pursuant to IDAPA 58.01.23, *Rules of Administrative Procedure Before the Board of Environmental Quality*. A petition may be filed with the Hearings Coordinator, Department of Environmental Quality, 1410 N. Hilton, Boise, ID 83706-1255, within 35 days of the date of this decision. However, prior to filing a petition for a contested case, the Department encourages you to contact Mike Simon at (208) 373-0502 to address any questions or concerns you may have with the enclosed permit.

Sincerely,

  
Katherine B. Kelly  
Administrator  
Air Quality Division

Enclosure

cc: James Bellatty, Lewiston Regional Office  
Joan Lechtenberg, Air Quality Division

Laurie Krafl, EPA - Region 10  
Sherry Davis, Technical Services Division

KK/DAM/tk Project No. T2-010200 G:\AIR PERMITS\T2\UOI MOSCOW\FINAL PREPIT2 FINAL PERMIT LTR.DOC



**Air Quality  
TIER II OPERATING PERMIT  
and  
PERMIT TO CONSTRUCT**

State of Idaho  
Department of Environmental Quality

PERMIT NO.: 057-00025

AQCR: 62

CLASS: A

SIC: 8221

ZONE: 11

UTM COORDINATE (km): 499.0, 5175.0

1. **PERMITTEE**  
University of Idaho

2. **PROJECT**  
Tier II Operating Permit and Permit to Construct for the University of Idaho Campus

3. <b>MAILING ADDRESS</b> 1108 W. Sixth St.	<b>CITY</b> Moscow	<b>STATE</b> ID	<b>ZIP</b> 83844-2030
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4. <b>FACILITY CONTACT</b> Fred Hutchison	<b>TITLE</b> Director, EHS	<b>TELEPHONE</b> (208) 885-6524
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5. <b>RESPONSIBLE OFFICIAL</b> Jerry N. Wallace	<b>TITLE</b> Vice President Finance and Administration	<b>TELEPHONE</b> (208) 885-6174
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6. <b>EXACT PLANT LOCATION</b> West Side of the City of Moscow	<b>COUNTY</b> Latah
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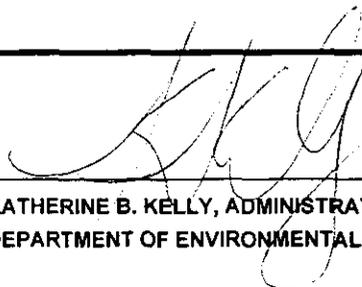
7. **GENERAL NATURE OF BUSINESS & KINDS OF PRODUCTS**  
Institution of Higher Undergraduate and Postgraduate Education and Research

8. **PERMIT AUTHORITY**

This permit is issued according to the *Rules for the Control of Air Pollution in Idaho*, IDAPA 58.01.01.400-470. and IDAPA 58.01.01.200-228. This permit pertains only to emissions of air contaminants, which are regulated by the state of Idaho and to the sources specifically allowed to be operated by this permit.

This permit is not transferable to another person, place, or piece or set of equipment. This permit will expire if construction has not yet begun within two years of its issue date or if construction is suspended for one year.

This permit has been granted on the basis of design information presented in the application and the Idaho Department of Environmental Quality's technical analysis of the supplied information. Changes in design or equipment that result in any change in the nature or amount of emissions may be considered a modification. Modifications are subject to Department review in accordance with IDAPA 58.01.01.200 of the *Rules for the Control of Air Pollution in Idaho*.



KATHERINE B. KELLY, ADMINISTRATOR, AIR QUALITY DIVISION  
DEPARTMENT OF ENVIRONMENTAL QUALITY

DATE ISSUED: September 10, 2002

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## ACRONYMS, UNITS, AND CHEMICAL NOMENCLATURE

AFS	AIRS Facility Subsystem
AIRS	Aerometric Information Retrieval System
AQCR	Air Quality Control Region
CFR	Code of Federal Regulations
CO	carbon monoxide
DEQ	Department of Environmental Quality
dscf	Dry Standard Cubic Feet
EPA	Environmental Protection Agency
gr	Grain (1 lb = 7,000 grains)
IDAPA	A numbering designation for all administrative rules in Idaho promulgated in accordance with the Idaho Administrative Procedures Act
lb/hr	pound per hour
MMBtu	million British thermal units
NESHAP	Nation Emission Standards for Hazardous Air Pollutants
NO <sub>x</sub>	nitrogen oxides
NSPS	New Source Performance Standards
PM	Particulate Matter
PM <sub>10</sub>	Particulate Matter with an Aerodynamic Diameter of 10 Micrometers or Less
PSD	Prevention of Significant Deterioration
SIP	State Implementation Plan
SO <sub>2</sub>	sulfur dioxide
T/yr	Tons per year
VOC	Volatile Organic Compound

