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May 17, 2016

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RECEIVED
MAY 19 2016
DEPARTMENT OF ENVIRONMENTAL QUALITY
STATE A Q PROGRAM

Re: Facility ID No. 055-00024, IFG – Chilco, Revised Permit Application

Dear Dan:

IFG has worked with DEQ to revise the permit application for their Chilco mill. This package contains a hard copy of the revised application document and all attachments. A DVD is also enclosed containing the modeling input, output and auxiliary files.

IFG will be sending you a cover letter explaining how the proposed project has changed. Form GI has not changed, and the application fee has been submitted. Please let us know if DEQ needs any other information.

Sincerely,
LORENZEN ENGINEERING, INC.

Diane R. Lorenzen
President

Enclosure

Cc Larry Benda, IFG. Via email.

**PERMIT TO CONSTRUCT APPLICATION
(Revised in Response to DEQ Comments)**

**INSTALL NATURAL GAS BOILER
REPLACE HOG FUEL BOILER EFB WITH ESP
CHANGE HOG FUEL BOILER CO LIMIT
CHANGE DRY KILN VOC LIMIT**

**IDAHO FOREST GROUP – CHILCO
ATHOL, IDAHO**

Facility Address:

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May 18, 2016

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1.0 INTRODUCTION

Idaho Forest Group (IFG) owns and operates a lumber facility in Chilco, Idaho. Processes at the mill include a sawmill, planer mill, steam plant, dry kilns and various types of wood handling equipment. The Chilco mill is regulated under Tier I operating permit T1-2012.0065 issued April 4, 2014.

1.1 Site Description

The IFG Chilco facility is west of Highway 95, near Athol, Idaho in Kootenai County. Universal Transverse Mercator (UTM) coordinates for this site are Zone 11, Easting 219.0 kilometers, and Northing 5,301.0 kilometers. The site is located in the SE ¼ of Section 7, Township 52 North, Range 3 West. The site elevation is approximately 2,300 feet above sea level. **Figure 1** provides United States Geological Survey (USGS) 7.5-minute quadrangle map showing the plant site and surrounding area.

Figure 2 is a satellite photo of the Chilco facility with the emission sources and processing centers indicated. Air quality classification for the IFG sawmill area is “Unclassifiable or Better than National Standards” (40 CFR 81.327) for the National Ambient Air Quality Standards (NAAQS) for all criteria pollutants. The land-use classification for the area surrounding the IFG source is unchanged by this project. The land use classification information is on file at DEQ.

1.2 Project Description

The proposed changes at the Chilco facility only affect the steam plant and the kilns. The objectives of this permit application are as follows:

1. Add natural gas boiler to the steam plant.
2. Replace the hog fuel boiler electrified filter bed (EFB) with an electrostatic precipitation (ESP). The ESP is an equivalent or better control technology, but has different stack parameters.
3. Increase the hog fuel boiler allowable carbon monoxide (CO) emission limit to the level allowed under PSD regulations.
4. Increase the lumber dry kiln allowable volatile organic compound (VOC) emission limit to the level allowed under PSD regulations.
5. Update permit conditions related to the boiler maximum achievable control technology (MACT) rule to make them consistent with the MACT rule changes.
6. Remove permit conditions related to compliance assurance monitoring (CAM) from the permit because CAM regulations do not apply to MACT limitations.

1.3 Process Description

Process Overview

The primary processes at the Chilco facility are the sawmill, steam plant, dry kilns and the planer mill. Logs are debarked, then cut to dimension in the sawmill. Green lumber from the sawmill is dried in the dry kilns then planed in the planer mill. Finally, the lumber is packaged and shipped by truck. Bark from the debarker is shredded and transferred to the boiler for use as fuel. A plant flow diagram is included as **Figure 3**.

Emissions from the facility are estimated based on the permitted sawmill throughput of 325 million board feet per year (MMBF/yr) of green lumber. The kiln and planer emissions are also based on 325 MMBF/yr of lumber dried. Kiln production is typically described in the calculations in units of thousand board feet (MBF), so the kiln capacity is described as 325,000 MBF/yr.

The boilers and kilns can operate 24 hours per day, 7 days per week, 52 weeks per year. The sawmill, planing, and material handling facilities generally operate two shifts per day but can potentially operate 24 hours (3 shifts) per day, 7 days per week, 52 weeks per year.

Log Processing

Log processing equipment includes the debarker, the bark hog, and hogged bark transfer to the boiler. Emissions from the debarker are controlled using water spray when the temperatures are above freezing. The spray provides highly efficient particulate control when in use. The hog is enclosed and emissions are minimal. A conveyor transports the hogged bark to the boiler area. Total emissions from conveying and transferring the bark to the boiler have been estimated as bark handling emissions.

Sawmill

The sawing operations are located in the sawmill building. Sawmill operations produce wood scraps and sawdust. A chipper cuts the wood scraps into marketable chips and screens out the fine material. Fine material that falls through the chipper screen is added to the sawdust. A pneumatic conveyor transfers the sawdust from the building to a target box on the outdoor sawdust truck bin. Pneumatic transfer is also used to move the sawmill chips to the chip bin target box. Sawmill emissions are fugitive emissions and are minimized by the building enclosure. Fugitive PM emissions also occur when the sawdust and chip bins are opened from the bottom to release material into trucks. Point sources associated with the sawmill are the target boxes on the sawdust and chip bins.

Lumber Drying

The Chilco mill has four dry kilns which are heated via indirect steam heat supplied by the hog fuel boiler or the natural gas boiler. Initial moisture content of the lumber is in the range of 40-60%. The final moisture varies depending on species and product, but is generally around 15%. Moisture from the lumber is released from the dry kilns through

multiple roof vents. The vents are opened and closed as needed to control the temperature and moisture within the kiln. Batch drying cycles in the dry kilns can last for 16 to 80 hours. VOCs contained in the green lumber are volatilized during drying in the dry kilns. Most of the hydrocarbons contained in coniferous trees are terpenes, primarily α -pinene, β -pinene, and limonene.

The current Chilco permit has an kiln VOC emission limit of 175.5 tons per year (tpy). This value was developed in 2004 using emission factors that were in use at that time. EPA and industry groups have sponsored dry kiln emissions research and developed kiln emission factors that are species and temperature dependent.

IFG is requesting that the VOC emission limit from the dry kilns be set based on PSD regulations rather than current emission factors. The change in VOC limit will allow IFG to accommodate most future changes in the emissions factors without having to revise their permit. IFG is requesting that the dry kiln VOC limit be set to 238.5 tpy, which will result in a facility-wide VOC PTE of 249.4 tpy. Calculations are included in Section 2.5 showing how kiln VOC emissions are calculated.

Planer Mill

The planers and associated equipment are located in the planer building. The air quality within the planer building is controlled with negative air, so there are no fugitive emissions from the planer facility. Planer shavings are transported pneumatically from the planer building to a cyclone on the shavings bin. The cyclone separates the shavings from the air stream and drops them into the bin. Air emitted from the cyclone exhaust is further cleaned in the planer shavings baghouse.

The planer facility also includes a chipper, located inside the building. Planer chips are transferred pneumatically to a target box on the planer chip bin. Fugitive PM emissions can occur when the planer chips and shavings are loaded into trucks. Point sources associated with the planer facility are the planer shavings cyclone baghouse and the planer chips target box.

Hog Fuel Boiler

The Chilco hog fuel boiler is a Kipper and Sons spreader stoker boiler rated for 75,000 pounds of steam per hour (pph) and heat input of 125 million Btu per hour (MMBtu/hr). The hog-fuel boiler emits particulate matter (PM₁₀ and PM_{2.5}), nitrogen oxides (NO_x), CO, sulfur dioxide (SO₂), VOC, and hazardous air pollutants (HAPS). Generation of NO_x and CO emissions is controlled through boiler design and operation and there are no emissions controls for these pollutants. SO₂ and VOC emissions are minimal from hog fuel boilers, based on the composition of the wood fuel.

