# Statement of Basis

**Permit to Construct No. P-2012.0034**
**Project ID 61933**

**Idaho Forest Group LLC**
**Riley Creek-Moyie Springs**
**Moyie Springs, Idaho**

**Facility ID 021-00001**

**Final**

**May 1, 2018**
**Tom Burnham**
**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.

## ACRONYMS, UNITS, AND CHEMICAL NOMENCLATURE

| | |
|---|---|
| acfm | actual cubic feet per minute |
| AFS | AIRS Facility Subsystem |
| AIRS | Aerometric Information Retrieval System |
| BACT | Best Available Control Technology |
| BF/yr | Board feet per year |
| CAA | Clean Air Act |
| CFR | Code of Federal Regulations |
| CO | carbon monoxide |
| DEQ | Department of Environmental Quality |
| gr | grain (1 lb = 7,000 grains) |
| dscf | dry standard cubic feet |
| EFB | Electrified Filter Bed |
| EPA | U.S. Environmental Protection Agency |
| HAP | hazardous air pollutants |
| IDAPA | a numbering designation for all administrative rules in Idaho promulgated in accordance with the Idaho Administrative Procedures Act |
| IFG | Idaho Forest Group |
| lb/hr | pounds per hour |
| lb/klb | pounds per one thousand pounds |
| MACT | Maximum Achievable Control Technology |
| MMBtu | million British thermal units |
| NESHAP | National Emission Standards for Hazardous Air Pollutants |
| $NO_x$ | nitrogen oxides |
| NSPS | New Source Performance Standards |
| PC | permit condition |
| PM | particulate matter |
| $PM_{10}$ | particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers |
| PSD | Prevention of Significant Deterioration |
| PTC | permit to construct |
| PTE | potential to emit |
| Rules | Rules for the Control of Air Pollution in Idaho |
| scf | standard cubic feet |
| SIP | State Implementation Plan |
| $SO_2$ | sulfur dioxide |
| T2 OP/PTC | Tier II Operating Permit and Permit to Construct |
| TAP | toxic air pollutant |
| Tier I | Tier I operating permit |
| T/yr | tons per year |
| VOC | volatile organic compound |

## FACILITY INFORMATION

### *Description*

Logs are delivered by truck to Idaho Forest Group, LLC (IFG), unloaded, and stored in the log yard. The logs are then transported from the log yard by truck and loaded into the log deck by a dedicated crane. At the log deck, an infeeder sends the logs to one of two debarkers, which are the first step in the manufacturing process. Debarked logs are then trimmed to a desired length and transferred to the studmill. Sawing operations within the studmill reduce logs to the desired dimensions, and the lumber is then transferred to one of four kilns to be dried. After drying, the lumber is transferred to one of the planers which then surfaces the lumber to final dimensions and trimmed to a marketable length. Lumber is then graded, waxed or inked, stacked, and banded. Finished lumber is shipped off-site, primarily by rail and also by truck.

Emissions sources at the facility include a wood-fired boiler with a rated capacity of 80,000 pounds steam per hour, four drying kilns, two planer mills, and traffic on unpaved roads.

### *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 8, 2014 — PTC No. P-2012.0034 Proj No. 61335. This permit converted the Tier II Operating Permit and Permit to Construct (T2 OP/PTC) No. P-2012.0034 Proj No. 61070 to a stand-alone PTC at an existing Tier I facility, (A, but will become S upon issuance of this permit)
- December 5, 2012 — PTC No. P-2012.0034 Proj No. 61070. This permit revised T2-050113, issued August 31, 2009 by limiting the HAP emissions from the facility to below major source thresholds; increased the VOC emissions rate limits for the lumber drying kilns; and added specific VOC monitoring requirements for the kilns, (S)
- August 31, 2009 — PTC/T2 No. T2-050113, this permit is issued to the facility to fulfill the requirements of the compliance schedule contained in the facility's Tier I operating permit, issued October 29, 2002, and modified on March 7, 2005, (S)
- August 18, 2003 — PTC No. P-030119, sawmill equipment modification (re-issuance). This PTC was issued to Louisiana-Pacific Corporation. The company requested that PTC No. 021-00001, issued on July 23, 2001, be reissued because modification of the facility had not yet commenced and the July 23, 2001 PTC was due to expire, (A)
- July 23, 2001 — PTC No. 021-00001, sawmill equipment modification. This PTC was issued to Louisiana-Pacific Corporation, (S)

### *Application Scope*

This PTC is for a modification at an existing Tier I facility. See the current Tier I permit statement of basis for the permitting history.

The applicant has proposed to increase the allowable boiler steam production rate, increase allowable kiln throughput, replace the EFB with an ESP, remove the HAPs emissions limits, and process in accordance with 209.05.c.

### *Application Chronology*

| | |
|---|---|
| January 4, 2017 | DEQ sent a notice of violation to the facility, which included notification that a PTC was required (Enforcement Case No. E-2016.0020). |
| August 16, 2017 | DEQ received an application. |
| August 17, 2017 | DEQ received an application fee. |
| September 7, 2017 | DEQ determined that the application was complete. |
| November 17, 2017 | DEQ made available the draft permit and statement of basis for peer and regional office review. |
| November 29, 2017 | DEQ made available the draft permit and statement of basis for applicant review. |
| December 21, 2017 – January 22, 2018 | DEQ provided a public comment period on the proposed action. |
| February 8 – March 12, 2018 | DEQ provided a second public comment period on the proposed action. |
| December 12, 2018 | DEQ received the permit processing fee. |
| March 16, 2018 | DEQ provided a proposed permit to EPA for review. |
| May 1, 2018 | DEQ issued the final permit and statement of basis. |

## TECHNICAL ANALYSIS

### *Emissions Units and Control Equipment*

**Table 1 Emissions Unit and Control Equipment Information**

| Emission Unit /ID No. | Emissions Unit Description | Control Device Description | Emissions Discharge Point ID No. and/or Description |
|---|---|---|---|
| Hog fuel boiler | Hog fuel boiler:<br>Manufacturer: Kipper and Sons<br>Burner type: stoker-fired unit<br>Maximum capacity: 80,000 pounds steam per hour or 128 MMBtu/hr.<br>Installed: 1972 | Multiclone:<br>Manufacturer: Clarage<br><br>Electrostatic Precipitator (ESP):<br>Manufacturer: Wellons<br>Model No.: Size 8 | ESP stack:<br>Height above ground:72 feet (ft)<br>Exit velocity: 31.2 ft/sec<br>Exit temperature: 309 °F<br>Stack diameter: 5.5 ft |
| Dry kilns – four total | Dry Kilns:<br>Kilns 1-3 were manufactured by Moore; kiln No. 4 was manufactured by Coe. | None | None<br>32 Vents from four kilns.<br>Height above ground: 26.5 ft<br>Exit velocity: 7.78 ft/sec<br>Exit temperature: 220 °F<br>Stack diameter: 2.26 ft |
| Planer mill: Stetson planer mill | Planer mill: Stetson planer mill:<br>Manufacturer: Stetson; installed in 1989; rate: 1600 ft/min. Shavings generated from the process are pneumatically transferred to a cyclone. A baghouse was added to the planer's cyclone in 1994. | Cyclone:<br>Manufacturer: NA<br>Baghouse:<br>Manufacturer: Donaldson-Day (Torit)<br>Model: 276-RFW-10<br>Air-to-cloth ratio: 9:1 | Stetson Cyclone<br>Height above ground: 68 ft<br>Exit velocity: 62.5 ft/sec<br>Exit temperature: 68 °F<br>Stack diameter: 3.0 ft<br>Baghouse<br>Height above ground: 28 ft<br>Exit velocity: 62.5 ft/sec<br>Exit temperature: ambient<br>Stack diameter: 3.0 ft |

## *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 the lumber mill operations at the facility (see Appendix A) associated with this proposed project. Emissions estimates of criteria pollutant and HAP PTE were based on emission factors from AP-42 and recent performance test results for a throughput of 214.3 million board foot annually.

### 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 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 1 PRE-PROJECT POTENTIAL TO EMIT FOR REGULATED AIR POLLUTANTS**

| Source | $PM_{10}/PM_{2.5}$ | | $SO_2$ | | $NO_X$ | | CO | | VOC | |
|---|---|---|---|---|---|---|---|---|---|---|
| | lb/hr[a] | T/yr[b] | lb/hr[a] | T/yr[b] | lb/hr[a] | T/yr[b] | lb/hr[a] | T/yr[b] | lb/hr[a] | T/yr[b] |
| Hog Fuel Boiler | 6.86 | 16.76 | 3.18 | 7.76 | 24.8 | 60.61 | 104.0 | 254.2 | 4.95 | 12.11 |
| EFB Media Baghouse | 0.18 | 0.57 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chip Cyclone #2, | 0.095 | 0.20 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Shavings Cyc#3 BH, | 0.097 | 0.204 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Shavings Cyc#4 BH | 0.097 | 0.204 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lumber Dry Kilns | 1.44 | 3.04 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 26.37 | 55.5 |
| Fuel Bin Target Boxes | 0.308 | 0.648 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hog Truck Bin | 0.034 | 0.072 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sawdust Truck Bin | 0.238 | 0.50 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Green Chip Truck Bin | 0.428 | 1.0 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fugitive Totals | 0.66 | 1.93 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Pre-Project Totals** | **10.09** | **25.13** | **3.18** | **7.76** | **24.08** | **60.61** | **104.00** | **254.20** | **31.32** | **67.61** |

a) Controlled average emission rate in pounds per hour is a daily average, based on the proposed daily operating schedule and daily limits.
b) 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 2 POST PROJECT POTENTIAL TO EMIT FOR REGULATED AIR POLLUTANTS**

| Source | $PM_{10}/PM_{2.5}$ | | $SO_2$ | | $NO_X$ | | CO | | VOC | |
|---|---|---|---|---|---|---|---|---|---|---|
| | lb/hr[a] | T/yr[b] | lb/hr[a] | T/yr[b] | lb/hr[a] | T/yr[b] | lb/hr[a] | T/yr[b] | lb/hr[a] | T/yr[b] |
| Hog Fuel Boiler w/ESP | 6.86 | 23.32 | 3.18 | 10.8 | 24.8 | 84.32 | 104.0 | 354 | 4.95 | 16.85 |
| Chip Cyclone #2, | 0.095 | 0.268 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Shavings Cyc#3 BH, | 0.097 | 0.273 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Shavings Cyc#4 BH | 0.097 | 0.273 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lumber Dry Kilns | 1.44 | 4.07 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 26.37 | 74.35 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Fuel Bin Target Boxes | 0.308 | 0.868 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hog Truck Bin | 0.034 | 0.097 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sawdust Truck Bin | 0.238 | 0.670 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Green Chip Truck Bin | 0.428 | 1.339 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fugitive Totals | 0.74 | 2.73 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Post Project Totals** | **10.34** | **33.91** | **3.18** | **10.80** | **24.80** | **84.23** | **104.00** | **354.00** | **31.32** | **91.20** |

a) Controlled average emission rate in pounds per hour is a daily average, based on the proposed daily operating schedule and daily limits.
b) 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 3 CHANGES IN POTENTIAL TO EMIT FOR REGULATED AIR POLLUTANTS**

| Source | $PM_{10}/PM_{2.5}$ | | $SO_2$ | | $NO_X$ | | CO | | VOC | |
|---|---|---|---|---|---|---|---|---|---|---|
| | lb/hr | T/yr | lb/hr | T/yr | lb/hr | T/yr | lb/hr | T/yr | lb/hr | T/yr |
| Pre-Project Potential to Emit | 10.09 | 25.13 | 3.18 | 7.76 | 24.80 | 60.61 | 104.00 | 254.20 | 31.32 | 67.61 |
| Post Project Potential to Emit | 10.34 | 33.91 | 3.18 | 10.80 | 24.80 | 84.23 | 104.00 | 354.00 | 31.32 | 91.20 |
| **Changes in Potential to Emit** | **0.25** | **8.78** | **0.00[a]** | **3.04** | **0.00[a]** | **23.62** | **0.00[a]** | **99.80** | **0.00[a][b]** | **23.59** |

a) Peak 1-hour emission rates are unchanged based on proposed annual steam rates at 75% efficiency.
b) Peak 1-hour emission rates are unchanged based on proposed throughput using modern emission factor.

As presented previously in Table 3 the pre-project facility-wide potential to emit exceeds 250 T/yr for CO. Therefore, a PSD applicability analysis is required for this project.

## TAP Emissions

It is presumed that EPA evaluated the 187 HAPs when developing the emission standards for new, modified or existing stationary sources regulated by 40 CFR Part 63; therefore, no further review is required under IDAPA 58.01.01.210 for these pollutants for sources subject to 40 CFR Part 63, including sources specifically exempted within the subpart. The Toxic Air Pollutants that are not one of the 187 Hazardous Air Pollutants will still need to be evaluated for compliance with IDAPA 210. Regardless, DEQ may also require a source to evaluate any pollutant under IDAPA Section 161 to ensure that pollutant alone, or in combination with any other contaminants, does not injure or unreasonably affect human or animal life or vegetation.

It has also been determined that for lumber drying kilns located at any source that the 187 HAPs do not need to be included in the IDAPA 58.01.01.210 review. This is because HAP emissions from lumber drying kilns were evaluated in promulgating 40 CFR 63 Subpart Subpart DDDD (PCWP MACT - Plywood and Composite Wood Products MACT). This subpart for major HAP sources includes lumber kilns at PCWP manufacturing facilities and "at any other kind of facility" as affected sources, even though this subpart does not include any substantive requirements to control or limit emissions from the kilns. It follows that minor sources of HAP emissions are also excluded from IDAPA 58.01.01.210 review. In developing Subpart DDDD EPA stated "...we know of no other lumber kilns that are controlled for HAP, and we know of no cost effective HAP controls for lumber kilns..." Fed Reg /Vol 68, No. 6/Thursday, Jan 9, 2003/Proposed Rules page 1285.

Since the facility is subject to 40 CFR 63, subpart DDDDD, EPA evaluated the 187 HAPs when developing the emission standards for new, modified or existing stationary sources regulated by 40 CFR Part 63; therefore, no further review is required under IDAPA 58.01.01.210 for these pollutants for sources subject to 40 CFR Part 63, including sources specifically exempted within the subpart. The Toxic Air Pollutants that are not one of the 187 Hazardous Air Pollutants will still need to be evaluated for compliance with IDAPA 210. A summary of the estimated PTE for emissions increase of toxic air pollutants (TAP) that are not HAPs is provided in the following table.

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

**Table 5 PRE- AND POST PROJECT POTENTIAL TO EMIT FOR NON-HAP TOXIC AIR POLLUTANTS**

| 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) | Screening Emission Level (lb/hr) | Exceeds Screening Level? (Y/N) |
|---|---|---|---|---|---|
| Acetone | 1.35E-02 | 1.87E-02 | 5.27E-03 | 1.19E+02 | N |
| 2-Butanone (MEK) | 3.83E-04 | 5.33E-04 | 1.50E-04 | 3.93E+01 | N |
| Crotonaldehyde | 7.02E-04 | 9.76E-04 | 2.75E-04 | 3.80E-01 | N |
| Fluorene | 2.41E-04 | 3.35E-04 | 9.43E-05 | 1.33E-01 | N |
| Copper | 3.71E-04 | 5.16E-04 | 1.45E-04 | 1.30E-02 | N |
| Molybdenum | 1.49E-04 | 2.07E-04 | 5.82E-05 | 3.33E-01 | N |
| Silver | 6.18E-05 | 8.60E-05 | 2.42E-05 | 7.00E-03 | N |
| Thallium | 3.09E-05 | 4.30E-05 | 1.21E-05 | 7.00E-03 | N |
| Tin | 1.63E-03 | 2.27E-03 | 6.38E-04 | 1.33E-01 | N |
| Vanadium | 6.95E-05 | 9.66E-05 | 2.72E-05 | 3.00E-03 | N |

None of the screening emission levels (ELs) for TAP were exceeded as a result of this project. Therefore, modeling is not required for any TAP because none of the screening ELs identified in IDAPA 58.01.01.585 or 585 were exceeded.

A crosswalk of TAPs that are HAPs is attached in Appendix C.

## Post Project HAP Emissions

Part of this project includes the removal of limits that kept a synthetic minor for HAPs. As the facility is already a major facility for NSR pollutants, the limit removal only changes the facility from a synthetic minor to a major source for HAPs, with 26.95 T/yr total HAPs and 12.79 T/yr methanol for individual HAPs.

The following table presents the post project potential to emit for HAP pollutants from all emissions units:

**Table 6 HAZARDOUS AIR POLLUTANTS POST PROJECT EMISSIONS POTENTIAL TO EMIT SUMMARY**

| Hazardous Air Pollutants | PTE (lb/hr) | PTE (T/yr) |
|---|---|---|
| 1,1,1-Trichloroethane (Methyl Chloroform) | 2.6E-07 | 1.1E-06 |
| 1,2-Dichloroethane (Ethylene Dichloride) | 2.9E-03 | 0.01 |
| 1,2-Dichloropropane (Propolyene dichloride) | 3.3E-03 | 0.01 |
| 2,3,7,8-Tetrachlorodibenzo-p-dioxins | 8.5E-10 | 3.7E-09 |
| 2,4 Dinitrophenol | 1.8E-05 | 7.8E-05 |
| 2,4,6-Trichlorophenol | 2.2E-06 | 9.5E-06 |
| 4-Nitrophenol | 1.1E-05 | 4.8E-05 |
| Acetaldehyde | 8.2E-02 | 0.36 |
| Acetaldehyde | 1.8E+00 | 7.84 |
| Acetophenone | 3.2E-07 | 0.00 |
| Acrolein | 3.9E-01 | 1.73 |
| Acrolein | 3.9E-02 | 0.17 |
| Antimony | 7.8E-04 | 3.4E-03 |
| Arsenic* | 1.7E-04 | 7.5E-04 |
| Benzene | 4.1E-01 | 1.81 |
| Berylium* | 4.3E-05 | 1.9E-04 |
| bis(2-ethylhexyl)phthalate (DEHP) | 4.6E-06 | 2.0E-05 |
| Bromomethane (methyl bromide) | 1.5E-03 | 0.01 |
| Cadmium* | 2.6E-04 | 1.1E-03 |
| Carbon tetrachloride | 4.4E-03 | 0.02 |
| Chlorine | 7.8E-02 | 0.34 |
| Chlorobenzene | 3.3E-03 | 0.01 |
| Chloroform | 2.8E-03 | 0.01 |
| Chloromethane (Methyl Chloride) | 2.3E-03 | 0.01 |
| Chromium, hexavalent* | 9.9E-05 | 4.3E-04 |

| | | |
|---|---|---|
| Chromium, total* | 8.6E-05 | 3.8E-04 |
| Cobalt* | 4.3E-05 | 1.9E-04 |
| Dichloromethane (Methylenechloride) | 2.9E-02 | 0.13 |
| Ethylbenzene | 3.1E-03 | 0.01 |
| Formaldehyde | 4.3E-01 | 1.90 |
| Formal-dehyde | 1.4E-01 | 0.62 |
| Hydrogen chloride (Hydrochloric Acid)* | 2.6E-02 | 0.11 |
| Lead* | 5.2E-04 | 2.3E-03 |
| Manganese* | 1.0E-02 | 0.04 |
| Methanol | 2.9E+00 | 12.79 |
| Naphthalene | 9.6E-03 | 0.04 |
| Nickel* | 4.3E-05 | 1.9E-04 |
| o-Xylene | 2.5E-03 | 0.01 |
| PAH | 5.2E-04 | 2.3E-03 |
| Pentachlorophenol | 5.0E-06 | 2.2E-05 |
| Phenol | 5.0E-03 | 0.02 |
| Polycyclic Organic Matter (POM) | 2.9E-04 | 0.00 |
| Propion-aldehyde | 1.5E-01 | 0.64 |
| Propionaldehyde | 6.0E-03 | 0.03 |
| Selenium* | 4.3E-05 | 0.00 |
| Styrene | 1.9E-01 | 0.82 |
| Toluene | 9.1E-02 | 0.40 |
| Trichloroethene (Trichloroethylene) | 3.0E-03 | 0.01 |
| Trichlorofluoromethane | 4.0E-03 | 0.02 |
| Vinyl Chloride | 1.8E-03 | 0.01 |
| **Totals** | **6.84** | **29.95** |

## *IFG – Moyie Springs PSD Applicability Analysis*

IFG – Moyie Springs is an existing major PSD facility that has a CO potential to emit over 250 T/yr. The project consists of increasing allowable kiln lumber throughput and boiler steaming rates, changing the boiler PM control device from an EFB (electrified filter bed) to an ESP (electrostatic precipitator), as well as evaluating the effect of the kiln and boiler changes to upstream and downstream process equipment. The project is proposing to avoid PSD permitting requirements by keeping project increases below PSD significant rates. This discussion focuses on how the PSD avoidance analysis complied with the underlying PSD rules found at, as well as incorporated into Idaho rules, 40 CFR 52.21.

The first step of this applicability listed in 52.21 (2) (iv) (b): *The procedure for calculating (before beginning actual construction) whether a significant emissions increase (i.e., the first step of the process) will occur depends upon the type of emissions units being modified, according to paragraphs (a)(2)(iv)(c) through (f) of this section.*

The facility is applying 40 CFR 52.21.a.2(iv) (c) for existing units which states: "*A significant emissions increase of a regulated NSR pollutant is projected to occur if the sum of the difference between the projected actual emissions (as defined in paragraph (b)(41) of this section) and the baseline actual emissions(as defined in paragraphs (b)(48)(i) and (ii) of this section), for each existing emissions unit, equals or exceeds the significant amount for that pollutant (as defined in paragraph (b)(23) of this section)*". And, it is limiting emissions increases for the existing units below PSD significant emission levels using the major modification test for significant increases in accordance 40 CFR 52.21(b)(40).

The $PM_{10}/PM_{2.5}$ BAE for the boiler was calculated using 2 years of baseline actual data using an EF based on a 2014 source test on a per 1000 pounds of steam basis. Using 0.062 lb $PM_{10}/PM_{2.5}$ per 1000 lb steam resulted in an average BAE of 17.01 tons per year (T/yr) as shown in the EI page entitled "Running 12-month Calculations". Since the control device was being changed on the boiler from an EFB to an ESP, the applicant chose to estimate the PAE summing a boiler MACT upper limit for the filterable $PM_{10}$ with an AP-42 EF for the condensable $PM_{10}/PM_{2.5}$ using a million Btu (MMBtu) basis. Using the resulting EF of 0.054 lb $PM_{10}/PM_{2.5}$ per MMBtu resulted in a PAE of 23.85 T/yr $PM_{10}/PM_{2.5}$. The newly established EF, based on a recent performance test is preferable over the old factors. The proposed ESP installation would decrease the emissions further; however, the facility did not apply this reduction.

The CO EF of 1.3 lb/1000 lb steam (lb/klb) was determined from a 2014 performance test, which was down from the previous EF of 2.0 lb/klb, but still more than double the results of a 2016 performance test. The new EF based on the 2016 performance test was used for PAE, and the actual emissions, using the EF from the 2014 performance test, were used for the BAE. Emission factors based on more recent performance tests are considered to be more accurate than older tests or AP-42 factors.

For $NO_x$, the AP-42 has been converted to a steaming rate factor of 0.31 lb/klb steam, and that EF is used with the current steam production rate for BAE and the proposed steam production rate for PAE. The VOC AP-42 EF is already based on fuel consumption of 0.039 lb/MMBtu and is applied similarly.

For the kilns, the change in lumber throughput is used to determine PAE and BAE using the AP-42 EF above for VOC. Upstream and downstream units, including fugitive sources were increased using industry acceptable factors (see Appendix A, page entitled "Mill Fugitive Sources). The BAE was then subtracted from the PAE to determine if the emissions increase was larger than significant as defined in 40 CFR 52.21(b)(23).

Additionally, the facility must stay under the current PSD limits applied during the original source obligation activity that occurred during 2012 in accordance with 40 CFR52.21 (r)(4) of the CFR and revised in 2014 when converting the permit from T2/PTC to a stand-alone PTC for P-2012.0034. Current projected actual emissions must remain within the regulated pollutants from the source obligation exercise from 2014, contained in the SOB of the P-2012.0034 Project 61335, page 20.

## ***Baseline Actual Emissions (BAE)***

The procedure used by IFG – Moyie Springs for calculating Baseline Actual emissions was the calculation approach existing units set forth in 40 CFR 52.21, beginning with definitions in 52.21(b)(48). Using these procedures also shown on the first summary page of Appendix A, criteria pollutant emissions and fugitive source emissions were calculated. Baseline Actual emissions are presented in the following table:

**Table 7 BASELINE ACTUAL EMISSIONS [a]**

| Emissions Unit | $PM_{10}/PM_{2.}$ T/yr | $SO_2$ T/yr | $NO_x$ T/yr | VOC T/yr | CO T/yr |
|---|---|---|---|---|---|
| **Point Sources** | | | | | |
| Hog Fuel Boiler, EU#1 | 17.01 | 7.41 | 57.88 | 11.56 | 373.4 |
| Efb Media Baghouse, EU#2 | 0.54 | 0.0 | 0.0 | 0.0 | 0.0 |
| Chip Cyclone #2, EU#4 | 0.168 | 0.0 | 0.0 | 0.0 | 0.0 |
| Shavings Cyc#3 BH, EU#5 | 0.171 | 0.0 | 0.0 | 0.0 | 0.0 |
| Shavings Cyc#4 BH, EU#6 | 0.171 | 0.0 | 0.0 | 0.0 | 0.0 |
| Lumber Dry Kilns, EU#7 | 2.56 | 0.0 | 0.0 | 46.7 | 0.0 |
| Fuel Bin Target Boxes, EU#8-#9 | 0.545 | 0.0 | 0.0 | 0.0 | 0.0 |
| Hog Truck Bin TB, EU#10 | 0.061 | 0.0 | 0.0 | 0.0 | 0.0 |
| Sawdust Truck Bin TB, EU#11 | 0.420 | 0.0 | 0.0 | 0.0 | 0.0 |
| Green Chip Truck Bin TB, | 0.841 | 0.0 | 0.0 | 0.0 | 0.0 |
| **Fugitive Sources** | | | | | |
| Debarkers, Proc-Fug, EU#14a | 0.533 | 0.0 | 0.0 | 0.0 | 0.0 |
| Bark hog, Proc-Fug, EU#14b | 0.013 | 0.0 | 0.0 | 0.0 | 0.0 |
| Sawdust Bin Truck Ldout, PF | 6.00E-04 | 0.0 | 0.0 | 0.0 | 0.0 |
| Chip Bin Truck Loadout, PF | 6.00E-03 | 0.0 | 0.0 | 0.0 | 0.0 |
| Planer Shavings Bin Loadout, PF | 0.0012 | 0.0 | 0.0 | 0.0 | 0.0 |
| Ash Handling | 5.08-01 | 0.0 | 0.0 | 0.0 | 0.0 |
| Hog Fuel Convey/Loadout | 4.0E-04 | 0.0 | 0.0 | 0.0 | 0.0 |
| Sawmill Sawing Indoor | 3.81E-02 | 0.0 | 0.0 | 0.0 | 0.0 |
| Sawmill Chipper, Indoor | 5.9E-03 | 0.0 | 0.0 | 0.0 | 0.0 |
| Paved Roads | 0.13 | 0.0 | 0.0 | 0.0 | 0.0 |
| Unpaved Roads | 0.52 | 0.0 | 0.0 | 0.0 | 0.0 |
| **Total, Baseline Actual Emissions** | **24.24** | **7.41** | **57.88** | **58.28** | **373.4** |

a) See Appendix A, page 1, in the middle (8th to 13th columns over) entitled "Baseline based on 2014-2016"

***Projected Actual Emissions (PAE)***

The procedure used by IFG – Moyie Springs for calculating Projected Actual emissions was the calculation approach for the ESP replacing the EFB set forth in 40 CFR 52.21, beginning with definitions in 52.21(b)(41). Using these procedures also shown on the first summary page of Appendix A criteria pollutant emissions and fugitive source emissions were calculated. Projected Actual emissions are presented in the following table:

**Table 8 PROJECTED ACTUAL EMISSIONS[a]**

| Emissions Unit | $PM_{10}/PM_{2.5}$ T/yr | $SO_2$ T/yr | $NO_x$ T/yr | VOC T/yr | CO T/yr |
|---|---|---|---|---|---|
| **Point Sources** | | | | | |
| Hog Fuel Boiler, EU#1 | 23.32 | 10.80 | 84.32 | 16.85 | 353.6 |
| Efb Media Baghouse, EU#2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Chip Cyclone #2, EU#4 | 0.268 | 0.0 | 0.0 | 0.0 | 0.0 |
| Shavings Cyc#3 BH, EU#5 | 0.273 | 0.0 | 0.0 | 0.0 | 0.0 |
| Shavings Cyc#4 BH, EU#6 | 0.273 | 0.0 | 0.0 | 0.0 | 0.0 |
| Lumber Dry Kilns, EU#7 | 4.072 | 0.0 | 0.0 | 74.35 | 0.0 |
| Fuel Bin Target Boxes, EU#8-#9 | 0.868 | 0.0 | 0.0 | 0.0 | 0.0 |
| Hog Truck Bin TB, EU#10 | 0.096 | 0.0 | 0.0 | 0.0 | 0.0 |
| Sawdust Truck Bin TB, EU#11 | 0.670 | 0.0 | 0.0 | 0.0 | 0.0 |
| Green Chip Truck Bin TB, EU#12 | 1.339 | 0.0 | 0.0 | 0.0 | 0.0 |
| **Fugitive Sources** | | | | | |
| Debarkers, Proc-Fug, EU#14a | 0.849 | 0.0 | 0.0 | 0.0 | 0.0 |
| BARK HOG, Proc-Fug, EU#14b | 0.021 | 0.0 | 0.0 | 0.0 | 0.0 |
| Sawdust Bin Truck Ldout, PF | 0.00094 | 0.0 | 0.0 | 0.0 | 0.0 |
| Chip Bin Truck Loadout, PF | 0.00938 | 0.0 | 0.0 | 0.0 | 0.0 |
| Planer Shavings Bin Ldout, PF | 0.00191 | 0.0 | 0.0 | 0.0 | 0.0 |
| Ash Handling | 0.7373 | 0.0 | 0.0 | 0.0 | 0.0 |
| Hog Fuel Convey/Loadout | 0.00068 | 0.0 | 0.0 | 0.0 | 0.0 |
| Sawmill Sawing Indoor | 0.06075 | 0.0 | 0.0 | 0.0 | 0.0 |
| Sawmill Chipper, Indoor | 0.00938 | 0.0 | 0.0 | 0.0 | 0.0 |
| Paved Roads | 0.2118 | 0.0 | 0.0 | 0.0 | 0.0 |
| Unpaved Roads | 0.8257 | 0.0 | 0.0 | 0.0 | 0.0 |
| **Total, Projected Actual Emissions** | **33.91** | **10.80** | **84.32** | **91.20** | **353.6** |

a) See Appendix A, page 1, left side of page, 5 columns entitled "Proposed PTE with Baseline Emission Factors"

***Project Emissions Increase***

The project emissions increase is presented in the following table:

**Table 9 PROJECT EMISSIONS INCREASE[a]**

| Emissions | $PM_{10}/PM_{2.5}$ T/yr | $SO_2$ T/yr | $NO_x$ T/yr | VOC T/yr | CO T/yr |
|---|---|---|---|---|---|
| Projected Actual Emissions | 33.91 | 10.80 | 84.32 | 91.20 | 353.6 |
| Baseline Actual Emissions | 24.24 | 7.41 | 57.88 | 58.28 | 373.4 |
| **Project Emissions Increase** | **9.67** | **3.39** | **26.44** | **32.92** | **-19.8** |

a) See Appendix A, page 1

***Comparison of the Project Emissions Increase to the PSD Significance Thresholds***

The comparison of the change in projected actual emissions from baseline actual emissions to the PSD significance thresholds listed in 40 CFR 52.21 (b)(23)is presented in the following table.

**Table 10 COMPARISON OF THE PROJECT EMISSIONS INCREASE TO THE PSD MAJOR MODIFICATION THRESHOLDS**

| Emissions | $PM_{10}/PM_{2.5}$ T/yr | $SO_2$ T/yr | $NO_x$ T/yr | VOC T/yr | CO T/yr |
|---|---|---|---|---|---|
| Project Emissions Increase | 9.67 | 3.39 | 26.44 | 32.92 | -19.8 |
| PSD Significance Threshold[a] | **15** | **40** | **40** | **40** | **100** |
| **Does the Project Emissions Increase Exceed the PSD Major? Modification** | No | No | No | No | No |

a) See 40 CFR 52.21 (b)(23)

As presented in the preceding table this project does not constitute a PSD Major Modification as defined in 52.21 (a)(2)(iv)(f): *A significant emissions increase of a regulated NSR pollutant is projected to occur if the sum of the emissions increases for each emissions unit, using the method specified in paragraphs (a)(2)(iv)(c) through (d) of this section as applicable with respect to each emissions unit, for each type of emissions unit equals or exceeds the significant amount for that pollutant (as defined in paragraph (b)(23) of this section).* Therefore, the project is not subject to a PSD permitting review.

***Comparison to current PSD limits Applied Under Previous PSD Source Obligation***

Under P-2012.0034 issued July 8, 2014, Project 61335 – Convert T2/PTC to a stand-alone PTC, Moyie Springs is currently limited to CO and VOC emissions that were established in 1988 when PSD thresholds were exceeded from a kiln modification. It was determined in the 2014 analysis that the facility must stay under the current PSD limits applied in accordance with 40 CFR 52.21(r)(4). Current projected actual emissions must remain within the limits determine under the 2014 analysis, contained in the SOB of the P-2012.0034 Project 61335, page 20.

A comparison of these limits to the proposed projected actual emissions demonstrates that the current PSD limits will not be exceeded, as shown below in Table 9:

**Table 11Comparison to the PAE Applied Under Previous PSD Source Obligation**

| Emissions | CO T/yr | VOC T/yr |
|---|---|---|
| Projected Actual Emissions | 353.6 | 91.25 |
| PSD Source Obligation Limits | **391[a]** | **101.1[a]** |
| **Does the Project Emissions Exceed the PSD Source Obligation?** | No | No |

a) P-2012.0034, issued July 8, 2014, Project 61335,SOB, page 20.

Since there is no increase beyond these previous source obligation limits, a new PSD review under source obligation is not required. It is also important to note that the ESP installation, the updated boiler emission factor, and new kiln emission factors precluded the requirements of 40 CFR 52.21 (r)(4), as the clause "*solely by virtue of a relaxation in any enforceable limitation*" does not apply to this current project.

## *Ambient Air Quality Impact Analyses*

Maximum short-term and long-term emissions of the criteria pollutants $NO_2$, $PM_{10}$, and $PM_{2.5}$ associated with the proposed project are above the Level 1 Modeling Applicability Threshold for each pollutant. Therefore, a demonstration of compliance with NAAQS was done for those criteria pollutants and applicable averaging times. This demonstration can be found in the modeling memo in Appendix B and includes the short/long term emission along with the values used for the input file.

### *Ambient Air Quality Impact Analyses*

Maximum short-term and long-term emissions of the criteria pollutants $NO_2$, $PM_{10}$, and $PM_{2.5}$ associated with the proposed project are above the Level 1 Modeling Applicability Threshold for each pollutant. Therefore, a demonstration of compliance with NAAQS was done for those criteria pollutants and applicable averaging times. This demonstration can be found in the modeling memo in Appendix B and includes the short/long term emission along with the values used for the input file.

Kiln emissions greater than those as modeled (which represent an average of selected wood types) have not demonstrated compliance with annual-averaged $PM_{2.5}$ NAAQS. To effectively limit annual-averaged kiln emissions, Permit Condition 4.6 restricts kiln throughput of coastal hemlock to no greater than 107,150 million board feet/year (50% of the requested total allowable throughput).

Air impact analyses demonstrating compliance with TAPs increments, as required by Idaho Air Rules Section 203.03, is required for pollutants having an emissions rate greater than ELs. As discussed in the TAPs section above, none of the TAPs that are not HAPs exceeded their respective EL's; therefore, a demonstration of compliance with TAPs increments was not required.

## REGULATORY ANALYSIS

### *Attainment Designation (40 CFR 81.313)*

The facility is located in Boundary County, which is designated as attainment or unclassifiable for $PM_{2.5}$, $PM_{10}$, $SO_2$, $NO_2$, 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 actual or potential emissions ≥ 10 T/yr or if the aggregate of all HAPS (Total HAPs) has actual or potential emissions ≥ 25 T/yr.

SM80 = Use if a synthetic minor (potential emissions fall below applicable major source thresholds if and only if the source complies with federally enforceable limitations) and the permit sets limits ≥ 8 T/yr of a single HAP or ≥ 20 T/yr of THAP.

SM = Use if a synthetic minor (potential emissions fall below applicable major source thresholds if and only if the source complies with federally enforceable limitations) and the potential HAP emissions are limited to < 8 T/yr of a single HAP and/or < 20 T/yr of THAP.

B = Use when the potential to emit without permit restrictions is below the 10 and 25 T/yr major source threshold

UNK = Class is unknown

For All Other Pollutants:

A = Actual or potential emissions of a pollutant are ≥ 100 T/yr.

SM80 = Use if a synthetic minor for the applicable pollutant (potential emissions fall below 100 T/yr if and only if the source complies with federally enforceable limitations) and potential emissions of the pollutant are ≥ 80 T/yr.

SM = Use if a synthetic minor for the applicable pollutant (potential emissions fall below 100 T/yr if and only if the source complies with federally enforceable limitations) and potential emissions of the pollutant are < 80 T/yr.

B = Actual and potential emissions are < 100 T/yr without permit restrictions.

UNK = Class is unknown.

Table 12 REGULATED AIR POLLUTANT FACILITY CLASSIFICATION

| Pollutant | Uncontrolled PTE (T/yr) | Permitted PTE (T/yr) | Major Source Thresholds (T/yr) | AIRS/AFS Classification |
|---|---|---|---|---|
| PM | 134.6 | 33.91 | **100** | SM |
| $PM_{10}$ | 134.6 | 33.91 | **100** | SM |
| $PM_{2.5}$ | 134.6 | 33.91 | **100** | SM |
| $SO_2$ | 10.8 | 10.8 | **100** | B |
| $NO_X$ | 108.6 | 84.23 | **100** | SM80 |
| CO | 700.8 | 354 | **100** | A |
| VOC | 123.7 | 91.2 | **100** | SM80 |
| HAP (single)[a] | 12.79 | >10 | **10** | A |
| HAP (total) | 26.95 | >25 | **25** | A |
| Pb | <100 | <100 | **100** | B |

a) Part of this project includes the removal of HAP limit; HAPs will now be regulated by 40 CFR 63, subpart DDDDD.

### *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 modified emissions source. Therefore, a permit to construct is required to be issued in accordance with IDAPA 58.01.01.201 This permitting action was processed in accordance with the procedures of IDAPA 58.01.01.200-228.

### *Tier II Operating Permit (IDAPA 58.01.01.401)*

IDAPA 58.01.01.401 ..... Tier II Operating Permit

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

### *Visible Emissions (IDAPA 58.01.01.625)*

IDAPA 58.01.01.625 ..... Visible Emissions

The sources of PM 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 4.4.