**AIR QUALITY TIER II OPERATING PERMIT and PERMIT TO CONSTRUCT No.: 057-00025**

**Permittee:** University of Idaho  
**Location:** Moscow, Idaho

**Date Issued:** September 10, 2002

**1. PERMIT SCOPE**

**Purpose**

- 1.1 The purpose of this Tier II operating permit and Permit to Construct is to establish enforceable requirements for the facility's wood-waste-fired boiler and the other significant emission sources at the facility in accordance with the *Rules for the Control of Air Pollution in Idaho*.
- 1.2 This Tier II operating permit and Permit to Construct incorporates the applicable requirements of the following consent orders. These consent orders are terminated upon the issuance date of this Tier II permit and Permit to Construct.
- Consent Order, dated December 23, 1986
  - Consent Order, dated March 28, 1995
  - Consent Order, dated November 15, 1996
  - Consent Order, dated March 16, 2000

**Regulated Sources**

Table 1.1 below lists the sources regulated in this Tier II permit and Permit to Construct:

**Table 1.1 LIST OF REGULATED SOURCES**

<b>Permit Sections</b>	<b>Source Description</b>	<b>Emissions Control</b>
2.	<u>FACILITY-WIDE FUGITIVE DUST EMISSIONS SOURCES:</u> - Wood-waste boiler ash handling - Wood-waste fuel truck dump - Paved roads and parking lots - Unpaved roads and parking lots	Fugitive emissions – Reasonable control of fugitive emissions
3.	<u>WOOD-WASTE-FIRED BOILER:</u> S-B00 – Solid fuels wood-waste-fired boiler – Boiler rated capacity of 60,000 lb/hr steam	Multiclone unit
4.	<u>NATURAL GAS-FIRED BOILERS:</u> S-B0 – Cleaver-Brooks natural gas-fired boiler – Model DLD- 76 – Rated heat input capacity of 82.5 MMBtu/hr  S-B4 – Combustion engineering natural gas-fired boiler - Model NB-242 - Rated heat input capacity of 42.9 MMBtu/hr	S-B0 – Uncontrolled  S-B4 – Uncontrolled
5.	<u>DIESEL-FIRED ELECTRICAL GENERATORS:</u> S-G01 - Kohler Model 18 NA 3160 – located at Gibb Hall S-G02 - Kohler Model 180ROZJ181 – located at Power Plant S-G03 - CAT Model 3412 – located at McClure Hall	S-G01 – Uncontrolled S-G02 – Uncontrolled S-G03 – Uncontrolled

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**Permittee:** University of Idaho  
**Location:** Moscow, Idaho

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**2. FACILITY-WIDE REQUIREMENTS**

The following table contains a summary of requirements that apply generally to emissions units at the facility:

**Table 2.1 FACILITY-WIDE SUMMARY TABLE**

<b>Permit Conditions</b>	<b>Parameter</b>	<b>Permit Limit/ Standard Summary</b>	<b>Applicable Requirements Reference</b>	<b>Monitoring &amp; Recordkeeping Requirements</b>
2.1	Fugitive dust / Fugitive particulate matter	Reasonable control	IDAPA 58.01.01.650-651	2.2, 2.3
2.4	Odors		IDAPA 58.01.01.775-776	2.5
2.6	Visible Emissions	20% opacity for no more than three minutes in any 60-minute period	IDAPA 58.01.01.625	2.7
2.8	Excess emissions		IDAPA 58.01.01.130-136	2.8
2.13	Particulate matter	0.015 grains per dry standard cubic foot (gr/dscf) of effluent gas corrected to 3% oxygen by volume for gas;  0.050 gr/dscf, 3% oxygen for liquid;  0.050 gr/dscf, 8% oxygen for coal; and  0.080 gr/dscf, 8% oxygen for wood products	IDAPA 58.01.01.676 and 677	2.13
2.15	Sulfur content	ASTM Grade 1 fuel oil 0.3% by weight.  ASTM Grade 2 fuel oil - 0.5% by weight	IDAPA 58.01.01.728	2.16