The particulate emissions control equipment for the hog fuel boiler will be improved as part of this permit application. The control equipment change is described in Section 2.4

of this application. The CO emission limit for the hog fuel boiler will be increased slightly as described in Section 2.3 of this application. The current permit includes an annual steam-production limit on the boiler of 607,594 thousand pounds of steam per rolling 12-month period (klb/yr). IFG is not requesting any change to the annual allowable steam production from the hog fuel boiler.

Natural Gas Boiler

IFG is proposing the addition of a natural gas boiler to supplement the steam supply from the hog fuel boiler or be used while the hog fuel boiler is down. IFG has been using a small rental boiler seasonally at the site for a few years, which has a heat input capacity of <50 MMBtu/hr while burning natural gas. The new gas boiler will have a heat input capacity of 96.9 MMBtu/hr and will be able to provide up to 80,000 pounds of steam per hour. The natural gas boiler has the potential to emit PM₁₀, PM_{2.5}, NO_x, CO, SO₂, VOC, and HAPS. Emissions from the natural gas boiler will be controlled through fuel quality and boiler design.

2.0 CURRENT PERMITTING ACTION

IFG is submitting this Permit to Construct (PTC) application to allow addition of the natural gas fired boiler. The natural gas boiler will replace the temporary boiler, which IFG rents seasonally. The application also proposes improved particulate matter controls and an increased carbon monoxide (CO) limit for the hog fuel boiler and an increase in the allowable VOC emissions limit from the dry kilns. PTC application forms are included in **Appendix A**.

2.1 Permit Requirements

The changes proposed in this permit application constitute an alteration of an air contaminant source. Under Idaho air quality regulations (IDAPA 58.01.01.201), an application for a permit alteration is required. IFG has complied with all the application procedures contained in IDAPA 58.01.01.202. The application materials also show that the facility will comply with all the conditions of IDAPA 58.01.01.203. IDAPA 58.01.01.224 requires a permit to construction application fee of \$1,000, which has been previously submitted.

2.2 Boiler Carbon Monoxide Limit Change

The hog fuel boiler CO emission limit was originally set at 0.81 lb/1000 lb steam (lb/klb) and 246 tpy in the 2005 permit for the Chilco mill. In 2012, IFG and DEQ lowered the allowable CO emissions from the boiler to 0.785 lb/klb. This ensured that the plant-wide CO potential to emit (PTE) was still less than 246 tpy with the small boiler included.

IFG's permitting objective was to keep the permitted CO emissions below 250 tpy to avoid PSD permitting. Now that IFG has decided to permit a permanent natural gas boiler with CO emissions of 15.9 tpy, it is no longer possible to keep the plant-wide CO emissions below 250 tpy. PSD regulations allow the hog fuel boiler emission limit to be relaxed to just below 250 tpy without the mill undergoing a facility-wide PSD review at this time. Therefore, IFG is requesting a small increase in the boiler CO emission limit, up to the level allowed without PSD review.

The IFG permit limits the rolling 12-month steam production from the boiler to 607,594 klb/yr and IFG is not requesting a change to that limit. IFG is requesting an annual allowable hog fuel boiler CO emission rate of 249.4 tpy, just below the PSD threshold. The corresponding allowable steam-based CO emission rate can be calculated as follows:

$$249.4 \text{ tons/yr} \cdot 2000 \text{ lb/ton} \div 607,594 \text{ klb/yr} = 0.821 \text{ lb/klb}$$

2.3 Boiler Particulate Matter Control Replacement

Particulate matter emissions from the hog fuel boiler are controlled by a multiclone in series with an electrified filter bed (EFB). Ash and partially combusted wood fiber is

separated by the multiclone and is reintroduced into the boiler firebox. After the multiclone, the uncollected fine dust and smoke particle are collected by the EFB. In the EFB, fine dust particles are given an electrostatic charge in a corona ionizer and are then deposited onto the surface of electrically polarized gravel. The spent pea gravel is removed from the filtration region of the EFB and cleaned externally in a pneumatic conveyor. Dust removed from the pea gravel is filtered in a small bag filter (EFB media baghouse).

IFG will keep the multiclone and replace the EFB with an electrostatic precipitator (ESP). The ESP also works by applying an electrostatic charge to the particulate matter so it will adhere to a collection media. In the ESP, the collection media is steel plates. The plates are cleaned regularly by rapping, causing the particulate matter to fall into the hoppers. The ESP is expected to have greater efficiency and reliability than the EFB, and IFG believes that the ESP will improve particulate emissions control.

2.4 New Natural Gas Boiler

The specified heat input capacity of the proposed natural gas boiler is 95 MMBtu/hr, as shown on the photo of the boiler plate in Appendix B. The manufacturer has specified a burner gas firing rate of 94,618 standard cubic feet per hour (scfh). By restricting the heat input capacity to below 100 MMBtu/hr, IFG avoids the extensive testing requirements of NSPS Subpart Db. Although the boiler would be expected to show compliance with the NSPS emissions limits, IFG does not want to burn natural gas in the boiler for the sole purpose of source testing. Emissions estimates for the natural gas boiler are presented in Section 3 of this application and in the spreadsheet in Appendix B.

2.5 Kiln VOC Emissions Limit Change

The Chilco permit allows production of 325,000 mbf/yr, and the current VOC emission limit in the permit was calculated in 2004 based on this production level. Since 2004, a wide variety of studies have been performed to estimate HAP and VOC emissions from dry kilns. The result of the VOC emission factor changes has been to change the estimated VOC emissions from the dry kilns with no change in production or equipment.

IFG is proposing to set the VOC emission limit at 238.5 tpy to accommodate past and potential future changes in VOC emission factors. The facility-wide VOC emissions can equal 249 tpy without triggering PSD review. The hog fuel boiler VOC PTE is 8.6 tpy and the natural gas boiler VOC PTE will be 2.3 tpy. The kilns are the only other source of VOC emissions at the mill, so the proposed kiln VOC emission rate was reached as follows:

$$249.4 \text{ tpy} - 8.6 \text{ tpy} - 2.3 \text{ tpy} = 238.5 \text{ tpy}.$$

Estimated VOC emissions from the mill depend on the amount of each wood species produced. IFG tracks the actual VOC emissions on a monthly bases using the amount of each species dried and the applicable VOC emission factor. An example kiln VOC calculation is shown in Section 3.3.2 of this application.

3.0 EMISSIONS INVENTORY

This permit application only addresses changes to the steaming plant equipment affected by the application. The emissions inventory submitted to support this permit application only addresses emissions that are relevant to this application.

Once the PTC is finalized for the proposed changes, IFG will work with DEQ to finalize a facility-wide emissions inventory to support the Title V permit. IFG doesn't want to submit any unnecessary information with this application that would distract from the key objectives of this PTC application. All three required tables for the DEQ emissions inventory form are included in Appendix B.

Table 1 lists the proposed potential emissions of regulated pollutants from the facility. The changed emissions in Table 1 include the addition of the natural gas boiler and the increased allowable CO emissions from the hog fuel boiler. Kiln PM₁₀ and PM_{2.5} emissions have been adjusted using current emission factors, as discussed below. The requested modification of the VOC limit for the dry kilns is also included. PM₁₀ emissions from the other point sources are listed as included in current permit, and the corresponding PM_{2.5} emissions are based on EPA data as described in the emissions inventory spreadsheet.