### *Standards for Minor and Existing Sources (IDAPA 58.01.01.677)*

IDAPA 58.01.01.677 ..... Standards for Minor and Existing Sources

The fuel burning equipment located at this facility, with a maximum rated input of ten (10) million BTU per hour or more, are subject to a particulate matter limitation of 0.200 gr/dscf of effluent gas corrected to 8% oxygen by volume when combusting wood product 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 by Permit Conditions 2.11 and 3.3.

### *Particulate Matter – New Equipment Process Weight Limitations (IDAPA 58.01.01.701)*

IDAPA 58.01.01.701 ..... Particulate Matter – New Equipment Process Weight Limitations

IDAPA 58.01.01.700 through 703 set PM emission limits for process equipment based on when the piece of equipment commenced operation and the piece of equipment's process weight (PW) in pounds per hour (lb/hr). IDAPA 58.01.01.701 and IDAPA 58.01.01.702 establish PM emission limits for equipment that commenced operation on or after October 1, 1979 and for equipment operating prior to October 1, 1979, respectively.

For equipment that commenced operation on or after October 1, 1979, the PM allowable emission rate (E) is based on one of the following four equations:

IDAPA 58.01.01.701.01.a: If PW is < 9,250 lb/hr; $E = 0.045 (PW)^{0.60}$

IDAPA 58.01.01.701.01.b: If PW is ≥ 9,250 lb/hr; $E = 1.10 (PW)^{0.25}$

For equipment that commenced prior to October 1, 1979, the PM allowable emission rate is based on one of the following equations:

IDAPA 58.01.01.702.01.a: If PW is < 17,000 lb/hr; $E = 0.045 (PW)^{0.60}$

IDAPA 58.01.01.702.01.b: If PW is ≥ 17,000 lb/hr; $E = 1.12 (PW)^{0.27}$

**Table 13: Process Weight Rule Demonstration**

| Emitting Unit | Year Constructed | Process Rate (lb/hr) | Applicable Regulation IDAPA 58.01.01. | PW Rule Limit (lb/hr) | PM Emission Rate (lb/hr) | In Compliance with PW Rule? |
|---|---|---|---|---|---|---|
| Lumber Dry Kilns, EU#7 | Pre 1979 | 127,490(1) | 701.02.b | 26.77 | 1.44 | Yes |
| Fuel Bin Target Boxes, EU#8 and EU#9 | Pre 1979 | 13,680 | 701.02.a | 13.64 | 0.62 | Yes |
| Hog Fuel Truck Bin TB, EY#10 | Post 1979 | 1,368 | 701.01.a | 3.43 | 0.07 | Yes |
| Sawdust Truck Bin Target Box, EU#11 | Post 1979 | 9,500 | 701.01.a | 10.96 | 0.475 | Yes |
| Chip Cyclone #2, EU#4 | Post 1979 | 1,900 | 701.01.a | 4.17 | 0.19 | Yes |
| Green Chip Bin Target Box, EU#12 | Post 1979 | 19,000 | 701.01.b | 12.91 | 0.855 | Yes |
| Planer Shavings Cyclone #3 BH, EU#5 | Post 1979 | 4,850 | 701.01.a | 7.32 | 0.097 | Yes |
| Planer Shavings Cyclone #4 BH, EU#6 | Post 1979 | 4,850 | 701.01.a | 7.32 | 0.097 | Yes |
| Debarker, EU#14a | Pre 1979 | 274,000 | 701.02.b | 32.92 | 0.55 | Yes |
| Bark Hog, EU#14b | Pre 1979 | 13,680 | 701.02.a | 13.64 | 0.014 | Yes |
| Sawdust Bin Truck Loadout | Pre 1979 | 9,500 | 701.02.a | 10.96 | 0.0007 | Yes |
| Chip Bin Truck Loadout | Pre 1979 | 19,000 | 701.02.b | 16.01 | 0.0007 | Yes |
| Shavings Bin Truck Loadout | Post 1979 | 9,700 | 701.01.b | 11.10 | 0.0001 | Yes |

(1) Dry kiln production is 38 MBF/hr, at a typical weight of 3,355 lb/MBF.

The calculated limit for each new emitting unit is listed in Table 13 above, along with the proposed particulate limit for each emitting unit. The calculations in Table 13 show that the Moyie Springs equipment is in compliance with the Idaho process weight regulations.

## *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 have a potential to emit greater than 100 tons per year for CO, 25 tons per year for all HAP combined, and 10 tons per year for the single HAP methanol as demonstrated previously in the Emissions Inventories Section of this analysis. Therefore, this facility is classified as a major facility, as defined in IDAPA 58.01.01.008.10.

IDAPA 58.01.01.006 defines a Tier I source as "Any source located at a major facility as defined in Section 008." IDAPA 58.01.01.008.10 defines a Major Facility as either:

- For HAP a facility with the potential to emit ten (10) tons per year (T/yr) or more of any hazardous air pollutant, other than radionuclides, or
- The facility emits or has the potential to emit twenty-five (25) T/yr or more of any combination of any hazardous air pollutants, other than radionuclides.
- The facility emits or has the potential to emit one hundred (100) tons per year or more of any regulated air pollutant. The fugitive emissions shall not be considered in determining whether the facility is major unless the facility is a "Designated Facility":

The project scope includes removing HAP limits that previously prevented the facility from being major for HAPs. This relaxation of the HAP limit is concurrent with the change of control on the boiler emissions from an electrified fluidized bed (EFB) to an electrostatic precipitator (ESP). Therefore, it needs to be determined if this facility is now a HAP Major Source. The following table compares this facility's post-project facility-wide annual PTE for all HAP emitted by the source to the HAP Major Source thresholds in order to determine if this facility is a HAP Major Source.

**Table 14 PTE FOR THE HAZARDOUS AIR POLLUTANTS COMPARED TO THE MAJOR SOURCE THRESHOLDS**

| Hazardous Air Pollutants | PTE (T/yr) | Major Source Threshold (T/yr) | Exceeds the Major Source Threshold? |
|---|---|---|---|
| 1,1,1-Trichloroethane (Methyl Chloroform) | 1.1E-06 | 10 | No |
| 1,2-Dichloroethane (Ethylene Dichloride) | 0.01 | 10 | No |
| 1,2-Dichloropropane (Propolyene dichloride) | 0.01 | 10 | No |
| 2,3,7,8-Tetrachlorodibenzo-p-dioxins | 3.7E-09 | 10 | No |
| 2,4 Dinitrophenol | 7.8E-05 | 10 | No |
| 2,4,6-Trichlorophenol | 9.5E-06 | 10 | No |
| 4-Nitrophenol | 4.8E-05 | 10 | No |
| Acetaldehyde | 0.36 | 10 | No |
| Acetal-dehyde | 7.84 | 10 | No |
| Acetophenone | 0.00 | 10 | No |
| Acrolein | 1.73 | 10 | No |
| Acrolein | 0.17 | 10 | No |
| Antimony | 3.4E-03 | 10 | No |
| Arsenic* | 7.5E-04 | 10 | No |
| Benzene | 1.81 | 10 | No |
| Berylium* | 1.9E-04 | 10 | No |
| bis(2-ethylhexyl)phthalate (DEHP) | 2.0E-05 | 10 | No |
| Bromomethane (methyl bromide) | 0.01 | 10 | No |
| Cadmium* | 1.1E-03 | 10 | No |
| Carbon tetrachloride | 0.02 | 10 | No |
| Chlorine | 0.34 | 10 | No |
| Chlorobenzene | 0.01 | 10 | No |
| Chloroform | 0.01 | 10 | No |
| Chloromethane (Methyl Chloride) | 0.01 | 10 | No |
| Chromium, hexavalent* | 4.3E-04 | 10 | No |
| Chromium, total* | 3.8E-04 | 10 | No |
| Cobalt* | 1.9E-04 | 10 | No |
| Dichloromethane (Methylenechloride) | 0.13 | 10 | No |
| Ethylbenzene | 0.01 | 10 | No |
| Formaldehyde | 1.90 | 10 | No |
| Formal-dehyde | 0.62 | 10 | No |
| Hydrogen chloride (Hydrochloric Acid)* | 0.11 | 10 | No |
| Lead* | 2.3E-03 | 10 | No |
| Manganese* | 0.04 | 10 | No |
| Methanol | 12.79 | 10 | Yes |
| Naphthalene | 0.04 | 10 | No |
| Nickel* | 1.9E-04 | 10 | No |
| o-Xylene | 0.01 | 10 | No |
| PAH | 2.3E-03 | 10 | No |
| Pentachlorophenol | 2.2E-05 | 10 | No |
| Phenol | 0.02 | 10 | No |
| Polycyclic Organic Matter (POM) | 0.00 | 10 | No |
| Propion-aldehyde | 0.64 | 10 | No |
| Propionaldehyde | 0.03 | 10 | No |
| Selenium* | 0.00 | 10 | No |
| Styrene | 0.82 | 10 | No |
| Toluene | 0.40 | 10 | No |
| Trichloroethene (Trichloroethylene) | 0.01 | 10 | No |
| Trichlorofluoromethane | 0.02 | 10 | No |
| Vinyl Chloride | 0.01 | 10 | No |
| **Totals** | **29.95** | | **Yes** |

As presented in the preceding table the PTE for methanol is greater than 10 T/yr and the PTE for all HAP combined is greater than 25 T/yr. Therefore, this facility is a HAP Major Source subject to Tier I requirements.

It also needs to be determined if this facility is a criteria pollutant Major Source. As discussed previously the IFG – Moyie Springs facility is located in Boundary County, which is designated as attainment for $PM_{2.5}$, $PM_{10}$, $SO_2$, $NO_X$, CO, and Ozone for federal and state criteria air pollutants. Therefore, the following table compares the post-project facility-wide annual PTE for all criteria pollutants emitted by the source to the applicable criteria pollutant Major Source thresholds in order to determine if the facility is a criteria pollutant Major Source.

**Table 15 PTE FOR REGULATED AIR POLLUTANTS COMPARED TO THE MAJOR SOURCE THRESHOLDS**

| Regulated Air Pollutants | PTE (T/yr) | Major Source Threshold (T/yr) | Exceeds the Major Source Threshold? |
|---|---|---|---|
| $PM_{10}$ | 33.91 | **100** | No |
| $PM_{2.5}$ | 33.91 | **100** | No |
| $SO_2$ | 10.8 | **100** | No |
| $NO_X$ | 84.23 | **100** | No |
| CO | 354 | **100** | Yes |
| VOC | 91.2 | **100** | No |
| GHG | 89,145 | **100,000** | No |

As presented in the preceding table the PTE for CO is greater than 100 T/yr. Therefore, this facility is a criteria pollutant Major Source subject to Tier I requirements. The facility has a current application for T1 renewal.

## *PSD Classification (40 CFR 52.21)*

40 CFR 52.21 ..... Prevention of Significant Deterioration of Air Quality

The Moyie Springs mill was previously owned by Louisiana Pacific Corporation (LP). It is a PSD-major facility because it has the potential to emit more than 250 ton per year of carbon monoxide (CO) from the wood-fired boiler. In 1988, LP made changes to the facility that would have triggered the need for a PSD Major Modification permitting action. To resolve the situation, DEQ added PSD-avoidance conditions to the Moyie Springs permit.

The facility is classified as an existing major stationary source, because the estimated emissions of CO and HAP have the potential to exceed major stationary source thresholds. The facility is not a designated facility as defined in 40 CFR 52.21(b)(1)(i)(a).

However, the increase in the boiler steaming rate and kiln throughput would be subject to the major modification test as detailed at 40 CFR 52.21 (a)(2)(iv). All currently regulated New Source Review (NSR) pollutants that are emitted as a result of this project are included in the analysis, which includes comparing baseline actual emissions (BAE) to projected actual emissions (PAE).

Additionally, an analysis of PAE to the PSD source obligation showed no increase of the PSD emission limits. These PSD limits are previously well established in the SOB for P-2012.0034, Project 61335, Appendix A, page 20.

## *NSPS Applicability (40 CFR 60)*

Because the facility has a large wood-fired boiler subpart Db could apply. However, since the 1972 installation of the boiler pre-dates the NSPS, it is not subject to. subpart Db.

## *NESHAP Applicability (40 CFR 61)*

The facility is not subject to any NESHAP requirements in 40 CFR 61.

## *MACT/GACT Applicability (40 CFR 63)*

The facility is also subject to 40 CFR 63, Subpart DDDD - National Emission Standards for Hazardous Air Pollutants: Plywood and Composite Wood Products. However, there are no requirements for lumber dry kilns except for initial notification.

Due to the removal of the hazardous air pollutant (HAP) limits from the previous permit, the facility has proposed to operate as a major source of HAP emissions, and is subject to the requirements of 40 CFR 63, Subpart DDDDD – National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters. DEQ is delegated this Subpart. Refer to the Title V permit for administrative requirements under DDDDD, non-applicability, and additional information. The following breakdown of applicable requirements was prepared by the applicant and the underlined requirements constitute a list of applicable requirements from the Subpart and is incorporated in the permit with a high level citation in Permit Condition 3.14:

*§63.7485 Am I subject to this subpart?*

*You are subject to this subpart if you own or operate an industrial, commercial, or institutional boiler or process heater as defined in §63.7575 that is located at, or is part of, a major source of HAP, except as specified in §63.7491. For purposes of this subpart, a major source of HAP is as defined in §63.2, except that for oil and natural gas production facilities, a major source of HAP is as defined in §63.7575.*

**The IFG-Moyie Springs Kipper and Sons hog fuel-fired boiler (128 MMBtu/hr) is subject to NESHAPS Subpart DDDDD because it is located at a major source of HAPS.**

*§63.7490 What is the affected source of this subpart?*

*(a) This subpart applies to new, reconstructed, and existing affected sources as described in paragraphs (a)(1) and (2) of this section.*

*(1) The affected source of this subpart is the collection at a major source of all existing industrial, commercial, and institutional boilers and process heaters within a subcategory as defined in §63.7575.*

**The Kipper and Sons boiler will become an affected source upon issuance of a Permit to Construct P-2012.0034 modification, which will establish IFG-Moyie Springs as a major source.**

*(d) A boiler or process heater is existing if it is not new or reconstructed.*

**The Kipper and Sons Boiler is an existing affected source because it was installed in 1972 and has not undergone reconstruction.**

*§63.7491 Are any boilers or process heaters not subject to this subpart?*

**There are no boilers or process heaters located at the IFG-Moyie Springs facility that are not subject to this subpart.**

*§63.7495 When do I have to comply with this subpart?*

*(a) If you have a new or reconstructed boiler or process heater, you must comply with this subpart by April 1, 2013, or upon startup of your boiler or process heater, whichever is later.*

*(b) If you have an existing boiler or process heater, you must comply with this subpart no later than January 31, 2016, except as provided in §63.6(i).*

*(c) If you have an area source that increases its emissions or its potential to emit such that it becomes a major source of HAP, paragraphs (c)(1) and (2) of this section apply to you.*

*(1) Any new or reconstructed boiler or process heater at the existing source must be in compliance with this subpart upon startup.*

*(2) Any existing boiler or process heater at the existing source must be in compliance with this subpart within 3 years after the source becomes a major source.*

**IFG-Moyie Springs will become a major source upon issuance of a Permit to Construct P-2012.0034 modification. IFG-Moyie Springs will achieve full compliance with this rule within 3 years of that date.**

*(d) You must meet the notification requirements in §63.7545 according to the schedule in §63.7545 and in subpart A of this part. Some of the notifications must be submitted before you are required to comply with the emission limits and work practice standards in this subpart.*

**IFG-Moyie Springs will meet the notification requirements and schedule. See §63.7545 for compliance actions related to notifications.**

*(e) If you own or operate an industrial, commercial, or institutional boiler or process heater and would be subject to this subpart except for the exemption in §63.7491(l) for commercial and industrial solid waste incineration units covered by part 60, subpart CCCC or subpart DDDD, and you cease combusting solid waste, you must be in compliance with this subpart and are no longer subject to part 60, subparts CCCC or DDDD beginning on the effective date of the switch as identified under the provisions of §60.2145(a)(2) and (3) or §60.2710(a)(2) and (3).*

**The IFG-Moyie Springs boiler does not incinerate solid waste.**

*(f) If you own or operate an existing EGU that becomes subject to this subpart after January 31, 2016, you must be in compliance with the applicable existing source provisions of this subpart on the effective date such unit becomes subject to this subpart.*

**IFG-Moyie Springs does not own or operate an existing EGU.**

*(g) If you own or operate an existing industrial, commercial, or institutional boiler or process heater and would be subject to this subpart except for a exemption in §63.7491(i) that becomes subject to this subpart after January 31, 2013, you must be in compliance with the applicable existing source provisions of this subpart within 3 years after such unit becomes subject to this subpart.*

**The IFG-Moyie Springs boiler does not qualify for the §63.7491(i) exemption.**

*(h) If you own or operate an existing industrial, commercial, or institutional boiler or process heater and have switched fuels or made a physical change to the boiler or process heater that resulted in the applicability of a different subcategory after the compliance date of this subpart, you must be in compliance with the applicable existing source provisions of this subpart on the effective date of the fuel switch or physical change.*

**IFG-Moyie Springs boiler will be in the stoker/sloped grate/others designed to burn wet biomass fuel subcategory. No changes to the boiler or fuel have been made or are anticipated.**

*(i) If you own or operate a new industrial, commercial, or institutional boiler or process heater and have switched fuels or made a physical change to the boiler or process heater that resulted in the applicability of a different subcategory, you must be in compliance with the applicable new source provisions of this subpart on the effective date of the fuel switch or physical change.*

**The IFG-Moyie Springs boiler is an existing boiler.**

*§63.7499 What are the subcategories of boilers and process heaters?*

*(i) Stokers/sloped grate/other units designed to burn wet biomass/bio-based solid.*

**The Kipper and Sons boiler is a stoker/spreader boiler that burns hog fuel (wood-based biomass with greater than 20% moisture on an annual heat-input basis).**

*§63.7500 What emission limitations, work practice standards, and operating limits must I meet?*

*(a) You must meet the requirements in paragraphs (a)(1) through (3) of this section, except as provided in paragraphs (b), through (e) of this section. You must meet these requirements at all times the affected unit is operating, except as provided in paragraph (f) of this section.*

*(1) You must meet each emission limit and work practice standard in Tables 1 through 3, and 11 through 13 to this subpart that applies to your boiler or process heater, for each boiler or process heater at your source, except as provided under §63.7522. The output-based emission limits, in units of pounds per million Btu of steam output, in Tables 1 or 2 to this subpart are an alternative applicable only to boilers and process heaters that generate either steam, cogenerate steam with electricity, or both. The output-based emission limits, in units of pounds per megawatt-hour, in Tables 1 or 2 to this subpart are an alternative applicable only to boilers that generate only electricity. Boilers that perform multiple functions (cogeneration and electricity generation) or supply steam to common headers would calculate a total steam energy output using equation 21 of §63.7575 to demonstrate compliance with the output-based emission limits, in units of pounds per million Btu of steam output, in Tables 1 or 2 to this subpart. If you operate a new boiler or process heater, you can choose to comply with alternative limits as discussed in paragraphs (a)(1)(i) through (iii) of this section, but on or after January 31, 2016, you must comply with the emission limits in Table 1 to this subpart.*

**IFG-Moyie Springs will comply with the applicable emission limits and work practice standards for the Kipper and Sons boiler. The specific emission limits and work practice standards are identified in Tables 2 and 3, respectively.**

*(2) You must meet each operating limit in Table 4 to this subpart that applies to your boiler or process heater. If you use a control device or combination of control devices not covered in Table 4 to this subpart, or you wish to establish and monitor an alternative operating limit or an alternative monitoring parameter, you must apply to the EPA Administrator for approval of alternative monitoring under §63.8(f).*

**IFG-Moyie Springs will comply with the applicable operating limits in Table 4 for the boiler. Specifically, row 4 of Table 4 applies to the electrostatic precipitator (ESP) that IFG-Moyie Springs will install to comply with this subpart, and rows 7 (operating load) and 8 (combustion oxygen level) also apply.**

*(3) At all times, you must operate and maintain any affected source (as defined in §63.7490), including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator that may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source.*

**IFG-Moyie Springs will operate the boiler and emission controls as required.**

*(b) As provided in §63.6(g), EPA may approve use of an alternative to the work practice standards in this section.*

**IFG-Moyie Springs does not anticipate requesting approval of any alternatives to the work practice standards.**

*(c) Limited-use boilers and process heaters must complete a tune-up every 5 years as specified in §63.7540. They are not subject to the emission limits in Tables 1 and 2 or 11 through 13 to this subpart, the annual tune-up, or the energy assessment requirements in Table 3 to this subpart, or the operating limits in Table 4 to this subpart.*

**IFG-Moyie Springs does not have any limited-use boilers or process heaters.**

*(d) Boilers and process heaters with a heat input capacity of less than or equal to 5 million Btu per hour in the units designed to burn gas 2 (other) fuels subcategory or units designed to burn light liquid fuels subcategory must complete a tune-up every 5 years as specified in §63.7540.*

**The IFG-Moyie Springs boiler has a heat input capacity of 128 MMBtu/hr.**

*(e) Boilers and process heaters in the units designed to burn gas 1 fuels subcategory with a heat input capacity of less than or equal to 5 million Btu per hour must complete a tune-up every 5 years as specified in §63.7540. Boilers and process heaters in the units designed to burn gas 1 fuels subcategory with a heat input capacity greater than 5 million Btu per hour and less than 10 million Btu per hour must complete a tune-up every 2 years as specified in §63.7540. Boilers and process heaters in the units designed to burn gas 1 fuels subcategory are not subject to the emission limits in Tables 1 and 2 or 11 through 13 to this subpart, or the operating limits in Table 4 to this subpart.*

**The IFG-Moyie Springs boiler does not burn gaseous fuels.**

*(f) These standards apply at all times the affected unit is operating, except during periods of startup and shutdown during which time you must comply only with items 5 and 6 of Table 3 to this subpart.*

**IFG-Moyie Springs is cognizant and will comply.**

*63.7505 What are my general requirements for complying with this subpart?*

*You must be in compliance with the emission limits, work practice standards, and operating limits in this subpart. These emission and operating limits apply to you at all times the affected unit is operating except for the periods noted in §63.7500(f).*

**IFG-Moyie Springs will comply as required.**

*(b) [Reserved]*

*(c) You must demonstrate compliance with all applicable emission limits using performance stack testing, fuel analysis, or continuous monitoring systems (CMS), including a continuous emission monitoring system (CEMS), or particulate matter continuous parameter monitoring system (PM CPMS), where applicable. You may demonstrate compliance with the applicable emission limit for hydrogen chloride (HCl), mercury, or total selected metals (TSM) using fuel analysis if the emission rate calculated according to §63.7530(c) is less than the applicable emission limit. (For gaseous fuels, you may not use fuel analyses to comply with the TSM alternative standard or the HCl standard.) Otherwise, you must demonstrate compliance for HCl, mercury, or TSM using performance stack testing, if subject to an applicable emission limit listed in Tables 1, 2, or 11 through 13 to this subpart.*

**IFG-Moyie Springs will conduct performance stack testing to demonstrate compliance with emission limits. IFG-Moyie Springs will also operate a COMS, an oxygen analyzer, and a steam load monitor as continuous monitoring systems.**

*(d) If you demonstrate compliance with any applicable emission limit through performance testing and subsequent compliance with operating limits through the use of CPMS, or with a CEMS or COMS, you must develop a site-specific monitoring plan according to the requirements in paragraphs (d)(1) through (4) of this section for the use of any CEMS, COMS, or CPMS. This requirement also applies to you if you petition the EPA Administrator for alternative monitoring parameters under §63.8(f).*

**IFG-Moyie Springs will develop the required site-specific monitoring plan for the equipment used for compliance monitoring (COMS, oxygen analyzer, steam load) according to this section.**

*(1) For each CMS required in this section (including CEMS, COMS, or CPMS), you must develop, and submit to the Administrator for approval upon request, a site-specific monitoring plan that addresses design, data collection, and the quality assurance and quality control elements outlined in §63.8(d) and the elements described in paragraphs (d)(1)(i) through (iii) of this section. You must submit this site-specific monitoring plan, if requested, at least 60 days before your initial performance evaluation of your CMS. This requirement to develop and submit a site specific monitoring plan does not apply to affected sources with existing CEMS or COMS operated according to the performance specifications under appendix B to part 60 of this chapter and that meet the requirements of §63.7525. Using the process described in §63.8(f)(4), you may request approval of alternative monitoring system quality assurance and quality control procedures in place of those specified in this paragraph and, if approved, include the alternatives in your site-specific monitoring plan.*

*(i) Installation of the CMS sampling probe or other interface at a measurement location relative to each affected process unit such that the measurement is representative of control of the exhaust emissions (e.g., on or downstream of the last control device);*

*(ii) Performance and equipment specifications for the sample interface, the pollutant concentration or parametric signal analyzer, and the data collection and reduction systems; and*

*(iii) Performance evaluation procedures and acceptance criteria (e.g., calibrations, accuracy audits, analytical drift).*

*(2) In your site-specific monitoring plan, you must also address paragraphs (d)(2)(i) through (iii) of this section.*

*(i) Ongoing operation and maintenance procedures in accordance with the general requirements of §63.8(c)(1)(ii), (c)(3), and (c)(4)(ii);*

*(ii) Ongoing data quality assurance procedures in accordance with the general requirements of §63.8(d); and*

*(iii) Ongoing recordkeeping and reporting procedures in accordance with the general requirements of §63.10(c) (as applicable in Table 10 to this subpart), (e)(1), and (e)(2)(i).*

*(3) You must conduct a performance evaluation of each CMS in accordance with your site-specific monitoring plan.*

*(4) You must operate and maintain the CMS in continuous operation according to the site-specific monitoring plan.*

*(e) If you have an applicable emission limit, and you choose to comply using definition (2) of "startup" in §63.7575, you must develop and implement a written startup and shutdown plan (SSP) according to the requirements in Table 3 to this subpart. The SSP must be maintained onsite and available upon request for public inspection.*

**IFG-Moyie Springs will choose a definition of startup to follow for the boiler and will write an SSP if required.**

*63.7510 What are my initial compliance requirements and by what date must I conduct them?*

*(a) For each boiler or process heater that is required or that you elect to demonstrate compliance with any of the applicable emission limits in Tables 1 or 2 or 11 through 13 of this subpart through performance (stack) testing, your initial compliance requirements include all the following:*

*(1) Conduct performance tests according to §63.7520 and Table 5 to this subpart.*

*(2) Conduct a fuel analysis for each type of fuel burned in your boiler or process heater according to §63.7521 and Table 6 to this subpart, except as specified in paragraphs (a)(2)(i) through (iii) of this section.*

*(i) For each boiler or process heater that burns a single type of fuel, you are not required to conduct a fuel analysis for each type of fuel burned in your boiler or process heater according to §63.7521 and Table 6 to this subpart. For purposes of this subpart, units that use a supplemental fuel only for startup, unit shutdown, and transient flame stability purposes still qualify as units that burn a single type of fuel, and the supplemental fuel is not subject to the fuel analysis requirements under §63.7521 and Table 6 to this subpart.*

*(ii) When natural gas, refinery gas, or other gas 1 fuels are co-fired with other fuels, you are not required to conduct a fuel analysis of those Gas 1 fuels according to §63.7521 and Table 6 to this subpart. If gaseous fuels other than natural gas, refinery gas, or other gas 1 fuels are co-fired with other fuels and those non-Gas 1 gaseous fuels are subject to another subpart of this part, part 60, part 61, or part 65, you are not required to conduct a fuel analysis of those non-Gas 1 fuels according to §63.7521 and Table 6 to this subpart.*

*(iii) You are not required to conduct a chlorine fuel analysis for any gaseous fuels. You must conduct a fuel analysis for mercury on gaseous fuels unless the fuel is exempted in paragraphs (a)(2)(i) and (ii) of this section.*

*(3) Establish operating limits according to §63.7530 and Table 7 to this subpart.*

*(4) Conduct CMS performance evaluations according to §63.7525.*

**IFG-Moyie Springs plans to perform stack testing for PM, CO, HCl, and Hg, analyze the hog fuel for heating value, establish operating limits and conduct CMS performance evaluations for the COMS, oxygen monitor and steam flow monitor. IFG-Moyie Springs is not required to conduct fuel analysis according to §63.7521 and Table 6 because the Kipper and Sons boiler burns a single type of fuel.**

*(b) For each boiler or process heater that you elect to demonstrate compliance with the applicable emission limits in Tables 1 or 2 or 11 through 13 to this subpart for HCl, mercury, or TSM through fuel analysis, your initial compliance requirement is to conduct a fuel analysis for each type of fuel burned in your boiler or process heater according to §63.7521 and Table 6 to this subpart and establish operating limits according to §63.7530 and Table 8 to this subpart. The fuels described in paragraph (a)(2)(i) and (ii) of this section are exempt from these fuel analysis and operating limit requirements. The fuels described in paragraph (a)(2)(ii) of this section are exempt from the chloride fuel analysis and operating limit requirements. Boilers and process heaters that use a CEMS for mercury or HCl are exempt from the performance testing and operating limit requirements specified in paragraph (a) of this section for the HAP for which CEMS are used.*

**If IFG-Moyie Springs chooses to show compliance with HCl, Hg or TSM through fuel analysis, they will follow these requirements.**

*(c) If your boiler or process heater is subject to a carbon monoxide (CO) limit, your initial compliance demonstration for CO is to conduct a performance test for CO according to Table 5 to this subpart or conduct a performance evaluation of your continuous CO monitor, if applicable, according to §63.7525(a). Boilers and process heaters that use a CO CEMS to comply with the applicable alternative CO CEMS emission standard listed in Tables 1, 2, or 11 through 13 to this subpart, as specified in §63.7525(a), are exempt from the initial CO performance testing and oxygen concentration operating limit requirements specified in paragraph (a) of this section.*

**IFG-Moyie Springs plans to demonstrate CO compliance with source testing. There are no plans for a CO CEMS.**

*(d) If your boiler or process heater is subject to a PM limit, your initial compliance demonstration for PM is to conduct a performance test in accordance with §63.7520 and Table 5 to this subpart.*

**IFG-Moyie Springs plans to conduct a PM source test as required.**

*(e) For existing affected sources (as defined in §63.7490), you must complete the initial compliance demonstrations, as specified in paragraphs (a) through (d) of this section, no later than 180 days after the compliance date that is specified for your source in §63.7495 and according to the applicable provisions in §63.7(a)(2) as cited in Table 10 to this subpart, except as specified in paragraph (j) of this section. You must complete an initial tune-up by following the procedures described in §63.7540(a)(10)(i) through (vi) no later than the compliance date specified in §63.7495, except as specified in paragraph (j) of this section. You must complete the one-time energy assessment specified in Table 3 to this subpart no later than the compliance date specified in §63.7495.*

**IFG-Moyie Springs will complete initial compliance testing within 180 days of the 3-year compliance deadline after becoming a major source as described in §63.7495(c)(2). An initial tune-up and an energy assessment will be completed within 3 years of becoming a major source. IFG-Moyie Springs will become a major source upon issuance of a Permit to Construct P-2012.0034 modification.**

*(f) For new or reconstructed affected sources (as defined in §63.7490), you must complete the initial compliance demonstration with the emission limits no later than July 30, 2013 or within 180 days after startup of the source, whichever is later. If you are demonstrating compliance with an emission limit in Tables 11 through 13 to this subpart that is less stringent (that is, higher) than the applicable emission limit in Table 1 to this subpart, you must demonstrate compliance with the applicable emission limit in Table 1 no later than July 29, 2016.*

**The IFG-Moyie Springs boiler is an existing source.**

*(g) For new or reconstructed affected sources (as defined in §63.7490), you must demonstrate initial compliance with the applicable work practice standards in Table 3 to this subpart within the applicable annual, biennial, or 5-year schedule as specified in §63.7515(d) following the initial compliance date specified in §63.7495(a). Thereafter, you are required to complete the applicable annual, biennial, or 5-year tune-up as specified in §63.7515(d).*

**The IFG-Moyie Springs boiler is an existing source.**

*(h) For affected sources (as defined in §63.7490) that ceased burning solid waste consistent with §63.7495(e) and for which the initial compliance date has passed, you must demonstrate compliance within 60 days of the effective date of the waste-to-fuel switch. If you have not conducted your compliance demonstration for this subpart within the previous 12 months, you must complete all compliance demonstrations for this subpart before you commence or recommence combustion of solid waste.*

**The IFG-Moyie Springs boiler has never burned solid waste.**

*(i) For an existing EGU that becomes subject after January 31, 2016, you must demonstrate compliance within 180 days after becoming an affected source.*

**The IFG-Moyie Springs boiler is not an EGU.**

*§63.7515 When must I conduct subsequent performance tests, fuel analyses, or tune-ups?*

*(a) You must conduct all applicable performance tests according to §63.7520 on an annual basis, except as specified in paragraphs (b) through (e), (g), and (h) of this section. Annual performance tests must be completed no more than 13 months after the previous performance test, except as specified in paragraphs (b) through (e), (g), and (h) of this section.*

**IFG-Moyie Springs will perform performance tests according to this section, until it is such that (b) below is established.**

*(b) If your performance tests for a given pollutant for at least 2 consecutive years show that your emissions are at or below 75 percent of the emission limit (or, in limited instances as specified in Tables 1 and 2 or 11 through 13 to this subpart, at or below the emission limit) for the pollutant, and if there are no changes in the operation of the individual boiler or process heater or air pollution control equipment that could increase emissions, you may choose to conduct performance tests for the pollutant every third year. Each such performance test must be conducted no more than 37 months after the previous performance test. If you elect to demonstrate compliance using emission averaging under §63.7522, you must continue to conduct performance tests annually. The requirement to test at maximum chloride input level is waived unless the stack test is conducted for HCl. The requirement to test at maximum mercury input level is waived unless the stack test is conducted for mercury. The requirement to test at maximum TSM input level is waived unless the stack test is conducted for TSM.*

**IFG-Moyie Springs will complete subsequent performance tests on the modified schedule if concurrent test results show emissions are below established thresholds.**

**IFG-Moyie Springs plans to conduct stack tests for HCl and Hg. The boiler will only burn one fuel, so the maximum input level requirements are automatically met.**

*(c) If a performance test shows emissions exceeded the emission limit or 75 percent of the emission limit (as specified in Tables 1 and 2 or 11 through 13 to this subpart) for a pollutant, you must conduct annual performance tests for that pollutant until all performance tests over a consecutive 2-year period meet the required level (at or below 75 percent of the emission limit, as specified in Tables 1 and 2 or 11 through 13 to this subpart).*

**If IFG-Moyie Springs is testing on the modified schedule and testing shows the boiler's emissions to be above the established threshold, then IFG-Moyie Springs will resume annual performance testing.**

*(d) If you are required to meet an applicable tune-up work practice standard, you must conduct an annual, biennial, or 5-year performance tune-up according to §63.7540(a)(10), (11), or (12), respectively. Each annual tune-up specified in §63.7540(a)(10) must be no more than 13 months after the previous tune-up. Each biennial tune-up specified in §63.7540(a)(11) must be conducted no more than 25 months after the previous tune-up. Each 5-year tune-up specified in §63.7540(a)(12) must be conducted no more than 61 months after the previous tune-up. For a new or reconstructed affected source (as defined in §63.7490), the first annual, biennial, or 5-year tune-up must be no later than 13 months, 25 months, or 61 months, respectively, after April 1, 2013 or the initial startup of the new or reconstructed affected source, whichever is later.*

**IFG-Moyie Springs will conduct annual tune-ups per the requirements of this section.**

*(e) If you demonstrate compliance with the mercury, HCl, or TSM based on fuel analysis, you must conduct a monthly fuel analysis according to §63.7521 for each type of fuel burned that is subject to an emission limit in Tables 1, 2, or 11 through 13 to this subpart. You may comply with this monthly requirement by completing the fuel analysis any time within the calendar month as long as the analysis is separated from the previous analysis by at least 14 calendar days. If you burn a new type of fuel, you must conduct a fuel analysis before burning the new type of fuel in your boiler or process heater. You must still meet all applicable continuous compliance requirements in §63.7540. If each of 12 consecutive monthly fuel analyses demonstrates 75 percent or less of the compliance level, you may decrease the fuel analysis frequency to quarterly for that fuel. If any quarterly sample exceeds 75 percent of the compliance level or you begin burning a new type of fuel, you must return to monthly monitoring for that fuel, until 12 months of fuel analyses are again less than 75 percent of the compliance level. If sampling is conducted on one day per month, samples should be no less than 14 days apart, but if multiple samples are taken per month, the 14-day restriction does not apply.*

**IFG-Moyie Springs acknowledges these requirements and will comply if fuel analysis is used to demonstrate Hg or HCl compliance.**

*(f) You must report the results of performance tests and the associated fuel analyses within 60 days after the completion of the performance tests. This report must also verify that the operating limits for each boiler or process heater have not changed or provide documentation of revised operating limits established according to §63.7530 and Table 7 to this subpart, as applicable. The reports for all subsequent performance tests must include all applicable information required in §63.7550.*

**IFG-Moyie Springs will submit performance test reports within the required timeframe.**

*(g) For affected sources (as defined in §63.7490) that have not operated since the previous compliance demonstration and more than one year has passed since the previous compliance demonstration, you must complete the subsequent compliance demonstration, if subject to the emission limits in Tables 1, 2, or 11 through 13 to this subpart, no later than 180 days after the re-start of the affected source and according to the applicable provisions in §63.7(a)(2) as cited in Table 10 to this subpart. You must complete a subsequent tune-up by following the procedures described in §63.7540(a)(10)(i) through (vi) and the schedule described in §63.7540(a)(13) for units that are not operating at the time of their scheduled tune-up.*

**IFG-Moyie Springs will conduct performance testing according to this paragraph if the boiler ceases operations such that the testing schedule must be altered.**

*(h) If your affected boiler or process heater is in the unit designed to burn light liquid subcategory and you combust ultra-low sulfur liquid fuel, you do not need to conduct further performance tests (stack tests or fuel analyses) if the pollutants measured during the initial compliance performance tests meet the emission limits in Tables 1 or 2 of this subpart providing you demonstrate ongoing compliance with the emissions limits by monitoring and recording the type of fuel combusted on a monthly basis. If you intend to use a fuel other than ultra-low sulfur liquid fuel, natural gas, refinery gas, or other gas 1 fuel, you must conduct new performance tests within 60 days of burning the new fuel type.*

**The IFG-Moyie Springs boiler is not designed to burn light liquid.**

*(i) If you operate a CO CEMS that meets the Performance Specifications outlined in §63.7525(a)(3) of this subpart to demonstrate compliance with the applicable alternative CO CEMS emission standard listed in Tables 1, 2, or 11 through 13 to this subpart, you are not required to conduct CO performance tests and are not subject to the oxygen concentration operating limit requirement specified in §63.7510(a).*

**IFG-Moyie Springs does not employ a CO CEMS.**

*(j) For existing affected sources (as defined in §63.7490) that have not operated between the effective date of the rule and the compliance date that is specified for your source in §63.7495, you must complete the initial compliance demonstration, if subject to the emission limits in Table 2 to this subpart, as specified in paragraphs (a) through (d) of this section, no later than 180 days after the re-start of the affected source and according to the applicable provisions in §63.7(a)(2) as cited in Table 10 to this subpart. You must complete an initial tune-up by following the procedures described in §63.7540(a)(10)(i) through (vi) no later than 30 days after the re-start of the affected source and, if applicable, complete the one-time energy assessment specified in Table 3 to this subpart, no later than the compliance date specified in §63.7495.*