***Fugitive Particulate Matter Emissions Control***

- 2.1 All reasonable precautions shall be taken to prevent particulate matter from becoming airborne in accordance with IDAPA 58.01.01.650-651. [IDAPA 58.01.01.650-651, 5/1/94]
- 2.2 Unless specified elsewhere in this permit, the permittee shall monitor and maintain records of the frequency and the method(s) used (i.e., water, chemical dust suppressants, etc.) to reasonably control fugitive emissions. [IDAPA 58.01.01.405.01, .07, 5/1/94]
- 2.3 Unless specified elsewhere in this permit, the permittee shall maintain records of all fugitive dust complaints received. The permittee shall take appropriate corrective action as expeditiously as practicable after receipt of a valid complaint. The records shall, at a minimum, include the date that each complaint was received and description of the following: the complaint, the permittee's assessment of the validity of the complaint, any corrective action taken, and the date the corrective action was taken. [IDAPA 58.01.01.405.01, .07, 5/1/94]

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**Date Issued:** September 10, 2002

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***Odors***

- 2.4 no person shall allow, suffer, cause, or permit the emission of odorous gases, liquids, or solids to the atmosphere in such quantities as to cause air pollution. [IDAPA 58.01.01.775-776, 5/1/94]
- 2.5 Unless specified elsewhere in this permit, the permittee shall maintain records of all odor complaints received. If the complaint has merit, the permittee shall take appropriate corrective action as expeditiously as practicable. The records shall, at a minimum, include the date each complaint was received and a description of the following: the complaint, the permittee's assessment of the validity of the complaint, any corrective action taken, and the date the corrective action was taken. [IDAPA 58.01.01.405.01, .07, 5/1/94]

***Visible Emissions***

- 2.6 No person shall discharge any air pollutant to the atmosphere from any point of emission for a period or periods aggregating more than three minutes in any 60-minute period which is greater than 20% opacity as determined by procedures contained in IDAPA 58.01.01.625. These provisions shall not apply when the presence of uncombined water, nitrogen oxides, and/or chlorine gas are the only reason(s) for the failure of the emission to comply with the requirements of this section. [IDAPA 58.01.01.625, 5/1/94]
- 2.7 Unless specified elsewhere in this permit, the permittee shall conduct a monthly facility-wide inspection of potential sources of visible emissions during daylight hours and under normal operating conditions. If any visible emissions are present from any point of emission, the permittee shall take appropriate corrective action as expeditiously as practicable. If opacity is greater than 20% for a period or periods aggregating more than three minutes in any 60-minute period, the permittee shall take all necessary corrective action and report the exceedance in its annual compliance certification and in accordance with IDAPA 58.01.01.130-136. The permittee shall maintain records of the results of each monthly visible emission inspection. The records shall, at a minimum, include the date of each inspection and a description of the following: the permittee's assessment of the conditions existing at the time visible emissions are present (if observed), any corrective action taken in response to the visible emissions, and the date corrective action was taken. IDAPA 58.01.01.405.01, 5/1/94]

***Excess Emissions***

- 2.8 The permittee shall comply with the procedures and requirements of IDAPA 58.01.01.130-136 for excess emissions due to startup, shutdown, scheduled maintenance, safety measures, upsets, and breakdowns. [IDAPA 58.01.01.130-136, 4/5/00]

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**Permittee:** University of Idaho  
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**Monitoring and Recordkeeping**

- 2.9 The permittee shall maintain sufficient recordkeeping to assure compliance with all of the terms and conditions of this operating permit. Recording of monitoring information shall include, but not be limited to: (a) the date, place, and times of sampling or measurements; (b) the date analyses were performed; (c) the company or entity that performed the analyses; (d) the analytical techniques or methods used; (e) the results of such analyses; and (f) the operating conditions existing at the time of sampling or measurement. All monitoring records and support information shall be retained for a period of at least five years from the date of the monitoring sample, measurement, report, or application. Supporting information includes, but is not limited to, all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation and copies of all reports required by this permit. All records required to be maintained by this permit shall be made available to Department representatives upon request in either hard copy or electronic format.

[IDAPA 56.01.01.405.01, 5/1/94]

**Reports and Certifications**

- 2.10 Any reporting required by this permit, including, but not limited to, records, monitoring data, supporting information, requests for confidential treatment, testing reports, or compliance certifications, shall contain a certification by a responsible official. The certification shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document(s) are true, accurate, and complete. Any reporting required by this permit shall be submitted to the following address:

Air Quality Permit Compliance  
Department of Environmental Quality  
Lewiston Regional Office  
1118 F St.  
Lewiston, ID 83501  
Phone: (208) 799-4370 Fax: (208) 799-3451

[IDAPA 58.01.01.405.01, .11, 5/1/94]

**Open Burning**

- 2.11 The permittee shall comply with the requirements of IDAPA 58.01.01.600-616, *Rules for Control of Open Burning*.