Table 1: Proposed PTE Emissions for Criteria Pollutants

Emissions Unit	PM ₁₀	PM _{2.5}	CO	NO ₂	VOC ^a	SO ₂
	T/yr	T/yr	T/yr	T/yr	T/yr	T/yr
Point Sources						
Hog Fuel Boiler	30.4	30.4	249	111	8.6	12.7
Natural Gas Boiler	0.22	0.18	15.9	26.0	2.3	0.25
Lumber Dry Kilns	6.18	5.36			238.5	
Sawdust Bin Vent	2.65	0.80				
Sawmill Chip Bin Vent	6.27	1.88				
Planer Shavings Baghouse	5.44	1.63				
Planer Chip Target Box	0.40	0.12				
Fugitive Sources not required, not a listed source.						
Totals	51.6	40.4	265	137	249	12.9

3.1 Natural Gas Boiler Emissions

Emissions from the natural gas boiler have been estimated using manufacturer's information and EPA reference documents. The natural gas boiler is regulated under Boiler MACT, but there are no applicable emissions limits in the MACT regulations for this boiler.

3.1.1 Particulate Matter

Particulate matter emissions from natural gas boilers have traditionally been estimated using the AP-42 emission factors. The applicable AP-42 section, Section 1.4, Natural Gas Fired External Combustion, was last updated in 1998. In 2004,

EPA revised the PM emission calculations for gas combustion units in the final version of the 2002 National Emissions Inventory (NEI). The reason for the adjustment was that EPA believed that the 1998 AP-42 emission factors for condensable PM emissions were too high.

IFG has used the EPA emission factors associated with the NEI for calculating PM₁₀ and PM_{2.5} emissions from the natural gas boiler. The reference for the NEI emissions factors is found at:

<https://www.epa.gov/air-emissions-inventories/national-emissions-inventory>.

Copies of the readme page and the new emissions factor listing from the NEI spreadsheet are included in Appendix B to support the emissions calculations. The emission factor units are pounds per million standard cubic feet of gas burned (lb/mmscf). The natural gas boiler is configured to burn 0.0946 mmscf/hr. The natural gas boiler PM₁₀ and PM_{2.5} emissions calculations are shown below. Some differences may exist in the rounding and number of significant figures in the values, but they are the same as presented in Appendix B.

$$\begin{aligned} \text{PM}_{10}: & 0.52 \text{ lb/mmscf} \cdot 0.0946 \text{ mmscf/hr} = 0.049 \text{ lb/hr} \\ & 0.049 \text{ lb/hr} \cdot 8,760 \text{ hr/yr} \div 2000 \text{ lb/ton} = 0.216 \text{ tpy} \end{aligned}$$

$$\begin{aligned} \text{PM}_{2.5}: & 0.43 \text{ lb/mmscf} \cdot 0.0946 \text{ mmscf/hr} = 0.041 \text{ lb/hr} \\ & 0.041 \text{ lb/hr} \cdot 8,760 \text{ hr/yr} \div 2000 \text{ lb/ton} = 0.178 \text{ tpy} \end{aligned}$$

3.1.2 SO₂, VOC and HAPS

SO₂ and VOC emissions from the natural gas boiler are estimated using the applicable AP-42 emission factors. The natural gas boiler SO₂ and VOC emissions calculations are shown below

$$\begin{aligned} \text{SO}_2: & 0.6 \text{ lb/mmscf} \cdot 0.0946 \text{ mmscf/hr} = 0.057 \text{ lb/hr} \\ & 0.057 \text{ lb/hr} \cdot 8,760 \text{ hr/yr} \div 2000 \text{ lb/ton} = 0.250 \text{ tpy} \end{aligned}$$

$$\begin{aligned} \text{VOC}: & 5.5 \text{ lb/mmscf} \cdot 0.0946 \text{ mmscf/hr} = 0.520 \text{ lb/hr} \\ & 0.520 \text{ lb/hr} \cdot 8,760 \text{ hr/yr} \div 2000 \text{ lb/ton} = 2.28 \text{ tpy} \end{aligned}$$

The natural gas boiler HAPS emissions calculations are shown in the spreadsheet in Appendix B. Natural gas is a low-emitting fuel for HAPS, and the total HAPs emissions from the natural gas boiler are 0.78 tpy.

3.1.3 CO and NOx

CO and NOx emission rates for the natural gas boiler are based on specified emission rates of 50 ppm @ 3% oxygen (O₂). The manufacturer has provided emission information based on 50 ppm CO and 30 ppm NOx, with percent O₂ unspecified. IFG has chosen to permit the natural gas boiler with equal concentrations of CO and NOx to provide a conservative modeling result. NOx emissions are calculated and modeled as NO₂. The calculations converting the ppm values to the emission factors in terms of lb/mmscf are included in the attached spreadsheet.

$$\begin{aligned} \text{CO: } & 38.27 \text{ lb/mmscf} \cdot 0.0946 \text{ mmscf/hr} = 3.62 \text{ lb/hr} \\ & 3.62 \text{ lb/hr} \cdot 8,760 \text{ hr/yr} \div 2000 \text{ lb/ton} = 15.9 \text{ tpy} \end{aligned}$$

$$\begin{aligned} \text{NOx: } & 62.87 \text{ lb/mmscf} \cdot 0.0946 \text{ mmscf/hr} = 5.95 \text{ lb/hr} \\ & 5.95 \text{ lb/hr} \cdot 8,760 \text{ hr/yr} \div 2000 \text{ lb/ton} = 26.05 \text{ tpy} \end{aligned}$$

3.2 Hog Fuel Boiler

The proposed permitting action would result in a slight increase in the allowable CO emissions from the hog fuel boiler. Hog fuel boiler SO₂, NOx, VOC and PM₁₀/PM_{2.5} emissions are unchanged by the proposed permit actions. The emissions calculations are presented here to support the modeling analysis. The modeling analysis compares the difference in modeled impact due to the change in the boiler stack parameters.

3.2.1 Particulate Matter Emission Limits

The current permit PM₁₀ emission limit is 6.93 lb/hr and 30.4 tpy and there is no PM_{2.5} limit in the permit. For purposes of this analysis, the PM₁₀ and PM_{2.5} emissions have been modeled at the current PM₁₀ emission limits.

The boiler MACT PM limits will become effective for the Chilco boiler in January 2017. The form of the boiler MACT PM limit is different than the form of the PM₁₀ limit in the current permit. This makes it difficult to compare the limits, but IFG believes that the boiler MACT limit is more stringent than the current permit PM₁₀ limit.

Compliance with the current permit PM₁₀ limit is based on the sum of the measured filterable particulate matter and the condensable particulate matter. The filterable particulate matter is known as the 'front half' of the particulate matter sampling train and the condensable particulate matter is known as the 'back half' of the particulate sampling train.

The Chilco boiler has a nominal heat input capacity of 125 MMBtu/hr, and the current PM₁₀ limit is equivalent to 0.0554 lb/MMBtu heat input (6.93 lb/hr ÷ 125 MMBtu/hr). The PM₁₀ limit includes the filterable PM₁₀ plus the condensable fraction of the PM emissions. The EPA AP-42 emission estimation factor for condensable PM is 0.017 lb/MMBtu heat input (Table 1.6-1, rating A). Review of past source tests on the Chilco boiler shows that the test results support the EPA condensable emission factor as a good estimate.

The MACT emission limit for filterable total PM is 0.037 lb/MMBtu. Addition of the EPA condensable emission factor makes the MACT total PM emission limit essentially equivalent to 0.054 lb/MMBtu heat input (0.037 lb/MMBtu + 0.017 lb/MMBtu).

The MACT filterable PM limit added to the expected condensable PM amount is lower than the current permit PM₁₀ limit. Therefore, the MACT PM limit is more restrictive than the current PM₁₀. By modeling the current PM₁₀ emission limit for both PM₁₀ and PM_{2.5}, IFG has ensured that the modeling will cover any future lower emission limits that may be imposed in the permit..