**The IFG-Moyie Springs boiler will be subject to this rule three years from the date that the facility becomes a major source. IFG-Moyie Springs will become a major source upon issuance of a Permit to Construct P-2012.0034 modification. This paragraph is not applicable.**

*(k) For affected sources, as defined in §63.7490, that switch subcategories consistent with §63.7545(h) after the initial compliance date, you must demonstrate compliance within 60 days of the effective date of the switch, unless you had previously conducted your compliance demonstration for this subcategory within the previous 12 months.*

**The IFG-Moyie Springs boiler will be subject to this rule three years from the date that the facility becomes a major source and the boiler will not switch subcategories. This paragraph is not applicable.**

*§63.7520 What stack tests and procedures must I use?*

**IFG-Moyie Springs will conduct performance testing as required by this section and Tables 5 and 7.**

*(a) You must conduct all performance tests according to §63.7(c), (d), (f), and (h). You must also develop a site-specific stack test plan according to the requirements in §63.7(c). You shall conduct all performance tests under such conditions as the Administrator specifies to you based on the representative performance of each boiler or process heater for the period being tested. Upon request, you shall make available to the Administrator such records as may be necessary to determine the conditions of the performance tests.*

*(b) You must conduct each performance test according to the requirements in Table 5 to this subpart.*

*(c) You must conduct each performance test under the specific conditions listed in Tables 5 and 7 to this subpart. You must conduct performance tests at representative operating load conditions while burning the type of fuel or mixture of fuels that has the highest content of chlorine and mercury, and TSM if you are opting to comply with the TSM alternative standard and you must demonstrate initial compliance and establish your operating limits based on these performance tests. These requirements could result in the need to conduct more than one performance test. Following each performance test and until the next performance test, you must comply with the operating limit for operating load conditions specified in Table 4 to this subpart.*

*(d) You must conduct a minimum of three separate test runs for each performance test required in this section, as specified in §63.7(e)(3). Each test run must comply with the minimum applicable sampling times or volumes specified in Tables 1 and 2 or 11 through 13 to this subpart.*

*(e) To determine compliance with the emission limits, you must use the F-Factor methodology and equations in sections 12.2 and 12.3 of EPA Method 19 at 40 CFR part 60, appendix A-7 of this chapter to convert the measured particulate matter (PM) concentrations, the measured HCl concentrations, the measured mercury concentrations, and the measured TSM concentrations that result from the performance test to pounds per million Btu heat input emission rates.*

*(f) Except for a 30-day rolling average based on CEMS (or sorbent trap monitoring system) data, if measurement results for any pollutant are reported as below the method detection level (e.g., laboratory analytical results for one or more sample components are below the method defined analytical detection level), you must use the method detection level as the measured emissions level for that pollutant in calculating compliance. The measured result for a multiple component analysis (e.g., analytical values for multiple Method 29 fractions both for individual HAP metals and for total HAP metals) may include a combination of method detection level data and analytical data reported above the method detection level.*

*§63.7521 What fuel analyses, fuel specification, and procedures must I use?*

**IFG-Moyie Springs does not plan to use fuel analysis to demonstrate compliance.**

*§63.7522 Can I use emissions averaging to comply with this subpart?*

**IFG-Moyie Springs operates only one boiler and will not demonstrate compliance by emissions averaging.**

**§63.7525 What are my monitoring, installation, operation, and maintenance requirements?**

*(a) If your boiler or process heater is subject to a CO emission limit in Tables 1, 2, or 11 through 13 to this subpart, you must install, operate, and maintain an oxygen analyzer system, as defined in §63.7575, or install, certify, operate and maintain continuous emission monitoring systems for CO and oxygen (or carbon dioxide (CO2)) according to the procedures in paragraphs (a)(1) through (6) of this section.*

**IFG-Moyie Springs will demonstrate CO compliance through performance testing and an oxygen analyzer system on the boiler. The procedures in (a)(1) through (6) of this section do not apply because IFG-Moyie Springs does not employ a CO CEMS.**

*(7) Operate an oxygen trim system with the oxygen level set no lower than the lowest hourly average oxygen concentration measured during the most recent CO performance test as the operating limit for oxygen according to Table 7 to this subpart.*

**The IFG-Moyie Springs boiler is not equipped with an oxygen trim system.**

*(b) If your boiler or process heater is in the unit designed to burn coal/solid fossil fuel subcategory or the unit designed to burn heavy liquid subcategory and has an average annual heat input rate greater than 250 MMBtu per hour from solid fossil fuel and/or heavy liquid, and you demonstrate compliance with the PM limit instead of the alternative TSM limit, you must install, maintain, and operate a PM CPMS monitoring emissions discharged to the atmosphere and record the output of the system as specified in paragraphs (b)(1) through (4) of this section. As an alternative to use of a PM CPMS to demonstrate compliance with the PM limit, you may choose to use a PM CEMS. If you choose to use a PM CEMS to demonstrate compliance with the PM limit instead of the alternative TSM limit, you must install, certify, maintain, and operate a PM CEMS monitoring emissions discharged to the atmosphere and record the output of the system as specified in paragraph (b)(5) through (8) of this section. For other boilers or process heaters, you may elect to use a PM CPMS or PM CEMS operated in accordance with this section in lieu of using other CMS for monitoring PM compliance (e.g., bag leak detectors, ESP secondary power, and PM scrubber pressure). Owners of boilers and process heaters who elect to comply with the alternative TSM limit are not required to install a PM CPMS.*

**The IFG-Moyie Springs boiler is a unit designed to burn biomass and is rated at 128 MMBtu/hr, so this section is not applicable.**

*(c) If you have an applicable opacity operating limit in this rule, and are not otherwise required or elect to install and operate a PM CPMS, PM CEMS, or a bag leak detection system, you must install, operate, certify and maintain each COMS according to the procedures in paragraphs (c)(1) through (7) of this section by the compliance date specified in §63.7495.*

**IFG-Moyie Springs will install and operate a COMS on the boiler stack according to the requirements in this section.**

*(1) Each COMS must be installed, operated, and maintained according to Performance Specification 1 at appendix B to part 60 of this chapter.*

*(2) You must conduct a performance evaluation of each COMS according to the requirements in §63.8(e) and according to Performance Specification 1 at appendix B to part 60 of this chapter.*

*(3) As specified in §63.8(c)(4)(i), each COMS must complete a minimum of one cycle of sampling and analyzing for each successive 10-second period and one cycle of data recording for each successive 6-minute period.*

*(4) The COMS data must be reduced as specified in §63.8(g)(2).*

*(5) You must include in your site-specific monitoring plan procedures and acceptance criteria for operating and maintaining each COMS according to the requirements in §63.8(d). At a minimum, the monitoring plan must include a daily calibration drift assessment, a quarterly performance audit, and an annual zero alignment audit of each COMS.*

*(6) You must operate and maintain each COMS according to the requirements in the monitoring plan and the requirements of §63.8(e). You must identify periods the COMS is out of control including any periods that the COMS fails to pass a daily calibration drift assessment, a quarterly performance audit, or an annual zero alignment audit. Any 6-minute period for which the monitoring system is out of control and data are not available for a required calculation constitutes a deviation from the monitoring requirements.*

*(7) You must determine and record all the 6-minute averages (and daily block averages as applicable) collected for periods during which the COMS is not out of control.*

*(d) If you have an operating limit that requires the use of a CMS other than a PM CPMS or COMS, you must install, operate, and maintain each CMS according to the procedures in paragraphs (d)(1) through (5) of this section by the compliance date specified in §63.7495.*

**IFG-Moyie Springs will operate a steam load monitoring system and oxygen analyzer system that will meet these requirements.**

*(1) The CPMS must complete a minimum of one cycle of operation every 15-minutes. You must have a minimum of four successive cycles of operation, one representing each of the four 15-minute periods in an hour, to have a valid hour of data.*

*(2) You must operate the monitoring system as specified in §63.7535(b), and comply with the data calculation requirements specified in §63.7535(c).*

*(3) Any 15-minute period for which the monitoring system is out-of-control and data are not available for a required calculation constitutes a deviation from the monitoring requirements. Other situations that constitute a monitoring deviation are specified in §63.7535(d).*

*(4) You must determine the 30-day rolling average of all recorded readings, except as provided in §63.7535(c).*

*(5) You must record the results of each inspection, calibration, and validation check.*

*(e) If you have an operating limit that requires the use of a flow monitoring system, you must meet the requirements in paragraphs (d) and (e)(1) through (4) of this section.*

**The IFG-Moyie Springs boiler is not subject to an operating limit that requires use of a flow monitoring system.**

*(f) If you have an operating limit that requires the use of a pressure monitoring system, you must meet the requirements in paragraphs (d) and (f)(1) through (6) of this section.*

**The IFG-Moyie Springs boiler is not subject to an operating limit that requires the use of a pressure monitoring system.**

*(g) If you have an operating limit that requires a pH monitoring system, you must meet the requirements in paragraphs (d) and (g)(1) through (4) of this section.*

**IFG-Moyie Springs does not have an operating limit that requires pH monitoring.**

*(h) If you have an operating limit that requires a secondary electric power monitoring system for an electrostatic precipitator (ESP) operated with a wet scrubber, you must meet the requirements in paragraphs (h)(1) and (2) of this section.*

**The IFG-Moyie Springs boiler is not equipped with a wet scrubber.**

*(i) If you have an operating limit that requires the use of a monitoring system to measure sorbent injection rate (e.g., weigh belt, weigh hopper, or hopper flow measurement device), you must meet the requirements in paragraphs (d) and (i)(1) through (2) of this section.*

**IFG-Moyie Springs does not have an operating limit that requires sorbent injection rate monitoring.**

*(j) If you are not required to use a PM CPMS and elect to use a fabric filter bag leak detection system to comply with the requirements of this subpart, you must install, calibrate, maintain, and continuously operate the bag leak detection system as specified in paragraphs (j)(1) through (6) of this section.*

**The IFG-Moyie Springs boiler is not equipped with a baghouse.**

*k) For each unit that meets the definition of limited-use boiler or process heater, you must keep fuel use records for the days the boiler or process heater was operating.*

**The IFG-Moyie Springs boiler is not a limited-use boiler.**

*(l) For each unit for which you decide to demonstrate compliance with the mercury or HCl emissions limits in Tables 1 or 2 or 11 through 13 of this subpart by use of a CEMS for mercury or HCl, you must install, certify, maintain, and operate a CEMS measuring emissions discharged to the atmosphere and record the output of the system as specified in paragraphs (l)(1) through (8) of this section. For HCl, this option for an affected unit takes effect on the date a final performance specification for a HCl CEMS is published in the FEDERAL REGISTER or the date of approval of a site-specific monitoring plan.*

**The IFG-Moyie Springs will not employ Hg or HCl CEMS.**

*(m) If your unit is subject to a HCl emission limit in Tables 1, 2, or 11 through 13 of this subpart and you have an acid gas wet scrubber or dry sorbent injection control technology and you elect to use an SO2 CEMS to demonstrate continuous compliance with the HCl emission limit, you must install the monitor at the outlet of the boiler or process heater, downstream of all emission control devices, and you must install, certify, operate, and maintain the CEMS according to either part 60 or part 75 of this chapter.*

**The IFG-Moyie Springs does not operate an acid gas wet scrubber or a dry sorbent injection system.**

*63.7530 How do I demonstrate initial compliance with the emission limitations, fuel specifications and work practice standards?*

*(a) You must demonstrate initial compliance with each emission limit that applies to you by conducting initial performance tests and fuel analyses and establishing operating limits, as applicable, according to §63.7520, paragraphs (b) and (c) of this section, and Tables 5 and 7 to this subpart. The requirement to conduct a fuel analysis is not applicable for units that burn a single type of fuel, as specified by §63.7510(a)(2). If applicable, you must also install, operate, and maintain all applicable CMS (including CEMS, COMS, and CPMS) according to §63.7525.*

**IFG-Moyie Springs will demonstrate compliance with initial performance tests. IFG-Moyie Springs only burns a single fuel type and will not conduct a fuel analysis. The plant will also comply with requirements for the COMS to be installed.**

*(b) If you demonstrate compliance through performance stack testing, you must establish each site-specific operating limit in Table 4 to this subpart that applies to you according to the requirements in §63.7520, Table 7 to this subpart, and paragraph (b)(4) of this section, as applicable. You must also conduct fuel analyses according to §63.7521 and establish maximum fuel pollutant input levels according to paragraphs (b)(1) through (3) of this section, as applicable, and as specified in §63.7510(a)(2). (Note that §63.7510(a)(2) exempts certain fuels from the fuel analysis requirements.) However, if you switch fuel(s) and cannot show that the new fuel(s) does (do) not increase the chlorine, mercury, or TSM input into the unit through the results of fuel analysis, then you must repeat the performance test to demonstrate compliance while burning the new fuel(s).*

**IFG-Moyie Springs will comply with the applicable stack testing procedures of §63.7520 and the procedures for establishing operating limits in Table 7 and paragraph (b)(4) of this section to meet the operating limits of row 4.a. (ESP), row 7 (operating load), and row 8 (combustion oxygen level) of Table 4. The boiler combusts only one type of fuel, so fuel analysis is not required.**

*(4) You must establish parameter operating limits according to paragraphs (b)(4)(i) through (ix) of this section. As indicated in Table 4 to this subpart, you are not required to establish and comply with the operating parameter limits when you are using a CEMS to monitor and demonstrate compliance with the applicable emission limit for that control device parameter.*

**Paragraph (b)(4)(viii) below is potentially relevant to the IFG-Moyie Springs boiler.**

*(i) For a wet acid gas scrubber, you must establish the minimum scrubber effluent pH and liquid flow rate as defined in §63.7575, as your operating limits during the performance test during which you demonstrate compliance with your applicable limit. If you use a wet scrubber and you conduct separate performance tests for HCl and mercury emissions, you must establish one set of minimum scrubber effluent pH, liquid flow rate, and pressure drop operating limits. The minimum scrubber effluent pH operating limit must be established during the HCl performance test. If you conduct multiple performance tests, you must set the minimum liquid flow rate operating limit at the higher of the minimum values established during the performance tests.*

**IFG-Moyie Springs does not operate a wet acid gas scrubber.**

*(ii) For any particulate control device (e.g., ESP, particulate wet scrubber, fabric filter) for which you use a PM CPMS, you must establish your PM CPMS operating limit and determine compliance with it according to paragraphs (b)(4)(ii)(A) through (F) of this section.*

**IFG-Moyie Springs does not use a PM CPMS.**

*(iii) For a particulate wet scrubber, you must establish the minimum pressure drop and liquid flow rate as defined in §63.7575, as your operating limits during the three-run performance test during which you demonstrate compliance with your applicable limit. If you use a wet scrubber and you conduct separate performance tests for PM and TSM emissions, you must establish one set of minimum scrubber liquid flow rate and pressure drop operating limits. The minimum scrubber effluent pH operating limit must be established during the HCl performance test. If you conduct multiple performance tests, you must set the minimum liquid flow rate and pressure drop operating limits at the higher of the minimum values established during the performance tests.*

**IFG-Moyie Springs does not operate a particulate wet scrubber.**

*(iv) For an electrostatic precipitator (ESP) operated with a wet scrubber, you must establish the minimum total secondary electric power input, as defined in §63.7575, as your operating limit during the three-run performance test during which you demonstrate compliance with your applicable limit. (These operating limits do not apply to ESP that are operated as dry controls without a wet scrubber.)*

**IFG-Moyie Springs does not operate a wet scrubber.**

*(v) For a dry scrubber, you must establish the minimum sorbent injection rate for each sorbent, as defined in §63.7575, as your operating limit during the three-run performance test during which you demonstrate compliance with your applicable limit.*

**IFG-Moyie Springs does not operate a dry scrubber.**

*(vi) For activated carbon injection, you must establish the minimum activated carbon injection rate, as defined in §63.7575, as your operating limit during the three-run performance test during which you demonstrate compliance with your applicable limit.*

**IFG-Moyie Springs does not operate an activated carbon injection system.**

*(vii) The operating limit for boilers or process heaters with fabric filters that demonstrate continuous compliance through bag leak detection systems is that a bag leak detection system be installed according to the requirements in §63.7525, and that each fabric filter must be operated such that the bag leak detection system alert is not activated more than 5 percent of the operating time during a 6-month period.*

**The IFG-Moyie Springs boiler emissions are not controlled by a baghouse.**

*(viii) For a minimum oxygen level, if you conduct multiple performance tests, you must set the minimum oxygen level at the lower of the minimum values established during the performance tests.*

**If IFG-Moyie Springs conducts multiple performance tests, IFG-Moyie Springs will set the minimum oxygen level at the lower of the minimum values established during the performance test.**

*(ix) The operating limit for boilers or process heaters that demonstrate continuous compliance with the HCl emission limit using a SO2 CEMS is to install and operate the SO2 according to the requirements in §63.7525(m) establish a maximum SO2 emission rate equal to the highest hourly average SO2 measurement during the most recent three-run performance test for HCl.*

**IFG-Moyie Springs does not use a SO2 CEMS.**

*(c) If you elect to demonstrate compliance with an applicable emission limit through fuel analysis, you must conduct fuel analyses according to §63.7521 and follow the procedures in paragraphs (c)(1) through (5) of this section.*

**IFG-Moyie Springs does not plan to use fuel analysis at this time; however, IFG-Moyie Springs will comply with this section if compliance is shown through fuel analysis.**

*(d)[Reserved]*

*(e) You must include with the Notification of Compliance Status a signed certification that either the energy assessment was completed according to Table 3 to this subpart, and that the assessment is an accurate depiction of your facility at the time of the assessment, or that the maximum number of on-site technical hours specified in the definition of energy assessment applicable to the facility has been expended.*

**IFG-Moyie Springs will include a signed certification with the Notification of Compliance Status regarding whether the energy assessment was completed or the maximum number of on-site technical hours (8 on-site technical labor hours according to §63.7575 definition of energy assessment) were expended.**

*(f) You must submit the Notification of Compliance Status containing the results of the initial compliance demonstration according to the requirements in §63.7545(e).*

**IFG-Moyie Springs will submit the Notification of Compliance Status according to the requirements in §63.7545(e).**

*(g) If you elect to demonstrate that a gaseous fuel meets the specifications of another gas 1 fuel as defined in §63.7575, you must conduct an initial fuel specification analyses according to §63.7521(f) through (i) and according to the frequency listed in §63.7540(c) and maintain records of the results of the testing as outlined in §63.7555(g). For samples where the initial mercury specification has not been exceeded, you will include a signed certification with the Notification of Compliance Status that the initial fuel specification test meets the gas specification outlined in the definition of other gas 1 fuels.*

**IFG-Moyie Springs boiler does not burn gaseous fuel.**

*(h) If you own or operate a unit subject to emission limits in Tables 1 or 2 or 11 through 13 to this subpart, you must meet the work practice standard according to Table 3 of this subpart. During startup and shutdown, you must only follow the work practice standards according to items 5 and 6 of Table 3 of this subpart.*

**IFG-Moyie Springs will meet the work practice standards of Table 3: one-time energy assessment, annual tune-ups, and startup and shutdown requirements.**

*(i) If you opt to comply with the alternative SO2 CEMS operating limit in Tables 4 and 8 to this subpart, you may do so only if your affected boiler or process heater:*

**IFG-Moyie Springs does not use a SO2 CEMS.**

*§63.7533 Can I use efficiency credits earned from implementation of energy conservation measures to comply with this subpart?*

**IFG-Moyie Springs will not apply efficiency credits.**

*§63.7535 Is there a minimum amount of monitoring data I must obtain?*

*(a) You must monitor and collect data according to this section and the site-specific monitoring plan required by §63.7505(d).*

**IFG-Moyie Springs will collect and maintain required monitoring data as according to this section and the site-specific monitoring plan.**

*(b) You must operate the monitoring system and collect data at all required intervals at all times that each boiler or process heater is operating and compliance is required, except for periods of monitoring system malfunctions or out of control periods (see §63.8(c)(7) of this part), and required monitoring system quality assurance or control activities, including, as applicable, calibration checks, required zero and span adjustments, and scheduled CMS maintenance as defined in your site-specific monitoring plan. A monitoring system malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring system to provide valid data. Monitoring system failures that are caused in part by poor maintenance or careless operation are not malfunctions. You are required to complete monitoring system repairs in response to monitoring system malfunctions or out-of-control periods and to return the monitoring system to operation as expeditiously as practicable.*

**IFG-Moyie Springs will operate the monitoring systems and collect data at all times the boiler is operating except during monitor malfunction or out of control periods and during monitor QA/QC and maintenance. IFG-Moyie Springs will make repairs and resume monitoring as expeditiously as practicable.**

*(c) You may not use data recorded during periods of startup and shutdown, monitoring system malfunctions or out-of-control periods, repairs associated with monitoring system malfunctions or out-of-control periods, or required monitoring system quality assurance or control activities in data averages and calculations used to report emissions or operating levels. You must record and make available upon request results of CMS performance audits and dates and duration of periods when the CMS is out of control to completion of the corrective actions necessary to return the CMS to operation consistent with your site-specific monitoring plan. You must use all the data collected during all other periods in assessing compliance and the operation of the control device and associated control system.*

**IFG-Moyie Springs will not use data recorded during periods of startup and shutdown, monitor malfunctions or out-of-control periods, repairs, or QA/QC activities. CMS audits and dates and duration of periods when the CMS is out of control will be recorded and made available upon request. All other collected data will be used to assess compliance.**

*(d) Except for periods of monitoring system malfunctions, repairs associated with monitoring system malfunctions, and required monitoring system quality assurance or quality control activities (including, as applicable, system accuracy audits, calibration checks, and required zero and span adjustments), failure to collect required data is a deviation of the monitoring requirements. In calculating monitoring results, do not use any data collected during periods of startup and shutdown, when the monitoring system is out of control as specified in your site-specific monitoring plan, while conducting repairs associated with periods when the monitoring system is out of control, or while conducting required monitoring system quality assurance or quality control activities. You must calculate monitoring results using all other monitoring data collected while the process is operating. You must report all periods when the monitoring system is out of control in your semi-annual report.*

**IFG-Moyie Springs understands that failure to collect required data is a deviation of monitoring requirements. IFG-Moyie Springs also understands that monitoring results must be calculated using all valid monitoring data and that all periods in which a monitoring system is out of control must be reported in the semiannual report.**

**§63.7540 How do I demonstrate continuous compliance with the emission limitations, fuel specifications and work practice standards?**

*(a) You must demonstrate continuous compliance with each emission limit in Tables 1 and 2 or 11 through 13 to this subpart, the work practice standards in Table 3 to this subpart, and the operating limits in Table 4 to this subpart that applies to you according to the methods specified in Table 8 to this subpart and paragraphs (a)(1) through (19) of this section.*

**IFG-Moyie Springs will demonstrate continuous compliance with applicable emission limits in Table 2, work practice standards in Table 3, and applicable operating limits in Table 4 according to the methods specified in Table 8 and according to the paragraphs of this section as noted below.**

*(1) Following the date on which the initial compliance demonstration is completed or is required to be completed under §§63.7 and 63.7510, whichever date comes first, operation above the established maximum or below the established minimum operating limits shall constitute a deviation of established operating limits listed in Table 4 of this subpart except during performance tests conducted to determine compliance with the emission limits or to establish new operating limits. Operating limits must be confirmed or reestablished during performance tests.*

**IFG-Moyie Springs will operate the boiler in compliance with established operating limits and will confirm or reestablish operating limits during performance tests by the compliance deadline.**

*(2) As specified in §63.7555(d), you must keep records of the type and amount of all fuels burned in each boiler or process heater during the reporting period to demonstrate that all fuel types and mixtures of fuels burned would result in either of the following:*

**IFG-Moyie Springs will maintain records of fuel type and amount of fuel burned in the boiler. The boiler combusts a single fuel type as established by this regulation. The boiler will combust clean dry biomass during startups (this fuel type is not considered a different fuel type because it is only used during startup). Since IFG-Moyie Springs combusts only a single fuel type, Cl, Hg, and TSM emissions are expected to be consistent, which demonstrates compliance with (ii) of this paragraph. IFG-Moyie Springs will comply with the PM (TSM surrogate) emission limit through performance testing.**

*(i) Equal to or lower emissions of HCl, mercury, and TSM than the applicable emission limit for each pollutant, if you demonstrate compliance through fuel analysis.*

*(ii) Equal to or lower fuel input of chlorine, mercury, and TSM than the maximum values calculated during the last performance test, if you demonstrate compliance through performance testing.*

*(3) If you demonstrate compliance with an applicable HCl emission limit through fuel analysis for a solid or liquid fuel and you plan to burn a new type of solid or liquid fuel, you must recalculate the HCl emission rate using Equation 16 of §63.7530 according to paragraphs (a)(3)(i) through (iii) of this section. You are not required to conduct fuel analyses for the fuels described in §63.7510(a)(2)(i) through (iii). You may exclude the fuels described in §63.7510(a)(2)(i) through (iii) when recalculating the HCl emission rate.*

**IFG-Moyie Springs will not burn a new type of fuel.**

*(4) If you demonstrate compliance with an applicable HCl emission limit through performance testing and you plan to burn a new type of fuel or a new mixture of fuels, you must recalculate the maximum chlorine input using Equation 7 of §63.7530. If the results of recalculating the maximum chlorine input using Equation 7 of §63.7530 are greater than the maximum chlorine input level established during the previous performance test, then you must conduct a new performance test within 60 days of burning the new fuel type or fuel mixture according to the procedures in §63.7520 to demonstrate that the HCl emissions do not exceed the emission limit. You must also establish new operating limits based on this performance test according to the procedures in §63.7530(b). In recalculating the maximum chlorine input and establishing the new operating limits, you are not required to conduct fuel analyses for and include the fuels described in §63.7510(a)(2)(i) through (iii).*

**IFG-Moyie Springs will not burn a new type of fuel or fuel mixture.**

*(5) If you demonstrate compliance with an applicable mercury emission limit through fuel analysis, and you plan to burn a new type of fuel, you must recalculate the mercury emission rate using Equation 17 of §63.7530 according to the procedures specified in paragraphs (a)(5)(i) through (iii) of this section. You are not required to conduct fuel analyses for the fuels described in §63.7510(a)(2)(i) through (iii). You may exclude the fuels described in §63.7510(a)(2)(i) through (iii) when recalculating the mercury emission rate.*

**IFG-Moyie Springs will not burn a new type of fuel or fuel mixture.**

*(6) If you demonstrate compliance with an applicable mercury emission limit through performance testing, and you plan to burn a new type of fuel or a new mixture of fuels, you must recalculate the maximum mercury input using Equation 8 of §63.7530. If the results of recalculating the maximum mercury input using Equation 8 of §63.7530 are higher than the maximum mercury input level established during the previous performance test, then you must conduct a new performance test within 60 days of burning the new fuel type or fuel mixture according to the procedures in §63.7520 to demonstrate that the mercury emissions do not exceed the emission limit. You must also establish new operating limits based on this performance test according to the procedures in §63.7530(b). You are not required to conduct fuel analyses for the fuels described in §63.7510(a)(2)(i) through (iii). You may exclude the fuels described in §63.7510(a)(2)(i) through (iii) when recalculating the mercury emission rate.*

**IFG-Moyie Springs will not burn a new type of fuel or fuel mixture.**

*(7) If your unit is controlled with a fabric filter, and you demonstrate continuous compliance using a bag leak detection system, you must initiate corrective action within 1 hour of a bag leak detection system alert and complete corrective actions as soon as practical, and operate and maintain the fabric filter system such that the periods which would cause an alert are no more than 5 percent of the operating time during a 6-month period. You must also keep records of the date, time, and duration of each alert, the time corrective action was initiated and completed, and a brief description of the cause of the alert and the corrective action taken. You must also record the percent of the operating time during each 6-month period that the conditions exist for an alert. In calculating this operating time percentage, if inspection of the fabric filter demonstrates that no corrective action is required, no alert time is counted. If corrective action is required, each alert shall be counted as a minimum of 1 hour. If you take longer than 1 hour to initiate corrective action, the alert time shall be counted as the actual amount of time taken to initiate corrective action.*

**IFG-Moyie Springs boiler emissions are not controlled by a baghouse.**

*(8) To demonstrate compliance with the applicable alternative CO CEMS emission limit listed in Tables 1, 2, or 11 through 13 to this subpart, you must meet the requirements in paragraphs (a)(8)(i) through (iv) of this section.*

**IFG-Moyie Springs will not employ a CO CEMS.**

*(9) The owner or operator of a boiler or process heater using a PM CPMS or a PM CEMS to meet requirements of this subpart shall install, certify, operate, and maintain the PM CPMS or PM CEMS in accordance with your site-specific monitoring plan as required in §63.7505(d).*

**IFG Moyie-Springs will not employ a PM CPMS or a PM CEMS.**

*(10) If your boiler or process heater has a heat input capacity of 10 million Btu per hour or greater, you must conduct an annual tune-up of the boiler or process heater to demonstrate continuous compliance as specified in paragraphs (a)(10)(i) through (vi) of this section. You must conduct the tune-up while burning the type of fuel (or fuels in case of units that routinely burn a mixture) that provided the majority of the heat input to the boiler or process heater over the 12 months prior to the tune-up. This frequency does not apply to limited-use boilers and process heaters, as defined in §63.7575, or units with continuous oxygen trim systems that maintain an optimum air to fuel ratio.*

**The IFG-Moyie Springs boiler has a heat input of 128 MMBtu/hr and will conduct an annual boiler tune-up according to the requirements of this section.**

*(i) As applicable, inspect the burner, and clean or replace any components of the burner as necessary (you may perform the burner inspection any time prior to the tune-up or delay the burner inspection until the next scheduled unit shutdown). Units that produce electricity for sale may delay the burner inspection until the first outage, not to exceed 36 months from the previous inspection. At units where entry into a piece of process equipment or into a storage vessel is required to complete the tune-up inspections, inspections are required only during planned entries into the storage vessel or process equipment;*

*(ii) Inspect the flame pattern, as applicable, and adjust the burner as necessary to optimize the flame pattern. The adjustment should be consistent with the manufacturer's specifications, if available;*

*(iii) Inspect the system controlling the air-to-fuel ratio, as applicable, and ensure that it is correctly calibrated and functioning properly (you may delay the inspection until the next scheduled unit shutdown). Units that produce electricity for sale may delay the inspection until the first outage, not to exceed 36 months from the previous inspection;*

*(iv) Optimize total emissions of CO. This optimization should be consistent with the manufacturer's specifications, if available, and with any NOX requirement to which the unit is subject;*

*(v) Measure the concentrations in the effluent stream of CO in parts per million, by volume, and oxygen in volume percent, before and after the adjustments are made (measurements may be either on a dry or wet basis, as long as it is the same basis before and after the adjustments are made). Measurements may be taken using a portable CO analyzer; and*

*(vi) Maintain on-site and submit, if requested by the Administrator, a report containing the information in paragraphs (a)(10)(vi)(A) through (C) of this section,*

*(A) The concentrations of CO in the effluent stream in parts per million by volume, and oxygen in volume percent, measured at high fire or typical operating load, before and after the tune-up of the boiler or process heater;*

*(B) A description of any corrective actions taken as a part of the tune-up; and*

*(C) The type and amount of fuel used over the 12 months prior to the tune-up, but only if the unit was physically and legally capable of using more than one type of fuel during that period. Units sharing a fuel meter may estimate the fuel used by each unit.*

*(11) If your boiler or process heater has a heat input capacity of less than 10 million Btu per hour (except as specified in paragraph (a)(12) of this section), you must conduct a biennial tune-up of the boiler or process heater as specified in paragraphs (a)(10)(i) through (vi) of this section to demonstrate continuous compliance.*

**The IFG-Moyie Springs boiler has a heat input capacity greater than 10 MMBtu/hr.**

*(12) If your boiler or process heater has a continuous oxygen trim system that maintains an optimum air to fuel ratio, or a heat input capacity of less than or equal to 5 million Btu per hour and the unit is in the units designed to burn gas 1; units designed to burn gas 2 (other); or units designed to burn light liquid subcategories, or meets the definition of limited-use boiler or process heater in §63.7575, you must conduct a tune-up of the boiler or process heater every 5 years as specified in paragraphs (a)(10)(i) through (vi) of this section to demonstrate continuous compliance. You may delay the burner inspection specified in paragraph (a)(10)(i) of this section until the next scheduled or unscheduled unit shutdown, but you must inspect each burner at least once every 72 months. If an oxygen trim system is utilized on a unit without emission standards to reduce the tune-up frequency to once every 5 years, set the oxygen level no lower than the oxygen concentration measured during the most recent tune-up.*

**The IFG-Moyie Springs boiler has a heat input capacity greater than 10 MMBtu/hr and is not equipped with an oxygen trim system.**

*(13) If the unit is not operating on the required date for a tune-up, the tune-up must be conducted within 30 calendar days of startup.*

**IFG-Moyie Springs will conduct timely tune-ups in accordance with this requirement.**

*(14) If you are using a CEMS measuring mercury emissions to meet requirements of this subpart you must install, certify, operate, and maintain the mercury CEMS as specified in paragraphs (a)(14)(i) and (ii) of this section.*

**IFG-Moyie Springs does not employ a Hg CEMS.**

*(15) If you are using a CEMS to measure HCl emissions to meet requirements of this subpart, you must install, certify, operate, and maintain the HCl CEMS as specified in paragraphs (a)(15)(i) and (ii) of this section. This option for an affected unit takes effect on the date a final performance specification for an HCl CEMS is published in the FEDERAL REGISTER or the date of approval of a site-specific monitoring plan.*

**IFG-Moyie Springs does not employ a HCl CEMS.**

*(16) If you demonstrate compliance with an applicable TSM emission limit through performance testing, and you plan to burn a new type of fuel or a new mixture of fuels, you must recalculate the maximum TSM input using Equation 9 of §63.7530. If the results of recalculating the maximum TSM input using Equation 9 of §63.7530 are higher than the maximum total selected input level established during the previous performance test, then you must conduct a new performance test within 60 days of burning the new fuel type or fuel mixture according to the procedures in §63.7520 to demonstrate that the TSM emissions do not exceed the emission limit. You must also establish new operating limits based on this performance test according to the procedures in §63.7530(b). You are not required to conduct fuel analyses for the fuels described in §63.7510(a)(2)(i) through (iii). You may exclude the fuels described in §63.7510(a)(2)(i) through (iii) when recalculating the TSM emission rate.*

**IFG-Moyie Springs will not burn a new type of fuel or fuel mixtures.**

*(17) If you demonstrate compliance with an applicable TSM emission limit through fuel analysis for solid or liquid fuels, and you plan to burn a new type of fuel, you must recalculate the TSM emission rate using Equation 18 of §63.7530 according to the procedures specified in paragraphs (a)(5)(i) through (iii) of this section. You are not required to conduct fuel analyses for the fuels described in §63.7510(a)(2)(i) through (iii). You may exclude the fuels described in §63.7510(a)(2)(i) through (iii) when recalculating the TSM emission rate.*

**IFG-Moyie Springs will not burn a new type of fuel.**

*(18) If you demonstrate continuous PM emissions compliance with a PM CPMS you will use a PM CPMS to establish a site-specific operating limit corresponding to the results of the performance test demonstrating compliance with the PM limit. You will conduct your performance test using the test method criteria in Table 5 of this subpart. You will use the PM CPMS to demonstrate continuous compliance with this operating limit. You must repeat the performance test annually and reassess and adjust the site-specific operating limit in accordance with the results of the performance test.*

**IFG-Moyie Springs does not employ a PM CPMS.**

*(19) If you choose to comply with the PM filterable emissions limit by using PM CEMS you must install, certify, operate, and maintain a PM CEMS and record the output of the PM CEMS as specified in paragraphs (a)(19)(i) through (vii) of this section. The compliance limit will be expressed as a 30-day rolling average of the numerical emissions limit value applicable for your unit in Tables 1 or 2 or 11 through 13 of this subpart.*

**IFG-Moyie Springs does not employ a PM CEMS.**

*(b) You must report each instance in which you did not meet each emission limit and operating limit in Tables 1 through 4 or 11 through 13 to this subpart that apply to you. These instances are deviations from the emission limits or operating limits, respectively, in this subpart. These deviations must be reported according to the requirements in §63.7550.*

**IFG-Moyie Springs will report deviations from emission limits or operating limits according to the requirements of §63.7550.**

*(c) If you elected to demonstrate that the unit meets the specification for mercury for the unit designed to burn gas 1 subcategory, you must follow the sampling frequency specified in paragraphs (c)(1) through (4) of this section and conduct this sampling according to the procedures in §63.7521(f) through (i).*

**The IFG-Moyie Springs boiler is not a unit designed to burn gas 1.**

*(d) For startup and shutdown, you must meet the work practice standards according to items 5 and 6 of Table 3 of this subpart.*

**IFG-Moyie Springs will meet the work practice standards of items 5 and 6 of Table 3 during startup and shutdown.**

*§63.7541 How do I demonstrate continuous compliance under the emissions averaging provision?*

**IFG-Moyie Springs will not use emissions averaging.**

*§63.7545 What notifications must I submit and when?*

*(a) You must submit to the Administrator all of the notifications in §§63.7(b) and (c), 63.8(e), (f)(4) and (6), and 63.9(b) through (h) that apply to you by the dates specified.*

**IFG-Moyie Springs will submit notifications of performance tests, quality assurance program, including submission of site-specific test plans, notification of performance evaluation of continuous monitoring systems, requests for alternative monitoring procedures or relative accuracy tests (if necessary), initial notification of when the Kipper and Sons boiler becomes subject to this rule, and notification of compliance status.**

*(b) As specified in §63.9(b)(2), if you startup your affected source before January 31, 2013, you must submit an Initial Notification not later than 120 days after January 31, 2013.*

**IFG-Moyie Springs will become a major source upon issuance of a Permit to Construct P-2012.0034 modification. Therefore, the boiler was not an affected source before January 31, 2013.**

*(c) As specified in §63.9(b)(4) and (5), if you startup your new or reconstructed affected source on or after January 31, 2013, you must submit an Initial Notification not later than 15 days after the actual date of startup of the affected source.*

**The IFG-Moyie Springs boiler is not a new or reconstructed source.**

*(d) If you are required to conduct a performance test you must submit a Notification of Intent to conduct a performance test at least 60 days before the performance test is scheduled to begin.*

**IFG-Moyie Springs will submit a test plan and notification of intent to conduct a performance test at least 60 days before the performance test.**

*(e) If you are required to conduct an initial compliance demonstration as specified in §63.7530, you must submit a Notification of Compliance Status according to §63.9(h)(2)(ii). For the initial compliance demonstration for each boiler or process heater, you must submit the Notification of Compliance Status, including all performance test results and fuel analyses, before the close of business on the 60th day following the completion of all performance test and/or other initial compliance demonstrations for all boiler or process heaters at the facility according to §63.10(d)(2). The Notification of Compliance Status report must contain all the information specified in paragraphs (e)(1) through (8) of this section, as applicable. If you are not required to conduct an initial compliance demonstration as specified in §63.7530(a), the Notification of Compliance Status must only contain the information specified in paragraphs (e)(1) and (8) of this section and must be submitted within 60 days of the compliance date specified at §63.7495(b).*