[IDAPA 58.01.01.600-616, 5/1/94]

**Performance Testing**

- 2.12 If testing is required, the permittee shall provide notice of intent to test to the Department at least 15 days prior to the scheduled test or shorter time period as provided in a permit, order, consent decree, or by Department approval. The Department may, at its option, have an observer present at any emissions tests conducted on a source. The Department requests that such testing not be performed on weekends or state holidays.

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All testing shall be conducted in accordance with the procedures in IDAPA 58.01.01.157. Without prior Department approval, any alternative testing is conducted solely at the permittee's risk. If the permittee fails to obtain prior written approval by the Department for any testing deviations, the Department may determine that the testing does not satisfy the testing requirements. Therefore, prior to conducting any compliance test, the permittee is strongly encouraged to submit in writing to the Department, at least 30 days in advance, the following for approval:

- The type of method to be used;
- Any extenuating or unusual circumstances regarding the proposed test; and
- The proposed schedule for conducting and reporting the test.

Within 30 days following the date in which a compliance test required by this permit is concluded, the permittee shall submit to the Department a compliance test report for the respective test. The compliance test report shall include a description of the process, identification of the method used, equipment used, all process operating data collected during the test period, and test results as well as raw test data and associated documentation, including any approved test protocol.

If testing is required, the permittee shall use the following test methods described in Table 2.2 to measure the pollutant emissions:

**Table 2.2 TEST METHODS**

<b>Pollutant</b>	<b>Test Method</b>	<b>Special Conditions</b>
PM <sub>10</sub>	EPA Method 201.a.* 202	
PM	EPA Method 5*	
NO <sub>x</sub>	EPA Method 7*	
SO <sub>2</sub>	EPA Method 6*	
CO	EPA Method 10*	
VOC	EPA Method 25*	
Opacity	EPA Method 9*	If an NSPS source, IDAPA 58.01.01.625 and Method 9; otherwise, IDAPA 58.01.01.625 only.

\* Or Department-approved alternative in accordance with IDAPA 58.01.01.157

[IDAPA 58.01.01.157, 4/5/00; IDAPA 58.01.01.405.02]

**Fuel-burning Equipment**

- 2.13 The permittee shall not discharge to the atmosphere from any fuel-burning equipment particulate matter in excess of 0.015 gr/dscf of effluent gas corrected to 3% oxygen by volume for gas, 0.050 gr/dscf of effluent gas corrected to 3% oxygen by volume for liquid, 0.050 gr/dscf of effluent gas corrected to 8% oxygen by volume for coal, and 0.080 gr/dscf of effluent gas corrected to 8% oxygen by volume for wood products.  
 [IDAPA 58.01.01.676-677, 5/1/94]
- 2.14 The permittee is not required to demonstrate compliance with the particulate matter, grain-loading standards listed in IDAPA 58.01.01.676 and 677, except for emissions units with permit conditions containing compliance demonstration provisions specified elsewhere in this permit.  
 [IDAPA 58.01.01.405.01, 5/1/94]

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***Sulfur Content***

2.15 No person shall sell, distribute, use, or make available for use any distillate fuel oil containing more than the following percentages of sulfur:

- ASTM Grade 1 fuel oil - 0.3% by weight.
- ASTM Grade 2 fuel oil - 0.5% by weight.

**[IDAPA 58.01.01.728, 5/1/94]**

2.16 The permittee shall maintain documentation of the actual sulfur content in percent by weight for each shipment of distillate fuel oil received. The documentation must identify the supplier of the fuel, the date of fuel delivery, the grade of distillate fuel, and the sulfur content in percent by weight.

**[IDAPA 58.01.01.405.01, 5/1/94]**

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### 3. SOLID FUELS WOOD-WASTE-FIRED BOILER (S-B00)

#### 3.1 Boiler Process Description

The primary purpose of the wood-waste-fired boiler is to produce steam for heating the campus during cold weather and to provide steam to absorption chillers to cool the campus buildings in summer. This boiler uses wood-waste as a fuel and is allowed to use confidential business paper as a fuel in an amount that is not to exceed 0.5% of the average volume of wood-waste fuel combusted at any time.

This emissions unit contains a furnace section and a boiler section. The furnace section combusts wood-waste to provide heat to the boiler section. The boiler section transfers a portion of this heat from the combustion gases to water flowing inside tubes located in the boiler section to create steam for various uses at the campus. The furnace was manufactured by Solid Fuels, Inc. The boiler section was manufactured by Nebraska, and is rated at 60,000 pounds of steam per hour.

#### 3.2 Boiler Emission Control Description

Particulate emissions from the wood-waste-fired boiler are controlled by a multiclone before the exhaust is vented through a stack to the atmosphere.