By modeling both the PM₁₀ and PM_{2.5} emissions at the rate of 6.93 lb/hr, IFG has shown that the PM_{2.5} ambient standards are not impacted by the boiler emitting at or greater than the MACT emission limit.

3.2.2 SO₂, NO_x, VOC, Lead

Emissions of SO₂, NO_x, VOC and Lead from the hog fuel boiler are all based on factors published in AP-42 for wood-fired external combustion. The boiler is restricted by an existing permit condition that limits the annual steam production to a value less than the full capacity of the boiler. Therefore, the annual PTE for these pollutants is limited by the permit.

The short-term PTE emissions are based on the boiler design capacity. The SO₂, NO_x, VOC and Lead emissions from the boiler are unchanged by the permit proposal. Sample calculations are shown below.

3.2.3 Carbon Monoxide

The CO emissions from the boiler are currently limited to 0.785 lb/klb and 238 tpy, as explained in Section 2.2 of this permit application. IFG is requesting an annual CO emission rate of 249.4 tpy, just below the PSD threshold. The IFG permit limits the rolling 12-month steam production from the boiler to 607,594 klb/yr and IFG is not requesting a change to that limit. The corresponding allowable hourly CO emission rate can be calculated as follows:

$$249.4 \text{ tons/yr} \cdot 2000 \text{ lb/ton} \div 607,594 \text{ klb/yr} = 0.821 \text{ lb/klb}$$

Information is provided in this section to demonstrate that the actual CO emissions from the hog fuel boiler have always been well below the PSD trigger level of 250 tpy. Future CO emissions are expected to remain well below 250 tpy, on an actual annual basis.

Table 2 is a summary of historic CO emission test results and steam production rates from the Chilco hog fuel boiler. The CO stack test results are presented in terms of both lb/hr and lb/klb steam. Annual CO emissions have been calculated using the annual steam production. As shown in Table 2, actual CO emissions from the Chilco mill are consistently far below the PSD trigger level.

Table 2: IFG Hog Fuel Boiler Historic CO Emissions

Date	CO Stack Test Result lb/hr	CO Stack Test Result lb/klb	Annual Steam Produced (klb/yr)	Annual CO Emissions ⁽¹⁾ (tpy)
3/29/05	28.6	0.46		
2007			318,607	73.3
2008			269,319	61.9
7/29/09	37.2	0.59		
2009			328,986	91.3
2010			372,934	109
2011			407,363	120
2012			415,260	122
2013			400,698	118
10/22/14	48.66	0.812		
2014			426,546 ⁽²⁾	138
3/26/15	34.33	0.493		
2015			402,545	110

(1) Based on monthly steam production and CO test result from previous test. 2009 and 2014 were split years using two different source test results.

(2) Highest rolling 12-month steam production since 2007.

IFG is proposing a revised hog fuel boiler CO limit of 0.821 lb/klb, which corresponds to 61.6 lb/hr and 249 tpy at maximum allowed steam production levels. The proposed emission limit is well below the applicable boiler MACT CO emission limit.

3.2.4 HAPs

Hazardous air pollutant (HAP) emissions from the hog fuel boiler are estimated based on emission factors contained in AP-42, as explained in the emissions spreadsheet. The HAPs emissions from the hog fuel boiler and dry kilns are not

affected by this application. The Chilco mill is a major source of HAPs, so PCWP MACT rules apply as well as boiler MACT rules.

3.3 Lumber Dry Kilns

IFG has requesting an adjustment to the VOC emissions limit on the dry kilns, based on the reasons discussed in Section 2.5 of this permit. Supporting calculations are provided on Section 3.3.2. IFG is also taking this opportunity to revise the dry kiln PM₁₀ emission calculations and to add PM_{2.5} emissions calculations. IFG will work with DEQ to determine how these new values will be used in the air permit.

3.3.1 PM₁₀ and PM_{2.5}

The current permit application does not change the maximum allowable production from the dry kilns. Therefore, the permit changes will not necessarily address particulate matter emissions from the dry kilns. IFG has compiled updated information on dry kiln emissions for informational purposes.

The current permit has a kiln PM₁₀ emission limit based on an emission factor in use when the mill was permitted in 2004. IFG has researched recent dry kiln emission test results and has settled on PM₁₀ and PM_{2.5} emission factors developed through source testing. These factors were used at the IFG Lewiston mill and may be used in the future for other IFG mills as those permits are updated.

The derivation of the dry kiln PM₁₀ and PM_{2.5} emission factors is based on kiln source test results from Willamette Industries drying Hemlock and Douglas fir. IFG is proposing to use the average of the test results for estimating emissions from the Chilco kilns. The results of the source tests are included in the emissions calculation spreadsheet in Appendix B. The test reports can be emailed to DEQ upon request.

The dry kiln PM₁₀ and PM_{2.5} emissions calculations are shown below. Dry kiln PM₁₀/PM_{2.5} information is provided for information only and does not affect the completeness of this permit application. There is no change to the dry kiln PM₁₀/PM_{2.5} emissions as a result of the proposed project.

$$\text{PM}_{10}: 0.038 \text{ lb/mbf} \cdot 325,000 \text{ mbf/yr} \div 2000 \text{ lb/ton} = 6.18 \text{ tpy}$$

$$\text{PM}_{2.5}: 0.033 \text{ lb/mbf} \cdot 325,000 \text{ mbf/yr} \div 2000 \text{ lb/ton} = 5.36 \text{ tpy}$$

3.3.2 Dry Kiln VOCs

IFG has derived kiln VOC emission factors based on species and kiln temperature. IFG is requesting that the dry kiln VOC limit be raised to 238.5 tpy so that any future changes in VOC emission factors won't impact the air quality permit. A sample calculation is shown below. The VOC emissions factor derivations are briefly explained in spreadsheet in Appendix B. More detailed information about VOC emission factors is available from IFG upon request.

Estimated VOC emissions from the mill depend on the amount of each wood species produced. IFG tracks the actual VOC emissions on a monthly bases using the amount of each species dried and the applicable VOC emission factor. An example kiln VOC calculation is shown below:

Douglas fir/larch (DFL):	124,000 mbf/yr · 1.03 lb/mbf ÷ 2000 lb/ton =	63.9 tpy
Eng. Spruce/Lodge Pole (ESLP):	95,000 · 1.32 lb/mbf ÷ 2000 lb/ton =	62.7 tpy
Ponderosa Pine (PP):	85,000 · 2.46 lb/mbf ÷ 2000 lb/ton =	104.5 tpy
Hemlock and White Fir (HF):	21,000 · 0.70 lb/mbf ÷ 2000 lb/ton =	7.4 tpy
Total:		238.5 tpy

The above calculation is just an example of how a particular species mix could result in a calculated VOC emission rate of 238.5 tpy.

3.3.3 Dry Kiln HAPs

Dry kiln HAP emissions factors were developed in much the same manner as the VOC emission factors and the background information can be provided to DEQ upon request. The dry kiln emission factors are not a completeness item in this permit application. The Chilco facility is a major source of HAPs, so there are no HAP emission limits in the permit, with the exception of formaldehyde.

The permit contains an emission limit for formaldehyde of 0.65 tons per year (tpy). This limit is based on a standard emissions factor for formaldehyde of 0.004 lb/mbdft which is a good representation of the dry kiln temperatures and species mix used at Chilco. The formaldehyde PTE for the dry kilns is calculated as follows:

$$\text{Formaldehyde: } 0.004 \text{ lb/mbf} \cdot 325,000 \text{ mbf/yr} \div 2000 \text{ lb/ton} = 0.65 \text{ tpy}$$

3.4 Sawmill and Planer Point Sources and Process Fugitives

The IFG proposal does not include any increase in production, so there is no increase in particulate matter emissions for the machine centers and material handling sources throughout the mill. The sawmill and planer point sources are included in the emissions inventory spreadsheet and in the total plant-wide point source emissions for the mill. IFG is not proposing changes to the permitted emission limits for the sawmill and planer point sources at this time.