**IFG-Moyie Springs will submit a Notification of Compliance Status according to §63.9(h)(2)(ii) within 60 days of completion of performance testing on the Kipper and Sons boiler. The Notification of Compliance Status will contain the information specified in this section.**

*(1) A description of the affected unit(s) including identification of which subcategories the unit is in, the design heat input capacity of the unit, a description of the add-on controls used on the unit to comply with this subpart, description of the fuel(s) burned, including whether the fuel(s) were a secondary material determined by you or the EPA through a petition process to be a non-waste under §241.3 of this chapter, whether the fuel(s) were a secondary material processed from discarded non-hazardous secondary materials within the meaning of §241.3 of this chapter, and justification for the selection of fuel(s) burned during the compliance demonstration.*

*(2) Summary of the results of all performance tests and fuel analyses, and calculations conducted to demonstrate initial compliance including all established operating limits, and including:*

*(i) Identification of whether you are complying with the PM emission limit or the alternative TSM emission limit.*

*(ii) Identification of whether you are complying with the output-based emission limits or the heat input-based (i.e., lb/MMBtu or ppm) emission limits,*

*(iii) Identification of whether you are complying the arithmetic mean of all valid hours of data from the previous 30 operating days or of the previous 720 hours. This identification shall be specified separately for each operating parameter.*

*(3) A summary of the maximum CO emission levels recorded during the performance test to show that you have met any applicable emission standard in Tables 1, 2, or 11 through 13 to this subpart, if you are not using a CO CEMS to demonstrate compliance.*

*(4) Identification of whether you plan to demonstrate compliance with each applicable emission limit through performance testing, a CEMS, or fuel analysis.*

*(5) Identification of whether you plan to demonstrate compliance by emissions averaging and identification of whether you plan to demonstrate compliance by using efficiency credits through energy conservation:*

*(i) If you plan to demonstrate compliance by emission averaging, report the emission level that was being achieved or the control technology employed on January 31, 2013.*

*(ii) [Reserved]*

*(6) A signed certification that you have met all applicable emission limits and work practice standards.*

*(7) If you had a deviation from any emission limit, work practice standard, or operating limit, you must also submit a description of the deviation, the duration of the deviation, and the corrective action taken in the Notification of Compliance Status report.*

*(8) In addition to the information required in §63.9(h)(2), your notification of compliance status must include the following certification(s) of compliance, as applicable, and signed by a responsible official:*

*(i) "This facility completed the required initial tune-up for all of the boilers and process heaters covered by 40 CFR part 63 subpart DDDDD at this site according to the procedures in §63.7540(a)(10)(i) through (vi)."*

*(ii) "This facility has had an energy assessment performed according to §63.7530(e)."*

*(iii) Except for units that burn only natural gas, refinery gas, or other gas 1 fuel, or units that qualify for a statutory exemption as provided in section 129(g)(1) of the Clean Air Act, include the following: "No secondary materials that are solid waste were combusted in any affected unit."*

*(f) If you operate a unit designed to burn natural gas, refinery gas, or other gas 1 fuels that is subject to this subpart, and you intend to use a fuel other than natural gas, refinery gas, gaseous fuel subject to another subpart of this part, part 60, 61, or 65, or other gas 1 fuel to fire the affected unit during a period of natural gas curtailment or supply interruption, as defined in §63.7575, you must submit a notification of alternative fuel use within 48 hours of the declaration of each period of natural gas curtailment or supply interruption, as defined in §63.7575. The notification must include the information specified in paragraphs (f)(1) through (5) of this section.*

**The IFG-Moyie Springs boiler is not designed to burn gas.**

*(g) If you intend to commence or recommence combustion of solid waste, you must provide 30 days prior notice of the date upon which you will commence or recommence combustion of solid waste. The notification must identify:*

**IFG-Moyie Springs will not combust solid waste.**

*(h) If you have switched fuels or made a physical change to the boiler or process heater and the fuel switch or physical change resulted in the applicability of a different subcategory, you must provide notice of the date upon which you switched fuels or made the physical change within 30 days of the switch/change. The notification must identify:*

**IFG-Moyie Springs will submit notification if there are any fuel or physical changes made to the boiler that would result in the applicability of a different subcategory.**

**§63.7550 What reports must I submit and when?**

*(a) You must submit each report in Table 9 to this subpart that applies to you.*

**IFG-Moyie Springs will submit the compliance report in Table 9 with the Idaho Tier I Air Operating Permit semiannual reports.**

*(b) Unless the EPA Administrator has approved a different schedule for submission of reports under §63.10(a), you must submit each report, according to paragraph (h) of this section, by the date in Table 9 to this subpart and according to the requirements in paragraphs (b)(1) through (4) of this section. For units that are subject only to a requirement to conduct subsequent annual, biennial, or 5-year tune-up according to §63.7540(a)(10), (11), or (12), respectively, and not subject to emission limits or Table 4 operating limits, you may submit only an annual, biennial, or 5-year compliance report, as applicable, as specified in paragraphs (b)(1) through (4) of this section, instead of a semi-annual compliance report.*

**IFG-Moyie Springs will submit semiannual reports with the Tier I permit reports. Tier I semiannual reports are due by July 30 and January 30.**

*(1) The first semi-annual compliance report must cover the period beginning on the compliance date that is specified for each boiler or process heater in §63.7495 and ending on June 30 or December 31, whichever date is the first date that occurs at least 180 days after the compliance date that is specified for your source in §63.7495. If submitting an annual, biennial, or 5-year compliance report, the first compliance report must cover the period beginning on the compliance date that is specified for each boiler or process heater in §63.7495 and ending on December 31 within 1, 2, or 5 years, as applicable, after the compliance date that is specified for your source in §63.7495.*

*(2) The first semi-annual compliance report must be postmarked or submitted no later than July 31 or January 31, whichever date is the first date following the end of the first calendar half after the compliance date that is specified for each boiler or process heater in §63.7495. The first annual, biennial, or 5-year compliance report must be postmarked or submitted no later than January 31.*

*(3) Each subsequent semi-annual compliance report must cover the semiannual reporting period from January 1 through June 30 or the semiannual reporting period from July 1 through December 31. Annual, biennial, and 5-year compliance reports must cover the applicable 1-, 2-, or 5-year periods from January 1 to December 31.*

*(4) Each subsequent semi-annual compliance report must be postmarked or submitted no later than July 31 or January 31, whichever date is the first date following the end of the semiannual reporting period. Annual, biennial, and 5-year compliance reports must be postmarked or submitted no later than January 31.*

*(5) For each affected source that is subject to permitting regulations pursuant to part 70 or part 71 of this chapter, and if the permitting authority has established dates for submitting semiannual reports pursuant to 70.6(a)(3)(iii)(A) or 71.6(a)(3)(iii)(A), you may submit the first and subsequent compliance reports according to the dates the permitting authority has established in the permit instead of according to the dates in paragraphs (b)(1) through (4) of this section.*

**IFG-Moyie Springs will submit semiannual reports with the Tier I permit reports. Tier I semiannual reports are due by July 30 and January 30.**

*(c) A compliance report must contain the following information depending on how the facility chooses to comply with the limits set in this rule.*

**IFG-Moyie Springs will include the relevant information in this section in the semiannual compliance reports.**

*(1) If the facility is subject to the requirements of a tune up you must submit a compliance report with the information in paragraphs (c)(5)(i) through (iii) of this section, (xiv) and (xvii) of this section, and paragraph (c)(5)(iv) of this section for limited-use boiler or process heater.*

*(2) If you are complying with the fuel analysis you must submit a compliance report with the information in paragraphs (c)(5)(i) through (iii), (vi), (x), (xi), (xiii), (xv), (xvii), (xviii) and paragraph (d) of this section.*

*(3) If you are complying with the applicable emissions limit with performance testing you must submit a compliance report with the information in (c)(5)(i) through (iii), (vi), (vii), (viii), (ix), (xi), (xiii), (xv), (xvii), (xviii) and paragraph (d) of this section.*

*(4) If you are complying with an emissions limit using a CMS the compliance report must contain the information required in paragraphs (c)(5)(i) through (iii), (v), (vi), (xi) through (xiii), (xv) through (xviii), and paragraph (e) of this section.*

*(5)(i) Company and Facility name and address.*

*(ii) Process unit information, emissions limitations, and operating parameter limitations.*

*(iii) Date of report and beginning and ending dates of the reporting period.*

*(iv) The total operating time during the reporting period.*

*(v) If you use a CMS, including CEMS, COMS, or CPMS, you must include the monitoring equipment manufacturer(s) and model numbers and the date of the last CMS certification or audit.*

*(vi) The total fuel use by each individual boiler or process heater subject to an emission limit within the reporting period, including, but not limited to, a description of the fuel, whether the fuel has received a non-waste determination by the EPA or your basis for concluding that the fuel is not a waste, and the total fuel usage amount with units of measure.*

*(vii) If you are conducting performance tests once every 3 years consistent with §63.7515(b) or (c), the date of the last 2 performance tests and a statement as to whether there have been any operational changes since the last performance test that could increase emissions.*

*(viii) A statement indicating that you burned no new types of fuel in an individual boiler or process heater subject to an emission limit. Or, if you did burn a new type of fuel and are subject to a HCl emission limit, you must submit the calculation of chlorine input, using Equation 7 of §63.7530, that demonstrates that your source is still within its maximum chlorine input level established during the previous performance testing (for sources that demonstrate compliance through performance testing) or you must submit the calculation of HCl emission rate using Equation 16 of §63.7530 that demonstrates that your source is still meeting the emission limit for HCl emissions (for boilers or process heaters that demonstrate compliance through fuel analysis). If you burned a new type of fuel and are subject to a mercury emission limit, you must submit the calculation of mercury input, using Equation 8 of §63.7530, that demonstrates that your source is still within its maximum mercury input level established during the previous performance testing (for sources that demonstrate compliance through performance testing), or you must submit the calculation of mercury emission rate using Equation 17 of §63.7530 that demonstrates that your source is still meeting the emission limit for mercury emissions (for boilers or process heaters that demonstrate compliance through fuel analysis). If you burned a new type of fuel and are subject to a TSM emission limit, you must submit the calculation of TSM input, using Equation 9 of §63.7530, that demonstrates that your source is still within its maximum TSM input level established during the previous performance testing (for sources that demonstrate compliance through performance testing), or you must submit the calculation of TSM emission rate, using Equation 18 of §63.7530, that demonstrates that your source is still meeting the emission limit for TSM emissions (for boilers or process heaters that demonstrate compliance through fuel analysis).*

*(ix) If you wish to burn a new type of fuel in an individual boiler or process heater subject to an emission limit and you cannot demonstrate compliance with the maximum chlorine input operating limit using Equation 7 of §63.7530 or the maximum mercury input operating limit using Equation 8 of §63.7530, or the maximum TSM input operating limit using Equation 9 of §63.7530 you must include in the compliance report a statement indicating the intent to conduct a new performance test within 60 days of starting to burn the new fuel.*

*(x) A summary of any monthly fuel analyses conducted to demonstrate compliance according to §§63.7521 and 63.7530 for individual boilers or process heaters subject to emission limits, and any fuel specification analyses conducted according to §§63.7521(f) and 63.7530(g).*

*(xi) If there are no deviations from any emission limits or operating limits in this subpart that apply to you, a statement that there were no deviations from the emission limits or operating limits during the reporting period.*

*(xii) If there were no deviations from the monitoring requirements including no periods during which the CMSs, including CEMS, COMS, and CPMS, were out of control as specified in §63.8(c)(7), a statement that there were no deviations and no periods during which the CMS were out of control during the reporting period.*

*(xiii) If a malfunction occurred during the reporting period, the report must include the number, duration, and a brief description for each type of malfunction which occurred during the reporting period 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 you during a malfunction of a boiler, process heater, or associated air pollution control device or CMS to minimize emissions in accordance with §63.7500(a)(3), including actions taken to correct the malfunction.*

*(xiv) Include the date of the most recent tune-up for each unit subject to only the requirement to conduct an annual, biennial, or 5-year tune-up according to §63.7540(a)(10), (11), or (12) respectively. Include the date of the most recent burner inspection if it was not done annually, biennially, or on a 5-year period and was delayed until the next scheduled or unscheduled unit shutdown.*

*(xv) If you plan to demonstrate compliance by emission averaging, certify the emission level achieved or the control technology employed is no less stringent than the level or control technology contained in the notification of compliance status in §63.7545(e)(5)(i).*

*(xvi) For each reporting period, the compliance reports must include all of the calculated 30 day rolling average values for CEMS (CO, HCl, SO2, and mercury), 10 day rolling average values for CO CEMS when the limit is expressed as a 10 day instead of 30 day rolling average, and the PM CPMS data.*

*(xvii) Statement by a responsible official with that official's name, title, and signature, certifying the truth, accuracy, and completeness of the content of the report.*

*(xviii) For each instance of startup or shutdown include the information required to be monitored, collected, or recorded according to the requirements of §63.7555(d).*

*(d) For each deviation from an emission limit or operating limit in this subpart that occurs at an individual boiler or process heater where you are not using a CMS to comply with that emission limit or operating limit, or from the work practice standards for periods if startup and shutdown, the compliance report must additionally contain the information required in paragraphs (d)(1) through (3) of this section.*

**If a deviation from an emission limit, operating limit, or work practice standard occurs, IFG-Moyie Springs will report the following:**

*(1) A description of the deviation and which emission limit, operating limit, or work practice standard from which you deviated.*

*(2) Information on the number, duration, and cause of deviations (including unknown cause), as applicable, and the corrective action taken.*

*(3) If the deviation occurred during an annual performance test, provide the date the annual performance test was completed.*

*(e) For each deviation from an emission limit, operating limit, and monitoring requirement in this subpart occurring at an individual boiler or process heater where you are using a CMS to comply with that emission limit or operating limit, the compliance report must additionally contain the information required in paragraphs (e)(1) through (9) of this section. This includes any deviations from your site-specific monitoring plan as required in §63.7505(d).*

**If a deviation from an emission limit, operating limit, and monitoring requirement occurs, or if any deviations from the site-specific monitoring plan occurs, IFG-Moyie Springs will report the following:**

*(1) The date and time that each deviation started and stopped and description of the nature of the deviation (i.e., what you deviated from).*

*(2) The date and time that each CMS was inoperative, except for zero (low-level) and high-level checks.*

*(3) The date, time, and duration that each CMS was out of control, including the information in §63.8(c)(8).*

*(4) The date and time that each deviation started and stopped.*

*(5) A summary of the total duration of the deviation during the reporting period and the total duration as a percent of the total source operating time during that reporting period.*

*(6) A characterization of the total duration of the deviations during the reporting period into those that are due to control equipment problems, process problems, other known causes, and other unknown causes.*

*(7) A summary of the total duration of CMS's downtime during the reporting period and the total duration of CMS downtime as a percent of the total source operating time during that reporting period.*

*(8) A brief description of the source for which there was a deviation.*

*(9) A description of any changes in CMSs, processes, or controls since the last reporting period for the source for which there was a deviation.*

*(f)-(g) [Reserved]*

*(h) You must submit the reports according to the procedures specified in paragraphs (h)(1) through (3) of this section.*

**IFG-Moyie Springs will submit reports according to this section.**

*(1) Within 60 days after the date of completing each performance test (as defined in §63.2) required by this subpart, you must submit the results of the performance tests, including any fuel analyses, following the procedure specified in either paragraph (h)(1)(i) or (ii) of this section.*

**IFG-Moyie Springs will submit performance test results to EPA and IDEQ through the ERT/CEDRI/CDX within 60 days after the date of completing each performance test.**

*(i) For data collected using test methods supported by the EPA's Electronic Reporting Tool (ERT) as listed on the EPA's ERT Web site (http://www.epa.gov/ttn/chief/ert/index.html), you must submit the results of the performance test to the EPA via the Compliance and Emissions Data Reporting Interface (CEDRI). (CEDRI can be accessed through the EPA's Central Data Exchange (CDX) (https://cdx.epa.gov/).) Performance test data must be submitted in a file format generated through use of the EPA's ERT or an electronic file format consistent with the extensible markup language (XML) schema listed on the EPA's ERT Web site. If you claim that some of the performance test information being submitted is confidential business information (CBI), you must submit a complete file generated through the use of the EPA's ERT or an alternate electronic file consistent with the XML schema listed on the EPA's ERT Web site, including information claimed to be CBI, on a compact disc, flash drive, or other commonly used electronic storage media to the EPA. The electronic media must be clearly marked as CBI and mailed to U.S. EPA/OAPQS/CORE CBI Office, Attention: Group Leader, Measurement Policy Group, MD C404-02, 4930 Old Page Rd., Durham, NC 27703. The same ERT or alternate file with the CBI omitted must be submitted to the EPA via the EPA's CDX as described earlier in this paragraph.*

*(ii) For data collected using test methods that are not supported by the EPA's ERT as listed on the EPA's ERT Web site at the time of the test, you must submit the results of the performance test to the Administrator at the appropriate address listed in §63.13.*

*(2) Within 60 days after the date of completing each CEMS performance evaluation (as defined in 63.2), you must submit the results of the performance evaluation following the procedure specified in either paragraph (h)(2)(i) or (ii) of this section.*

**IFG-Moyie Springs does not employ any CEMS.**

*(3) You must submit all reports required by Table 9 of this subpart electronically to the EPA via the CEDRI. (CEDRI can be accessed through the EPA's CDX.) You must use the appropriate electronic report in CEDRI for this subpart. Instead of using the electronic report in CEDRI for this subpart, you may submit an alternate electronic file consistent with the XML schema listed on the CEDRI Web site (http://www.epa.gov/ttn/chief/cedri/index.html), once the XML schema is available. If the reporting form specific to this subpart is not available in CEDRI at the time that the report is due, you must submit the report to the Administrator at the appropriate address listed in §63.13. You must begin submitting reports via CEDRI no later than 90 days after the form becomes available in CEDRI.*

**IFG-Moyie Springs will submit the semiannual compliance report required by Table 9 to EPA via the CEDRI.**

*§63.7555 What records must I keep?*

*(a) You must keep records according to paragraphs (a)(1) and (2) of this section.*

*(1) A copy of each notification and report that you submitted to comply with this subpart, including all documentation supporting any Initial Notification or Notification of Compliance Status or semiannual compliance report that you submitted, according to the requirements in §63.10(b)(2)(xiv).*

**IFG-Moyie Springs will maintain copies of each notification and report submitted to comply with this subpart, including supporting documentation.**

*(2) Records of performance tests, fuel analyses, or other compliance demonstrations and performance evaluations as required in §63.10(b)(2)(viii).*

**IFG-Moyie Springs will maintain records of performance tests, fuel analyses, and other compliance demonstrations and performance evaluations.**

*(3) For units in the limited use subcategory, you must keep a copy of the federally enforceable permit that limits the annual capacity factor to less than or equal to 10 percent and fuel use records for the days the boiler or process heater was operating.*

*(b) For each CEMS, COMS, and continuous monitoring system you must keep records according to paragraphs (b)(1) through (5) of this section.*

*(1) Records described in §63.10(b)(2)(vii) through (xi).*

**IFG-Moyie Springs will maintain records of COMS data, oxygen analyzer data, steam load data, and results of performance evaluations, calibration checks, adjustments and maintenance on these monitoring systems.**

*(2) Monitoring data for continuous opacity monitoring system during a performance evaluation as required in §63.6(h)(7)(i) and (ii).*

**IFG-Moyie Springs will maintain records of COMS data recorded during performance evaluations.**

*(3) Previous (i.e., superseded) versions of the performance evaluation plan as required in §63.8(d)(3).*

**IFG-Moyie Springs will maintain copies of superseded versions of performance evaluation plans for the COMS, oxygen analyzer and steam load monitor for five years after each revision to the plan.**

*(4) Request for alternatives to relative accuracy test for CEMS as required in §63.8(f)(6)(i).*

**IFG-Moyie Springs does not employ CEMS.**

*(5) Records of the date and time that each deviation started and stopped.*

**IFG-Moyie Springs will maintain records of the date and time each deviation started and stopped.**

*(c) You must keep the records required in Table 8 to this subpart including records of all monitoring data and calculated averages for applicable operating limits, such as opacity, pressure drop, pH, and operating load, to show continuous compliance with each emission limit and operating limit that applies to you.*

**IFG-Moyie Springs will maintain records of all monitoring data and calculated averages for opacity, operating load, and oxygen level.**

*(d) For each boiler or process heater subject to an emission limit in Tables 1, 2, or 11 through 13 to this subpart, you must also keep the applicable records in paragraphs (d)(1) through (11) of this section.*

*(1) You must keep records of monthly fuel use by each boiler or process heater, including the type(s) of fuel and amount(s) used.*

**IFG-Moyie Springs will maintain records of fuel type and amount of fuel used by the Kipper and Sons boiler on a monthly basis.**

*(2) If you combust non-hazardous secondary materials that have been determined not to be solid waste pursuant to §241.3(b)(1) and (2) of this chapter, you must keep a record that documents how the secondary material meets each of the legitimacy criteria under §241.3(d)(1) of this chapter. If you combust a fuel that has been processed from a discarded non-hazardous secondary material pursuant to §241.3(b)(4) of this chapter, you must keep records as to how the operations that produced the fuel satisfy the definition of processing in §241.2 of this chapter. If the fuel received a non-waste determination pursuant to the petition process submitted under §241.3(c) of this chapter, you must keep a record that documents how the fuel satisfies the requirements of the petition process. For operating units that combust non-hazardous secondary materials as fuel per §241.4 of this chapter, you must keep records documenting that the material is listed as a non-waste under §241.4(a) of this chapter. Units exempt from the incinerator standards under section 129(g)(1) of the Clean Air Act because they are qualifying facilities burning a homogeneous waste stream do not need to maintain the records described in this paragraph (d)(2).*

**IFG-Moyie Springs does not combust secondary materials.**

*(3) A copy of all calculations and supporting documentation of maximum chlorine fuel input, using Equation 7 of §63.7530, that were done to demonstrate continuous compliance with the HCl emission limit, for sources that demonstrate compliance through performance testing. For sources that demonstrate compliance through fuel analysis, a copy of all calculations and supporting documentation of HCl emission rates, using Equation 16 of §63.7530, that were done to demonstrate compliance with the HCl emission limit. Supporting documentation should include results of any fuel analyses and basis for the estimates of maximum chlorine fuel input or HCl emission rates. You can use the results from one fuel analysis for multiple boilers and process heaters provided they are all burning the same fuel type. However, you must calculate chlorine fuel input, or HCl emission rate, for each boiler and process heater.*

**IFG-Moyie Springs will demonstrate compliance with the HCl emission limit through stack testing. Since only one type of fuel is combusted in the Kipper and Sons boiler, fuel analysis is not required (see §63.7510(a)(2) and §63.7530(a)).**

*(4) A copy of all calculations and supporting documentation of maximum mercury fuel input, using Equation 8 of §63.7530, that were done to demonstrate continuous compliance with the mercury emission limit for sources that demonstrate compliance through performance testing. For sources that demonstrate compliance through fuel analysis, a copy of all calculations and supporting documentation of mercury emission rates, using Equation 17 of §63.7530, that were done to demonstrate compliance with the mercury emission limit. Supporting documentation should include results of any fuel analyses and basis for the estimates of maximum mercury fuel input or mercury emission rates. You can use the results from one fuel analysis for multiple boilers and process heaters provided they are all burning the same fuel type. However, you must calculate mercury fuel input, or mercury emission rates, for each boiler and process heater.*

**IFG-Moyie Springs will demonstrate compliance with the Hg emission limit through stack testing. Since only one type of fuel is combusted in the Kipper and Sons boiler, fuel analysis is not required (see §63.7510(a)(2) and §63.7530(a)).**

*(5) If, consistent with §63.7515(b), you choose to stack test less frequently than annually, you must keep a record that documents that your emissions in the previous stack test(s) were less than 75 percent of the applicable emission limit (or, in specific instances noted in Tables 1 and 2 or 11 through 13 to this subpart, less than the applicable emission limit), and document that there was no change in source operations including fuel composition and operation of air pollution control equipment that would cause emissions of the relevant pollutant to increase within the past year.*

**If IFG-Moyie Springs meets the reduced stack testing frequency thresholds, IFG-Moyie Springs will maintain records documenting that the Kipper and Sons boiler emissions met the applicability threshold for reduced testing during at least two prior consecutive stack tests. Documentation will include information that shows no changes to fuel composition or boiler or air pollution control equipment operation occurred.**

*(6) Records of the occurrence and duration of each malfunction of the boiler or process heater, or of the associated air pollution control and monitoring equipment.*

**IFG-Moyie Springs will maintain records of the occurrence and duration of each malfunction of the Kipper and Sons boiler, ESP, COMS, oxygen analyzer, and steam load monitor.**

*(7) Records of actions taken during periods of malfunction to minimize emissions in accordance with the general duty to minimize emissions in §63.7500(a)(3), including corrective actions to restore the malfunctioning boiler or process heater, air pollution control, or monitoring equipment to its normal or usual manner of operation.*

**IFG-Moyie Springs will maintain records of actions taken during periods of malfunction to minimize emissions, including corrective actions.**

*(8) A copy of all calculations and supporting documentation of maximum TSM fuel input, using Equation 9 of §63.7530, that were done to demonstrate continuous compliance with the TSM emission limit for sources that demonstrate compliance through performance testing. For sources that demonstrate compliance through fuel analysis, a copy of all calculations and supporting documentation of TSM emission rates, using Equation 18 of §63.7530, that were done to demonstrate compliance with the TSM emission limit. Supporting documentation should include results of any fuel analyses and basis for the estimates of maximum TSM fuel input or TSM emission rates. You can use the results from one fuel analysis for multiple boilers and process heaters provided they are all burning the same fuel type. However, you must calculate TSM fuel input, or TSM emission rates, for each boiler and process heater.*

**IFG-Moyie Springs will demonstrate compliance with the TSM emission limit through stack testing. Since only one type of fuel is combusted in the Kipper and Sons boiler, fuel analysis is not required (see §63.7510(a)(2) and §63.7530(a)).**

*(9) You must maintain records of the calendar date, time, occurrence and duration of each startup and shutdown.*

**IFG-Moyie Springs will maintain records of the calendar date, time, occurrence and duration of each startup and shutdown.**

*(10) You must maintain records of the type(s) and amount(s) of fuels used during each startup and shutdown.*

**IFG-Moyie Springs will maintain records of the type and amount of fuel used during each startup and shutdown.**

*(11) For each startup period, for units selecting paragraph (2) of the definition of "startup" in §63.7575 you must maintain records of the time that clean fuel combustion begins; the time when you start feeding fuels that are not clean fuels; the time when useful thermal energy is first supplied; and the time when the PM controls are engaged.*

**If IFG-Moyie Springs selects paragraph (2) of the startup definition, IFG-Moyie Springs will maintain records of the time that clean fuel combustion begins, the time when wet biomass (not a clean fuel) is first fed to the boiler, the time when useful thermal energy is first supplied, and the time when PM control is engaged.**

*(12) If you choose to rely on paragraph (2) of the definition of "startup" in §63.7575, for each startup period, you must maintain records of the hourly steam temperature, hourly steam pressure, hourly steam flow, hourly flue gas temperature, and all hourly average CMS data (e.g., CEMS, PM CPMS, COMS, ESP total secondary electric power input, scrubber pressure drop, scrubber liquid flow rate) collected during each startup period to confirm that the control devices are engaged. In addition, if compliance with the PM emission limit is demonstrated using a PM control device, you must maintain records as specified in paragraphs (d)(12)(i) through (iii) of this section.*

**If IFG-Moyie Springs selects paragraph (2) of the startup definition, IFG-Moyie Springs will maintain records of the hourly steam temperature, hourly steam pressure, hourly steam flow, hourly flue gas temperature, and hourly average COMS and oxygen analyzer data during each startup period.**

*(i) For a boiler or process heater with an electrostatic precipitator, record the number of fields in service, as well as each field's secondary voltage and secondary current during each hour of startup.*

**If IFG-Moyie Springs selects paragraph (2) of the startup definition, IFG-Moyie Springs will maintain records of the number of ESP fields in service and each field's secondary voltage and secondary current during each hour of startup.**

*(ii) For a boiler or process heater with a fabric filter, record the number of compartments in service, as well as the differential pressure across the baghouse during each hour of startup.*

**IFG-Moyie Springs boiler emissions are not controlled by a baghouse.**

*(iii) For a boiler or process heater with a wet scrubber needed for filterable PM control, record the scrubber's liquid flow rate and the pressure drop during each hour of startup.*

**IFG-Moyie Springs boiler emissions are not controlled by a wet scrubber.**

*(13) If you choose to use paragraph (2) of the definition of "startup" in §63.7575 and you find that you are unable to safely engage and operate your PM control(s) within 1 hour of first firing of non-clean fuels, you may choose to rely on paragraph (1) of definition of "startup" in §63.7575 or you may submit to the delegated permitting authority a request for a variance with the PM controls requirement, as described below.*

**IFG-Moyie Springs will request a variance with the PM controls requirement according to the paragraphs below if deemed necessary.**

*(i) The request shall provide evidence of a documented manufacturer-identified safety issue.*

*(ii) The request shall provide information to document that the PM control device is adequately designed and sized to meet the applicable PM emission limit.*

*(iii) In addition, the request shall contain documentation that:*

*(A) The unit is using clean fuels to the maximum extent possible to bring the unit and PM control device up to the temperature necessary to alleviate or prevent the identified safety issues prior to the combustion of primary fuel;*

*(B) The unit has explicitly followed the manufacturer's procedures to alleviate or prevent the identified safety issue; and*

*(C) Identifies with specificity the details of the manufacturer's statement of concern.*

*(iv) You must comply with all other work practice requirements, including but not limited to data collection, recordkeeping, and reporting requirements.*

*(e) If you elect to average emissions consistent with §63.7522, you must additionally keep a copy of the emission averaging implementation plan required in §63.7522(g), all calculations required under §63.7522, including monthly records of heat input or steam generation, as applicable, and monitoring records consistent with §63.7541.*

**IFG-Moyie Springs does not elect to average emissions.**

*(f) If you elect to use efficiency credits from energy conservation measures to demonstrate compliance according to §63.7533, you must keep a copy of the Implementation Plan required in §63.7533(d) and copies of all data and calculations used to establish credits according to §63.7533(b), (c), and (f).*

**IFG-Moyie Springs does not elect to use efficiency credits.**

*(g) If you elected to demonstrate that the unit meets the specification for mercury for the unit designed to burn gas 1 subcategory, you must maintain monthly records (or at the frequency required by §63.7540(c)) of the calculations and results of the fuel specification for mercury in Table 6.*

**The IFG-Moyie Springs Kipper and Sons boiler is not designed to burn gas.**

*(h) If you operate a unit in the unit designed to burn gas 1 subcategory that is subject to this subpart, and you use an alternative fuel other than natural gas, refinery gas, gaseous fuel subject to another subpart under this part, other gas 1 fuel, or gaseous fuel subject to another subpart of this part or part 60, 61, or 65, you must keep records of the total hours per calendar year that alternative fuel is burned and the total hours per calendar year that the unit operated during periods of gas curtailment or gas supply emergencies.*

**The IFG-Moyie Springs Kipper and Sons boiler is not designed to burn gas.**

*§63.7560 In what form and how long must I keep my records?*

*(a) Your records must be in a form suitable and readily available for expeditious review, according to §63.10(b)(1).*

**IFG-Moyie Springs will maintain records in a form suitable and readily available for expeditious review.**

*(b) As specified in §63.10(b)(1), you must keep each record for 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record.*

**IFG-Moyie Springs will maintain records for 5 years following the date of each event.**

*(c) You must keep each record on site, or they must be accessible from on site (for example, through a computer network), for at least 2 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record, according to §63.10(b)(1). You can keep the records off site for the remaining 3 years.*

**IFG-Moyie Springs will maintain required records on site for at least 2 years from the date of each event.**

*§63.7565 What parts of the General Provisions apply to me?*

*Table 10 to this subpart shows which parts of the General Provisions in §§63.1 through 63.15 apply to you.*

**IFG-Moyie Spring will comply with the General Provisions according to Table 10.**

*§63.7570 Who implements and enforces this subpart?*

**IFG-Moyie Springs acknowledges the implementing and enforcing authority of this subpart.**

*§63.7575 What definitions apply to this subpart?*

**IFG-Moyie Springs acknowledges and understands these definitions. Key definitions are highlighted.**

*30-day rolling average means the arithmetic mean of the previous 720 hours of valid CO CEMS data. The 720 hours should be consecutive, but not necessarily continuous if operations were intermittent. For parameters other than CO, 30-day rolling average means either the arithmetic mean of all valid hours of data from 30 successive operating days or the arithmetic mean of the previous 720 hours of valid operating data. Valid data excludes hours during startup and shutdown, data collected during periods when the monitoring system is out of control as specified in your site-specific monitoring plan, while conducting repairs associated with periods when the monitoring system is out of control, or while conducting required monitoring system quality assurance or quality control activities, and periods when this unit is not operating.*

*Annual heat input means the heat input for the 12 months preceding the compliance demonstration.*

*Biomass or bio-based solid fuel means any biomass-based solid fuel that is not a solid waste. This includes, but is not limited to, wood residue; wood products (e.g., trees, tree stumps, tree limbs, bark, lumber, sawdust, sander dust, chips, scraps, slabs, millings, and shavings); animal manure, including litter and other bedding materials; vegetative agricultural and silvicultural materials, such as logging residues (slash), nut and grain hulls and chaff (e.g., almond, walnut, peanut, rice, and wheat), bagasse, orchard prunings, corn stalks, coffee bean hulls and grounds. This definition of biomass is not intended to suggest that these materials are or are not solid waste.*

*Boiler means an enclosed device using controlled flame combustion and having the primary purpose of recovering thermal energy in the form of steam or hot water. Controlled flame combustion refers to a steady-state, or near steady-state, process wherein fuel and/or oxidizer feed rates are controlled. A device combusting solid waste, as defined in §241.3 of this chapter, is not a boiler unless the device is exempt from the definition of a solid waste incineration unit as provided in section 129(g)(1) of the Clean Air Act. Waste heat boilers are excluded from this definition.*

*Boiler system means the boiler and associated components, such as, the feed water system, the combustion air system, the fuel system (including burners), blowdown system, combustion control systems, steam systems, and condensate return systems.*

*Calendar year means the period between January 1 and December 31, inclusive, for a given year.*

*Clean dry biomass means any biomass-based solid fuel that have not been painted, pigment-stained, or pressure treated, does not contain contaminants at concentrations not normally associated with virgin biomass materials and has a moisture content of less than 20 percent and is not a solid waste.*

*Deviation. (1) Deviation means any instance in which an affected source subject to this subpart, or an owner or operator of such a source:*

*(i) Fails to meet any applicable requirement or obligation established by this subpart including, but not limited to, any emission limit, operating limit, or work practice standard; or*

*(ii) Fails to meet any term or condition that is adopted to implement an applicable requirement in this subpart and that is included in the operating permit for any affected source required to obtain such a permit.*

*(2) A deviation is not always a violation.*

*Electrostatic precipitator (ESP) means an add-on air pollution control device used to capture particulate matter by charging the particles using an electrostatic field, collecting the particles using a grounded collecting surface, and transporting the particles into a hopper. An electrostatic precipitator is usually a dry control system.*

*Energy assessment means the following for the emission units covered by this subpart:*

*(1) The energy assessment for facilities with affected boilers and process heaters with a combined heat input capacity of less than 0.3 trillion Btu (TBtu) per year will be 8 on-site technical labor hours in length maximum, but may be longer at the discretion of the owner or operator of the affected source. The boiler system(s), process heater(s), and any on-site energy use system(s) accounting for at least 50 percent of the affected boiler(s) energy (e.g., steam, hot water, process heat, or electricity) production, as applicable, will be evaluated to identify energy savings opportunities, within the limit of performing an 8-hour on-site energy assessment.*

*Energy use system includes the following systems located on-site that use energy (steam, hot water, or electricity) provided by the affected boiler or process heater: process heating; compressed air systems; machine drive (motors, pumps, fans); process cooling; facility heating, ventilation, and air-conditioning systems; hot water systems; building envelop; and lighting; or other systems that use steam, hot water, process heat, or electricity provided by the affected boiler or process heater. Energy use systems are only those systems using energy clearly produced by affected boilers and process heaters.*

*Federally enforceable means all limitations and conditions that are enforceable by the EPA Administrator, including, but not limited to, the requirements of 40 CFR parts 60, 61, 63, and 65, requirements within any applicable state implementation plan, and any permit requirements established under 40 CFR 52.21 or under 40 CFR 51.18 and 40 CFR 51.24.*

*Fuel type means each category of fuels that share a common name or classification. Examples include, but are not limited to, bituminous coal, sub-bituminous coal, lignite, anthracite, biomass, distillate oil, residual oil. Individual fuel types received from different suppliers are not considered new fuel types.*

*Heat input means heat derived from combustion of fuel in a boiler or process heater and does not include the heat input from preheated combustion air, recirculated flue gases, returned condensate, or exhaust gases from other sources such as gas turbines, internal combustion engines, kilns, etc.*

*Hourly average means the arithmetic average of at least four CMS data values representing the four 15-minute periods in an hour, or at least two 15-minute data values during an hour when CMS calibration, quality assurance, or maintenance activities are being performed.*

*Industrial boiler means a boiler used in manufacturing, processing, mining, and refining or any other industry to provide steam, hot water, and/or electricity.*

*Million Btu (MMBtu) means one million British thermal units.*

*Minimum oxygen level means the lowest hourly average oxygen level measured according to Table 7 to this subpart during the most recent performance test demonstrating compliance with the applicable emission limit.*

*Opacity means the degree to which emissions reduce the transmission of light and obscure the view of an object in the background.*

*Oxygen analyzer system means all equipment required to determine the oxygen content of a gas stream and used to monitor oxygen in the boiler or process heater flue gas, boiler or process heater, firebox, or other appropriate location. This definition includes oxygen trim systems. The source owner or operator must install, calibrate, maintain, and operate the oxygen analyzer system in accordance with the manufacturer's recommendations.*

*Oxygen trim system means a system of monitors that is used to maintain excess air at the desired level in a combustion device over its operating load range. A typical system consists of a flue gas oxygen and/or CO monitor that automatically provides a feedback signal to the combustion air controller or draft controller.*

*Particulate matter (PM) means any finely divided solid or liquid material, other than uncombined water, as measured by the test methods specified under this subpart, or an approved alternative method.*

*Qualified energy assessor means:*

*(1) Someone who has demonstrated capabilities to evaluate energy savings opportunities for steam generation and major energy using systems, including, but not limited to:*

*(i) Boiler combustion management.*

*(ii) Boiler thermal energy recovery, including*

*(A) Conventional feed water economizer,*

*(B) Conventional combustion air preheater, and*

*(C) Condensing economizer.*

*(iii) Boiler blowdown thermal energy recovery.*

*(iv) Primary energy resource selection, including*

*(A) Fuel (primary energy source) switching, and*

*(B) Applied steam energy versus direct-fired energy versus electricity.*

*(v) Insulation issues.*

*(vi) Steam trap and steam leak management.*

*(vi) Condensate recovery.*

*(viii) Steam end-use management.*

*(2) Capabilities and knowledge includes, but is not limited to:*

*(i) Background, experience, and recognized abilities to perform the assessment activities, data analysis, and report preparation.*

*(ii) Familiarity with operating and maintenance practices for steam or process heating systems.*

*(iii) Additional potential steam system improvement opportunities including improving steam turbine operations and reducing steam demand.*

*(iv) Additional process heating system opportunities including effective utilization of waste heat and use of proper process heating methods.*

*(v) Boiler-steam turbine cogeneration systems.*

*(vi) Industry specific steam end-use systems.*

*Responsible official means responsible official as defined in §70.2.*

*Rolling average means the average of all data collected during the applicable averaging period. For demonstration of compliance with a CO CEMS-based emission limit based on CO concentration a 30-day (10-day) rolling average is comprised of the average of all the hourly average concentrations over the previous 720 (240) operating hours calculated each operating day. To demonstrate compliance on a 30-day rolling average basis for parameters other than CO, you must indicate the basis of the 30-day rolling average period you are using for compliance, as discussed in §63.7545(e)(2)(iii). If you indicate the 30 operating day basis, you must calculate a new average value each operating day and shall include the measured hourly values for the preceding 30 operating days. If you select the 720 operating hours basis, you must average of all the hourly average concentrations over the previous 720 operating hours calculated each operating day.*

*Shutdown means the period in which cessation of operation of a boiler or process heater is initiated for any purpose. Shutdown begins when the boiler or process heater no longer supplies useful thermal energy (such as heat or steam) for heating, cooling, or process purposes and/or generates electricity or when no fuel is being fed to the boiler or process heater, whichever is earlier. Shutdown ends when the boiler or process heater no longer supplies useful thermal energy (such as steam or heat) for heating, cooling, or process purposes and/or generates electricity, and no fuel is being combusted in the boiler or process heater.*

*Solid fuel means any solid fossil fuel or biomass or bio-based solid fuel.*

*Startup means:*

*(1) Either the first-ever firing of fuel in a boiler or process heater for the purpose of supplying useful thermal energy for heating and/or producing electricity, or for any other purpose, or the firing of fuel in a boiler after a shutdown event for any purpose. Startup ends when any of the useful thermal energy from the boiler or process heater is supplied for heating, and/or producing electricity, or for any other purpose, or*

*(2) The period in which operation of a boiler or process heater is initiated for any purpose. Startup begins with either the first-ever firing of fuel in a boiler or process heater for the purpose of supplying useful thermal energy (such as steam or heat) for heating, cooling or process purposes, or producing electricity, or the firing of fuel in a boiler or process heater for any purpose after a shutdown event. Startup ends four hours after when the boiler or process heater supplies useful thermal energy (such as heat or steam) for heating, cooling, or process purposes, or generates electricity, whichever is earlier.*

*Steam output means:*

*(1) For a boiler that produces steam for process or heating only (no power generation), the energy content in terms of MMBtu of the boiler steam output,*

*Stoker means a unit consisting of a mechanically operated fuel feeding mechanism, a stationary or moving grate to support the burning of fuel and admit under-grate air to the fuel, an overfire air system to complete combustion, and an ash discharge system. This definition of stoker includes air swept stokers. There are two general types of stokers: Underfeed and overfeed. Overfeed stokers include mass feed and spreader stokers. Fluidized bed, dutch oven, pile burner, hybrid suspension grate, suspension burners, and fuel cells are not considered to be a stoker design.*

*Stoker/sloped grate/other unit designed to burn wet biomass means the unit is in the units designed to burn biomass/bio-based solid subcategory that is either a stoker, sloped grate, or other combustor design and any of the biomass/bio-based solid fuel combusted in the unit exceeds 20 percent moisture on an annual heat input basis.*

*Total selected metals (TSM) means the sum of the following metallic hazardous air pollutants: arsenic, beryllium, cadmium, chromium, lead, manganese, nickel and selenium.*

*Tune-up means adjustments made to a boiler or process heater in accordance with the procedures outlined in §63.7540(a)(10).*

*Unit designed to burn solid fuel subcategory means any boiler or process heater that burns only solid fuels or at least 10 percent solid fuel on an annual heat input basis in combination with liquid fuels or gaseous fuels.*

*Useful thermal energy means energy (i.e., steam, hot water, or process heat) that meets the minimum operating temperature, flow, and/or pressure required by any energy use system that uses energy provided by the affected boiler or process heater.*

*Work practice standard means any design, equipment, work practice, or operational standard, or combination thereof, that is promulgated pursuant to section 112(h) of the Clean Air Act.*

Detailed permit conditions will be added to the TV permit by amendment.