### ***Emission Limits***

#### 3.3 Boiler Emission Limits

The wood-waste boiler shall not exceed the following emission rate limits:

Particulate matter (PM) emissions from the wood-waste-fired boiler stack shall not exceed 0.080 gr/dscf of effluent gas adjusted to 8% oxygen by volume (IDAPA 58.01.01.676).

Particulate matter with a mean aerodynamic diameter of 10 micrometers or less including condensibles (PM<sub>10</sub>) emissions shall not exceed 17.24 lb/hr and 75.52 T/yr.

Carbon monoxide (CO) emissions shall not exceed 164 T/yr.

Oxides of nitrogen (NO<sub>x</sub>) emissions shall not exceed 71.63 T/yr.

[IDAPA 58.01.01.676, 5/1/94; IDAPA 58.01.01.405.01, 5/1/94]

#### 3.4 Boiler Visible Emission Limits

Visible emissions from the wood-waste-fired boiler stack shall not exceed 20% opacity for a period or periods aggregating more than three minutes in any 60-minute period as required in IDAPA 58.01.01.625.

[IDAPA 58.01.01.625, 4/5/00]

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**Permittee:** University of Idaho  
**Location:** Moscow, Idaho

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### **Operating Requirements**

#### **3.5 Boiler Operation Limit**

The maximum wood-waste boiler steam production rate shall not exceed an average of 52,300 lb/hr, based upon a three-hour rolling average.

The maximum allowable steam production rate of 52,300 lb/hr steam may be increased to a level that shall not exceed 120% of the average steam production rate attained during the most recent performance test approved by the Department. If the maximum steaming production rate of 120% of the average steam rate attained during the most recent performance test would exceed the particulate matter grain-loading standard contained in this permit, the maximum operational steaming rate shall be limited to the steaming rate obtained by the following equation:

$$\text{Max. steam rate} = \text{Ave. steam rate during test} \times \left( \frac{0.08 \text{ gr/dscf at 8\% Oxygen}}{\text{tested grain loading at 8\% Oxygen}} \right)$$

[IDAPA 58.01.01.405.01, 5/1/94]

#### **3.6 Boiler Fuel Requirements**

The wood-waste boiler shall only use wood fuel and is allowed to burn paper-derived fuel of up to 0.5% by volume of the total volume of solid fuel material combusted in the wood-waste boiler at any time. Compliance with this limitation shall be established on a rolling 12-month basis. The boiler shall not combust any contaminated wood fuels such as railroad ties, orientated strand board, particle board, plywood, painted or stained woods.

[IDAPA 58.01.01.405.01, 5/1/94]

#### **3.7 Multiclone Requirements**

The multiclone operation requirements are as follows:

The multiclone shall be in operation at all times during wood-waste boiler operation.

The multiclone pressure drop shall be maintained within the pressure drop range specified in the O & M Manual.

Routine maintenance of the multiclone shall be conducted in accordance with the O & M Manual.

[IDAPA 58.01.01.405.01, 5/1/94]

#### **3.8 Multiclone Operation and Maintenance Manual**

The permittee shall maintain an Operation and Maintenance (O & M) Manual for the multiclone unit describing the schedule and steps taken to assure the air pollution control equipment will be properly operated and maintained. The O&M Manual shall address the operation, maintenance, and repair of the multiclone and shall include, at a minimum, the following:

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- A general description of the multiclone control device
- Normal operating conditions, which shall include the multiclone pressure drop ranges for the steam production range of the wood-waste boiler
- Normal operating procedures
- Methods of preventing malfunctions
- Appropriate corrective actions to be taken in the case of upsets and malfunctions
- Provisions for weekly inspections and routine maintenance schedules.

The O & M Manual shall be updated periodically as additional information is gained from performance testing and day-to-day operating experience. This manual shall remain onsite and shall be made available to Department representatives upon request.

[IDAPA 58.01.01.405.01, 5/1/94]

### ***Monitoring And Recordkeeping Requirements***

#### **3.9 Boiler Continuous Opacity Monitoring**

The in-stack, continuous opacity monitoring system (COMS) shall be installed, operated, calibrated, and properly maintained on the boiler stack, in accordance with 40 CFR 60.7; 40 CFR 60.13; and 40 CFR 60, Appendix B, Specification 1, except as follows:

The COMS shall be operated in accordance with 40 CFR 60.7, except that files required by 40 CFR 60.7(f) shall be retained for at least five years following the date of measurement, maintenance, reports, or records.

Excess emissions reports shall be submitted to the Department in accordance with the provisions of IDAPA 58.01.01.130-136.

The COMS shall be operated in accordance with 40 CFR 60.13, except the opacity data reduction specified by 40 CFR 60.13(h) shall be reduced to demonstrate compliance with the visible emissions limitation specified by IDAPA 58.01.01.625.