As shown in the modeling report in Appendix D, the PM₁₀ and PM_{2.5} changes model did not result in significant impacts. Therefore, facility-wide modeling is not required. IFG will work with DEQ as necessary to update the facility-wide emissions inventory after this PTC permit action is completed.

4.0 REGULATORY ANALYSIS

The Minor Source Permit to Construct Application Completeness checklist requires that each applicable regulation be cited. This analysis has been done and is included in a four-page table in **Appendix C**. This section of the application contains additional information related to the regulations that could be impacted by this permit application.

4.1 PSD Status

The Chilco facility is not a major source as defined in the Prevention of Significant Deterioration (PSD) regulations, and the proposed changes do not constitute major modification. These definitions are based on the EPA PSD regulations, contained in 40 CFR 52.21 and incorporated by reference in IDAPA 58.01.01.205. Section 205.04 states that if the proposed action meets the requirements of an exemption or exclusion under the provisions of 40 CFR 52.21 incorporated in Section 205, the non-major facility or stationary source permitting requirements of Sections 200 through 228 apply.

A major source is defined in 52.21(b)(1)(i)(b) as any stationary source which emits or has the potential to emit 250 tpy or more of a regulated NSR pollutant. A major source is defined and in 52.21(b)(1)(i)(c) as any physical change that would occur at a stationary source not otherwise qualifying as a major stationary source, if the changes would constitute a major stationary source by itself. The current permitted emissions of any regulated pollutant from the Chilco facility are all less than 250 tpy. The proposed emissions increases are all less than 250 tpy as well, so the project qualifies as a non-major modification under PSD regulations.

Therefore the Idaho permitting requirements contained in IDAPA 58.01.01 Sections 200 through 228 are applicable to this project. Following completion of the permit modifications, the Chilco mill will be a PSD major source.

4.2 New Source Performance Standards (NSPS)

This section reviews the applicability of the New Source Performance Standards requirements of 40 CFR Part 60.40b and 60.40c (NSPS Subparts Db and Dc) to the existing hog fuel boiler and the proposed natural gas boiler.

NSPS Subpart Db does not apply to the hog fuel boiler because it was constructed before the applicability date. The boiler was originally constructed in 1977 with a heat input capacity of 125 mmBtu/hr. In 1984, it was relocated at the Chilco facility. Before installation was completed, the boiler was moved to the Sandpoint facility. Installation of the boiler at Sandpoint and the 2005 reinstallation at Chilco did not constitute modification, construction or reconstruction as defined in the NSPS. The boiler has been permitted to operate at its maximum heat input capacity of 125 mmBtu/hr on hogged-fuel. No modifications have been made to the boiler to increase heat input capacity or to accommodate fuels beyond what the boiler was originally capable of firing in 1977. Therefore, the hog fuel boiler remains exempt from NSPS regulation.

NSPS Subpart Dc applies to new boilers with heat input capacity of 10 to 100 mmBtu/hr. The proposed natural gas boiler will have a heat input capacity of 95 mmBtu/hr and will be subject to the requirements of Subpart Dc. NSPS Subpart Dc contains only reporting requirements for natural gas boilers. IFG will fulfill all the reporting requirements contained in NSPS Subpart Dc for the natural gas boiler and will provide the notifications required under 40 CFR 60.7 to both EPA and Idaho DEQ on the schedule specified in the regulation.

4.3 Visible Air Contaminants and Process Weight Rule

IFG will continue to comply with the visible emission standard of IDAPA 58.01.01.625. No visible emission shall exceed 20% opacity for any aggregate 3-minute period during any 60-minute period from any point source. Point source emissions and fugitive emissions material handling sources will comply with the emission limits contained in Idaho's Process Weight Rule.

4.4 Toxic Air Pollutants

The IFG-Chilco mill is a major source of HAPs under the Tier I regulations and is subject to the requirements of the Plywood and Composite Wood Products (PWCP) and Industrial and Commercial Boiler MACT NESHAPS. The HAPs that are regulated by the PCWP NESHAPS include methanol, formaldehyde, acrolein, acetaldehyde, phenol and propionaldehyde. This list encompasses all the HAP emissions from the dry kilns.

Based on IDAPA 58.01.01.210.20, IFG has determined that TAP analysis is not required because the kiln TAP emissions are regulated under NESHAPS. The natural gas boiler will be subject to the requirements of Boiler MACT so will not be subject to the TAP analysis requirements.

4.5 Modeling Thresholds

The Idaho modeling guideline lists the modeling thresholds for criteria pollutants, with Level I and Level II threshold values. The proposed PTE increases are compared to the Idaho modeling thresholds in Table 3 below. The table shows that the NO₂ emissions increases exceed the Level I modeling thresholds for 1-hour and annual averages. Significant impact modeling has been provided for NO₂ emissions from the natural gas boiler and from the hog fuel boiler to account for the changed emission parameters.

The emissions increases of PM₁₀, PM_{2.5}, SO₂ and CO do not exceed Level I modeling thresholds. SO₂ and CO emissions are so far below the threshold values that there would be little point in modeling those pollutants. IFG has provided significant impact modeling for PM₁₀ and PM_{2.5} because the changed impacts include the differences in the hog fuel boiler stack parameters as well as the addition of the natural gas boiler.

Table 3: Proposed Changes Compared to Modeling Thresholds

Pollutant	Proposed PTE	Current PTE ⁽¹⁾	Change in Emissions	Thresholds	
				Level II	Level I
CO	65.2 lb/hr	58.9 lb/hr	6.32 lb/hr	175 lb/hr	15 lb/hr
NO _x	137 tpy	111 tpy	26.0 tpy	14 tpy	1.2 tpy
NO _x	33.4 lb/hr	27.5 lb/hr	5.95 lb/hr	2.4 lb/hr	0.20 lb/hr
SO ₂	12.91 tpy	12.66 tpy	0.25 tpy	14 tpy	1.2 tpy
SO ₂	3.18 lb/hr	3.13 lb/hr	0.057 lb/hr	2.5 lb/hr	0.21 lb/hr
PM ₁₀	11.8 lb/hr	11.7 lb/hr	0.049 lb/hr	2.6 lb/hr	0.22 lb/hr
PM _{2.5}	40.4 tpy	40.2 tpy	0.18 tpy	4.1 tpy	0.35 tpy
PM _{2.5}	9.21 lb/hr	9.17 lb/hr	0.041 lb/hr	0.63 lb/hr	0.054 lb/hr
Pb	4.4 lb/month	4.4 lb/month	0	14 lb/month	

(1) Current PTE emissions do not include the EFB Media Baghouse or the BRC natural gas boiler.

5.0 MODELING ANALYSIS SUMMARY

The results of the modeling analysis are presented in detail the modeling report in Appendix D. The modeling report replaces the modeling text that was included in the original permit application.

Table 4 is a summary of the significant impact modeling results. The combined impacts are listed as well as the individual impacts from the addition of the gas boiler and from the change in the hog fuel boiler stack. This information is presented for interest only and is not required for PTC application completeness.