## Permit Conditions Review

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

Facility-wide

Permit Conditions 2.12 and 2.13 were added because the facility has requested a facility-wide VOC limit. Both the boiler and the kilns are limited to 91.2 tons of VOC per year. VOC is to be calculated from emission factors in Table 2.1. Monitoring and recordkeeping requirements are located in the Boiler and Kilns permit sections, respectively.

Permit condition 2.14 was changed from area source requirements to NESHAP, 40 CFR Part 63, Subpart DDDDD for major HAPs source requirements (Boiler MACT).

Boiler

Table 3.2 was updated with new $PM_{10}$ and CO limits and steam production limit raised to 544 million pounds of steam per year in Permit Condition 3.4. ESP operating, monitoring and recordkeeping requirements were added and references to the electrified filter bed were removed. A semiannual inspection was added in Permit Condition 3.10 to ensure continued adequate PM control by the ESP over time. The performance test requirement in Permit condition 3.12 was reinstated due to the new throughput and ESP control device. Permit condition 3.13 requires performance test results to be sent to DEQ within 60 days of completion. Permit condition 3.14 was changed from area source requirements to major HAPs source requirement found in 40 CFR Part 63, Subpart DDDDD.

Dry kilns

Table 4.2 was changed to represent the increased throughput. Permit Condition 4.5 production limit was increased to 214.3 million board feet per year.

Permit Condition 4.6 restricts annual kiln throughput of coastal hemlock to no greater than 107,150 million board feet/year (50% of the requested total allowable annual throughput) to ensure kiln loading supports emissions inventory to protect PM NAAQS. An average of hemlock and fir was utilized in the NAAQS modeling demonstration which justifies up to 50% of the higher PM emitting species: hemlock. The permit condition limits kiln loading of hemlock to no greater than 107,150 million board feet per year. The short term compliance with NAAQS was demonstrated by the applicant with no increase; however, the annual compliance was demonstrated with a 50/50 mix of hemlock and fir.

Permit Condition 4.7 was modified to remove HAPs tracking with the removal of HAPs limit, and daily calculation of percent hemlock was added to comply with NAAQS. Methanol and HAPs emission factors were also removed due to HAPs limit being removed.

## PUBLIC REVIEW

### *Public Comment Period*

A public comment period was made available to the public in accordance with IDAPA 58.01.01.209.01.c. During this time, comments were submitted in response to DEQ's proposed action. Refer to the chronology for public comment period dates.

A response to public comments document has been crafted by DEQ based on comments submitted during the public comment period. That document is part of the final permit package for this permitting action.

# APPENDIX A – EMISSIONS INVENTORIES

**IDAHO FOREST GROUP -- MOYIE SPRINGS, IDAHO**
**August 2017 PTC Application -- Emission Inventory/Calculations**

| | Proposed PTE with Baseline Emission Factors | | | | | | Baseline based on 2014-2016 | | | | | | Emissions Change | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | PM10 (ton/yr) | PM2.5 (ton/yr) | $SO_2$ (ton/yr) | NOx (ton/yr) | VOCs (ton/yr) | CO (ton/yr) | PM10 (ton/yr) | PM2.5 (ton/yr) | $SO_2$ (ton/yr) | NOx (ton/yr) | VOCs (ton/yr) | CO (ton/yr) | PM10 (ton/yr) | PM2.5 (ton/yr) | $SO_2$ (ton/yr) | NOx (ton/yr) | VOCs (ton/yr) | CO (ton/yr) |
| **Point Sources** | | | | | | | | | | | | | | | | | | |
| KIPPER & SONS HOG FUEL BOILER, EU#1 | 23.32 | 23.32 | 10.80 | 84.32 | 16.85 | 354 | 17.01 | 17.01 | 7.41 | 57.88 | 11.56 | 373.42 | 6.315 | 6.315 | 3.39 | 26.44 | 5.29 | -19.82 |
| EFB MEDIA BAGHOUSE EU#2 | 0.000 | 0.000 | --- | --- | --- | --- | 0.54 | 0.36 | --- | --- | --- | --- | -0.542 | -0.364 | --- | --- | --- | --- |
| LUMBER DRY KILNS, EU#7 | 4.072 | 3.536 | --- | --- | 74.35 | --- | 2.56 | 2.22 | --- | --- | 46.7 | --- | 1.516 | 1.317 | --- | --- | 27.63 | --- |
| Fuel Bin #1 and #2 Target Boxes, EU#8 and EU#9 | 0.868 | 0.434 | --- | --- | --- | --- | 0.545 | 0.272 | --- | --- | --- | --- | 0.323 | 0.162 | --- | --- | --- | --- |
| Hog Fuel Truck Bin TB, EY#10, 10% of hog fuel | 0.096 | 0.048 | --- | --- | --- | --- | 0.061 | 0.030 | --- | --- | --- | --- | 0.036 | 0.018 | --- | --- | --- | --- |
| Sawdust Truck Bin Target Box, EU#11 | 0.670 | 0.335 | --- | --- | --- | --- | 0.420 | 0.210 | --- | --- | --- | --- | 0.249 | 0.125 | --- | --- | --- | --- |
| Chip Cyclone #2, EU#4 | 0.268 | 0.134 | --- | --- | --- | --- | 0.168 | 0.084 | --- | --- | --- | --- | 0.100 | 0.050 | --- | --- | --- | --- |
| Green Chip Bin Target Box, EU#12 | 1.339 | 0.670 | --- | --- | --- | --- | 0.841 | 0.420 | --- | --- | --- | --- | 0.499 | 0.249 | --- | --- | --- | --- |
| Planer Shavings Cyclone #3 BH, EU#5 | 0.273 | 0.183 | --- | --- | --- | --- | 0.171 | 0.115 | --- | --- | --- | --- | 0.102 | 0.068 | --- | --- | --- | --- |
| Planer Shavings Cyclone #4 BH, EU#6 | 0.273 | 0.183 | --- | --- | --- | --- | 0.171 | 0.115 | --- | --- | --- | --- | 0.102 | 0.068 | --- | --- | --- | --- |
| **Point Source Total Emissions** | 31.2 | 28.8 | 10.8 | 84 | 91.2 | 354 | 22.5 | 20.8 | 7.4 | 58 | 58.3 | 373 | 8.7 | 8.0 | 3.4 | 26 | 32.9 | -20 |
| **Process Fugitive Sources** | | | | | | | | | | | | | | | | | | |
| DEBARKER, PF, EU#14a | 0.849 | 0.150 | --- | --- | --- | --- | 0.533 | 0.094 | --- | --- | --- | --- | 0.3160 | 0.0559 | --- | --- | --- | --- |
| BARK HOG, PF, EU#14b | 0.021 | 0.004 | --- | --- | --- | --- | 0.013 | 0.002 | --- | --- | --- | --- | 7.90E-03 | 1.40E-03 | --- | --- | --- | --- |
| SAWDUST BIN TRUCK LOADOUT, PF | 0.00094 | 0.00013 | --- | --- | --- | --- | 0.0006 | 0.0001 | --- | --- | --- | --- | 3.49E-04 | 4.99E-05 | --- | --- | --- | --- |
| CHIP BIN TRUCK LOADOUT, PF | 0.00938 | 0.00134 | --- | --- | --- | --- | 0.0059 | 0.0008 | --- | --- | --- | --- | 3.49E-03 | 4.99E-04 | --- | --- | --- | --- |
| PLANER SHAVINGS BIN TRUCK LOADOUT, PF | 0.00191 | 0.00027 | --- | --- | --- | --- | 0.0012 | 0.0002 | --- | --- | --- | --- | 7.12E-04 | 1.02E-04 | --- | --- | --- | --- |
| **Fugitive Sources** | | | | | | | | | | | | | | | | | | |
| ASH HANDLING EU#16 | 0.7406 | 0.3703 | --- | --- | --- | --- | 0.5084 | 0.2542 | --- | --- | --- | --- | 2.32E-01 | 1.16E-01 | --- | --- | --- | --- |
| HOG FUEL CONVEY/LOADOUT | 0.00068 | 0.00010 | --- | --- | --- | --- | 0.0004 | 0.0001 | --- | --- | --- | --- | 2.51E-04 | 3.59E-05 | --- | --- | --- | --- |
| SAWMILL SAWING, INDOOR | 0.06075 | 0.01063 | --- | --- | --- | --- | 0.0381 | 0.0067 | --- | --- | --- | --- | 2.26E-02 | 3.96E-03 | --- | --- | --- | --- |
| SAWMILL CHIPPER, INDOOR | 0.00938 | 0.00164 | --- | --- | --- | --- | 0.0059 | 0.0010 | --- | --- | --- | --- | 3.49E-03 | 6.11E-04 | --- | --- | --- | --- |
| PAVED ROADS | 0.2118 | 0.0520 | | | | | 0.1329 | 0.0326 | | | | | 7.89E-02 | 1.94E-02 | | | | |
| UNPAVED ROADS | 0.8257 | 0.0826 | | | | | 0.5183 | 0.0518 | | | | | 3.07E-01 | 3.07E-02 | | | | |
| **Fugitive Totals** | **2.73** | **0.57** | **0.00** | **0.00** | **0.00** | **0.00** | **1.76** | **0.44** | **0.00** | **0.00** | **0.00** | **0.00** | **0.97** | **0.23** | **0.00** | **0.00** | **0.00** | **0.00** |
| **Plantwide Total** | **33.92** | **29.52** | **10.80** | **84.32** | **91.20** | **353.6** | **24.24** | **21.28** | **7.41** | **57.88** | **58.28** | **373.4** | **9.67** | **8.24** | **3.39** | **26.44** | **32.92** | **-19.82** |

**Baseline HAPs are limited to 10 tpy of a single HAP and 25 tpy total HAPs.**

| | |
|---|---|
| Total HAP emissions in Baseline 2014/2016 | 18.66 tpy |
| Single highest HAP in Baseline 2014/2016 | 8.02 tpy |
| Total HAP emissions under the new proposal: | 29.00 tpy |
| Single highest HAP under the new proposal: | 12.79 tpy |
| Proposed Board Foot Production | 214,300 mbf/yr |
| Proposed Steaming Rate | 544,000 klb/yr |

**Increases Comparing Proposed to Baseline, using same calculations**

| | PM10 (ton/yr) | PM2.5 (ton/yr) | $SO_2$ (ton/yr) | NOx (ton/yr) | VOCs (ton/yr) | CO (ton/yr) |
|---|---|---|---|---|---|---|
| Proposed PTE | 33.92 | 29.52 | 10.80 | 84.32 | 91.20 | 353.60 |
| Baseline Actual | 24.24 | 21.28 | 7.41 | 57.88 | 58.28 | 373.4 |
| PSD Threshold | 9.67 | 8.24 | 3.39 | 26.44 | 32.92 | -19.82 |
| PSD Threshold | 15.00 | 10.00 | 40.00 | 40.00 | 40.00 | 100.00 |
| | ok | ok | ok | ok | ok | ok |

**IDAHO FOREST GROUP**
**MOYIE SPRINGS, IDAHO**
**Emission Inventory/Calculations**

| | Proposed PTE with Changed Conditions | | | | | | Baseline PTE | | | | | | Emissions Increase | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | PM10 (lb/hr) | PM2.5 (lb/hr) | $SO_2$ (lb/hr) | NOx (lb/hr) | VOCs (lb/hr) | CO (lb/hr) | PM10 (lb/hr) | PM2.5 (lb/hr) | $SO_2$ (lb/hr) | NOx (lb/hr) | VOCs (lb/hr) | CO (lb/hr) | PM10 (lb/hr) | PM2.5 (lb/hr) | $SO_2$ (lb/hr) | NOx (lb/hr) | VOCs (lb/hr) | CO (lb/hr) |
| **Point Sources** | | | | | | | | | | | | | | | | | | |
| KIPPER & SONS HOG FUEL BOILER, EU#1 | 6.86 | 6.86 | 3.18 | 24.8 | 4.95 | 104.0 | 6.51 | 6.51 | 3.18 | 24.80 | 4.95 | 104.00 | 0.3502 | 0.3502 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| EFB MEDIA BAGHOUSE EU#2 | 0.00 | 0.00 | — | — | — | — | 0.18 | 0.12 | — | — | — | — | -0.1800 | -0.1206 | — | — | — | — |
| LUMBER DRY KILNS, EU#7 | 1.44 | 1.25 | — | — | 26.37 | — | 1.44 | 1.25 | — | — | 26.37 | — | 0.0000 | 0.0000 | — | — | 0.0000 | — |
| Fuel Bin #1 and #2 Target Boxes, EU#8 and EU#9 | 0.308 | 0.154 | — | — | — | — | 0.308 | 0.154 | — | — | — | — | 0.0000 | 0.0000 | — | — | — | — |
| Hog Fuel Truck Bin TB, EY#10, 10% of hog fuel | 0.034 | 0.017 | — | — | — | — | 0.034 | 0.017 | — | — | — | — | 0.0000 | 0.0000 | — | — | — | — |
| Sawdust Truck Bin Target Box, EU#11 | 0.238 | 0.119 | — | — | — | — | 0.238 | 0.119 | — | — | — | — | 0.0000 | 0.0000 | — | — | — | — |
| Chip Cyclone #2, EU#4 | 0.095 | 0.048 | — | — | — | — | 0.095 | 0.048 | — | — | — | — | 0.0000 | 0.0000 | — | — | — | — |
| Green Chip Bin Target Box, EU#12 | 0.428 | 0.214 | — | — | — | — | 0.428 | 0.214 | — | — | — | — | 0.0000 | 0.0000 | — | — | — | — |
| Planer Shavings Cyclone #3 BH, EU#5 | 0.097 | 0.065 | — | — | — | — | 0.097 | 0.065 | — | — | — | — | 0.0000 | 0.0000 | — | — | — | — |
| Planer Shavings Cyclone #4 BH, EU#6 | 0.097 | 0.065 | — | — | — | — | 0.097 | 0.065 | — | — | — | — | 0.0000 | 0.0000 | — | — | — | — |
| **Point Source Total Emissions** | 9.60 | 8.80 | 3.2 | 25 | 31.3 | 104 | 9.43 | 8.57 | 3.2 | 25 | 31.3 | 104 | 0.1702 | 0.2296 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Process Fugitive Sources** | | | | | | | | | | | | | | | | | | |
| DEBARKER, PF, EU#14a | 3.01E-01 | 5.33E-02 | — | — | — | — | 3.01E-01 | 5.33E-02 | — | — | — | — | 0.0000 | 0.0000 | — | — | — | — |
| BARK HOG, PF, EU#14b | 7.52E-03 | 1.33E-03 | — | — | — | — | 7.52E-03 | 1.33E-03 | — | — | — | — | 0.00E+00 | 0.00E+00 | — | — | — | — |
| SAWDUST BIN TRUCK LOADOUT, PF | 3.33E-04 | 4.75E-05 | — | — | — | — | 3.33E-04 | 4.75E-05 | — | — | — | — | 0.00E+00 | 0.00E+00 | — | — | — | — |
| CHIP BIN TRUCK LOADOUT, PF | 3.33E-03 | 4.75E-04 | — | — | — | — | 3.33E-03 | 4.75E-04 | — | — | — | — | 0.00E+00 | 0.00E+00 | — | — | — | — |
| PLANER SHAVINGS BIN TRUCK LOADOUT, PF | 6.78E-04 | 9.69E-05 | — | — | — | — | 6.78E-04 | 9.69E-05 | — | — | — | — | 0.00E+00 | 0.00E+00 | — | — | — | — |
| **Fugitive Sources** | | | | | | | | | | | | | | | | | | |
| ASH HANDLING EU#16 | 1.69E-01 | 8.45E-02 | — | — | — | — | 1.69E-01 | 8.45E-02 | — | — | — | — | 0.00E+00 | 0.00E+00 | — | — | — | — |
| HOG FUEL CONVEY/LOADOUT | 2.39E-04 | 3.42E-05 | — | — | — | — | 2.39E-04 | 3.42E-05 | — | — | — | — | 0.00E+00 | 0.00E+00 | — | — | — | — |
| SAWMILL SAWING, INDOOR | 2.15E-02 | 3.77E-03 | — | — | — | — | 2.15E-02 | 3.77E-03 | — | — | — | — | 0.00E+00 | 0.00E+00 | — | — | — | — |
| SAWMILL CHIPPER, INDOOR | 3.33E-03 | 5.82E-04 | — | — | — | — | 3.33E-03 | 5.82E-04 | — | — | — | — | 0.00E+00 | 0.00E+00 | — | — | — | — |
| PAVED ROADS | 4.84E-02 | 1.19E-02 | | | | | 3.04E-02 | 7.45E-03 | — | — | — | — | 1.80E-02 | 4.42E-03 | — | — | — | — |
| UNPAVED ROADS | 1.89E-01 | 1.89E-02 | | | | | 1.18E-01 | 1.18E-02 | — | — | — | — | 7.02E-02 | 7.02E-03 | — | — | — | — |
| | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | |
| **Fugitive Totals** | **0.74** | **0.17** | 0.00 | **0.00** | 0.00 | **0.00** | **0.66** | **0.16** | 0.00 | **0.00** | 0.00 | **0.00** | **0.09** | **0.01** | 0.00 | **0.00** | 0.00 | **0.00** |
| **Plantwide Total** | **10.34** | **8.97** | **3.2** | **24.8** | **31.3** | **104.0** | **10.09** | **8.73** | **3.2** | **24.8** | **31.3** | **104.0** | | | | | | |

**IDAHO FOREST GROUP -- Moyie Springs**
**Emission Inventory/Calculations**
Baseline Based on 2014/2016

## PROPOSED PERMIT LIMITED PRODUCTION

| **Lumber Production** | | | |
|---|---|---|---|
| Sawmill Production | 214,300 | mbdft/year | Limited by kiln |
| Dry Kiln Production | 214,300 | mbdft/year | Limited by VOC PSD-avoidance limit |
| Planer Production | 214,300 | mbdft/year | Limited by kiln |
| Logs Used | 771,480 | tons/year (estimate) | |
| | | | |
| **Boiler Steam Production** | 544,000 | klb/yr | Proposed PSD-avoidance limit |
| Boiler Heat Input | 863,872 | mmBtu/yr | Based on steam and efficiency |

| **Residuals Production** | **Green Wt. tons/year** | **Dry wt. BDT/year** | **Estimation Factor** | |
|---|---|---|---|---|
| Sawmill Chips | 107,150 | 53,575 | 1000 | lb chips/mbdft sawmill |
| Sawdust | 53,575 | 26,788 | 500 | lb sawdust/mbdft sawmill |
| Hog Bark | 77,148 | 38,574 | 200 | lb bark/ton logs |
| Shavings | 32,145 | 27,323 | 300 | lb shavings/mbdft planer |

Ratios based on data from IFG mills

## BASELINE 2014/2016 - PRODUCTION

| **Lumber Production** | | | |
|---|---|---|---|
| Sawmill Production | 134,492 | mbdft/year | PTE |
| Dry Kiln Production | 134,492 | mbdft/year | PTE |
| Planer Production | 134,492 | mbdft/year | PTE |
| Logs Used | 484,171 | tons/year (estimate) | |
| | | | |
| **Boiler Steam Production** | 373,422 | klb/yr | Baseline PSD-avoidance limit |
| Boiler Heat Input | 592,994 | mmBtu/yr | Based on steam and efficiency |

| **Residuals Production** | **Green Wt. tons/year** | **Dry wt. BDT/year** | **Estimation Factor** | |
|---|---|---|---|---|
| Sawmill Chips | 67,246 | 33,623 | 1000 | lb chips/mbdft sawmill |
| Sawdust | 33,623 | 16,812 | 500 | lb sawdust/mbdft sawmill |
| Hog Bark | 48,417 | 24,209 | 200 | lb bark/ton logs |
| Shavings | 20,174 | 17,148 | 300 | lb shavings/mbdft planer |

Ratios based on site data

**Residuals Production, 24-hour peak**

| **Max Hourly Prod.** | 38 | Based on 38 mbf/hr, 912 mbf/day | | | |
|---|---|---|---|---|---|
| | **Green Wt. ton/hr** | **Dry wt. BDT/hr** | **Estimation Factor** | | |
| Sawmill Chips | 19 | 9.50 | 1000 | lb chips/mbdft sawmill | 50% moisture |
| Sawdust | 10 | 4.75 | 500 | lb sawdust/mbdft sawmill | 50% moisture |
| Hog Bark | 13.7 | 6.84 | 200 | lb bark/ton logs | 50% moisture |
| Shavings | 5.7 | 4.85 | 300 | lb shavings/mbdft planer | 15% moisture |
| Logs | 137 | | | | |

## KIPPER & SONS HOG FUEL BOILER, EU#1

| | | |
|---|---|---|
| Hours of operation | 8,760 | Hours/Year, PTE |
| Max Design Steaming Rate | 80,000 | lb steam/hr, boiler max |
| Max. Design Heat Input | 127 | mmBtu/hr maximum |
| Baseline Steam | 373,422 | klb steam/yr, Baseline permit limit |
| Baseline Heat Input | 592,994 | mmBtu/yr, PTE (based on 75% eff.) |
| Proposed Allowable Steam | 544,000 | klb steam/yr, proposed permit limit |
| Proposed Allowable Heat Input | 863,872 | mmBtu/yr, PTE (based on 75% eff.) |

Baseline PM10/PM2.5, based on permit limits

| | | | |
|---|---|---|---|
| Permitted Hourly Emissions | 6.51 | lb/hr | Current Permit Limit |
| Permited Annual Emissions | 28.5 | tons/year | Current Permit Limit |

Baseline and proposed PM10/PM2.5, based on proposed emission factor

| | | | |
|---|---|---|---|
| Emission Factor: | 0.054 | lb/MMBtu | Boiler MACT filterable limit + condensible fraction |
| Hourly Emissions | 6.86 | lb/hr | Proposed Permit Limit |
| Baseline Annual Emissions | **17.01** | tons/year | Basline Actuals, Baseline Emissions Spreadsheet |
| Proposed annual emissons | 23.32 | tons/year | Calculated Annual Emissions based on emission factor |

Sulfur Dioxide, Baseline and proposed

| | | | |
|---|---|---|---|
| Emission Factor: | 0.025 | lb/mmBtu | (AP-42 TABLE 1.6-2, Rev 9/03) |
| Baseline and Proposed hourly | 3.18 | lb/hr | Peak 1-hour emission rate, unchanged |
| Baseline annual emissions | **7.41** | tons/year | Baseline Actuals, Baseline Emissions Spreadsheet |
| Proposed annual emissons | 10.80 | tons/year | Annual emissions limited by proposed steaming limit |

NOx, Baseline and proposed

| | | | |
|---|---|---|---|
| Emission Factor: | 0.31 | lb/klb steam | Old AP-42 factor, converts to 0.2 lb/MMBtu |
| Baseline and Proposed hourly | 24.80 | lb/hr | Peak 1-hour emission rate, unchanged |
| Baseline annual emissions | **57.88** | tons/year | Baseline Actuals, Baseline Emissions Spreadsheet |
| Proposed annual emissons | 84.32 | tons/year | Annual emissions limited by proposed steaming limit |

VOC, Baseline and proposed

| | | | |
|---|---|---|---|
| Emission Factor: | 0.039 | lb/mmBtu | AP-42 Emission Factor for TOC (TOC > VOC) |
| Baseline and Proposed hourly | 4.95 | lb/hr | Peak 1-hour emission rate, unchanged |
| Baseline annual emissions | **11.56** | tons/year | Baseline Actuals, Baseline Emissions Spreadsheet |
| Proposed annual emissons | 16.85 | tons/year | Annual emissions limited by proposed steaming limit |

CO, Baseline and proposed

| | | | |
|---|---|---|---|
| Emission Factor: | 1.3 | lb/klb steam | Conservative value, supported by July 2016 source test |
| Baseline and Proposed hourly | 104.00 | lb/hr | Peak 1-hour emission rate, unchanged |
| Baseline annual emissions | **373.42** | tons/year | Baseline Actuals, Baseline Emissions Spreadsheet |
| Proposed annual emissons | 353.60 | tons/year | Annual emissions limited by proposed steaming limit |

| | | | |
|---|---|---|---|
| **EFB MEDIA BAGHOUSE EU#2** | Removed after ESP Installed | | |
| Hours of operation | 8,760 | Hours/Year, PTE | |
| Design flow rate | 4,200 | dscfm | Baghouse design flow. |
| PM/PM10: | | | |
| Emission Factor: | 0.005 | gr/dscf | Baghouse design emission rate. |
| Proposed Annual | 0.00 | tpy | |
| Baseline Annual | 0.54 | tpy | |
| Baseline hourly | 0.180 | lb/hr | Permit Limit |
| PM2.5 : | | | |
| Emission Factor: | 0.00335 | gr/dscf | PM2.5 is 67% of PM10 |
| Proposed Annual | 0.00 | tpy | for baghouse. Based on DEQ |
| Baseline Annual | 0.36 | tpy | For modeling |
| Baseline hourly | 0.121 | lb/hr | PM2.5 is 67% of PM10 |

**ASH HANDLING EU#16**

| | | |
|---|---|---|
| Assume PM10 is 100% of PM | | |
| Ash in fuel, based on fuel analysis: | 1.6% by wet weight | |
| Proposed | 926 | 1.2% of hog by weight, tons of ash/year |
| Baseline | 775 | 1.2% of hog by weight, tons of ash/year |
| PM/PM10: | | |
| Emission Factor: | 1.6 lbs/ton | Factor from original Tier I Application |
| Proposed Annual | 0.7406 tpy | |
| Baseline and Proposed hourly | 0.17 lb/hr | |
| Baseline Annual | 0.51 tpy | |
| PM2.5 : | | |
| Emission Factor: | 0.8 lbs/ton | Assume PM2.5 is 50% of PM10 |
| Proposed Annual | 0.37 tpy | |
| Baseline and Proposed hourly | 0.08 lb/hr | |
| Baseline Annual | 0.25 tpy | |

**MACT Emission Limits, based on January 31, 2013 version of Boiler MACT. Effective Jan. 1, 2017**

| | | | |
|---|---|---|---|
| Partiulate Matter, filterable | | | |
| Emissions: | 0.037 | lb/mmBtu heat input | Table 2 to Subpart DDDDD of Part 63 |
| | 15.98 | tons/year | 7. Stokers designed to burn wet biomass fuel |
| | 4.70 | lbs/hr | |
| Carbon Monoxide (CO) | | | |
| Emissions: | 1500 | ppm @ 3% oxygen | Table 2 to Subpart DDDDD of Part 63 |
| | 1,219,584 | dscf/hr, flue gas @ 0% oxygen | Based on F-Factor for wood bark |
| | 1,423,984 | dscf/hr, flue gas @ 3% oxygen | Adjusted to 3% oxygen |
| | 3,753 | lbmol/hr, flue gas @ 3% oxygen | 379.4 dscf/lbmol At 60°F and 1 atm. |
| | 5.63 | lbmol/hr CO | 1500 ppm CO |
| | 157.7 | lb/hr CO | M.W. = 28.01 lb/lbmol |
| | 691 | tpy CO | |

## HOG FUEL BOILER

### HAZARDOUS AIR POLLUTANTS (HAPS)

Operating Parameters

| | | |
|---|---|---|
| Actual Hours of Operation | 8,760 | hours/yr |
| Max Heat Input | 127.0 | mmBtu / hr |
| Proposed Annual Boiler Heat Input | 983,872 | mmBtu / yr |
| Baseline Boiler Heat Input | 592,904 | mmBtu / yr |

| Emission Factors | | | | | Proposed Emissions | | Baseline Actual | |
|---|---|---|---|---|---|---|---|---|
| [illegible] | CAS Number | [illegible] | [illegible] Class (AP-42) | Emission Factor (lb/mmBtu) | [illegible] (lbs/hr) | [illegible] (tons/yr) | [illegible] (lbs/hr) | [illegible] (tons/yr) |
| Acenaphthene | | % | NA | 1.42E-06 | | 1.40E-03 | | 8.77E-04 |
| Acenaphthylene | | % | NA | 1.00E-06 | | 9.84E-04 | | 5.93E-04 |
| Acetaldehyde | 75070 | # | A | 5.50E-04 | 5.98E-04 | | 2.46E-01 | |
| Acrolein | | # | B | 8.90E-04 | | 8.76E-04 | | 5.37E-04 |
| Anthracene | 120127 | # | NA | 3.70E-09 | 3.64E-06 | | 2.23E-07 | |
| Arsenic | 7440382 | # | B | 2.00E-04 | 1.97E-04 | | 1.19E-04 | |
| Benzene | 71432 | # | A | 2.06E-03 | 2.03E+00 | | 1.22E+00 | |
| Benzo a anthracene | | % | NA | 1.80E-07 | 1.77E-04 | | 1.07E-04 | |
| Benzo a pyrene | | % | NA | 1.20E-07 | 1.18E-04 | | 7.12E-05 | |
| Benzo b fluoranthene | | % | NA | 1.80E-07 | 1.77E-04 | | 1.07E-04 | |
| Benzo g,h,i perylene | | % | NA | 1.20E-07 | 1.18E-04 | | 7.12E-05 | |
| Benzo k fluoranthene | | % | NA | 1.80E-07 | 1.77E-04 | | 1.07E-04 | |
| Beryllium | 7440417 | # | B | 1.20E-05 | 1.18E-02 | | 7.12E-03 | |
| Biphenyl | | % | NA | 6.00E-04 | 5.90E-01 | | 3.56E-01 | |
| Butane | | % | NA | 2.10E-02 | 2.06E+01 | | 1.24E+01 | |
| 2 Methylnaphthalene | | % | NA | 1.60E-05 | 1.57E-02 | | 9.48E-03 | |
| Methylnaphthalene | | % | NA | 2.30E-06 | 2.26E-03 | | 1.36E-03 | |
| Naphthalene | 91203 | # | B | 9.70E-05 | 9.54E-02 | | 5.75E-02 | |
| Nickel | | % | NA | 2.10E-06 | 2.06E-03 | | 1.24E-03 | |
| Pentane | 109660 | # | NA | 1.40E-03 | 1.38E+00 | | 8.29E-01 | |
| Perylene | | % | NA | 9.80E-08 | 9.64E-05 | | 5.81E-05 | |
| Phenanthrene | | % | NA | 8.60E-06 | 8.46E-03 | | 5.09E-03 | |
| Phenol | | % | NA | 1.50E-06 | 1.48E-03 | | 8.91E-04 | |
| Propane | | % | NA | 1.60E-02 | 1.57E+01 | | 9.48E+00 | |
| Pyrene | | % | NA | 1.70E-06 | 1.67E-03 | | 1.01E-03 | |
| Selenium | 7782492 | # | B | 2.40E-05 | 2.36E-02 | | 1.42E-02 | |
| Styrene | 100425 | # | B | 9.70E-05 | 9.54E-02 | | 5.75E-02 | |
| Toluene | 108883 | # | B | 3.40E-03 | 3.34E+00 | | 2.01E+00 | |
| Total Organic Compounds | | % | NA | 2.80E-03 | 2.75E+00 | | 1.66E+00 | |
| Total Polycyclic Organic Matter (POM) | | # | A | 8.82E-05 | 8.68E-02 | | 5.23E-02 | |
| Benzo(a)anthracene | | | | 6.50E-08 | | | | |
| Benzo(a)pyrene | | | | 2.60E-08 | | | | |
| Benzo(b)fluoranthene | | | | 1.50E-07 | | | | |
| Benzo(k)fluoranthene | | | | 1.80E-08 | | | | |
| Indeno(1,2,3-cd)pyrene | | | | 8.70E-08 | | | | |
| Xylene | | | | 5.30E-04 | 5.22E-01 | | 3.14E-01 | |
| Naphthalene | | % | | 2.40E-09 | 2.36E-06 | | 1.42E-06 | |
| Methylnaphthalene | | % | | 4.30E-04 | 4.23E-01 | | 2.55E-01 | |
| Benzo(g,h,i)perylene | | % | | 1.60E-07 | 1.57E-04 | | 9.48E-05 | |
| Chrysene | | % | | 3.80E-08 | 3.74E-05 | | 2.25E-05 | |
| Dibenzo(a,h)anthracene | | % | | 1.20E-07 | 1.18E-04 | | 7.12E-05 | |
| Fluoranthene | | % | | 1.80E-06 | 1.77E-03 | | 1.07E-03 | |
| Fluorene | | % | | 2.80E-06 | 2.75E-03 | | 1.66E-03 | |
| Styrene | 100425 | # | B | 1.90E-03 | 1.87E-01 | | 1.13E-01 | |
| [illegible] | 7664393 | # | A | 3.80E-12 | 3.74E-09 | | 2.25E-09 | |
| [illegible] | | % | NA | 4.70E-03 | 4.62E-01 | | 2.78E-01 | |
| [illegible] | | % | NA | 9.90E-01 | 9.74E-04 | | 5.86E-04 | |
| [illegible] | | % | NA | 1.50E-03 | 1.48E-01 | | 8.91E-02 | |
| [illegible] | | % | NA | 3.20E-05 | 3.15E-02 | | 1.90E-02 | |
| [illegible] | | % | NA | 1.80E-05 | 1.77E-02 | | 1.07E-02 | |
| [illegible] | | % | NA | 1.20E-05 | 1.18E-02 | | 7.12E-03 | |
| [illegible] | | % | NA | 1.70E-05 | 1.67E-02 | | 1.01E-02 | |
| Toluene | 108883 | # | B | 3.40E-04 | 3.34E-01 | | 2.01E-01 | |
| Trichloroethylene | | % | NA | 2.80E-06 | 2.75E-03 | | 1.66E-03 | |
| 2,2,4-Trimethylpentane (Mixed Chlorofluoro) | 71556 | # | B | 2.80E-06 | 2.75E-03 | | 1.66E-03 | |
| [illegible] | 108838 | # | A | 1.00E-03 | 9.84E-01 | | 5.93E-01 | |
| Trichlorofluoromethane | 75694 | # | NA | 4.10E-05 | 4.03E-02 | | 2.43E-02 | |
| Vinyl acetate | 108054 | # | A | 7.60E-06 | 7.48E-03 | | 4.50E-03 | |
| Vinyl Chloride | 75014 | # | A | 1.80E-05 | 1.77E-02 | | 1.07E-02 | |
| Xylene | 95476 | # | B | 2.00E-04 | 1.97E-01 | | 1.19E-01 | |
| Antimony | 7440360 | # | B | 1.80E-06 | 1.77E-03 | | 1.07E-03 | |
| Arsenic | 7440382 | # | A | 1.10E-05 | 1.08E-02 | | 6.52E-03 | |
| Barium | 7440393 | # | B | 4.40E-04 | 4.33E-01 | | 2.61E-01 | |
| Beryllium | 7440417 | # | A | 3.00E-07 | 2.95E-04 | | 1.78E-04 | |
| Cadmium | 7440439 | # | A | 2.00E-06 | 1.97E-03 | | 1.19E-03 | |
| Chromium (III) | 16065831 | # | B | 1.40E-05 | 1.38E-02 | | 8.29E-03 | |
| Chromium hexavalent | 18540299 | # | A | 1.40E-06 | 1.38E-03 | | 8.29E-04 | |
| Cobalt | 7440484 | # | B | 8.40E-05 | 8.26E-02 | | 4.98E-02 | |
| Copper | 7440508 | # | B | 5.30E-04 | 5.22E-01 | | 3.14E-01 | |
| Iron | | # | NA | 9.80E-04 | 9.64E-01 | | 5.81E-01 | |
| Lead | | # | NA | 5.00E-04 | 4.92E-01 | | 2.96E-01 | |
| Manganese | 7439965 | # | B | 1.00E-04 | 9.84E-02 | | 5.93E-02 | |
| Mercury | 7439976 | # | B | 2.60E-04 | 2.56E-01 | | 1.54E-01 | |
| Molybdenum | 7439987 | # | B | 2.10E-06 | 2.06E-03 | | 1.24E-03 | |
| Nickel | 7440020 | # | A | 2.10E-03 | 2.06E+00 | | 1.24E+00 | |
| Phosphorus | 7723140 | # | B | 2.60E-05 | 2.56E-02 | | 1.54E-02 | |
| Potassium | | # | NA | 3.70E-03 | 3.64E+00 | | 2.19E+00 | |
| Selenium | 7782492 | # | B | 2.40E-05 | 2.36E-02 | | 1.42E-02 | |
| Silver | 7440224 | # | B | 8.70E-07 | 8.56E-04 | | 5.15E-04 | |
| Sodium | | # | NA | 3.60E-03 | 3.54E+00 | | 2.13E+00 | |
| Strontium | | # | NA | 3.00E-05 | 2.95E-02 | | 1.78E-02 | |
| Thallium | | # | | 3.60E-07 | 3.54E-04 | | 2.13E-04 | |
| Tin | 7440315 | # | B | 2.50E-05 | 2.46E-02 | | 1.48E-02 | |
| Titanium | | # | NA | 2.00E-01 | 1.97E+02 | | 1.19E+02 | |
| Vanadium | 7440622 | # | B | 3.60E-05 | 3.54E-02 | | 2.13E-02 | |
| Zinc | | # | NA | 3.00E-01 | 2.95E+02 | | 1.78E+02 | |
| | | | | TOTAL HAPS | 7.887 | | 4.613 | |
| | | | | WORST SINGLE HAP | 2.03 | | 1.22 | |