The reduced data shall be presented numerically, and may, at the permittee's option, be presented graphically. Periods of excess emissions, as defined by IDAPA 58.01.01.006.35, which result due to startup, shutdown, and scheduled maintenance, shall be clearly identified in the reduced visible emissions documentation.

For periods where the COMS downtime exceeds 5% of the total operating time for the reporting period, the permittee shall perform a see/no see evaluation on the wood-waste boiler stack once per day during periods where the wood-waste boiler is operating and the COMS is not operational. If visible emissions are noted, the permittee shall perform a Method 9 opacity determination in accordance with the procedures outlined in IDAPA 58.01.01.625 during the same day.

[IDAPA 58.01.01.405.01, 5/1/94]

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**3.10 Boiler Steam Rate Monitoring**

The permittee shall monitor and record the hourly steam production rate of the wood-waste boiler which is representative of individual one-hour periods. On a monthly basis, the permittee shall calculate the average hourly steam production rate using each individual hourly steam production value on the basis of a three-hour average. The average hourly steam production values shall be used to determine compliance with the hourly steam production limitation specified in Permit Conditions 3.5 and the emissions limitations.

[IDAPA 58.01.01.405.01, 5/1/94]

**3.11 Multiclone Pressure Drop Monitoring**

The permittee shall install, operate, and maintain a monitor to continuously monitor the pressure drop across the multiclone. The pressure drop shall be recorded once on a daily basis during operation of the wood-waste boiler. The multiclone pressure drop records shall be maintained onsite for the most recent five-year period and shall be made available to Department representatives upon request.

[IDAPA 58.01.01.405.01, 5/1/94]

**3.12 Boiler Fuel Monitoring**

The permittee shall monitor and record the volume of paper-derived fuel on the days when this fuel is utilized in the wood-waste boiler. The volume of wood-waste fuel combusted in the wood-waste boiler shall be monitored and recorded in the same units as the paper-derived fuel.

[IDAPA 58.01.01.405.01, 5/1/94]

**3.13 Boiler Emission Limitation Compliance Demonstration**

The permittee shall calculate hourly emissions on a monthly basis using the following table and the information required by Permit Condition 3.10.

Table 3.1 HOURLY AND ANNUAL EMISSIONS CALCULATIONS

Pollutant	Steam Production (lb steam/hr)	Emission Factor	Emissions
PM <sub>10</sub>		0.2395 lb PM <sub>10</sub> / 1000 lb steam =	lbs PM <sub>10</sub> / hr
CO		0.5200 lb CO / 1000 lb steam =	lbs CO / month
NO <sub>x</sub>		0.2271 lb NO <sub>x</sub> / 1000 lb steam =	lbs NO <sub>x</sub> / month

Compliance with the annual emission limitations listed in Appendix A of this permit shall be determined by summing the hourly steam production on a monthly basis and multiplying the monthly steam production by the emission factors listed in Table 3.1 of this permit. The monthly emission rate values shall be summed for each consecutive 12-month period, and shall be converted to an annual basis.

The permittee may use emission factors developed through Department-approved performance testing in place of the emission factors listed in Table 3.1, provided they are in the same units as the emission factors listed in Table 3.1, and are formally approved by the Department and changed in this permit.

[IDAPA 58.01.01.405.01, 5/1/94]

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***Performance Testing***

**3.14 Boiler**

Within 12 months prior to or after the issuance date of this permit, the permittee shall conduct performance testing on the wood-waste-fired boiler stack to demonstrate compliance with the grain-loading emission standard of 0.080 gr/dscf, corrected to 8% oxygen, as specified by IDAPA 58.01.01.677.

Visible emissions shall be monitored concurrently with each PM test run according to the provisions specified by IDAPA 58.01.01.625. The permittee may use the in-stack COMS and reduced data in lieu of EPA Reference Method 9 to establish the opacity during each PM test run.

The permittee shall also monitor and record the following for each compliance test run: the steam production, the multiclone pressure drop, and the fuel-feed rate in a manner that allows the actual hourly heat input of the fuel to be determined.

The test shall be performed while combusting wood waste.

[IDAPA 58.01.01.405.01, 5/1/94]

**3.15 Frequency of Compliance Testing**

If the particulate grain-loading concentration measured in the compliance test is less than or equal to 75% of the particulate grain-loading standard of 0.080 gr/dscf at 8% oxygen, no further testing is required for the five-year term of this permit. If the particulate grain-loading concentration measured during the compliance test is greater than 75%, but less than or equal to 90% of the particulate grain-loading standard of 0.080 gr/dscf at 8% oxygen, an additional test shall be required within 36 months of the previous test date. If the particulate grain-loading concentration measured during the compliance test is greater than 90% of the particulate grain-loading standard of 0.080 gr/dscf at 8% oxygen, the permittee shall conduct an additional performance test within 12 months of the previous test date.