Table 4: IFG Class II Significant Impact Modeling

Pollutant	Averaging Period	Modeled Group	Modeled Conc. ^(a) ($\mu\text{g}/\text{m}^3$)	Class II SIL ($\mu\text{g}/\text{m}^3$)	Radius of Significant Impact
NO ₂ ^(b)	1-hr	All	64.4	7.5	12.2 km
		Natural Gas Boiler	58.0		12.2 km
		EFB to ESP Stack	35.5		2.1 km
NO ₂ ^(b)	Annual	All	1.45	1.0	0.41 km
		Natural Gas Boiler	1.70		0.43 km
		EFB to ESP Stack	0.19		NA
PM _{2.5}	24-hr	All	0.96	1.2	NA
		Natural Gas Boiler	0.13		NA
		EFB to ESP Stack	0.93		NA
	Annual	All	0.057	0.3	NA
		Natural Gas Boiler	0.012		NA
		EFB to ESP Stack	0.052		NA
PM ₁₀	24-hr	All	0.97	5	NA
		Natural Gas Boiler	0.15		NA
		EFB to ESP Stack	0.93		NA

^(a) All concentrations are 1st-high for comparison to SIL's.

^(b) All NO_x is assumed to NO₂ for SIL modeling.

As shown in Table 4, the proposed changes resulted in modeled significant NO₂ impacts for the 1-hour and annual averaging period. Therefore, cumulative impact modeling for NAAQS compliance was required.

Table 5 summarizes the peak modeled annual and 1-hour NO₂ impacts, based on full potential emissions from the hog fuel boiler and the natural gas boiler. As shown in Table 5, no exceedances of the NAAQS was modeled.

Table 5: IFG NAAQS Compliance Modeling

Pollutant	Averaging Period	Modeled Design Concentration ($\mu\text{g}/\text{m}^3$)^a	Background Concentration ($\mu\text{g}/\text{m}^3$)	Total Impact ($\mu\text{g}/\text{m}^3$)	NAAQS ($\mu\text{g}/\text{m}^3$)
NO ₂ ^b	1-hour	148 ^c	22.5	170 ^c	188
	Annual	5.04	1.88	6.92	100
^a Micrograms/cubic meter ^b Nitrogen dioxide. 1-hour Background is 12 ppb, equal to 22.5 $\mu\text{g}/\text{m}^3$ and annual background is 1 ppb equal to 1.88 $\mu\text{g}/\text{m}^3$. ^c Maximum of 5-year means (or a lesser averaging period if less than 5 years of meteorological data were used in the analyses) of 8 th highest modeled concentrations for each year modeled.					

Figures

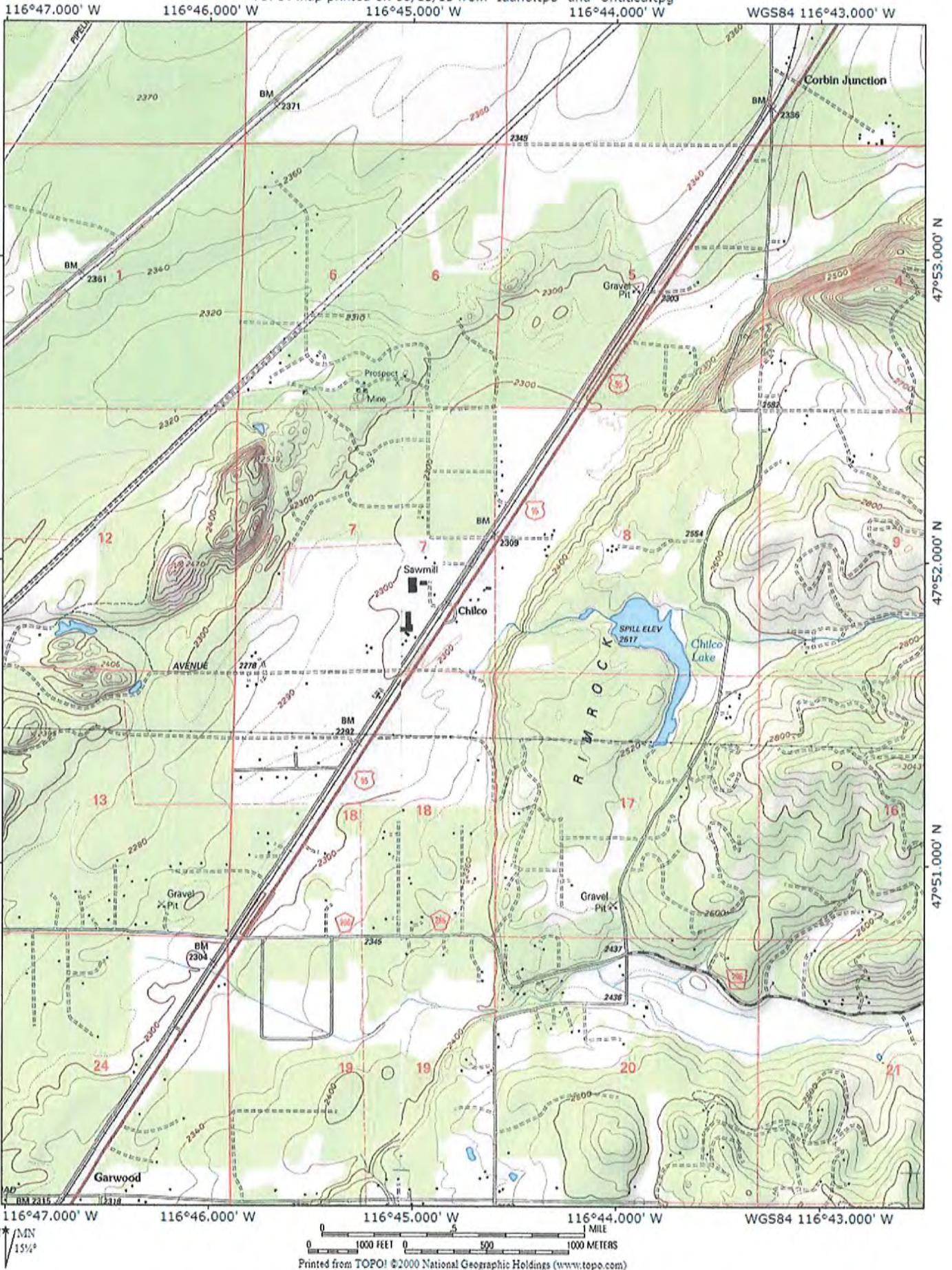
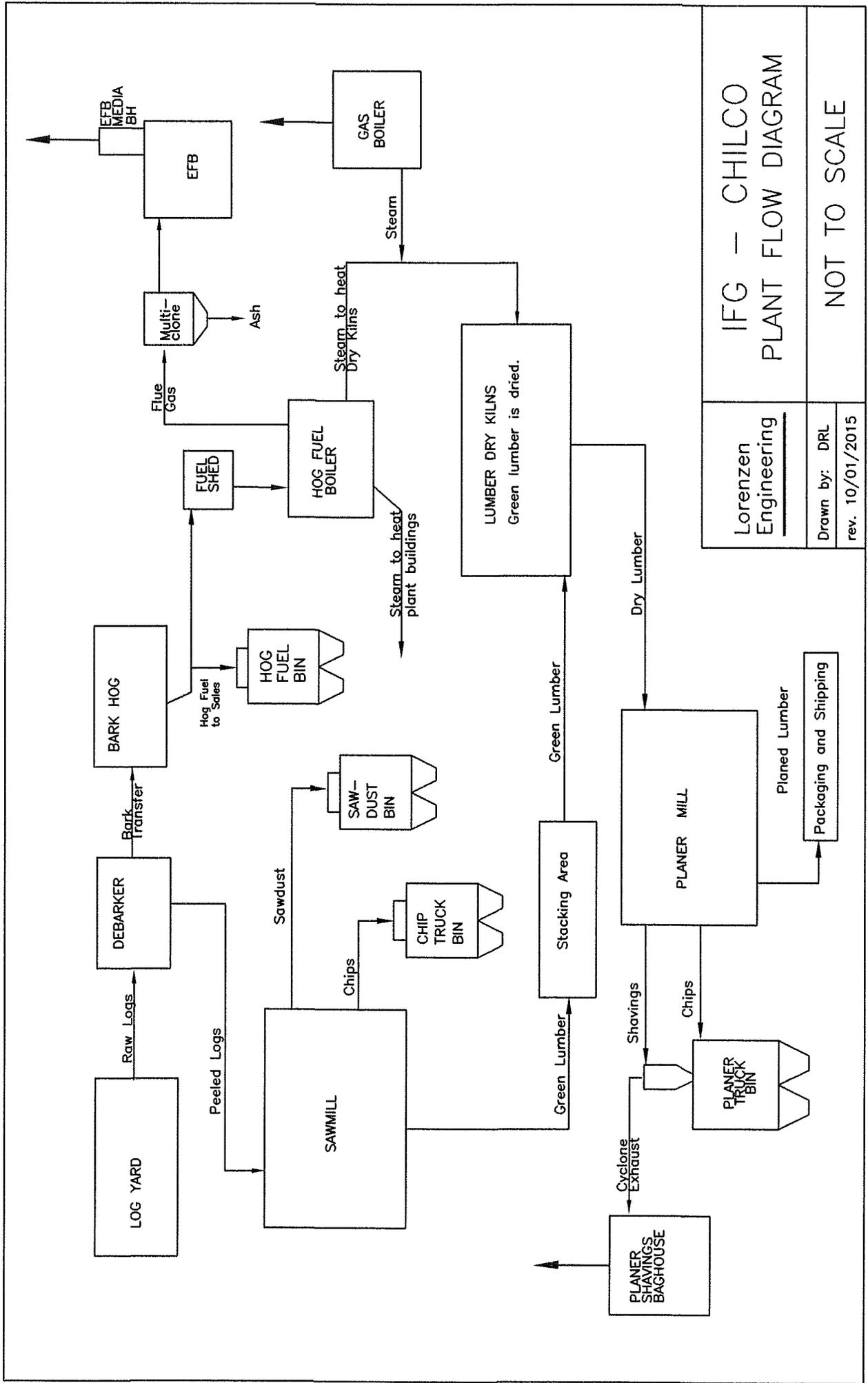