## LUMBER DRY KILNS, EU#7

| | | |
|---|---|---|
| Baseline Permit Limit: | 134,492 | mbdft/yr, lumber dried |
| Proposed Permit Limit: | 214,300 | mbdft/yr, lumber dried |
| Peak hours of operation: | 8,760 | kilns can run 7 days a week |

**CRITERIA POLLUTANTS**

PM/PM10

| | | |
|---|---|---|
| Emission Factor: | 0.038 lbs/mbdft | Factor based on kiln PM test |
| Baseline and proposed max hourly | 1.444 lb/hr | Based on 38 mbf/hr, 912 mbf/day |
| Baseline and proposed max daily | 34.7 lb/day | Permit limit is 34.8 lb/day |
| Baseline annual emissions | 2.56 tpy | Baseline annual using modern emission factor |
| Proposed annual emissons | 4.07 tpy | Proposed annual using modern emission factor |

PM25

| | | |
|---|---|---|
| Emission Factor: | 0.033 lbs/mbdft | Factor based on kiln PM test |
| Baseline and proposed max hourly | 1.25 lb/hr | Based on 38 mbf/hr, 912 mbf/day |
| Baseline annual emissions | 2.22 tpy | Baseline annual using modern emission factor |
| Proposed annual emissons | 3.54 tpy | Proposed annual using modern emission factor |

VOC:

| | | |
|---|---|---|
| Emission Factor: | 0.694 lbs/1000 bd.ft. | |
| Baseline annual emissions | 46.72 tons/year | Baseline Actuals, Baseline Emissions Spreadsheet |
| Proposed annual emissons | 74.35 tons/year | Proposed annual using modern emission factor |
| Baseline and proposed max hourly | 26.37 lb/hr | |

**HAZARDOUS AIR POLLUTANTS**

Total HAP

| | | |
|---|---|---|
| Emission Factor: | 0.197 lbs/1000 bd.ft. | P-2012.0034 Table 4.3 |
| Baseline annual emissions | 13.25 tons/year | HAP Emissions based on |
| Proposed annual emissons | 21.12 tons/year | mix shown below. |

Methanol, highest single HAP

Methanol, highest single HAP

| | | |
|---|---|---|
| Emission Factor: | 0.119 lbs/1000 bd.ft. | P-2012.0034 Table 4.3 |
| Baseline annual emissions | 8.02 tons/year | Single HAP Emissions based on |
| Proposed annual emissons | 12.79 tons/year | mix shown below. |

| **Wood Species, representative:** | % of Total | VOC (lb/MBdft) | Weighted (lb/Mbdft) | Total HAP (lb/MBdft) | Weighted (lb/Mbdft) | Methanol (lb/MBdft) | Weighted (lb/Mbdft) | |
|---|---|---|---|---|---|---|---|---|
| Ponderosa Pine | 0.34% | 2.46 | 0.01 | 0.148 | 0.00 | 0.102 | 0.000 | P-2012.0034 Table 4.3 |
| Douglas Fir | 25.80% | 1.03 | 0.27 | 0.171 | 0.04 | 0.096 | 0.025 | P-2012.0034 Table 4.3 |
| Larch | 14.90% | 0.25 | 0.04 | 0.291 | 0.04 | 0.187 | 0.028 | P-2012.0034 Table 4.3 |
| Hemlock | 15.50% | 0.24 | 0.04 | 0.243 | 0.04 | 0.133 | 0.021 | P-2012.0034 Table 4.3 |
| Grand (white) Fir | 12.70% | 0.70 | 0.09 | 0.189 | 0.02 | 0.122 | 0.015 | P-2012.0034 Table 4.3 |
| Hemlock, Hem-fir | | 0.70 | 0.00 | 0.243 | 0.00 | 0.133 | 0.000 | P-2012.0034 Table 4.3 |
| Lodgepole | 13.70% | 1.32 | 0.18 | 0.092 | 0.01 | 0.060 | 0.008 | P-2012.0034 Table 4.3 |
| Spruce | 7.39% | 0.11 | 0.01 | 0.092 | 0.01 | 0.054 | 0.004 | P-2012.0034 Table 4.3 |
| ESLP: Englemann Spr Lodgepole | | 1.32 | 0.00 | 0.092 | 0.00 | 0.054 | 0.000 | P-2012.0034 Table 4.3 |
| Alpine Fir, White Fir | 9.64% | 0.70 | 0.07 | 0.291 | 0.03 | 0.187 | 0.018 | P-2012.0034 Table 4.3 |
| Cedar | 0.00% | 0.15 | 0.00 | 0.092 | 0.00 | 0.054 | 0.000 | P-2012.0034 Table 4.3 |
| Other | 0.00% | 2.46 | 0.00 | 0.291 | 0.00 | 0.187 | 0.000 | P-2012.0034 Table 4.3 |
| Total | 100.0% | | **0.694** | | **0.197** | | **0.1193** | |

**Idaho Forest Group - Moyie**
Dry Kiln Haps

| EMISSIONS YEAR | PTE |
|---|---|

* white wood is Alpine Fir, etc.

| ENTER | | | |
|---|---|---|---|
| **Total MBF processed** | 214,300 | | |
| Ponderosa Pine | 0.3% | 729 | *MBF/Yr by species calculated by Total MBF * % species* |
| Douglas Fir | 25.8% | 55,289 | |
| Larch | 14.9% | 31,931 | |
| Hemlock | 15.5% | 33,217 | |
| Grand (white) Fir | 12.7% | 27,216 | |
| Hemlock, Hem-fir | 0.0% | 0 | |
| Lodgepole | 13.7% | 29,359 | |
| Englemann Spruce | 7.4% | 15,837 | |
| ESLP | 0.0% | 0 | |
| Alpine Fir | 9.6% | 20,659 | |
| Cedar | 0.0% | 0 | |
| Other | 0.0% | 0 | |
| | 100% | 214,236 | |

| EMISSION FACTORS: | Factors from OSU and U of I Studies, available upon request | | | | | |
|---|---|---|---|---|---|---|
| Pollutant | Total HAP | Methanol | Formal-dehyde | Acetal-dehyde | Propion-aldehyde | Acrolein |
| Ponderosa Pine | 0.148 | 0.102 | 0.0067 | 0.0334 | 0.0027 | 0.0034 |
| Douglas Fir | 0.171 | 0.096 | 0.0104 | 0.0627 | 0.0007 | 0.0010 |
| Larch | 0.291 | 0.187 | 0.0045 | 0.0840 | 0.0140 | 0.0010 |
| Hemlock | 0.243 | 0.133 | 0.0030 | 0.1039 | 0.0084 | 0.0018 |
| Grand (white) Fir | 0.189 | 0.122 | 0.0028 | 0.0627 | 0.0007 | 0.0010 |
| Hemlock, Hem-fir | 0.243 | 0.133 | 0.0030 | 0.1039 | 0.0084 | 0.0018 |
| Lodgepole | 0.092 | 0.060 | 0.0067 | 0.0334 | 0.0027 | 0.0034 |
| Englemann Spruce | 0.092 | 0.054 | 0.0032 | 0.1029 | 0.0084 | 0.0016 |
| ESLP | 0.092 | 0.054 | 0.0067 | 0.1029 | 0.0084 | 0.0034 |
| Alpine Fir | 0.291 | 0.187 | 0.0045 | 0.0840 | 0.0140 | 0.0019 |
| Cedar | 0.092 | 0.054 | 0.0030 | 0.0333 | 0.0005 | 0.0008 |
| Other | 0.291 | 0.187 | 0.0045 | 0.0840 | 0.0140 | 0.0019 |

EMISSIONS — Emission lb/Yr

| Species | Total HAP | Methanol | Formal-dehyde | Acetal-dehyde | Propion-aldehyde | Acrolein |
|---|---|---|---|---|---|---|
| Ponderosa Pine | 108 | 74 | 5 | 24 | 2 | 2 |
| Douglas Fir | 9453 | 5320 | 574 | 3467 | 38 | 53 |
| Larch | 9305 | 5971 | 144 | 2682 | 447 | 31 |
| Hemlock | 8072 | 4411 | 101 | 3452 | 279 | 61 |
| Grand (white) Fir | 5144 | 3320 | 76 | 1706 | 19 | 27 |
| Hemlock, Hem-fir | 0 | 0 | 0 | 0 | 0 | 0 |
| Lodgepole | 2701 | 1762 | 197 | 980 | 79 | 100 |
| Englemann Spruce | 1457 | 855 | 50 | 1629 | 133 | 25 |
| ESLP | 0 | 0 | 0 | 0 | 0 | 0 |
| Alpine Fir | 6012 | 3863 | 93 | 1735 | 289 | 39 |
| Cedar | 0 | 0 | 0 | 0 | 0 | 0 |
| Other | 0 | 0 | 0 | 0 | 0 | 0 |
| TOTAL, lb/yr | 42,251 | 25,576 | 1,240 | 15,677 | 1,287 | 339 |
| TOTAL, ton/yr | 21.13 | 12.79 | 0.62 | 7.84 | 0.64 | 0.17 |

**CYCLONE AND BAGHOUSE PTE EMISSIONS**

| Source | PM ef (lb/BDT) | PM10 ef (lb/BDT) | PM2.5 ef (lb/BDT) | reference |
|---|---|---|---|---|
| Fuel Bin #1 and #2 Target Boxes, EU#8 and EU#9 | 0.1 | 0.050 | 0.025 | ODEQ AQ-EF02 |
| Hog Fuel Truck Bin TB, EU#10, 10% of hog fuel | 0.1 | 0.050 | 0.025 | ODEQ AQ-EF02 |
| Sawdust Truck Bin Target Box, EU#11 | 0.1 | 0.050 | 0.025 | ODEQ AQ-EF02 |
| Chip Cyclone #2, EU#4 | 0.2 | 0.100 | 0.050 | ODEQ AQ-EF02 |
| Green Chip Bin Target Box, EU#12 | 0.1 | 0.050 | 0.025 | ODEQ AQ-EF02 |
| Planer Shavings Cyclone #3 BH, EU#5 | 0.040 | 0.040 | 0.027 | ODEQ AQ-EF02(1) |
| Planer Shavings Cyclone #4 BH, EU#6 | 0.040 | 0.040 | 0.027 | ODEQ AQ-EF02(1) |

(1) DEQ determined that baghouse PM2.5 should be calculated as 67% of PM10 and cyclone PM2.5 should be calculated as 50% of PM10.

| Source | Baseline Actual | | | | | | | Proposed PTE | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Basis | Production Units | PM10 (ton/yr) | Daily PM10 (lb/hr) | PM2.5 (ton/yr) | PM2.5 (lb/hr) | PM (ton/yr) | Basis | Production Units | PM10 (ton/yr) | Daily PM10 (lb/hr) | PM2.5 (ton/yr) | PM2.5 (lb/hr) | PM (ton/yr) |
| Fuel Bin #1 and #2 Target Boxes, EU#8 and EU#9 | 21,788 | BDT/yr | 0.5447 | | 0.2723 | | 1.0894 | 34,717 | BDT/yr | 0.8679 | | 0.4340 | | 1.7358 |
| 90% of hog fuel | 6.2 | BDT/hr | | 0.3078 | | 0.1539 | | 6.2 | BDT/hr | | 0.3078 | | 0.1539 | |
| Hog Fuel Truck Bin TB, EY#10, 10% of hog fuel | 2,421 | BDT/yr | 0.0605 | | 0.0303 | | 0.1210 | 3,857 | BDT/yr | 0.0964 | | 0.0482 | | 0.1929 |
| | 0.68 | BDT/hr | | 0.0342 | | 0.0171 | | 0.68 | BDT/hr | | 0.0342 | | 0.0171 | |
| Sawdust Truck Bin Target Box, EU#11 | 16,812 | BDT/yr | 0.4203 | | 0.2101 | | 0.8406 | 26,788 | BDT/yr | 0.6697 | | 0.3348 | | 1.3394 |
| | 4.8 | BDT/hr | | 0.2375 | | 0.1188 | | 4.8 | BDT/hr | | 0.2375 | | 0.1188 | |
| Chip Cyclone #2, EU#4 | 3,362 | BDT/yr | 0.1681 | | 0.0841 | | 0.3362 | 5,358 | BDT/yr | 0.2679 | | 0.1339 | | 0.5358 |
| 10% of Chips | 1.0 | BDT/hr | | 0.0950 | | 0.0475 | | 1.0 | BDT/hr | | 0.0950 | | 0.0475 | |
| Green Chip Bin Target Box, EU#12 | 33,623 | BDT/yr | 0.8406 | | 0.4203 | | 1.6812 | 53,575 | BDT/yr | 1.3394 | | 0.6697 | | 2.6788 |
| | 8.6 | BDT/hr | | 0.4275 | | 0.2138 | | 8.6 | BDT/hr | | 0.4275 | | 0.2138 | |
| Planer Shavings Cyclone #3 BH, EU#5 | 8,574 | BDT/yr | 0.1715 | | 0.1149 | | 0.1715 | 13,662 | BDT/yr | 0.2732 | | 0.1831 | | 0.2732 |
| | 2.4 | BDT/hr | | 0.0969 | | 0.0649 | | 2.4 | BDT/hr | | 0.0969 | | 0.0649 | |
| Planer Shavings Cyclone #4 BH, EU#6 | 8,574 | BDT/yr | 0.1715 | | 0.1149 | | 0.1715 | 13,662 | BDT/yr | 0.2732 | | 0.1831 | | 0.2732 |
| | 2.4 | BDT/hr | | 0.09690 | | 0.06492 | | 2.4 | BDT/hr | | 0.0969 | | 0.0649 | |

| | |
|---|---|
| Conversion of minutes to hours | 60 min/hr |
| Conversion of grains to lbs | 7000 gr/lb |

**MILL FUGITIVE SOURCES**

**Emission Factors**

| Fugitive Emissions Source | PM ef | PM10 ef | PM2.5 ef | Units | Control Eff. | Emission Factor Reference |
|---|---|---|---|---|---|---|
| DEBARKER, PF, EU#14a | 0 02 | 0 011 | 0 001947 | lb/ton logs | 80% | AIRS 3-07-008-01, NCASI for PM2 5% 80% control for partial enclosure |
| BARK HOG, PF, EU#14b | 0 02 | 0 011 | 0 001947 | lb/BDT bark | 90% | AIRS 3-07-008-01, NCASI for PM2 5% 90% control for full enclosure |
| HOG FUEL CONVEY/LOADOUT | 0 00075 | 0 00035 | 0 00005 | lb/BDT bark | 90% | FARR drop factor "wet", 90% for enclosure |
| SAWMILL SAWING, INDOOR | 0 35 | 0 175 | 0 030625 | lb/ton logs, less bark weight | 99 9% | FARR PM10 sawing factor, NCASI PM2 5%, 99 9% control indoors (FARR uses 100%), |
| SAWMILL CHIPPER, INDOOR | 0 35 | 0 175 | 0 030625 | lb/tons chips | 99 9% | Use sawing factor |
| SAWDUST BIN TRUCK LOADOUT, PF | 0 00075 | 0 00035 | 0 00005 | lb/BDT sawdust | 80% | FARR drop factor "wet", 80% control for side panels |
| CHIP BIN TRUCK LOADOUT, PF | 0 00075 | 0 00035 | 0 00005 | lb/BDT chips | 0% | FARR drop factor "wet", |
| PLANER SHAVINGS BIN TRUCK LOADOUT, PF | 0 0015 | 0 0007 | 0 0001 | lb/BDT shavings | 80% | FARR drop factor "dry", 80% control for sides panels |

**Annual Permitted Emissions**

| Fugitive Emissions Source | Proposed | | | Baseline | | |
|---|---|---|---|---|---|---|
| | PM tpy | PM10 tpy | PM2.5 tpy | PM tpy | PM10 tpy | PM2.5 tpy |
| DEBARKER, PF, EU#14a | 1 54296 | 0 848628 | 0 1502072 | 0 9683424 | 0 53258832 | 0 094268133 |
| BARK HOG, PF, EU#14b | 0 039 | 0 021 | 0 004 | 0 024 | 0 013 | 0 002 |
| HOG FUEL CONVEY/LOADOUT | 0 001 | 6 75E-04 | 9 64E-05 | 0 001 | 4 24E-04 | 6 05E-05 |
| SAWMILL SAWING, INDOOR | 1 22E-01 | 6 08E-02 | 1 06E-02 | 7 63E-02 | 3 81E-02 | 6 67E-03 |
| SAWMILL CHIPPER, INDOOR | 1 88E-02 | 9 38E-03 | 1 64E-03 | 1 18E-02 | 5 88E-03 | 1 03E-03 |
| SAWDUST BIN TRUCK LOADOUT, PF | 2 01E-03 | 9 38E-04 | 1 34E-04 | 1 26E-03 | 5 88E-04 | 8 41E-05 |
| CHIP BIN TRUCK LOADOUT, PF | 2 01E-02 | 9 38E-03 | 1 34E-03 | 1 26E-02 | 5 88E-03 | 8 41E-04 |
| PLANER SHAVINGS BIN TRUCK LOADOUT, PF | 4 10E-03 | 1 91E-03 | 2 73E-04 | 2 57E-03 | 1 20E-03 | 1 71E-04 |

**24-hour Permitted Emissions**

| Fugitive Emissions Source | Proposed | | | Baseline | | |
|---|---|---|---|---|---|---|
| | PM lb/hr | PM10 lb/hr | PM2.5 lb/hr | PM lb/hr | PM10 lb/hr | PM2.5 lb/hr |
| DEBARKER, PF, EU#14a | 0 55 | 0 30 | 0 05 | 0 55 | 0 30 | 0 05 |
| BARK HOG, PF, EU#14b | 0 014 | 0 008 | 1 332E-03 | 0 014 | 0 008 | 1 332E-03 |
| HOG FUEL CONVEY/LOADOUT | 5 13E-04 | 2 39E-04 | 3 42E-05 | 5 13E-04 | 2 39E-04 | 3 42E-05 |
| SAWMILL SAWING, INDOOR | 4 31E-02 | 2 15E-02 | 3 77E-03 | 4 31E-02 | 2 15E-02 | 3 77E-03 |
| SAWMILL CHIPPER, INDOOR | 6 65E-03 | 3 33E-03 | 5 82E-04 | 6 65E-03 | 3 33E-03 | 5 82E-04 |
| SAWDUST BIN TRUCK LOADOUT, PF | 7 13E-04 | 3 33E-04 | 4 75E-05 | 7 13E-04 | 3 33E-04 | 4 75E-05 |
| CHIP BIN TRUCK LOADOUT, PF | 7 13E-03 | 3 33E-03 | 4 75E-04 | 3 56E-03 | 3 33E-03 | 4 75E-04 |
| PLANER SHAVINGS BIN TRUCK LOADOUT, PF | 1 45E-03 | 6 78E-04 | 9 69E-05 | 1 45E-03 | 6 78E-04 | 9 69E-05 |

NCASI Special Report No 15-01, Table 6 1 Average Total Potential Filterable PM10 and PM2 5 for Chips and Bark

| | |
|---|---|
| Fresh Wood Chips | 17 5% PM2 5 portion of PM10 emissions |
| Fresh Bark | 17 7% PM2 5 portion of PM10 emissions |
| Hogged Bark | 15 4% PM2 5 portion of PM10 emissions |

## Fugitive Road Dust, EU#15

Calculations based on AP-42 Section 13.2.1, rev. 11/06

### PAVED ROADS

| Source | Class | Number Trips Per Year | Distance per Trip (miles) | VMT per Year | Avg. Vehicle Weight W | Weighted Vehicle Weight |
|---|---|---|---|---|---|---|
| Log Trucks | Paved, Loaded | 14,287 | 0.30 | 4,286 | 40.0 | 4.0 |
| | Paved, Empty | 14,287 | 0.30 | 4,286 | 13.0 | 1.3 |
| Chip Trucks | Paved, Loaded | 3,986 | 0.15 | 598 | 40.0 | 0.6 |
| | Paved, Empty | 3,986 | 0.15 | 598 | 13.0 | 0.2 |
| Shavings Trucks | Paved, Loaded | 1,410 | 0.28 | 401 | 36.0 | 0.3 |
| | Paved, Empty | 1,410 | 0.28 | 401 | 13.0 | 0.1 |
| Sawdust Trucks | Paved, Loaded | 1,993 | 0.19 | 377 | 40.0 | 0.4 |
| | Paved, Empty | 1,993 | 0.19 | 377 | 13.0 | 0.1 |
| LumberTrucks | Paved, Loaded | 14,287 | 0.28 | 4,059 | 40.0 | 3.8 |
| | Paved, Empty | 14,287 | 0.28 | 4,059 | 13.0 | 1.2 |
| Forklifts | Paved, Loaded | 428,600 | 0.02 | 8,572 | 3.0 | 0.6 |
| | Paved, Empty | 428,600 | 0.02 | 8,572 | 1.0 | 0.2 |
| Misc. Vehicles incl employee | Paved | 62,400 | 0.10 | 6,240 | 1.0 | 0.1 |
| | | 991,525 | | 42,825 | | 12.9 |

E=k(sL)^0.91(W)^1.02 *[1-1.2*P/N]

| | PM | PM10 | PM2.5 | P= | P= | 120 |
|---|---|---|---|---|---|---|
| k = | 0.011 | 0.0022 | 0.00054 | N= | N= | 365 |
| sL= | 1.1 | 1.1 | 1.1 | | | |
| W = | 13 | 13 | 13 | | | |
| E= | 0.099 | 0.020 | 0.005 | | | |
| | lb/VMT | lb/VMT | lb/VMT | | | |
| % control from washing/sw | 50% | 50% | 50% | | | |

| | | |
|---|---|---|
| **Total PM Emissions:** | **1.1** | **tpy** |
| **Total PM10 Emissions:** | **0.21** | **tpy** |
| **Total PM2.5 Emissions:** | **0.05** | **tpy** |

Proposed and Baseline Hourly

| | | |
|---|---|---|
| **Total PM Emissions:** | **0.28** | **lb/hr** |
| **Total PM10 Emissions:** | **0.06** | **lb/hr** |
| **Total PM2.5 Emissions:** | **0.01** | **lb/hr** |

## Fugitive Road Dust, EU#15

Calculations based on AP-42 Section 13.2.2, rev. 12/06

### UNPAVED ROADS

| Source | Class | Number Trips Per Year | Distance per Trip (miles) | VMT per Year | Avg. Vehicle Weight W | Weighted Vehicle Weight |
|---|---|---|---|---|---|---|
| Log Trucks | Unpaved, Loaded | 14,287 | 0.20 | 2,857 | 40.0 | 8.0 |
| | Unpaved, Empty | 14,287 | 0.20 | 2,857 | 13.0 | 2.6 |
| Chip Trucks | Unpaved, Loaded | 3,986 | 0.00 | 0 | 40.0 | 0.0 |
| | Unpaved, Empty | 3,986 | 0.03 | 114 | 13.0 | 0.1 |
| Shavings Trucks | Unpaved, Loaded | 1,410 | 0.03 | 40 | 36.0 | 0.1 |
| | Unpaved, Empty | 1,410 | 0.00 | 0 | 13.0 | 0.0 |
| Sawdust Trucks | Unpaved, Loaded | 1,993 | 0.00 | 0 | 40.0 | 0.0 |
| | Unpaved, Empty | 1,993 | 0.00 | 0 | 13.0 | 0.0 |
| LumberTrucks | Unpaved, Loaded | 14,287 | 0.00 | 0 | 40.0 | 0.0 |
| | Unpaved, Empty | 14,287 | 0.03 | 407 | 13.0 | 0.4 |
| 988 Mill Feed | Unpaved, Loaded | 14,287 | 0.10 | 1,429 | 40.0 | 4.0 |
| | Unpaved, Empty | 14,287 | 0.10 | 1,429 | 13.0 | 1.3 |
| Log Loaders | Unpaved, Loaded | 25,716 | 0.10 | 2,572 | 25.0 | 4.5 |
| | Unpaved, Empty | 25,716 | 0.10 | 2,572 | 15.0 | 2.7 |
| Misc. Vehicles incl employee | Unpaved | 62,400 | 0.00 | 0 | 1.0 | 0.0 |
| | | 214,330 | | 14,276 | | 23.7 |

$E = [k(s/12)^a*(w/3)^b] * (365-P)/365$

P= 120

| | PM | PM10 | PM2.5 |
|---|---|---|---|
| k = | 4.9 | 1.5 | 0.15 |
| s= | 1.8 | 1.8 | 1.8 |
| W = | 24 | 24 | 24 |
| a= | 0.7 | 0.9 | 0.9 |
| b= | 0.45 | 0.45 | 0.45 |
| Uncontrolled E= | 2.209 lb/VMT | 0.463 lb/VMT | 0.046 lb/VMT |
| Controlled E= From AP-42 | 0.552 lb/VMT | 0.116 lb/VMT | 0.012 lb/VMT |

| | | |
|---|---|---|
| **Total PM Emissions:** | **3.9** | **tpy** |
| **Total PM10 Emissions:** | **0.83** | **tpy** |
| **Total PM2.5 Emissions:** | **0.08** | **tpy** |

IFG Moyie
Greenhouse Gas Calculations, Potential to Emit, Proposed

| | | | |
|---|---|---|---|
| Hog Fuel Boiler | 863,872 | MMBtu/year | |
| Carbon Dioxide (CO2) (not actually a greenhouse gas when emitted from biomass burning) | | | |
| Emission Factor: | 93.8 | kg/mmbtu | 40CFR98 Table C-1 |
| Mass Emission Rate | 89,134 | tpy | |
| Global Warming Potential: | 1 | | 40CFR98 Table A -1 |
| Emissions: | 81,031 | metric tons CO2e | |
| Methane (CH4) | | | |
| Emission Factor: | 7.20E-03 | kg/mmbtu | 40CFR98 Table C-2 |
| Mass Emission Rate | 6.84 | tpy | |
| Global Warming Potential: | 25 | | 40CFR98 Table A -1 |
| Emissions: | 155 | metric tons CO2e | |
| Nitrous Oxide (N2O) | | | |
| Emission Factor: | 3.60E-03 | kg/mmbtu | 40CFR98 Table C-2 |
| Mass Emission Rate | 3.42 | tpy | |
| Global Warming Potential: | 298 | | 40CFR98 Table A -1 |
| Emissions: | 927 | metric tons CO2e | |
| Total GHG Emissions: | 89,145 | tpy | |
| Metric Tons CO2e | 1,082 | metric tons CO2e | |

IFG Moyie
Greenhouse Gas Calculations, Baseline Actual

| | | | |
|---|---|---|---|
| Hog Fuel Boiler | 592,994 | MMBtu/year | |
| Carbon Dioxide (CO2) (not actually a greenhouse gas when emitted from biomass burning) | | | |
| Emission Factor: | 93.8 | kg/mmbtu | 40CFR98 Table C-1 |
| Mass Emission Rate | 61,185 | tpy | |
| Global Warming Potential: | 1 | | 40CFR98 Table A -1 |
| Emissions: | 55,623 | metric tons CO2e | |
| Methane (CH4) | | | |
| Emission Factor: | 7.20E-03 | kg/mmbtu | 40CFR98 Table C-2 |
| Mass Emission Rate | 4.70 | tpy | |
| Global Warming Potential: | 25 | | 40CFR98 Table A -1 |
| Emissions: | 107 | metric tons CO2e | |
| Nitrous Oxide (N2O) | | | |
| Emission Factor: | 3.60E-03 | kg/mmbtu | 40CFR98 Table C-2 |
| Mass Emission Rate | 2.35 | tpy | |
| Global Warming Potential: | 298 | | 40CFR98 Table A -1 |
| Emissions: | 636 | metric tons CO2e | |
| Total GHG Emissions: | 61,192 | tpy | |
| Metric Tons CO2e | 743 | metric tons CO2e | |

Changes

| | | |
|---|---|---|
| CO2 | 27,949 | tpy |
| CH4 | 2.15 | tpy |
| N2O | 1.07 | tpy |
| CO2e | 339 | metric tons CO2e |
| Total | 27952 | tpy |

**Mobile Sources Fugitive Dust - SUMMARY**
**Based on Production, for Emissions Estimation Only**

**Truck Schedule**

| | | |
|---|---|---|
| **Log Trucks** | 771,480 | tons logs/yr |
| | 27 | tons/truck |
| | 28,573 | log trucks/yr |
| **Chip Trucks** | 107,150 | tons chips/yr |
| | 3,360 | lb/unit |
| | 16 | units/truck |
| | 3,986 | chip trucks/yr |
| **Shavings Trucks** | 32,145 | tons shavings/yr |
| | 2,400 | lb/unit |
| | 19 | units/truck |
| | 1,410 | shavings trucks/yr |
| **Sawdust Trucks** | 53,575 | units sawdust/yr |
| | 3,360 | lb/unit |
| | 16 | units/truck |
| | 1,993 | sawdust trucks/yr |
| **Lumber Trucks** | 214,300 | mbdft/yr |
| | 15,000 | bdft/truck |
| | 14,287 | lumber trucks/yr |
| **988 Mill Feed** | 385,740 | tons logs/yr |
| | 27 | tons/trip |
| | 14,287 | trips/yr |
| **Log Loaders** | 385,740 | tons logs/yr |
| | 15 | tons/trip |
| | 25,716 | trips/yr |
| **Fork Lifts** | 214,300 | mbdft/yr |
| | 500 | bdft/load |
| | 428,600 | fork lift trips/yr |

Running 12-month Calculations
Moyie Springs Boiler

| Month | Steam Production | | SO2 | | NOx | | VOC | | PM10/PM2.5 | | CO | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Running 12-month | | SO2 tpy | 24-month | NOx tpy | 24-month | VOC tpy | 24-month | PM10/PM2.5 | PM10 | CO | CO | 24-month | |
| | Steam (k lb) | MMBtu | 0.025 lb/mmBtu | average tpy | 0.31 lb/klb | average tpy | 0.039 lb/mmBtu | average tpy | e.f. (lb/klb) | tpy | e.f. (lb/klb) | tpy | average tpy | Notes |
| **Jan-12** | **275,972** | **438,244** | **5.48** | | **42.78** | | **8.55** | | **0.062** | **8.56** | **2.00** | 275.97 | | CO based on 2003 source test, PM10/PM2.5 based on 12-20-2009 source test |
| Feb-12 | 277,855 | 441,234 | 5.52 | | 43.07 | | 8.60 | | 0.062 | 8.61 | 2.00 | 277.86 | | |
| Mar-12 | 278,970 | 443,004 | 5.54 | | 43.24 | | 8.64 | | 0.062 | 8.65 | 2.00 | 278.97 | | |
| Apr-12 | 282,728 | 448,972 | 5.61 | | 43.82 | | 8.75 | | 0.062 | 8.76 | 2.00 | 282.73 | | |
| May-12 | 282,701 | 448,929 | 5.61 | | 43.82 | | 8.75 | | 0.062 | 8.76 | 2.00 | 282.70 | | |
| Jun-12 | 279,861 | 444,419 | 5.56 | | 43.38 | | 8.67 | | 0.062 | 8.68 | 2.00 | 279.86 | | |
| Jul-12 | 280,658 | 445,685 | 5.57 | | 43.50 | | 8.69 | | 0.062 | 8.70 | 2.00 | 280.66 | | |
| Aug-12 | 281,319 | 446,735 | 5.58 | | 43.60 | | 8.71 | | 0.062 | 8.72 | 2.00 | 281.32 | | |
| Sep-12 | 284,152 | 451,234 | 5.64 | | 44.04 | | 8.80 | | 0.062 | 8.81 | 2.00 | 284.15 | | |
| Oct-12 | 284,409 | 451,642 | 5.65 | | 44.08 | | 8.81 | | 0.062 | 8.82 | 2.00 | 284.41 | | |
| Nov-12 | 285,843 | 453,919 | 5.67 | | 44.31 | | 8.85 | | 0.062 | 8.86 | 2.00 | 285.84 | | |
| Dec-12 | 286,555 | 455,050 | 5.69 | | 44.42 | | 8.87 | | 0.062 | 8.88 | 2.00 | 286.56 | | |
| Jan-13 | 288,364 | 457,922 | 5.72 | 5.60 | 44.70 | 43.74 | 8.93 | 8.74 | 0.062 | 8.94 | 2.00 | 288.36 | 282.17 | |
| Feb-13 | 289,518 | 459,755 | 5.75 | 5.63 | 44.88 | 43.97 | 8.97 | 8.78 | 0.062 | 8.98 | 2.00 | 289.52 | 283.69 | |
| Mar-13 | 288,707 | 458,467 | 5.73 | 5.63 | 44.75 | 43.99 | 8.94 | 8.79 | 0.062 | 8.95 | 2.00 | 288.71 | 283.84 | |
| Apr-13 | 290,142 | 460,746 | 5.76 | 5.69 | 44.97 | 44.40 | 8.98 | 8.87 | 0.062 | 8.99 | 2.00 | 290.14 | 286.44 | |
| May-13 | 297,116 | 471,821 | 5.90 | 5.75 | 46.05 | 44.94 | 9.20 | 8.98 | 0.062 | 9.21 | 2.00 | 297.12 | 289.91 | |
| Jun-13 | 301,445 | 478,695 | 5.98 | 5.77 | 46.72 | 45.05 | 9.33 | 9.00 | 0.062 | 9.34 | 2.00 | 301.45 | 290.65 | |
| Jul-13 | 303,040 | 481,228 | 6.02 | 5.79 | 46.97 | 45.24 | 9.38 | 9.04 | 0.062 | 9.39 | 2.00 | 303.04 | 291.85 | |
| Aug-13 | 306,199 | 486,244 | 6.08 | 5.83 | 47.46 | 45.53 | 9.48 | 9.10 | 0.062 | 9.49 | 2.00 | 306.20 | 293.76 | |
| Sep-13 | 312,343 | 496,001 | 6.20 | 5.92 | 48.41 | 46.23 | 9.67 | 9.24 | 0.062 | 9.68 | 2.00 | 312.34 | 298.25 | |
| Oct-13 | 322,520 | 512,162 | 6.40 | 6.02 | 49.99 | 47.04 | 9.99 | 9.40 | 0.062 | 10.00 | 2.00 | 322.52 | 303.46 | |
| Nov-13 | 327,965 | 520,808 | 6.51 | 6.09 | 50.83 | 47.57 | 10.16 | 9.50 | 0.062 | 10.17 | 2.00 | 327.97 | 306.90 | |
| Dec-13 | 334,462 | 531,126 | 6.64 | 6.16 | 51.84 | 48.13 | 10.36 | 9.62 | 0.062 | 10.37 | 2.00 | 334.46 | 310.51 | |
| Jan-14 | 338,347 | 537,295 | 6.72 | 6.22 | 52.44 | 48.57 | 10.48 | 9.70 | 0.062 | 10.49 | 2.00 | 338.35 | 313.36 | |
| Feb-14 | 342,551 | 543,971 | 6.80 | 6.27 | 53.10 | 48.99 | 10.61 | 9.79 | 0.062 | 10.62 | 2.00 | 342.55 | 316.03 | |
| Mar-14 | 347,856 | 552,395 | 6.90 | 6.32 | 53.92 | 49.33 | 10.77 | 9.86 | 0.062 | 10.78 | 2.00 | 347.86 | 318.28 | |
| Apr-14 | 349,317 | 554,715 | 6.93 | 6.35 | 54.14 | 49.56 | 10.82 | 9.90 | 0.062 | 10.83 | 2.00 | 349.32 | 319.73 | |
| **May-14** | 351,211 | 557,723 | 6.97 | 6.43 | 54.44 | 50.25 | 10.88 | 10.04 | 0.062 | 10.89 | 2.00 | 351.21 | 324.16 | |
| Jun-14 | 356,314 | 565,827 | 7.07 | 6.53 | 55.23 | 50.98 | 11.03 | 10.18 | 0.062 | 11.05 | 2.00 | 356.31 | 328.88 | |
| Jul-14 | 359,921 | 571,555 | 7.14 | 6.58 | 55.79 | 51.38 | 11.15 | 10.26 | 0.062 | 11.16 | 2.00 | 359.92 | 331.48 | |
| Aug-14 | 362,833 | 576,179 | 7.20 | 6.64 | 56.24 | 51.85 | 11.24 | 10.36 | 0.091 | 16.51 | 2.00 | 362.83 | 334.52 | PM/PM2.5 based on August 22, 2014 source test |
| Sep-14 | 366,509 | 582,016 | 7.28 | 6.74 | 56.81 | 52.61 | 11.35 | 10.51 | 0.091 | 16.68 | 2.00 | 366.51 | 339.43 | |
| Oct-14 | 364,797 | 579,298 | 7.24 | 6.82 | 56.54 | 53.27 | 11.30 | 10.64 | 0.091 | 16.60 | 2.00 | 364.80 | 343.66 | |
| Nov-14 | 366,172 | 581,481 | 7.27 | 6.89 | 56.76 | 53.80 | 11.34 | 10.75 | 0.091 | 16.66 | 2.00 | 366.17 | 347.07 | |
| Dec-14 | 368,340 | 584,924 | 7.31 | 6.98 | 57.09 | 54.47 | 11.41 | 10.88 | 0.091 | 16.76 | 2.00 | 368.34 | 351.40 | |
| Jan-15 | 369,894 | 587,392 | 7.34 | 7.03 | 57.33 | 54.89 | 11.45 | 10.97 | 0.091 | 16.83 | 2.00 | 369.89 | 354.12 | |
| Feb-15 | 366,540 | 582,066 | 7.28 | 7.04 | 56.81 | 54.95 | 11.35 | 10.98 | 0.091 | 16.68 | 2.00 | 366.54 | 354.55 | |
| Mar-15 | 368,439 | 585,081 | 7.31 | 7.11 | 57.11 | 55.51 | 11.41 | 11.09 | 0.091 | 16.76 | 2.00 | 368.44 | 358.15 | |
| Apr-15 | 373,080 | 592,451 | 7.41 | 7.17 | 57.83 | 55.99 | 11.55 | 11.18 | 0.091 | 16.98 | 2.00 | 373.08 | 361.20 | |
| May-15 | 370,827 | 588,873 | 7.36 | 7.17 | 57.48 | 55.96 | 11.48 | 11.18 | 0.091 | 16.87 | 2.00 | 370.83 | 361.02 | |
| Jun-15 | 368,481 | 585,148 | 7.31 | 7.19 | 57.11 | 56.17 | 11.41 | 11.22 | 0.091 | 16.77 | 2.00 | 368.48 | 362.40 | |
| Jul-15 | 368,686 | 585,473 | 7.32 | 7.23 | 57.15 | 56.47 | 11.42 | 11.28 | 0.091 | 16.78 | 2.00 | 368.69 | 364.30 | |
| Aug-15 | 367,616 | 583,774 | 7.30 | 7.25 | 56.98 | 56.61 | 11.38 | 11.31 | 0.091 | 16.73 | 2.00 | 367.62 | 365.22 | |
| Sep-15 | 360,609 | 572,647 | 7.16 | 7.22 | 55.89 | 56.35 | 11.17 | 11.26 | 0.091 | 16.41 | 2.00 | 360.61 | 363.56 | |
| Oct-15 | 361,682 | 574,351 | 7.18 | 7.21 | 56.06 | 56.30 | 11.20 | 11.25 | 0.091 | 16.46 | 2.00 | 361.68 | 363.24 | |
| Nov-15 | 360,116 | 571,864 | 7.15 | 7.21 | 55.82 | 56.29 | 11.15 | 11.25 | 0.091 | 16.39 | 2.00 | 360.12 | 363.14 | |
| Dec-15 | 358,139 | 568,724 | 7.11 | 7.21 | 55.51 | 56.30 | 11.09 | 11.25 | 0.091 | 16.30 | 2.00 | 358.14 | 363.24 | |
| Jan-16 | 360,732 | 572,842 | 7.16 | 7.25 | 55.91 | 56.62 | 11.17 | 11.31 | 0.091 | 16.41 | 2.00 | 360.73 | 365.31 | |
| Feb-16 | 369,796 | 587,236 | 7.34 | 7.31 | 57.32 | 57.07 | 11.45 | 11.40 | 0.091 | 16.83 | 2.00 | 369.80 | 368.17 | |
| Mar-16 | 375,718 | 596,640 | 7.46 | 7.39 | 58.24 | 57.67 | 11.63 | 11.52 | 0.091 | 17.10 | 2.00 | 375.72 | 372.08 | |
| Apr-16 | 373,764 | 593,537 | 7.42 | **7.41** | 57.93 | **57.88** | 11.57 | **11.5634** | 0.091 | **17.01** | 2.00 | 373.76 | **373.42** | |
| May-16 | 379,739 | 603,025 | 7.54 | 7.45 | 58.86 | 58.17 | 11.76 | 11.62 | 0.065 | 12.34 | 2.00 | 379.74 | 375.28 | PM/PM2.5 based on May 20, 2016 source test |
| Jun-16 | 390,337 | 619,855 | 7.75 | 7.53 | 60.50 | 58.81 | 12.09 | 11.75 | 0.065 | 12.69 | 2.00 | 390.34 | 379.41 | |
| Jul-16 | 391,000 | 620,908 | 7.76 | 7.54 | 60.61 | 58.88 | 12.11 | 11.76 | 0.065 | 12.71 | 1.30 | 254.15 | 311.42 | CO based on July 13, 2016 source test |
| Aug-16 | 391,000 | 620,908 | 7.76 | 7.53 | 60.61 | 58.79 | 12.11 | 11.75 | 0.065 | 12.71 | 1.30 | 254.15 | 310.88 | |
| Sep-16 | 391,000 | 620,908 | 7.76 | 7.46 | 60.61 | 58.25 | 12.11 | 11.64 | 0.065 | 12.71 | 1.30 | 254.15 | 307.38 | |
| Oct-16 | 391,000 | 620,908 | 7.76 | 7.47 | 60.61 | 58.33 | 12.11 | 11.65 | 0.065 | 12.71 | 1.30 | 254.15 | 307.92 | |
| Nov-16 | 391,000 | 620,908 | 7.76 | 7.45 | 60.61 | 58.21 | 12.11 | 11.63 | 0.065 | 12.71 | 1.30 | 254.15 | 307.13 | |
| Dec-16 | 391,000 | 620,908 | 7.76 | 7.44 | 60.61 | 58.06 | 12.11 | 11.60 | 0.065 | 12.71 | 1.30 | 254.15 | 306.14 | |
| Jan-17 | 391,000 | 620,908 | 7.76 | 7.46 | 60.61 | 58.26 | 12.11 | 11.64 | 0.065 | 12.71 | 1.30 | 254.15 | 307.44 | |
| Feb-17 | 391,000 | 620,908 | 7.76 | 7.55 | 60.61 | 58.96 | 12.11 | 11.78 | 0.065 | 12.71 | 1.30 | 254.15 | 311.97 | |
| Mar-17 | 391,000 | 620,908 | 7.76 | 7.61 | 60.61 | 59.42 | 12.11 | 11.87 | 0.065 | 12.71 | 1.30 | 254.15 | 314.93 | |
| Apr-17 | 391,000 | 620,908 | 7.76 | 7.59 | 60.61 | 59.27 | 12.11 | 11.84 | 0.065 | 12.71 | 1.30 | 254.15 | 313.96 | |
| May-17 | 391,000 | 620,908 | 7.76 | 7.65 | 60.61 | 59.73 | 12.11 | 11.93 | 0.065 | 12.71 | 1.30 | 254.15 | 316.94 | |
| | **Baseline Actual Used in Permit Analysis** | | | **7.41** | | **57.88** | | **11.56** | | | | | **373.42** | |
| | | | | SO2 | | NOx | | VOC | | | | | CO | |