[IDAPA 58.01.01.405.01, 5/1/94]

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**4. NATURAL GAS-FIRED BOILERS (S-B0 AND S-B4)**

4.1 Process Description

In the event the wood-waste-fired boiler is shut down, or cannot supply the desired quantity of steam for the facility, either or both of the natural gas-fired boilers identified as S-B0 and S-B4 is/are operated.

**Emissions Limits**

4.2 Grain-loading Standard

Particulate matter emissions from each of the natural gas-fired boiler stacks shall not exceed 0.015 gr/dscf of effluent gas adjusted to 3% oxygen by volume (IDAPA 58.01.01.676).

[IDAPA 58.01.01.676, 5/1/94]

4.3 Visible Emissions Limits

Visible emissions from any of the natural gas-fired boiler stacks shall not exceed 20% opacity for a period or periods aggregating more than three minutes in any 60-minute period as required in IDAPA 58.01.01.625.

[IDAPA 58.01.01.625, 5/1/94]

**Monitoring And Recordkeeping Requirements**

4.4 Grain-loading Standard Compliance

No compliance demonstration is required by this permit for the natural gas-fired boilers designated as S-B0 or S-B4 for the purpose of establishing compliance with the grain-loading standard per IDAPA 58.01.01.677.

[IDAPA 58.01.01.405.01, 5/1/94]

4.5 Visible Emissions Limits Compliance

No compliance demonstration is required by this permit for the natural gas-fired boilers designated as S-B0 or S-B4, for the purpose of establishing compliance with the visible emissions standard per IDAPA 58.01.01.625, except as required by Permit Condition 2.7.

[IDAPA 58.01.01.405.01, 5/1/94]

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**5. DIESEL-FIRED EMERGENCY ELECTRICAL GENERATORS (S-G01, S-G02, S-G03)**

**5.1 Generator Process Description**

In the event of disruption of electricity to the facility from the power grid, one or more of the emergency electrical generator engines identified as S-G01, S-G02, and S-G03 is started and operated to provide mechanical power to the electrical generator unit connected to each engine. Electricity is provided to sites within the facility. The generator engines are operated periodically for short duration to allow for maintenance and emergency readiness purposes.

***Emissions Limits***

**5.2 Generator Engines Visible Emissions Limits**

Visible emissions from any of the diesel-fired generator engine stacks shall not exceed 20% opacity for a period or periods aggregating more than three minutes in any 60-minute period as required in IDAPA 58.01.01.625.

[IDAPA 58.01.01.625, 4/5/00]

***Operating Requirements***

**5.3 Generator Engines Operation Limit**

Each of the diesel-fired generator engines shall operate no more than 1,800 hours in any consecutive 12-month period.

[IDAPA 58.01.01.403.02, 5/1/94; IDAPA 58.01.01.405.01, 5/1/94]

***Monitoring And Recordkeeping Requirement***

**5.4 Diesel-fired Generator Engines Parameter Monitoring**

The permittee shall monitor and record the total hours of operation for each individual generator engine listed in Permit Condition 5 on a monthly basis. The monthly operating hours for each generator engine shall be summed for each consecutive 12-month period to establish compliance with the operation limitation specified by Permit Condition 5.3.

[IDAPA 58.01.01.405.01, 5/1/94]

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**6. EMISSION RATE LIMITS**

The following table provides a summary of all emission rate limits required by this permit:

**Table 6.1 EMISSION RATE LIMITS**

University of Idaho, Moscow				
Emissions Limits <sup>a</sup> - Hourly (lb/hr) and Annual <sup>b</sup> (T/yr)				
Source	PM <sub>10</sub> <sup>c</sup>		CO	NO <sub>x</sub>
	lb/hr	T/yr	T/yr	T/yr
Solid fuels wood-waste-fired boiler (S-B00)	17.24	75.52	164.0	71.63

<sup>a</sup> As determined by a pollutant-specific EPA reference method, a Department-approved alternative, or as determined by the Department's emissions estimation methods used in this permit analysis.

<sup>b</sup> As determined by multiplying the actual or allowable (if actual is not available) pound per hour emission rate by the allowable hours per year that the process(es) may operate(s), or by actual annual production rates.

<sup>c</sup> includes condensibles.

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**7. AIR EMISSIONS INVENTORY**

The following table represents the potential to emit for criteria air pollutants for the U of I facility. This table is for informational purposes only.