Figure 1: Site Location Map



FIGURE 2: Idaho Forest Group Site Photo



Lorenzen Engineering
 Drawn by: DRL
 rev. 10/01/2015

IFG - CHILCO
 PLANT FLOW DIAGRAM

NOT TO SCALE

Appendix A

Permit to Construct Application Forms and Equipment Information



Please see instructions on back page before filling out the form. All information is required. If information is missing, the application will not be processed.

Identification

1. Facility name 2. Existing facility identification number Check if new facility (not yet operating)

3. Brief project description

Facility Information

4. Primary facility permitting contact name Contact type
 Telephone number E-mail

5. Alternate facility permitting contact name Alternate contact type
 Telephone number E-mail

6. Mailing address where permit will be sent (street/city/county/state/zip code)

7. Physical address of permitted facility (if different than mailing address) (street/city/county/state/zip code)

8. Is the equipment portable? Yes* No *If yes, complete and attach PERF; see instructions.

9. NAICS codes: Primary NAICS Secondary NAICS

10. Brief business description and principal product produced

11. Identify any adjacent or contiguous facility this company owns and/or operates

12. Specify type of application Permit to construct (PTC); application fee of \$1,000 required. See instructions.
 Tier I permit Tier II permit Tier II/Permit to construct

For Tier I permitted facilities only: If you are applying for a PTC then you must also specify how the PTC will be incorporated into the Tier I permit.

Co-process Tier I modification and PTC Incorporate PTC at the time of Tier I renewal Administratively amend the Tier I permit to incorporate the PTC upon applicant's request (IDAPA 58.01.01.209.05.a, b, or c)

Certification

In accordance with IDAPA 58.01.01.123 (Rules for the Control of Air Pollution in Idaho), I certify based on information and belief formed after reasonable inquiry, the statements and information in the document(s) are true, accurate, and complete.

13. Responsible official's name Official's title
 Official's address
 Telephone number E-mail
 Official's signature Date

14. Check here to indicate that you want to review the draft permit before final issuance.



DEQ AIR QUALITY PROGRAM
 1410 N. Hilton, Boise, ID 83706
 For assistance, call the
Air Permit Hotline – 1-877-5PERMIT

Cover Sheet for Air Permit Application – Permit to Construct **Form CSPTC**

Please see instructions on page 2 before filling out the form.

COMPANY NAME, FACILITY NAME, AND FACILITY ID NUMBER			
1. Company Name	Idaho Forest Group LLC		
2. Facility Name	IFG – Chilco	3. Facility ID No.	55-00024
4. Brief Project Description - One sentence or less	Add natural gas boiler, replace EFB with ESP and raise CO limit on hog fuel boiler, increase kiln VOC limit		
PERMIT APPLICATION TYPE			
5.	<input type="checkbox"/> New Source <input type="checkbox"/> New Source at Existing Facility <input checked="" type="checkbox"/> PTC for a Tier I Source Processed Pursuant to IDAPA 58.01.01.209.05.c <input type="checkbox"/> Unpermitted Existing Source <input type="checkbox"/> Facility Emissions Cap <input type="checkbox"/> Modify Existing Source: Permit No.: _____ Date Issued: _____ <input type="checkbox"/> Required by Enforcement Action: Case No.: _____		
6.	<input checked="" type="checkbox"/> Minor PTC <input type="checkbox"/> Major PTC		
FORMS INCLUDED			
Included	N/A	Forms	DEQ Verify
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Form CSPTC – Cover Sheet	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Form GI – Facility Information	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Form EU0 – Emissions Units General	<input type="checkbox"/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Form EU1– Industrial Engine Information Please specify number of EU1s attached: _____	<input type="checkbox"/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Form EU2– Nonmetallic Mineral Processing Plants Please specify number of EU2s attached: _____	<input type="checkbox"/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Form EU3– Spray Paint Booth Information Please specify number of EU3s attached: _____	<input type="checkbox"/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Form EU4– Cooling Tower Information Please specify number of EU3s attached: _____	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Form EU5 – Boiler Information Please specify number of EU4s attached: _____	<input type="checkbox"/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Form CBP– Concrete Batch Plant Please specify number of CBPs attached: _____	<input type="checkbox"/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Form HMAP – Hot Mix Asphalt Plant Please specify number of HMAPs attached: _____	<input type="checkbox"/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	PERF – Portable Equipment Relocation Form	<input type="checkbox"/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Form AO – Afterburner/Oxidizer	<input type="checkbox"/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Form CA – Carbon Adsorber	<input type="checkbox"/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Form CYS – Cyclone Separator	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Form ESP – Electrostatic Precipitator	<input type="checkbox"/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Form BCE– Baghouses Control Equipment	<input type="checkbox"/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Form SCE– Scrubbers Control Equipment	<input type="checkbox"/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Form VSCE – Venturi Scrubber Control Equipment	<input type="checkbox"/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Form CAM – Compliance Assurance Monitoring	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Forms EI– Emissions Inventory	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	PP – Plot Plan	<input type="checkbox"/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Forms MI1 – MI4 – Modeling (Excel workbook, all 4 worksheets)	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Form FRA – Federal Regulation Applicability	<input type="checkbox"/>



Please see instructions on page 2 before filling out the form.