# APPENDIX B – AMBIENT AIR QUALITY IMPACT ANALYSES

***MEMORANDUM / DRAFT***

**DATE:** **November 17**, 2017

**TO:** **Tom Burnham**, Permit Writer, Air Program

**FROM:** Thomas Swain, Air Quality Modeler, Analyst 3, Air Program

**PROJECT:** Idaho Forest Group, LLC, Moyie Springs Facility, a Permit to Construct (PTC) P-2012.0034, Project 61933, Facility ID No. 021-00001

**SUBJECT:** Demonstration of Compliance with IDAPA 58.01.01.203.02 (NAAQS) and 203.03 (TAPs) as it relates to air quality impact analyses.

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## Contents

## 1.0 Summary

Idaho Forest Group, LLC, Moyie Spring Facility of Moyie Springs, Idaho, (IFG), submitted an application for a Permit to Construct (PTC) on August 16, 2017, for a modification to a permit for an existing facility located in Moyie Springs, Idaho, denoted as PTC P-2012.0034.

IFG, Moyie Springs, is a sawmill facility. The mill processes include the log yard, saw mill, planer mill, dry kilns, and a variety of wood handling equipment and activities. After delivery, logs are debarked and cut to dimensional lumber in the saw mill. The green lumber is dried in the kilns and then planed in the planer mill. The final product is then packaged and shipped by truck or rail. The bark is shredded and used as fuel by the boiler. The hog fuel boiler is used to supply steam to heat the dry kilns.

Details of the entire process are discussed in the main body of the DEQ Statement of Basis supporting the issued proposed PTC. This modeling review memorandum provides a summary and approval of the ambient air impact analyses submitted with the permit application. It also describes DEQ's review of those analyses, DEQ's verification analyses, additional clarifications, and conclusions.

Project-specific air quality impact analyses involving atmospheric dispersion modeling of estimated emissions associated with the facility were submitted to DEQ to demonstrate that the facility would not cause or significantly contribute to a violation of any ambient air quality standard as required by IDAPA 58.01.01.203.02 and 203.03 (Idaho Air Rules Section 203.02 and 203.03).

Bison Engineering, Inc., (BISON), performed the ambient air impact analyses for this project on behalf of IFG. The analyses were performed to demonstrate compliance with applicable air quality standards. The DEQ review summarized by this memorandum addressed only the rules, policies, methods, and data pertaining to the air impact analyses used to demonstrate that the estimated emissions increases at the facility associated with the proposed project will not cause or significantly contribute to a violation of any applicable air quality standard. This review did not evaluate compliance with other rules or analyses that do not pertain to the air impact analyses. Evaluation of emissions estimates is the responsibility of the permit writer and is addressed in the main body of the Statement of Basis. The accuracy of emissions estimates was not directly evaluated as part of DEQ's review of the air impact analyses submitted and described in this modeling review memorandum.

A modeling protocol, prepared by BISON, was submitted to DEQ with the pre-application materials on July 11, 2017. Conditional approval of the protocol was sent to BISON on August 10, 2017. IFG sent a signed preliminary application on the same day, prior to receiving the conditions in the protocol approval. The final application was received by DEQ on August 18, 2017. The application was deemed complete on September 7, 2017.

The final submitted air quality impact analyses: 1) utilized appropriate methods and models; 2) was conducted using reasonably accurate or conservative model parameters and input data (review of emissions estimates was addressed by the DEQ permit writer); 3) adhered to established DEQ guidelines for new source review dispersion modeling; 4) showed either a) that estimated potential/allowable emissions are at a level defined as below regulatory concern (BRC) and do not require a NAAQS compliance demonstration; b) that predicted pollutant concentrations from emissions associated with the project as modeled were below Significant Impact Levels (SILs) or other applicable regulatory thresholds; or c) that predicted pollutant concentrations from emissions associated with the project as modeled, when appropriately combined with co-contributing sources and background concentrations, were below applicable National Ambient Air Quality Standards (NAAQS) at ambient air locations where and when the project has a significant impact; 5)

showed that Toxic Air Pollutant (TAP) emissions increases associated with the project will not result in increased ambient air impacts exceeding allowable TAP increments.

Table 1 presents key assumptions and results to be considered in the development of the permit.

Air impact analyses are required by Idaho Air Rules to be conducted according to methods outlined in 40 CFR 51, Appendix W (*Guideline on Air Quality Models*). Appendix W requires that facilities be modeled using emissions and operations representative of design capacity or as limited by a federally enforceable permit condition. The submitted information and analyses demonstrated to the satisfaction of the Department that operation of the proposed facility will not cause or significantly contribute to a violation of any ambient air quality standard, provided the key conditions in Table 1 are representative of facility design capacity or operations as limited by a federally enforceable permit condition.

**Table 1. KEY ASSUMPTIONS USED IN MODELING ANALYSES**

| Criteria/Assumption/Result | Explanation/Consideration |
|---|---|
| **General Emissions Rates.** Emissions rates used in the modeling analyses, as listed in this memorandum, represent maximum potential emissions as given by design capacity or as limited by the issued permit for the specific pollutant and averaging period. | Compliance has not been demonstrated for emissions rates greater than those used in the modeling analyses. Kiln emissions greater than those as modeled (which represent an average of selected wood types) have not demonstrated compliance with annual-averaged $PM_{2.5}$ NAAQS. To effectively limit annual-averaged kiln emissions, kiln throughput of coastal hemlock must be no greater than 107,150 million board feet/year (50% of the requested total allowable throughput). |
| **Modeling Thresholds for Criteria Pollutant Emissions.** Maximum short-term and long-term emissions of the criteria pollutants $NO_2$, $PM_{10}$, and $PM_{2.5}$ associated with the proposed project are above the Level 1 Modeling Applicability Threshold for each pollutant. Therefore, a demonstration of compliance with NAAQS was done for those criteria pollutants and applicable averaging times. | Project-specific air impact analyses demonstrating compliance with NAAQS, as required by Idaho Air Rules Section 203.02, are required for pollutants having an emissions increase that is greater than Level I Modeling Applicability Thresholds. Compliance with NAAQS has not been demonstrated for emissions that exceed the emission estimates presented in the application. |
| **TAPS Modeling.** Emission rates of applicable TAPs did not exceed Emissions Screening Level (EL) rates of Idaho Air Rules Section 585 and 586. | Air impact analyses demonstrating compliance with TAPs increments, as required by Idaho Air Rules Section 203.03, is required for pollutants having an emissions rate greater than ELs. Therefore, a demonstration of compliance with TAPs increments was not required. |

## 2.0 Background Information

This section provides background information applicable to the project and the site where the facility is located. It also provides a brief description of the applicable air impact analyses requirements for the project.

### *2.1 Project Description*

IFG is an existing facility located in Moyie Springs, Idaho. The primary processes at the facility are the sawmill, dry kilns, planer mill, and steam plant. A more detailed description of the facility is provided in the application and in the DEQ Statement of Basis. This project proposes changes to boiler operations and kiln production limits existing in the current permit. IFG also is requesting the removal of the HAP (hazardous air

pollutant) limits which would change the status of the facility to a major source of HAPs. The boiler will become subject to Maximum Achievable Control Technology (MACT) requirements for industrial boilers (ie, Boiler MACT). The boiler emissions will be modified to comply with Boiler MACT PM emissions requirements. This project also includes replacement of the electrified filter bed (EFB) that helps control of emissions on the boiler with an electrostatic precipitator (ESP).

The air impact analyses performed by BISON, as part of the permit application, were submitted to show that emissions changes resulting from the proposed project do not cause or contribute to an exceedance of any NAAQS or exceed any TAPS increment.

## 2.2 Proposed Location and Area Classification

The IFG facility is located in Moyie Springs, Idaho. The location is 20 miles south of the Canadian border and 8 miles west of the Montana border. The address is 3082 Roosevelt Road, and the UTM coordinates in meters for the site are Easting 555480 and Northing 5397090, Zone 11. This area is designated as an attainment or unclassifiable area for sulfur dioxide ($SO_2$), nitrogen dioxide ($NO_2$), carbon monoxide (CO), lead (Pb), ozone ($O_3$), particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers ($PM_{10}$), and particulate matter with an aerodynamic diameter less than or equal to a nominal 2.5 micrometers ($PM_{2.5}$). The area is not classified as non-attainment for any criteria pollutants.

## 2.3 Air Impact Analyses Required for All Permits to Construct

Criteria Pollutant and TAP Impact Analyses for a PTC are addressed in Idaho Air Rules Sections 203.02 and 203.03:

> *No permit to construct shall be granted for a new or modified stationary source unless the applicant shows to the satisfaction of the Department all of the following:*
>
> ***02. NAAQS**. The stationary source or modification would not cause or significantly contribute to a violation of any ambient air quality standard.*
>
> ***03. Toxic Air Pollutants.** Using the methods provided in Section 210, the emissions of toxic air pollutants from the stationary source or modification would not injure or unreasonably affect human or animal life or vegetation as required by Section 161. Compliance with all applicable toxic air pollutant carcinogenic increments and toxic air pollutant non-carcinogenic increments will also demonstrate preconstruction compliance with Section 161 with regards to the pollutants listed in Sections 585 and 586.*

Atmospheric dispersion modeling, using computerized simulations, is used to demonstrate compliance with both NAAQS and TAPs. Idaho Air Rules Section 202.02 states:

> ***Estimates of Ambient Concentrations**. All estimates of ambient concentrations shall be based on the applicable air quality models, data bases, and other requirements specified in 40 CFR 51 Appendix W (Guideline on Air Quality Models).*

## 2.4 Significant Impact Level and Cumulative NAAQS Impact Analyses

The Significant Impact Level (SIL) analysis for a new facility or proposed modification to a facility involves modeling estimated criteria air pollutant emissions from the facility or modification to determine the potential impacts to ambient air. Air impact analyses are required by Idaho Air Rules to be conducted using

methods and data as outlined in 40 CFR 51, Appendix W (Guideline on Air Quality Models). Appendix W requires that facilities be modeled using emissions and operations representative of design capacity or as limited by a federally enforceable permit condition.

A facility or modification is considered to have a significant impact on air quality if maximum modeled impacts to ambient air exceed the established SIL listed in Idaho Air Rules Section 006 (referred to as a significant contribution in Idaho Air Rules) or as incorporated by reference as per Idaho Air Rules Section 107.03.b. Table 2 lists the applicable SILs.

If modeled maximum pollutant impacts to ambient air from the emissions sources associated with a new facility or modification exceed the SILs, then a cumulative NAAQS impact analysis is necessary to demonstrate compliance with NAAQS and Idaho Air Rules Section 203.02.

DEQ has developed modeling applicability thresholds that effectively assure that project-related emissions increases below stated values will result in ambient air impacts below the applicable SILs. The threshold levels and dispersion modeling analyses supporting those levels are presented in the *State of Idaho Guideline for Performing Air Quality Impact Analyses*[1] (*Idaho Air Modeling Guideline*). Use of a modeling threshold represents the use of conservative modeling, performed in support of the threshold, as a project SIL analysis. Project-specific modeling applicability for this project is addressed in Section 3.1.1 of this memorandum.

A cumulative NAAQS impact analysis for attainment area pollutants involves assessing ambient impacts (typically the design values consistent with the form of the standard) from facility-wide emissions, and emissions from any nearby co-contributing sources, and then adding a DEQ-approved background concentration value to the modeled result that is appropriate for the criteria pollutant/averaging-period at the facility location and the area of significant impact. The resulting pollutant concentrations in ambient air are then compared to the NAAQS listed in Table 2. Table 2 also lists SILs and specifies the modeled design value that must be used for comparison to the NAAQS. NAAQS compliance is evaluated on a receptor-by-receptor basis for the modeling domain.

If the cumulative NAAQS impact analysis indicates a violation of the standard, the permit may not be issued if the proposed project has a significant contribution (exceeding the SIL) to the modeled violation. This evaluation is made specific to both time and space. If the SIL analysis indicates the facility/modification has an impact exceeding the SIL, the facility might not have a significant contribution to a violation if impacts are below the SIL at the specific receptor showing the violation during the time periods when a modeled violation occurred.

Compliance with Idaho Air Rules Section 203.02 is generally demonstrated if: a) all modeled impacts of the SIL analysis are below the applicable SIL or other level determined to be inconsequential to NAAQS compliance; or b) modeled design values of the cumulative NAAQS impact analysis (modeling all emissions from the facility and co-contributing sources, and adding a background concentration) are less than applicable NAAQS at receptors where impacts from the proposed facility/modification exceeded the SIL or other identified level of consequence; or c) if the cumulative NAAQS analysis showed NAAQS violations, the impact of proposed facility/modification to any modeled violation was inconsequential (typically assumed to be less than the established SIL) for that specific receptor and for the specific modeled time when the violation occurred.

| Table 2. APPLICABLE REGULATORY LIMITS | | | | |
|---|---|---|---|---|
| **Pollutant** | **Averaging Period** | **Significant Impact Levels[a] ($\mu g/m^3$)[b]** | **Regulatory Limit[c] ($\mu g/m^3$)** | **Modeled Design Value Used[d]** |
| $PM_{10}$[e] | 24-hour | 5.0 | 150[f] | Maximum 6th highest[g] |
| $PM_{2.5}$[h] | 24-hour | 1.2 | 35[i] | Mean of maximum 8th highest[j] |
| | Annual | 0.3 | 12[k] | Mean of maximum 1st highest[l] |
| Carbon monoxide (CO) | 1-hour | 2,000 | 40,000[m] | Maximum 2nd highest[n] |
| | 8-hour | 500 | 10,000[m] | Maximum 2nd highest[n] |
| Sulfur Dioxide ($SO_2$) | 1-hour | 3 ppb[o] (7.8 $\mu g/m^3$) | 75 ppb[p] (196 $\mu g/m^3$) | Mean of maximum 4th highest[q] |
| | 3-hour | 25 | 1,300[m] | Maximum 2nd highest[n] |
| | 24-hour | 5 | 365[m] | Maximum 2nd highest[n] |
| | Annual | 1.0 | 80[r] | Maximum 1st highest[n] |
| Nitrogen Dioxide ($NO_2$) | 1-hour | 4 ppb (7.5 $\mu g/m^3$) | 100 ppb[s] (188 $\mu g/m^3$) | Mean of maximum 8th highest[t] |
| | Annual | 1.0 | 100[r] | Maximum 1st highest[n] |
| Lead (Pb) | 3-month[u] | NA | 0.15[r] | Maximum 1st highest[n] |
| | Quarterly | NA | 1.5[r] | Maximum 1st highest[n] |
| Ozone ($O_3$) | 8-hour | 40 TPY VOC[v] | 70 ppb[w] | Not typically modeled |

a Idaho Air Rules Section 006 (definition for significant contribution) or as incorporated by reference as per Idaho Air Rules Section 107.03.b.
b Micrograms per cubic meter.
c Incorporated into Idaho Air Rules by reference, as per Idaho Air Rules Section 107.
d The maximum 1st highest modeled value is always used for the significant impact analysis unless indicated otherwise. Modeled design values are calculated for each ambient air receptor.
e Particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers.
f Not to be exceeded more than once per year on average over 3 years.
g Concentration at any modeled receptor when using five years of meteorological data.
h Particulate matter with an aerodynamic diameter less than or equal to a nominal 2.5 micrometers.
i 3-year mean of the upper 98th percentile of the annual distribution of 24-hour concentrations.
j 5-year mean of the 8th highest modeled 24-hour concentrations at the modeled receptor for each year of meteorological data modeled. For the SIL analysis, the 5-year mean of the 1st highest modeled 24-hour impacts at the modeled receptor for each year.
k 3-year mean of annual concentration.
l 5-year mean of annual averages at the modeled receptor.
m Not to be exceeded more than once per year.
n Concentration at any modeled receptor.
o Interim SIL established by EPA policy memorandum.
p 3-year mean of the upper 99th percentile of the annual distribution of maximum daily 1-hour concentrations.
q 5-year mean of the 4th highest daily 1-hour maximum modeled concentrations for each year of meteorological data modeled. For the significant impact analysis, the 5-year mean of 1st highest modeled 1-hour impacts for each year is used.
r Not to be exceeded in any calendar year.
s 3-year mean of the upper 98th percentile of the annual distribution of maximum daily 1-hour concentrations.
t 5-year mean of the 8th highest daily 1-hour maximum modeled concentrations for each year of meteorological data modeled. For the significant impact analysis, the 5-year mean of maximum modeled 1-hour impacts for each year is used.
u 3-month rolling average.
v An annual emissions rate of 40 ton/year of VOCs is considered significant for $O_3$.
w Annual 4th highest daily maximum 8-hour concentration averaged over three years.

## 2.5 *Toxic Air Pollutant Analyses*

Emissions of toxic substances are generally addressed by Idaho Air Rules Section 161:

> ***Any contaminant which is by its nature toxic to human or animal life or vegetation shall not be emitted in such quantities or concentrations as to alone, or in combination with other contaminants, injure or unreasonably affect human or animal life or vegetation.***

Permitting requirements for toxic air pollutants (TAPs) from new or modified sources are specifically addressed by Idaho Air Rules Section 203.03 and require the applicant to demonstrate to the satisfaction of DEQ the following:

> *Using the methods provided in Section 210, the emissions of toxic air pollutants from the stationary source or modification would not injure or unreasonably affect human or animal life or vegetation as required by Section 161. Compliance with all applicable toxic air pollutant carcinogenic increments and toxic air pollutant non-carcinogenic increments will also demonstrate preconstruction compliance with Section 161 with regards to the pollutants listed in Sections 585 and 586.*

Per Idaho Air Rules Section 210, if the total project-wide emissions increase of any TAP associated with a new source or modification exceeds screening emission levels (ELs) of Idaho Air Rules Section 585 or 586, then the ambient impact of the emissions increase must be estimated. If ambient impacts are less than applicable Acceptable Ambient Concentrations (AACs) for non-carcinogens of Idaho Air Rules Section 585 and Acceptable Ambient Concentrations for Carcinogens (AACCs) of Idaho Air Rules Section 586, then compliance with TAP requirements has been demonstrated.

Idaho Air Rules Section 210.20 states that if TAP emissions from a specific source are regulated by the Department or EPA under 40 CFR 60, 61, or 63, then a TAP impact analysis under Section 210 is not required for that TAP.

## 3.0 Analytical Methods and Data

This section describes the methods and data used in analyses to demonstrate compliance with applicable air quality impact requirements.

### *3.1 Emission Source Data*

Emissions rates of criteria pollutants and TAPs for the project were provided by the applicant for various applicable averaging periods. Review and approval of estimated emissions was the responsibility of the DEQ permit writer and is not addressed in this modeling memorandum. DEQ modeling review included verification that the application's potential emissions rates were properly used in the model. The rates listed must represent the maximum allowable rate as averaged over the specified period.

Emissions rates used in the dispersion modeling analyses submitted by BISON, as listed in this memorandum, should be reviewed by the DEQ permit writer against those in the emissions inventory of the permit application. All modeled criteria air pollutant and TAP emissions rates should be equal to or greater than the facility's emissions calculated in other sections of the PTC application or requested permit allowable emission rates.

#### *3.1.1 Criteria Pollutant Emissions Rates and Modeling Applicability*

If the modification-related or facility-wide potential to emit (PTE) values for a specific criteria pollutant would qualify for a below regulatory concern (BRC) permit exemption as per Idaho Air Rules Section 221 if it were not for some pollutants exceeding BRC thresholds, then an air impact analysis for that pollutant may not be required for permit issuance. DEQ's regulatory interpretation policy of exemption provisions of Idaho Air Rules (Policy on NAAQS Compliance Demonstration Requirements, DEQ policy memorandum, July 11, 2014) is that: "A DEQ NAAQS compliance assertion will not be made by the DEQ modeling group for

specific criteria pollutants having a project emissions increase below BRC levels, provided the proposed project would have qualified for a Category I Exemption for BRC emissions quantities except for the emissions of another criteria pollutant." The interpretation policy also states that the exemption criteria of uncontrolled PTE not to exceed 100 ton/year (Idaho Air Rules Section 220.01.a.i) is not applicable when evaluating whether a NAAQS impact analyses is required. A permit will be issued limiting PTE below 100 ton/year, thereby negating the need to maintain calculated uncontrolled PTE under 100 ton/year.

DEQ has generated non-site-specific project modeling applicability thresholds for those projects that cannot use the BRC exemption from an impact analysis (if there are specific permitted emissions limits that require changing, etc.). Modeling applicability thresholds are provided in the *Idaho Air Modeling Guideline*. These thresholds were based on assuring an ambient impact of less than established SIL for that specific pollutant and averaging period.

If project-specific total emissions rates are below Level I Modeling Applicability Thresholds, project-specific air impact analyses are not necessary for permitting. Use of Level II Modeling Applicability Thresholds are conditional, requiring DEQ approval. Table 3 provides the emissions-based modeling applicability summary for this project. The submitted application did not evaluate estimated emissions increases against BRC thresholds. It was assumed that the project would not qualify for the BRC exclusion from NAAQS compliance demonstration because various existing permit limits/restrictions must be changed, which could not be accomplished under an exemption. The submitted modeling report evaluated modeling applicability based on comparison of emissions to Level 1 Modeling Applicability Thresholds. The applicant did not request approval to use Level II Modeling Applicability Thresholds. Emissions of all criteria pollutants except Lead resulting from the proposed project are greater than the Level 1 modeling thresholds, and therefore air impact analyses are required for these criteria pollutants.

**Table 3. MODELING APPLICABILITY ANALYSIS RESULTS**

| Pollutant | Averaging Period | Emissions | BRC Threshold[a] (ton/year) | Level I Modeling Thresholds (lb/hour or ton/year) | Level II Modeling Thresholds[b] (lb/hour or ton/year) | Modeling Required |
|---|---|---|---|---|---|---|
| $PM_{2.5}$ | Annual | 29.5 ton/yr[c] | 1.0 | 0.350 | 4.1 | Yes |
| | 24-hour | 8.97 lb/hr[d] | | 0.054 | 0.63 | Yes |
| $PM_{10}$ | 24-hour | 10.3 lb/hr | 1.5 | 0.22 | 2.6 | Yes |
| NOx | Annual | 84.3 ton/yr | 4.0 | 1.2 | 14 | Yes |
| | 1-hour | 24.8 lb/hr | | 0.2 | 2.4 | Yes |
| $SO_2$ | Annual | 10.8 ton/yr | 4.0 | 1.2 | 14 | Yes |
| | 1-hour | 3.2 lb/hr | | 0.21 | 2.5 | Yes |
| CO | 1,8 hour | 104 lb/hr | 10.0 | 15.0 | 175 | Yes |
| Lead | Annual | 0.4 lb/mo[e] | 0.06 | 14 pounds/month | | No |

[a] No criteria pollutant emissions increases associated with this project could qualify for a BRC exemption. Therefore, the BRC threshold for exempting the project from a NAAQS compliance demonstration requirement was not used.

[b] Approval of Level II Thresholds was not requested by the applicant. Therefore, these thresholds were not used.

[c] Tons/year.

[d] Pounds/hour.

[e] Pounds/month

Due to the complexities of the past chronology of permits on this facility, and the desire to avoid triggering the Prevention of Significant Deterioration (PSD) permitting program, the applicant calculated the project emissions based on three separate calculations of "existing facility emissions." Table 4 lists the results of these calculations. In effect, the projects emissions as calculated and listed in Table 3 are greater than the Level 1 modeling thresholds for $PM_{10}$, $PM_{2.5}$, NOx, $SO_2$, and CO, but do not trigger PSD.

Emissions as calculated for the dry kilns are based on an average of the two most common wood types (as historically processed), Douglas fir and coastal hemlock. For example, the modeled emission rate for $PM_{10}$ is 0.038 lb/MBF (million board feet). This is the average of 0.051 lb/MBF for coastal hemlock and 0.024 lb/MBF for douglas fir (these calculations are listed in *Emissions Inventory Report,* provided with the application documentation). Compliance with the NAAQS for $PM_{10}$ and $PM_{2.5}$ were NOT demonstrated for operations or throughput of materials that would result in emission rates greater than this average value. Section 4.1 of this memorandum presents DEQ sensitivity analyses used to evaluate the need for species-specific throughput limits for the kiln.

**Table 4. MODELING APPLICABILITY PSD ANALYSIS - PROPOSED TON/YEAR PTE VERSUS EXISTING EMISSIONS**

| Pollutant | Proposed PTE vs 1986/1987 Baseline Actuals | Proposed PTE vs 2014/2016 Baseline Actuals | Proposed PTE vs Current PTE (Permitted) | PSD Significant Emissions Rate | PSD Major |
|---|---|---|---|---|---|
| $PM_{2.5}$ | < 0[a] | **8.24** | 7.77 | 10 | No |
| $PM_{10}$ | < 0[a] | **9.73** | 8.78 | 15 | No |
| NOx | **39.2** | 26.4 | 23.7 | 40 | No |
| $SO_2$ | **5** | 3.4 | 3 | 40 | No |
| CO | 62.5 | < 0 | **99.4** | 100 | No |

[a] Value is less than 0.0 ton/year because of emissions reductions performed after 1986/1987.

Ozone ($O_3$) differs from other criteria pollutants in that it is not typically emitted directly into the atmosphere. $O_3$ is formed in the atmosphere through reactions of VOCs, NOx, and sunlight. Atmospheric dispersion models used in stationary source air permitting analyses (see Section 3.3.3) cannot be used to estimate $O_3$ impacts resulting from VOC and NOx emissions from an industrial facility. $O_3$ concentrations resulting from area-wide emissions are predicted by using more complex airshed models such as the Community Multi-Scale Air Quality (CMAQ) modeling system. Use of the CMAQ model is very resource intensive and DEQ asserts that performing a CMAQ analysis for a particular permit application is not typically a reasonable or necessary requirement for air quality permitting.

Addressing secondary formation of $O_3$ has been somewhat addressed in EPA regulation and policy. As stated in a letter from Gina McCarthy of EPA to Robert Ukeiley, acting on behalf of the Sierra Club (letter from Gina McCarthy, Assistant Administrator, United States Environmental Protection Agency, to Robert Ukeiley, January 4, 2012):

> *. . . footnote 1 to sections 51.166(I)(5)(I) of the EPA's regulations says the following: "No de minimis air quality level is provided for ozone. However, any net emission increase of 100 tons per year or more of volatile organic compounds or nitrogen oxides subject to PSD would be required to perform an ambient impact analysis, including the gathering of air quality data."*

*The EPA believes it unlikely a source emitting below these levels would contribute to such a violation of the 8-hour ozone NAAQS, but consultation with an EPA Regional Office should still be conducted in accordance with section 5.2.1.c. of Appendix W when reviewing an application for sources with emissions of these ozone precursors below 100 TPY."*

Allowable emissions estimates of VOCs and NOx are below the 100 tons/year threshold, and DEQ determined it was not appropriate or necessary to require a quantitative source specific $O_3$ impact analysis

Table 5 lists the estimated emissions used to determine if the proposed project impacts might produce impacts greater than the SIL for all criteria pollutants with emission estimates greater than the Level 1 Modeling Applicability Threshold. The project results in an increase in annual lumber production. Short-term operations are not affected by proposed changes. The project also involves changing emissions control equipment on the boiler, which alters emissions release characteristic, including a shorter emissions stack. BISON evaluated the net effect of this changes by modeling total emissions from the modified sources along with negative values for the pre-modified source. Annual post-modification emissions values accounted for the production increase.

**Table 5. MODELED CRITERIA POLLUTANTS FOR SIL ANALYSIS**

| Source ID | Source Description | Emissions (pounds/hour) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | $PM_{2.5}$ 24-hour | $PM_{2.5}$ annual | $PM_{10}$ 24-hour | $NO_2$ 1-hour | $NO_2$ annual | $SO_2$ 1-hour | $SO_2$ annual | CO 1,8-hour |
| EFBSTACK[a] | boiler with EFB as permitted | -6.51 | -3.83 | -6.51 | -24.80 | -13.84 | -3.18 | -1.77 | -104 |
| ESPSTACK | boiler with ESP | 6.86 | 5.32 | 6.86 | 24.80 | 19.25 | 3.18 | 2.47 | 104 |
| EFBBAG[a] | EFB media baghouse | -0.12 | -0.09 | -0.18 | 0 | 0 | 0 | 0 | 0 |
| KILN111-KILN424 (32 vents) | Dry Kilns (4) #111-#424 | 0[b] | 0.205[c] (0.00639 /vent)[d] | 0[b] | 0 | 0 | 0 | 0 | 0 |

[a] Modeled as a negative value to credit the removed emissions point in the SIL analysis.
[b] No short-term emissions increase will occur.
[c] Total kiln emissions.
[d] Emissions evenly distributed among 32 modeled kiln vents.

Table 6 lists the emissions modeled for assessing the entire facility and its compliance with all NAAQS for those pollutants having impacts greater than the respective SIL.

**Secondary Particulate Formation**

The impact from secondary particulate formation resulting from emissions of NOx, $SO_2$, and/or VOCs was assumed by DEQ to be negligible based on the magnitude of emissions and the short distance from emissions sources to modeled receptors where maximum $PM_{10}$ and $PM_{2.5}$ impacts would be anticipated.

| Table 6. MODELED CRITERIA POLLUTANTS NAAQS ANALYSES | | | | | | |
|---|---|---|---|---|---|---|
| **Point Sources** | | | | | | |
| **Source ID** | **Source Description** | **Emissions (pounds/hour)** | | | | |
| | | **$PM_{2.5}$ 24-hour** | **$PM_{2.5}$ annual** | **$PM_{10}$ 24-hour** | **$NO_2$ 1-hour** | **$SO_2$ 1-hour** |
| ESPSTACK | kipper & sons hog fuel boiler | 6.86 | 5.3242 | 6.86 | 24.80 | 3.18 |
| CHIPCYC | chip cyclone #2 | 0.048 | 0.0078 | 0.095 | | |
| PLCYC5 | planer shavings cyclone #3 baghouse | 0.065 | 0.0105 | 0.097 | | |
| PLCYC6 | planer shavings cyclone #4 baghouse | 0.065 | 0.0105 | 0.097 | | |
| FUELBIN1 | fuel bin #1 target boxes | 0.077 | 0.0126 | 0.154 | | |
| FUELBIN2 | fuel bin #2 target boxes | 0.077 | 0.0126 | 0.154 | | |
| HOGFUEL | hog fuel truck bin target box | 0.017 | 0.0027 | 0.034 | | |
| SAWDUST | sawdust truck bin target box | 0.119 | 0.0194 | 0.238 | | |
| CHIPBIN | green chip bin target box | 0.214 | 0.0388 | 0.428 | | |
| KILN111 – KILN424 | Dry Kilns (4) #111- #424 | 1.25[a] (0.039/vent)[b] 1.824[c] (0.0570/vent)[d] | 0.807[a] (0.0252/vent)[b] 1.174[c] (0.0367/vent)[d] | 1.44[a] (0.045/vent)[b] | | |
| **Volume Sources** | | | | | | |
| **Source ID** | **Source Description** | **Emissions (pounds/hour)** | | | | |
| | | **$PM_{2.5}$ 24-hour** | **$PM_{2.5}$ annual** | **$PM_{10}$ 24-hour** | **$NO_2$ 1-hour** | **$SO_2$ 1-hour** |
| DEBARKER | Debarker/ EU 14a | 0.0533 | 0.008699 | 0.301 | | |
| BARKHOG | Bark Hog/EU 14b | 0.00133 | 2.17E-04 | 0.00752 | | |
| CHIPLOUT | Chip Bin Truck Loadout | 4.75E-04 | 7.76E-05 | 0.00333 | | |
| SHAVELOUT | Shavings Bin Truck Loadout | 9.69E-05 | 1.58E-05 | 6.78E-04 | | |
| SAWDUSTLO | Sawdust Bin Truck Loadout | 4.75E-05 | 7.74E-06 | 3.33E-04 | | |

[a] Total kiln emissions.
[b] Emissions are evenly distributed among 32 modeled points representing kiln roof vents.
[c] Total kiln emissions for DEQ sensitivity analysis assuming 100% hemlock throughput.
[d] Kiln emissions per modeled kiln vent for DEQ sensitivity analysis.

### *3.1.2 Toxic Air Pollutant Emissions Rates*

TAP emissions regulations under Idaho Air Rules Section 220 are only applicable for new or modified sources constructed after July 1, 1995. The submitted emissions inventory in the application identified several TAPs that are not exempted as HAPS per IDAPA 58.01.01.210.20. There are non-carcinogenic TAPs (regulated on a 24-hour basis), and because the short term emissions for these TAPs do not increase for this project, further modeling analyses was not done.

### *3.2 Emission Release Parameters*

Table 7 provides emissions release parameters, including stack height, stack diameter, exhaust temperature, and exhaust velocity for facility sources as used in the final modeling assessment.