**Table 7.1 FACILITY EMISSIONS INVENTORY**

Source	PM <sub>10</sub> <sup>c</sup>	SO <sub>2</sub>	CO	NO <sub>x</sub>	VOC
	T/yr	T/yr	T/yr	T/yr	T/yr
Solid Fuels wood-waste-fired boiler (S-B00)	75.52	3.58	163.99	71.63	10.51
Cleaver-Brooks natural gas-fired boiler (S-B0)	2.69	0.22	29.8	35.43	1.95
Combustion Engineering natural gas-fired boiler (S-B4)	1.40	0.13	15.5	18.42	1.01
Electrical generator engine SG-01 Gibb Hall	1.03	0.97	3.16	14.69	1.20
Electrical generator engine SG-02 Power Plant	0.92	0.86	2.82	13.10	1.07
Electrical generator engine SG-03 McClure Hall	1.31	1.23	4.02	18.66	1.52
Other Sources	1.38	0.17	11.78	21.59	2.49
<b>Total</b>	<b>84.25</b>	<b>7.16</b>	<b>231.07</b>	<b>193.52</b>	<b>19.75</b>

<sup>a</sup> As determined by a pollutant-specific EPA reference method, a Department-approved alternative, or as determined by the Department's emissions estimation methods used in this permit analysis.

<sup>b</sup> As determined by multiplying the actual or allowable (if actual is not available) pound per hour emission rate by the allowable hours per year that the process(es) may operate(s), or by actual annual production rates.

<sup>c</sup> Includes condensibles.

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**8. OTHER SOURCES**

The following table identifies all other air pollution emitting sources at the facility that do not require specific permit conditions to demonstrate compliance with applicable air quality standards:

**Table 8.1 OTHER SOURCES NOT SPECIFICALLY REGULATED IN TIER II OP 057-00025**

<b>Emissions Unit Identification</b>	<b>Fuel Type</b>
Space heating boilers (13)	Natural Gas
Space heating furnace (58)	Natural Gas
Water heater (9)	Natural Gas
Incinerator burners (does not include waste materials' combustion products)	Natural Gas
Emergency generator (7)	Natural Gas
Emergency generator (1)	Gasoline
Biofuels test engines	Rapeseed Oil (assumed to be equivalent to diesel for this inventory's emissions)

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**9. GENERAL PROVISIONS**

1. All emissions authorized herein shall be consistent with the terms and conditions of this permit. The emission of any pollutant in excess of the limitations specified herein, or noncompliance with any other condition or limitation contained in this permit, shall constitute a violation of this permit and the *Rules for the Control of Air Pollution in Idaho*, and the Environmental Protection and Health Act, Idaho Code § 39-101 et seq.
2. The permittee shall at all times (except as provided in the *Rules for the Control of Air Pollution in Idaho*) maintain and operate in good working order all treatment or control facilities or systems installed or used to achieve compliance with the terms and conditions of this permit and other applicable laws for the control of air pollution.
3. The permittee shall allow the Director, and/or his authorized representative(s), upon the presentation of credentials:
  - To enter upon the permittee's premises where an emissions source is located, or in which any records are required to be kept under the terms and conditions of this permit; and
  - At reasonable times, to have access to and copy any records required to be kept under the terms and conditions of this permit, to inspect any monitoring methods required in this permit, and to require stack emissions testing (i.e., performance tests) in conformance with state-approved or accepted EPA procedures when deemed appropriate by the Director.
4. Except for data determined to be confidential under Section 9-342A *Idaho Code*, all reports prepared in accordance with the terms of this permit shall be available for public inspection at the appropriate regional office of the Department of Environmental Quality.
5. Nothing in this permit is intended to relieve or exempt the permittee from compliance with any applicable federal, state, or local law or regulation, except as specifically provided herein.
6. In the event of any change in control or ownership of source(s) from which the authorized emissions emanate, the permittee shall notify the succeeding owner or controller of the existence of this permit by letter; a copy of which shall be forwarded to the Director.
7. This permit shall be renewable on the expiration date, provided the permittee submits any and all information necessary for the Director to determine the amount and type of air pollutants emitted from the equipment for which this permit is granted. Failure to submit such information within 60 days after receipt of the Director's request shall cause the permit to become void.
8. The Director may require the permittee to develop a list of operation and maintenance procedures to be approved by the Department. Such list of procedures shall become a part of this permit by reference, and the permittee shall adhere to all of the operation and maintenance procedures contained therein.
9. The provisions of this permit are severable; and if any provision of this permit to any circumstance is held invalid, the application of such provision to other circumstances, and the remainder of this permit shall not be affected thereby.