Stack parameters used in the modeling analyses were largely documented/justified adequately in the application, and are provided in Attachment D-1 of the application. Derivation of some stack parameters and emissions were based on a 2016 source visit test for many of the sources. The Hog fuel bin was modeled with an exit velocity of 0.1 m/s to simulate a horizontal release. This is not consistent with DEQ modeling

policy. The source was remodeled as a "Horizontal" release type source in a sensitivity modeling run to assure that NAAQS were not exceeded. Some source parameters were taken from equipment specifications. A mean temperature rating of 220 °F (between the operating range of 200 °F and 240 °F) was used in modeling the kiln sources. DEQ determined this is an adequate treatment of release parameters in this application and accepts the modeling results as submitted.

**TABLE 7. MODELING PARAMETERS**

**Point Sources**

| Source ID | Source Description | Easting[a] (m) | Northing[b] (m) | Stack Height (feet) | Temp F[c] | Exit Vel (fps)[d] | Stack Diam (feet)[e] |
|---|---|---|---|---|---|---|---|
| ESPSTACK | kipper & sons hog fuel boiler | 559513 | 5397098 | 72.0 | 309.0 | 31.23 | 5.50 |
| EFBSTACK | Boiler with EFB | 559499 | 5397103 | 80.1 | 310.0 | 64.40 | 3.83 |
| EFBBAG | EFB media baghouse | 559492 | 5397105 | 43.0 | 171.0 | 54.1 | 1.13 |
| CHIPCYC | chip cyclone #2, | 559482 | 5397045 | 26.9 | -459.7[f] | 8.36 | 4.00 |
| PLCYC5 | planer shavings cyclone #3 baghouse | 559391 | 5397037 | 28.0 | -459.7[f] | 62.48 | 3.00 |
| PLCYC6 | planer shavings cyclone #4 baghouse | 559389 | 5397033 | 28.0 | -459.7[f] | 62.48 | 3.00 |
| FUELBIN1 | fuel bin #1 target boxes | 559510 | 5397072 | 80.1 | -459.7[f] | 26.79 | 1.95 |
| FUELBIN2 | fuel bin #2 target boxes | 559502 | 5397059 | 80.1 | -459.7[f] | 26.79 | 1.95 |
| HOGFUEL | hog fuel truck bin target box | 559538 | 5397102 | 47.9 | -459.7[f] | 0.33[g] | 1.50 |
| SAWDUST | sawdust truck bin target box | 559534 | 5397094 | 60.0 | -459.7[f] | 23.54 | 2.00 |
| CHIPBIN | green chip bin target box | 559468 | 5397109 | 65.0 | -459.7[f] | 24.72 | 2.00 |
| KILN111 | lumber dry kilns | 559419 | 5397055 | 26.5 | 220.0 | 7.78 | 2.26 |
| KILN112 | lumber dry kilns | 559417 | 5397050 | 26.5 | 220.0 | 7.78 | 2.26 |
| KILN113 | lumber dry kilns | 559414 | 5397046 | 26.5 | 220.0 | 7.78 | 2.26 |
| KILN114 | lumber dry kilns | 559412 | 5397041 | 26.5 | 220.0 | 7.78 | 2.26 |
| KILN121 | lumber dry kilns | 559423 | 5397053 | 26.5 | 220.0 | 7.78 | 2.26 |
| KILN122 | lumber dry kilns | 559421 | 5397049 | 26.5 | 220.0 | 7.78 | 2.26 |
| KILN123 | lumber dry kilns | 559418 | 5397044 | 26.5 | 220.0 | 7.78 | 2.26 |
| KILN124 | lumber dry kilns | 559416 | 5397040 | 26.5 | 220.0 | 7.78 | 2.26 |
| KILN211 | lumber dry kilns | 559428 | 5397050 | 26.5 | 220.0 | 7.78 | 2.26 |
| KILN212 | lumber dry kilns | 559425 | 5397045 | 26.5 | 220.0 | 7.78 | 2.26 |
| KILN213 | lumber dry kilns | 559423 | 5397041 | 26.5 | 220.0 | 7.78 | 2.26 |
| KILN214 | lumber dry kilns | 559420 | 5397036 | 26.5 | 220.0 | 7.78 | 2.26 |
| KILN221 | lumber dry kilns | 559432 | 5397048 | 26.5 | 220.0 | 7.78 | 2.26 |
| KILN222 | lumber dry kilns | 559429 | 5397044 | 26.5 | 220.0 | 7.78 | 2.26 |
| KILN223 | lumber dry kilns | 559427 | 5397039 | 26.5 | 220.0 | 7.78 | 2.26 |
| KILN224 | lumber dry kilns | 559424 | 5397035 | 26.5 | 220.0 | 7.78 | 2.26 |
| KILN311 | lumber dry kilns | 559437 | 5397045 | 26.5 | 220.0 | 7.78 | 2.26 |
| KILN312 | lumber dry kilns | 559434 | 5397040 | 26.5 | 220.0 | 7.78 | 2.26 |
| KILN313 | lumber dry kilns | 559432 | 5397036 | 26.5 | 220.0 | 7.78 | 2.26 |
| KILN314 | lumber dry kilns | 559429 | 5397031 | 26.5 | 220.0 | 7.78 | 2.26 |
| KILN321 | lumber dry kilns | 559441 | 5397043 | 26.5 | 220.0 | 7.78 | 2.26 |
| KILN322 | lumber dry kilns | 559438 | 5397039 | 26.5 | 220.0 | 7.78 | 2.26 |

| TABLE 7. MODELING PARAMETERS | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Point Sources** | | | | | | | |
| **Source ID** | **Source Description** | **Easting[a] (m)** | **Northing[b] (m)** | **Stack Height (feet)** | **Temp F[c]** | **Exit Vel (fps)[d]** | **Stack Diam (feet)[e]** |
| KILN323 | lumber dry kilns | 559436 | 5397034 | 26.5 | 220.0 | 7.78 | 2.26 |
| KILN324 | lumber dry kilns | 559433 | 5397030 | 26.5 | 220.0 | 7.78 | 2.26 |
| KILN411 | lumber dry kilns | 559445 | 5397039 | 26.5 | 220.0 | 7.78 | 2.26 |
| KILN412 | lumber dry kilns | 559443 | 5397035 | 26.5 | 220.0 | 7.78 | 2.26 |
| KILN413 | lumber dry kilns | 559440 | 5397030 | 26.5 | 220.0 | 7.78 | 2.26 |
| KILN414 | lumber dry kilns | 559437 | 5397026 | 26.5 | 220.0 | 7.78 | 2.26 |
| KILN421 | lumber dry kilns | 559449 | 5397038 | 26.5 | 220.0 | 7.78 | 2.26 |
| KILN422 | lumber dry kilns | 559446 | 5397033 | 26.5 | 220.0 | 7.78 | 2.26 |
| KILN423 | lumber dry kilns | 559444 | 5397029 | 26.5 | 220.0 | 7.78 | 2.26 |
| KILN424 | lumber dry kilns | 559441 | 5397025 | 26.5 | 220.0 | 7.78 | 2.26 |

| **Volume Sources** | | | | |
|---|---|---|---|---|
| **Source ID** | **Source Description** | **Release Height (feet)** | **Initial Horizontal Dimension (feet)** | **Initial Vert. Dimension (feet)** |
| DEBARKER | Debarker/ EU 14a | 18.0 | 7.8 | 16.7 |
| BARKHOG | Bark Hog/EU 14b | 10.0 | 1.9 | 16.7 |
| CHIPLOUT | Chip Bin Truck Loadout | 9.0 | 11.6 | 8.4 |
| SHAVELOUT | Shavings Bin Truck Loadout | 9.0 | 11.6 | 8.4 |
| SAWDUSTLO | Sawdust Bin Truck Loadout | 9.0 | 11.6 | 8.4 |

a. Universal Transverse Mercator coordinates in meters in the east/west direction.
b. Universal Transverse Mercator coordinates in meters in the north/south direction.
c. Stack gas temperature in degrees Fahrenheit.
d. Stack gas velocity at the point of release to the atmosphere in feet/second.
e. Stack diameter in feet at the point of release to the atmosphere.
f. Setting the temperature to -459.7 °F (0 K) directs the model to use a release temperature equal to the ambient air temperature provided in the meteorological data file.
g. Set to 0.1 m/s to simulate a horizontal release. This was remodeled by DEQ as a "Horizontal" release type source within AERMOD.

### *3.2 Background Concentrations*

Background concentrations were obtained from the NW AIRQUEST[2] design value concentration tool, based on the coordinates of the center of the facility. The values listed in the modeling report were extracted by BISON using facility coordinates equal to Latitude 48.718 N, Longitude 116.180 W. The DEQ protocol approval notice indicated these coordinates are not within the facility property. DEQ provided revised coordinates of 48.723 N, Longitude 116.192 W, and extracted revised ambient background data from the NW AIRQUEST design value concentration tool. BISON did not use these revised values in the submitted analyses. DEQ considered the updated background data during review of the submitted analyses, and these updated values are listed in Table 8 below and have been used in the NAAQS modeling assessment as summarized in Table 11 in Section 4 of this report.

| Table 8. AMBIENT BACKGROUND CONCENTRATIONS | | |
|---|---|---|
| **Parameter** | **Submitted in Application** | **DEQ Revised** |
| Latitude | 48.718 | 48.723 |
| Longitude | -116.180 | -116.192 |
| $PM_{2.5}$ 24 hr ($\mu g/m^3$) | 15 | 18 |
| $PM_{2.5}$ Annual ($\mu g/m^3$) | 5.5 | 6.2 |
| $NO_2$ 1 hr ($\mu g/m^3$) | 6.58 | 10.904 |
| $NO_2$ Annual ($\mu g/m^3$) | 1.316 | 2.068 |
| $SO_2$ 1 hr ($\mu g/m^3$) | 2.6 | 2.86 |
| $SO_2$ 3 hr ($\mu g/m^3$) | 2.08 | 2.34 |
| $SO_2$ 24 hr ($\mu g/m^3$) | 2.34 | 2.6 |
| $SO_2$ Annual ($\mu g/m^3$) | 0.52 | 0.52 |
| $PM_{10}$ 24 hr ($\mu g/m^3$) | 51 | 65 |

## *3.3 Impact Modeling Methodology*

This section describes the modeling methods used by the applicant to demonstrate preconstruction compliance with applicable air quality standards.

### *3.3.1 General Overview of Analyses*

BISON performed project-specific air impact analyses that were determined by DEQ to be reasonably representative of the facility as described in the application. Results of the submitted analyses demonstrate compliance with applicable air quality standards to DEQ's satisfaction, provided the facility is operated as described in the submitted application and in this memorandum.

Table 9 provides a brief description of parameters used in the modeling analyses.

| Table 9. MODELING PARAMETERS | | |
|---|---|---|
| **Parameter** | **Description/Values** | **Documentation/Addition Description** |
| General Facility Location | Moyie Springs, Idaho | The facility is located in an area that is attainment or unclassified for all criteria air pollutants |
| Model | AERMOD | AERMOD with the PRIME downwash algorithm, version 16216r |
| Meteorological Data | 2011-2015 surface data from Sandpoint, ID; NWS from Coeur d'Alene, ID; upper air data from Spokane, WA | See Section 3.3.4 for a detailed discussion on the meteorological data. |
| Terrain | Considered | See Section 3.3 below. |
| Building Downwash | Considered | Because buildings are present at the IFG facility, BPIP-PRIME was used to evaluate building dimensions for consideration of downwash effects in AERMOD. |
| Receptor Grid | Grid 1 | 25-meter spacing along the areas of ambient boundary, augmented with 10-meter spaced grids around areas of maximum design impact |
| | Grid 2 | 50-meter spacing out to distances of 2,400 meters with respect to the facility |
| | Grid 3 | 100-meter spacing out to approximately 6,400 meters |
| | Grid 4 | 500- meter spacing out to 10,000 meters |
| | Grid 5 | 1000-meter spacing out to 20,000 meters |

### *3.3.2 Modeling protocol and Methodology*

A modeling protocol was submitted to DEQ via email on July 11, 2017. This protocol was conditionally approved on August 10, 2017. BISON submitted a signed application on August 18, 2017, and did not respond to the conditions listed in the protocol approval letter. The application was deemed complete on September 7, 2017.

Project-specific modeling and other required impact analyses were generally conducted using data and methods discussed in pre-application correspondence and in the *Idaho Air Quality Modeling Guideline*[1].

### *3.3.3 Model Selection*

Idaho Air Rules Section 202.02 requires that estimates of ambient concentrations be based on air quality models specified in 40 CFR 51, Appendix W (Guideline on Air Quality Models). The refined, steady state, multiple source Gaussian dispersion model AERMOD was promulgated as the replacement model for ISCST3 in December 2005. AERMOD retains the single straight-line trajectory of ISCST3, but includes more advanced algorithms to assess turbulent mixing processes in the planetary boundary layer for both convective and stable stratified layers.

AERMOD version 16216r was used by the applicant for the air impact modeling analyses to evaluate impacts of the facility. This version is the current version at the time the application was received by DEQ.

### *3.3.4 Meteorological Data*

BISON used meteorological data collected at the DEQ Sandpoint, Idaho, monitoring location. These data were processed with National Weather Service (NWS) surface data from Coeur d'Alene, Idaho, airport, station ID 24136, for the period 2011-2015. Upper air data were taken from the Spokane, Washington, airport. DEQ supplied these data, and determined the meteorological data used in the submitted analyses were reasonably representative for modeling for this permit in the locale of IFG.

### *3.3.5 Effects of Terrain on Modeled Impacts*

Terrain data were extracted from United States Geological Survey (USGS) National Elevation Dataset (NED) files in the WGS84 datum (approximately equal to the NAD83 datum). BISON used 1 Arc Second resolution data (30 meter), which typically are adequate for this type of analysis. Because of the proximity of complex terrain, DEQ performed sensitivity analyses using elevations derived from 1/3 Arc Second resolution (10 meters), and confirmed that design modeled impacts were realized with the submitted modeling analyses.

The terrain preprocessor AERMAP Version 11103 was used to extract the elevations from the NED files and assign them to receptors in the modeling domain in a format usable by AERMOD. AERMAP also determined the hill-height scale for each receptor. The hill-height scale is an elevation value based on the surrounding terrain which has the greatest effect on that individual receptor. AERMOD uses those heights to evaluate whether the emissions plume has sufficient energy to travel up and over the terrain or if the plume will travel around the terrain.

DEQ reviewed the area surrounding the facility by using the web-based mapping program Google Earth, which uses the WGS84 datum. DEQ also overlaid modeling files with a digital photograph background images acquired from the 2013 ARCGIS NAIP (National Agriculture Imagery Program) data base. The

immediate area is effectively flat with regard to dispersion modeling affects. Elevations in the modeling domain matched those indicated by the background images.

### *3.3.6 Facility Layout*

DEQ compared the facility layout used in the model to that indicated in aerial photographs on Google Earth. The modeled layout was consistent with aerial photographs in Google Earth as well as from those in the ARCGIS 2013 NAIP database.

### *3.3.7 Effects of Building Downwash on Modeled Impacts*

Potential downwash effects on emissions plumes are usually accounted for in the model by using building dimensions and locations (locations of building corners, base elevation, and building heights). Dimensions and orientation of proposed buildings were needed as input to the Building Profile Input Program for the Plume Rise Model Enhancements downwash algorithm (BPIP-PRIME) because there are existing structures affecting the emissions plumes at the facility.

### *3.3.8 Ambient Air Boundary*

Ambient air is defined in Section 006 of the Idaho Air Rules as "that portion of the atmosphere, external to buildings, to which the general public has access." Public access to the IFG facility is limited by existing fence-lines on all public access entries to the facility. This approach is adequate to preclude public access to areas excluded from the air impact assessment.

### *3.3.9 Receptor Network*

Table 9 describes the receptor grid used in the submitted analyses. The receptor grid met the minimum recommendations specified in the *Idaho Air Quality Modeling Guideline*[1]. DEQ determined this grid assured maximum impacts were reasonably resolved by the model considering: 1) types of sources modeled; 2) modeled impacts and the modeled concentration gradient; 3) conservatism of the methods and data used as inputs to the analyses; 4) potential for continual exposures or exposure to sensitive receptors. Additionally, DEQ performed sensitivity analyses using a finer grid-spaced receptor network to assure that maximum concentrations were below all applicable standards. Maximum concentrations did not change from those listed in the application.

### *3.3.10 Good Engineering Practice Stack Height*

An allowable good engineering practice (GEP) stack height may be established using the following equation in accordance with Idaho Air Rules Section 512.03.b:

$H = S + 1.5L$, where:

H = good engineering practice stack height measured from the ground-level elevation at the base of the stack.

S = height of the nearby structure(s) measured from the ground-level elevation at the base of the stack.

L = lesser dimension, height or projected width, of the nearby structure.

Buildings exist in the vicinity of all point sources modeled. Therefore, consideration of downwash caused by nearby buildings was required.

## 4.0 Impact Modeling Results

### *4.1 Results for NAAQS Significant Impact Level Analyses*

Because estimated emissions for the project were above Level I Modeling Applicability Thresholds, air quality dispersion modeling was necessary for the criteria pollutants $PM_{10}$, $PM_{2.5}$, $SO_2$, CO, and $NO_2$. The ambient air impact analyses submitted with the PTC application showed that the SIL was exceeded for the pollutants $PM_{10}$, $PM_{2.5}$, $SO_2$, and $NO_2$ for those averaging periods listed in Table 10. BISON performed NAAQS modeling analyses and demonstrated to DEQ's satisfaction that emissions as modeled did not exceed the NAAQS for any of the criteria pollutants. These results are listed in Table 11. DEQ performed verification modeling analyses to assure that the results were accurate.

**TABLE 10. RESULTS FOR SIGNIFICANT IMPACT ANALYSES**

| Pollutant | Averaging Period | Maximum Modeled Design Concentration ($\mu g/m^3$)[a] | Significant Impact Level ($\mu g/m^3$) | % of SIL | NAAQS[b] Modeling Required |
|---|---|---|---|---|---|
| $PM_{2.5}$ | 24-hour | 3.7 | 1.2 | 308.3 | Yes |
| | Annual | 0.96 | 0.3 | 320.0 | Yes |
| $PM_{10}$ | 24-hour | 8.42 | 5 | 168.4 | Yes |
| $NO_2$ | 1-hour | 125 | 7.5 | 1666.7 | Yes |
| | Annual | 0.72 | 1 | 72.0 | No |
| $SO_2$ | 1-hour | 16.1 | 7.8 | 206.4 | Yes |
| | 3-hour | 15 | 25 | 60.0 | No |
| | 24-hour | 5.7 | 5 | 114.0 | Yes |
| | Annual | 0.1 | 1 | 10.0 | No |
| CO | 1-hour | 609 | 2000 | 30.5 | No |
| | 8-hour | 495 | 500 | 99.0 | No |

[a] Micrograms per cubic meter.
[b] National Ambient Air Quality Standards.

**TABLE 11. Results for NAAQS Modeling Analyses**

| Pollutant | Averaging | Max Concentration ($\mu g/m^3$)[a] | Background Concentration ($\mu g/m^3$) | Total Impact ($\mu g/m^3$) | NAAQS[b] | % of NAAQS |
|---|---|---|---|---|---|---|
| $PM_{2.5}$ | 24-hour | 14.5 | 18 | 32.5 | 35 | 92.86 |
| | Annual | 3.82 | 6.2 | 10.0 | 12 | 83.50 |
| $PM_{10}$ | 24-hour | 28.5 | 65 | 93.5 | 150 | 62.33 |
| $NO_2$ | 1-hour | 117 | 10.9 | 127.9 | 188 | 68.03 |
| $SO_2$ | 1-hour | 12 | 2.86 | 14.9 | 196 | 7.58 |
| | 24-hour | 3.3 | 2.6 | 5.9 | 365 | 1.62 |

[a] Micrograms per cubic meter.
[b] National Ambient Air Quality Standards.

Compliance with the 24-hour $PM_{10}$, 24-hour $PM_{2.5}$, and annual $PM_{2.5}$ NAAQS was demonstrated assuming an average of kiln emissions factors between costal hemlock (0.051 lb $PM_{10}$/MBF and 0.048 lb $PM_{2.5}$/MBF) and Douglas fir (0.024 lb $PM_{10}$/MBF and 0.018 lb $PM_{2.5}$/MBF). Although daily kiln throughput is not modified by this permit, a daily limit on kiln throughput of costal hemlock may be necessary to assure $PM_{2.5}$ NAAQS compliance since that assumption was used in the cumulative impact analysis. IFG proposed an annual increase in kiln throughput through this application, so accounting for worst-case emissions conditions are much more critical to the project's NAAQS compliance assurance.

Subsequent analyses, assuming 100% throughput was the higher-emitting hemlock lumber, were performed to evaluate to need for both a 24-hour and annual species-specific throughput limit to the kilns. The revised 24-hour $PM_{2.5}$ cumulative NAAQS analysis resulted in a design value impact of 19.3 $\mu g/m^3$, up from 14.5 $\mu g/m^3$. When combined with the 15 $\mu g/m^3$ background concentration value used in the submitted application, the combined impact of 34.3 $\mu g/m^3$ is below the 35 $\mu g/m^3$ NAAQS. However, if the conservative background of 18 $\mu g/m^3$ is used, the impact is 37.3 $\mu g/m^3$, which exceeds the NAAQS.

DEQ is satisfied that 24-hour $PM_{2.5}$ emissions changes associated with the proposed modification will not cause or significantly contribute to a NAAQS violation based on the following:

1. The 24-hour allowable kiln throughput is not increased by the proposed modification. The 24-hour $PM_{2.5}$ emissions from the kiln are only considered in the cumulative NAAQS analysis. EPA guidance suggests that actual emissions, rather than potential/allowable emissions, may be used for co-contributing sources of the cumulative impact analyses that are not directly affected by the proposed modification. Assuming 50% hemlock throughput appears to be a reasonably conservative assumption based on application materials.

2. Short term impacts were only modeled because changes in emissions control equipment for the boiler resulted in a change in stack release parameters. Emissions only increase for annual averaging periods.

3. Compliance with the 24-hour $PM_{2.5}$ NAAQS, assuming worst-case kiln emissions resulting from 100% hemlock at 100% capacity, was demonstrated using the design value background concentration of 15 $\mu g/m^3$ but not the higher value of 18 $\mu g/m^3$. It is highly unlikely that the following conditions will occur simultaneously (as assumed in the air impact modeling analysis) to produce a violation: a) near worst-case atmospheric conditions; b) kiln operations at 100% capacity; c) kilns charged 100% with the higher-emitting hemlock lumber; d) near peak levels of background concentrations.

To evaluate whether an annual species-specific kiln throughput limit is necessary for the proposed production increase, BISON and DEQ performed a sensitivity analysis for annual $PM_{2.5}$ impacts. Using a 100% hemlock kiln throughput for the annual $PM_{2.5}$ SIL analysis changed the maximum impact from 0.96 $\mu g/m^3$ to 1.19 $\mu g/m^3$. This change would likely increase the number of receptors with impacts above the SIL.

DEQ also reran the cumulative impact analysis, using the same receptor grid as was used in the submitted analysis (only receptors where there was a significant impact shown with the submitted SIL analysis), with kiln emissions set at a value representative of processing 100% hemlock. The resulting modeled design value was 4.7 $\mu g/m^3$, which results in a total impact of 10.9 $\mu g/m^3$ when combined with the background value of 6.2 $\mu g/m^3$. Considering the high uncertainty in both annual background concentrations and meteorological data (using Sandpoint data rather than site-specific), DEQ was not highly confident of NAAQS compliance for the condition of 100% hemlock through the kiln on an annual basis.

As an additional measure of NAAQS compliance certainty, the annual $PM_{2.5}$ cumulative impact analysis was rerun using site-specific meteorological data that were obtained from the mesoscale model interface program (MMIF) for AERMOD, using 2016 Weather Research and Forecasting (WRF) prognostic data at a grid size of 4.0 kilometers. A modeled design value of 8.9 $\mu g/m^3$ was obtained for the annual $PM_{2.5}$ cumulative impact analysis, giving a cumulative impact of 15.1 $\mu g/m^3$, which is above the 12 $\mu g/m^3$ NAAQS. Furthermore, the area of elevated impacts includes residential homes that are adjacent to the facility. Therefore, given the analyses presented in the application, it is important that annual lumber processing not exceed 50% coastal hemlock, as was assumed in the analyses submitted in the application.

### *4.2 Results for TAPs Impact Analyses*

Dispersion modeling is required to demonstrate compliance with TAP increments specified by Idaho Air Rules Section 585 and 586 for those TAPs with project-specific emission increases exceeding emissions screening levels (ELs). Because there are no TAPs emissions that exceed the ELs, modeling analyses were not needed to demonstrate compliance with those AACs and AAACs.

## 5.0 Conclusions

The ambient air impact analyses and other air quality analyses submitted with the PTC application demonstrated to DEQ's satisfaction that emissions from the IFG project will not cause or significantly contribute to a violation of any ambient air quality standard.

**References:**


1. *State of Idaho Guideline for Performing Air Quality Impact Analyses.* Idaho Department of Environmental Quality. September 2013. State of Idaho DEQ Air Doc. ID AQ-011. Available at http://www.deq.idaho.gov/media/1029/modeling-guideline.pdf.

2. Air Quality Environmental Science and Technology Consortium (NW AIRQUEST). *Lookup 2009-2011 Design Values of Criteria Pollutants*. Available at: http://lar.wsu.edu/nw-airquest/lookup.html.

# APPENDIX C – TAPS THAT ARE HAPS CROSSWALK

**585 TAPs that are HAPs**

| CAS number | Idaho Substance | EPA Substance (if different name) |
|---|---|---|
| 60-35-5 | Acetamide (NY) | |
| 75-05-8 | Acetonitrile | |
| 107-02-8 | Acrolein | |
| 79-10-7 | Acrylic acid | |
| 7440-36-0 | Antimony & compounds, as Sb (handling & use) | |
| 92-52-4 | Biphenyl | |
| 75-25-2 | Bromoform | |
| 156-62-7 | Calcium cyanamide | |
| 133-06-2 | Captan | |
| 463-58-1 | Carbonyl sulfide | |
| 63-25-2 | Carbaryl | |
| 75-15-0 | Carbon disulfide | |
| 75-44-5 | Carbonyl chloride, See Phosgene | Phosgene |
| 120-80-9 | Catechol | |
| 133-90-4 | Chloramben (PL) | Chloramben |
| 8001-35-2 | Chlorinated camphene | |
| 7782-50-5 | Chlorine | |
| 532-27-4 | a-Chloroacetophenone | 2-Chloroacetophenone |
| 108-90-7 | Chlorobenzene | |
| 510-15-6 | Chlorobenzilate (PL1) | Chlorobenzilate |
| 126-99-8 | 2-Chloro-1,3-butadiene, see B-Chloroprene | Chloroprene |
| 126-99-8 | B-chloroprene | |
| 7440-47-3 | Chromium metal - | Chromium compounds |
| 16065-83-1 | Chromium (III) compounds, as Cr | Chromium compounds |
| 10210-68-1 | Cobalt carbonyl as Co | |
| 16842-03-8 | Cobalt hydrocarbonyl as Co | |
| 7440-48-4 | Cobalt metal, dust, and fume | Cobalt compounds |
| 95-48-7 | o-Cresol | |
| 108-39-4 | m-Cresol | |
| 106-44-5 | p-Cresol | |
| 1319-77-3 | Cresols/Cresylic Acid (isomers and mixtures) | |
| 98-82-8 | Cumene | |
| 592-01-8 | Cyanide and compounds as CN | Cyanide compounds |
| 94-75-7 | 2,4-D | 2,4-D, salts and esters |
| 334-88-3 | Diazomethane | |
| 84-74-2 | Dibutyl phthalate | Dibutylphthalate |
| 106-46-7 | 1,4-Dichlorobenzene | |
| 75-34-3 | Dichloroethane | |
| 111-44-4 | Dichloroethyl ether | Dichloroethyl ether (Bis(2-chloroethyl)ether) |
| 78-87-5 | 1,2-Dichloropropane, see Propylene dichloride | |
| 62-73-7 | Dichlorvos | |
| 111-42-2 | Diethanolamine | |
| 123-31-9 | Dihydroxybenzene, see Hydroquinone | |
| 60-11-7 | Dimethyl aminoazo-benzene (NY) | Dimethyl aminoazobenzene |
| 121-69-7 | Dimethylaniline (N,N-Dimethylaniline) | N, N-Diethyl aniline (N,N-Dimethylaniline) |
| 68-12-2 | Dimethylformamide | Dimethyl formamide |
| 131-11-3 | Dimethylphthalate | |
| 534-52-1 | Dinitro-o-cresol | 4,6-Dinitro-o-cresol, and salts |
| 92-52-4 | Diphenyl, see Biphenyl | |
| 106-88-7 | 1,2-Epoxybutane (MI) | |
| 75-56-9 | 1,2-Epoxypropane, see Propylene oxide | |
| 100-41-4 | Ethyl benzene | |
| 51-79-6 | Ethyl carbamate (Urethane) (WA) | |
| 75-00-3 | Ethyl chloride | Ethyl chloride (Chloroethane) |
| 107-06-2 | Ethylene dichloride | Ethylene dichloride (1,2-Dichloroethane) |
| 107-21-1 | Ethylene glycol vapor (CL) | Ethylene glycol |
| 96-45-7 | Ethylene thiourea (PL2) | |

| | | |
|---|---|---|
| 7664-39-3 | Fluorides as F | Hydrogen fluoride |
| 77-47-4 | Hexachlorocyclopentadiene | |
| 822-06-0 | Hexamethylene diisocyanate | Hexamethylene-1,6-diisocyanate |
| 680-31-9 | Hexamethylphosphoramide (WA) | |
| 110-54-3 | Hexane (n-Hexane) | Hexane |
| 108-10-1 | Hexone, see Methyl isobutyl ketone | Methyl isobutyl ketone (Hexone) |
| 302-01-2 | Hydrazine (note 585 TAPs CAS number is incorrect) | |
| 7647-01-0 | Hydrogen chloride (CL) | Hydrochloric acid |
| 123-31-9 | Hydroquinone | |
| 78-59-1 | Isophorone | |
| 108-31-6 | Maleic anhydride | |
| 7439-96-5 | Manganese – Dust and Fume | Manganese compounds |
| 101-68-8 | MDI, see Methylene diphenyl isocyanate | Methylene diphenyl isocyanate (MDI) |
| 67-56-1 | Methanol | |
| 72-43-5 | Methoxychlor | |
| 74-83-9 | Methyl bromide | Methyl bromide (Bromomethane) |
| 74-87-3 | Methyl chloride | Methyl chloride (Chloromethane) |
| 71-55-6 | Methyl chloroform | Methyl chloroform (1,1,1-Trichloroethane) |
| 110-12-3 | Methyl isoamyl ketone | |
| 108-10-1 | Methyl isobutyl ketone | |
| 624-83-9 | Methyl isocyanate | |
| 80-62-6 | Methyl methacrylate | |
| N/A | Mineral Wool Fiber (no asbestos) | Fine mineral fibers |
| 91-20-3 | Naphthalene | |
| 98-95-3 | Nitrobenzene | |
| 56-38-2 | Parathion | |
| 82-68-8 | Pentachloronitrobenzene | |
| 87-86-5 | Pentachlorophenol | |
| 108-95-2 | Phenol | |
| 106-50-3 | p-Phenylenediamine | |
| 7803-51-2 | Phosphine | |
| 7723-14-0 | Phosphorus | |
| 85-44-9 | Phthalic anhydride | |
| 123-38-6 | Propionaldehyde (LA) | |
| 114-26-1 | Propoxur (Baygon) | |
| 78-87-5 | Propylene dichloride | Propylene dichloride (1,2-Dichloropropane) |
| 75-56-9 | Propylene oxide | |
| 106-51-4 | Quinone | |
| 7782-49-2 | Selenium | |
| 100-42-5 | Styrene monomer (ID) | Styrene |
| 108-88-3 | Toluene (toluol) | Toluene |
| 584-84-9 | Toluene-2,4-di-isocyanate (TDI) | 2,4-Toluene diisocyanate |
| 120-82-1 | 1,2,4-Trichlorobenzene (CL) | |
| 79-01-6 | Trichloroethylene | |
| 95-95-4 | 2,4,5-Trichlorophenol (MA) | |
| 121-44-8 | Triethylamine | |
| 1582-09-8 | Trifluralin (PL3) | |
| 540-84-1 | 2,2,4-Trimethyl-pentane | 2,2,4-Trimethylpentane |
| 108-05-4 | Vinyl acetate | |
| 1330-20-7 | Xylene (o-, m-, p-isomers) | Xylenes, m-xylenes (108-38-3), o-xylenes (95-47-6), p-xylenes (106-42-3) |

## 586 TAPs that are HAPs

| CAS number | Idaho Substance | EPA Substance (if different name) |
|---|---|---|
| 75-07-0 | Acetaldehyde | |
| 79-06-1 | Acrylamide | |
| 107-13-1 | Acrylonitrile | |
| 62-53-3 | Aniline | |
| 1336-36-3 | Aroclor, all (PCB) (ID) | Polychlorinated biphenyls (aroclors) |
| 7440-38-2 | Arsenic compounds | |
| 1332-21-4 | Asbestos (Fibers /M.L.) | |
| 71-43-2 | Benzene | |
| 92-87-5 | Benzidine | |
| 7440-41-7 | Beryllium & compounds | |
| 106-99-0 | 1,3-Butadiene | |
| 111-44-4 | Bis (2-chloroethyl) ether | |
| 542-88-1 | Bis (chloromethyl) ether | |
| 117-81-7 | Bis (2-ethylhexyl) phthalate | Bis (2-ethylhexyl) phthalate (DEHP) |
| 7440-43-9 | Cadmium and compounds | |
| 56-23-5 | Carbon tetrachloride | |
| 57-74-9 | Chlordane | |
| 67-66-3 | Chloroform | |
| 18540-29-9 | Chromium (VI) & compounds as Cr+6 | Chromium compounds |
| N/A | Coke oven emissions | |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | |
| 75-34-3 | 1,1 dichloroethane | Ethylidene dichloride (1,1-Dichloroethane) |
| 107-06-2 | 1,2 dichloroethane | |
| 75-35-4 | 1,1 dichloroethylene | Vinylidene chloride(1,1-Dichloroethylene) |
| 75-09-2 | Dichloromethane (Methylenechloride) | Methylene chloride (Dichloromethane) |
| 542-75-6 | 1,3 dichloropropene | 1,3-Dichloropropene |
| 123-91-1 | 1,4 dioxane | 1,4-Dioxane (1,4-Diethyleneoxide) |
| 122-66-7 | 1,2-Diphenylhydrazine | |
| 106-89-8 | Epichlorohydrin | Epichlorohydrin (l-Chlor-2,3-epoxypropane) |
| 106-93-4 | Ethylene dibromide | Ethylene dibromide (Dibromoethane) |
| 75-21-8 | Ethylene oxide | |
| 50-00-0 | Formaldehyde | |
| 76-44-8 | Heptachlor | |
| 118-74-1 | Hexachlorobenzene | |
| 87-68-3 | Hexachlorobutadiene | |
| 319-85-7 | Hexachlorocyclohexane (Lindane) Beta (BHC) | |
| 58-89-9 | Hexachlorocyclohexane (Lindane) Gamma (BHC) | Lindane |
| 67-72-1 | Hexachloroethane | |
| 10034-93-2 | Hydrazine Sulfate | |
| 74-87-3 | Methyl chloride | Methyl chloride (Chloromethane) |
| 101-14-4 | 4,4-Methylene bis(2-Chloroaniline) | |
| 60-34-4 | Methyl hydrazine | |
| 7440-02-0 | Nickel | Nickel compounds |
| 79-46-9 | 2-Nitropropane | |
| 62-75-9 | N-Nitrosodimethylamine | |
| 684-93-5 | N-Nitroso-N-methylurea (NMU) | |
| 82-68-8 | Pentachloronitrobenzene | Pentachloronitrobenzene (Quintobenzene) |
| 127-18-4 | Perchloroethylene (see tetrachloroethylene) | |
| N/A | Poly aromatic hydrocarbons (except 7-PAH group) | Polycyclic Organic Matter |
| N/A | Polycyclic Organic Matter or 7-PAH group | Polycyclic Organic Matter |
| 1746-01-6 | 2,3,7,8,-Tetrachlorodibenzo-p-dioxin (2,3,7,8, -TCDD) | 2,3,7,8,-Tetrachlorodibenzo-p-dioxin |
| 79-34-5 | 1,1,2,2,Tetrachloro-ethane | 1,1,2,2-Tetrachloro-ethane |
| 127-18-4 | Tetrachloroethylene | Tetrachloroethylene (Perchloroethylene) |
| 79-00-5 | 1,1,2 - trichloroethane | 1,1,2-Trichloroethane |
| 8001-35-2 | Toxaphene | Toxaphene (chlorinated camphene) |
| 79-01-6 | Trichloroethylene | |
| 88-06-2 | 2,4,6 - Trichlorophenol | |
| 75-01-4 | Vinyl chloride | |

## APPENDIX D – FACILITY DRAFT COMMENTS

### The following comments were received from the facility on December 6, 2017:

**Facility Comment:** IFG will replace the old multiclone with a new multiclone when they attach the boiler to the ESP. It will be a like-for-like replacement.

**DEQ Response:** Table 1.1 has been updated with this new information.

**Facility Comment:** IFG hasn't completed ESP installation and don't know if spark-rate monitoring is available. Voltage and amperage are the key monitoring parameters for the ESP.

**DEQ Response:** The references to spark rate monitoring have been removed.

**Facility Comment:** The permit was not intended to have a VOC limit on the dry kilns. The VOC limit should be facility-wide.

**DEQ Response:** The VOC limit and the factors to calculate boiler and kiln VOC emissions has been moved to the Facility-wide section of the permit as Permit Conditions 2.12 and 2.13.

**Facility Comment:** (SOB) Various typos, table numbers, and table entries were noted. It is suggested that $CO_2e$ be changed to GHG. The project did not trigger GHG analysis, so those columns and text referring to GHG were removed.

***DEQ Response:*** Typos and tables corrected.

# APPENDIX E – PROCESSING FEE

# PTC Fee Calculation

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

**Company:**
**Address:**
**City:**
**State:**
**Zip Code:**
**Facility Contact:**
**Title:**
**AIRS No.:**

**N** Does this facility qualify for a general permit (i.e. concrete batch plant, hot-mix asphalt plant)? Y/N

**Y** Did this permit require engineering analysis? Y/N

**N** Is this a PSD permit Y/N (IDAPA 58.01.01.205.04)

| Emissions Inventory | | | |
|---|---|---|---|
| Pollutant | Annual Emissions Increase (T/yr) | Annual Emissions Reduction (T/yr) | Annual Emissions Change (T/yr) |
| $NO_x$ | 23.6 | 0 | 23.6 |
| $SO_2$ | 3.0 | 0 | 3.0 |
| CO | 99.8 | 0 | 99.8 |
| PM10 | 8.8 | 0 | 8.8 |
| VOC | 23.6 | 0 | 23.6 |
| TAPS/HAPS* | 4.0 | 0 | 4.0 |
| Total: | | | **162.9** |
| | | | |
| Fee Due | **$ 7,500.00** | | |

Comments: *Increase in HAPs was calculated as Kiln Proposed HAPs + Boiler Proposed HAPs minus major source threshold, since limit was removed.