IDENTIFICATION				
1. Company Name: Idaho Forest Group LLC		2. Facility Name: IFG - Chilco		3. Facility ID No: 55-00024
4. Brief Project Description: Add Natural Gas Boiler				
EXEMPTION				
Please see IDAPA 58.01.01.222 for a list of industrial boilers that are exempt from Permit to Construct requirements.				
BOILER (EMISSION UNIT) DESCRIPTION AND SPECIFICATIONS				
5. Type of Request: <input checked="" type="checkbox"/> New Unit <input type="checkbox"/> Unpermitted Existing Unit <input type="checkbox"/> Modification to a Unit with Permit #:				
6. Use of Boiler: <input checked="" type="checkbox"/> % Used For Process <input type="checkbox"/> % Used For Space Heat <input type="checkbox"/> % Used For Generating Electricity <input type="checkbox"/> Other:				
7. Boiler ID Number: NA		8. Rated Capacity: <input checked="" type="checkbox"/> 95 Million British Thermal Units Per Hour (MMBtu/hr) <input checked="" type="checkbox"/> 80 1,000 Pounds Steam Per Hour (1,000 lb steam/hr)		
9. Construction Date:		10. Manufacturer: John Zink Hamsworth	11. Model: Order No. 9167558	
12. Date of Modification (if applicable): 5/1/2016		13. Serial Number (if available):	14. Control Device (if any): No add-on control Note: Attach applicable control equipment form(s)	
FUEL DESCRIPTION AND SPECIFICATIONS				
15. Fuel Type		<input type="checkbox"/> Diesel Fuel (#) (gal/hr)	<input checked="" type="checkbox"/> Natural Gas 94,618 (cf/hr)	<input type="checkbox"/> Coal (unit: /hr)
				<input type="checkbox"/> Other Fuels (unit: /hr)
16. Full Load Consumption Rate		94,618		
17. Actual Consumption Rate		Est. 50,000		
18. Fuel Heat Content (Btu/unit, LHV)		1020 Btu/scf		
19. Sulfur Content wt%		Nil		
20. Ash Content wt%		N/A		
STEAM DESCRIPTION AND SPECIFICATIONS				
21. Steam Heat Content		NA	NA	
22. Steam Temperature (°F)		N/A	N/A	
23. Steam Pressure (psi)		N/A	N/A	
24. Steam Type		N/A	N/A	<input type="checkbox"/> Saturated <input type="checkbox"/> Superheated
				<input type="checkbox"/> Saturated <input type="checkbox"/> Superheated
OPERATING LIMITS & SCHEDULE				
25. Imposed Operating Limits (hours/year, or gallons fuel/year, etc.):			95 MMBtu/hr	
26. Operating Schedule (hours/day, months/year, etc.):				
27. NSPS Applicability: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		If Yes, which subpart: Subpart Dc		

IFG Chilco Natural Gas Boiler

Boiler Plate Information





Please see instructions on page 2 before filling out the form.

IDENTIFICATION						
1. Company Name: Idaho Forest Group LLC		2. Facility Name: IFG - Chilco		3. Facility ID No: 55-00024		
4. Brief Project Description: Change VOC Limit on Kiln to Match Current Emission Factors						
EMISSIONS UNIT (PROCESS) IDENTIFICATION & DESCRIPTION						
5. Emissions Unit (EU) Name:		KILNS				
6. EU ID Number:						
7. EU Type:		<input type="checkbox"/> New Source <input type="checkbox"/> Unpermitted Existing Source <input checked="" type="checkbox"/> Modification to a Permitted Source – Previous Permit #:T1-2012.0065		Date Issued: 4/4/14		
8. Manufacturer:		UNKNOWN				
9. Model:		FIELD ERECTED				
10. Maximum Capacity:		325 MMBF/YR FOR EXISTING KILNS				
11. Date of Construction:		2005				
12. Date of Modification (if any):		NO MODIFICATION OF EQUIPMENT				
13. Is this a Controlled Emission Unit?		<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes If Yes, complete the following section. If No, go to line 22.				
EMISSIONS CONTROL EQUIPMENT						
14. Control Equipment Name and ID:						
15. Date of Installation:			16. Date of Modification (if any):			
17. Manufacturer and Model Number:						
18. ID(s) of Emission Unit Controlled:						
19. Is operating schedule different than emission units(s) involved? <input type="checkbox"/> Yes <input type="checkbox"/> No						
20. Does the manufacturer guarantee the control efficiency of the control equipment? <input type="checkbox"/> Yes <input type="checkbox"/> No (If Yes, attach and label manufacturer guarantee)						
Control Efficiency	Pollutant Controlled					
	PM	PM10	SO ₂	NOx	VOC	CO
21. If manufacturer's data is not available, attach a separate sheet of paper to provide the control equipment design specifications and performance data to support the above mentioned control efficiency.						
EMISSION UNIT OPERATING SCHEDULE (hours/day, hours/year, or other)						
22. Actual Operation:		24 HR/DAY 365 DAYS PER YEAR				
23. Maximum Operation:		24 HR/DAY 365 DAYS PER YEAR				
REQUESTED LIMITS						
24. Are you requesting any permit limits?		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No (If Yes, indicate all that apply below)				
<input type="checkbox"/> Operation Hour Limit(s):						
<input checked="" type="checkbox"/> Production Limit(s):		325 MMBF/YR FOR ALL DRY KILNS				
<input type="checkbox"/> Material Usage Limit(s):						
<input type="checkbox"/> Limits Based on Stack Testing:		Please attach all relevant stack testing summary reports				
<input type="checkbox"/> Other:						
25. Rationale for Requesting the Limit(s):		PROVIDES BASIS FOR EMISSIONS CALCULATIONS				



DEQ AIR QUALITY PROGRAM
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Air Permit Hotline – 1-877-5PERMIT

Electrostatic Precipitator Form ESP
 Revision 3
 12/13/10

Please see instructions on page 2 before filling out the form.

IDENTIFICATION	
1. Company Name	2. Facility Name:
Idaho Forest Group LLC	IFG - Chilco
3. Brief Project Description:	Replace Electrified Filter Bed with Electrostatic Precipitator
ELECTROSTATIC PRECIPITATOR (ESP) INFORMATION	
Equipment Description	
4. Manufacturer:	PPC Industries
5. Model Number:	11R-1328-3712S
6. Precipitator Characteristics:	Number of fields: <u>3</u> Number of chambers: <u>3</u> Potential applied: <u>0 to 55kv</u> kV/in Type of ESP: <input type="checkbox"/> Wet <input checked="" type="checkbox"/> Dry Inlet flow rate: _____ acfm Plate cleaning system: <input checked="" type="checkbox"/> Rapping <input type="checkbox"/> Other: _____
	Number of plates: <u>36</u> Residence time: _____ sec Can isolate chambers? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Cross sectional area of precipitator: <u>308</u> ft ² Type of collecting plate: <input checked="" type="checkbox"/> Tubular <input type="checkbox"/> Plate
7. Operating Parameters: (Note: You must fill in all fields in this section)	Secondary amperage: <u>greater than 30</u> Secondary voltage: <u>greater than 15kv</u> Spark rate: <u>0-100</u> Manufacturer's specifications? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Note: If yes, attach a copy; if no, provide basis for operating parameters provided.
	Amperage averaging period (minute, hour, etc): _____ per second Voltage averaging period (minute, hour, etc): _____ per second Spark rate averaging period (minute, hour, etc): _____ per minute
8. Pre-treatment device:	<input checked="" type="checkbox"/> Cyclone <input type="checkbox"/> Pre-cooler <input type="checkbox"/> Pre-heater <input type="checkbox"/> Knock-out chamber <input type="checkbox"/> None
9. Blower:	Blower rating: <u>400</u> hp Design flow rate: <u>71381</u> scfm Draft: <input type="checkbox"/> Forced <input checked="" type="checkbox"/> Induced
10. Method of removal of particulate from ESP:	<input type="checkbox"/> Closed container <input checked="" type="checkbox"/> Enclosed screw conveyor <input type="checkbox"/> Other method: _____

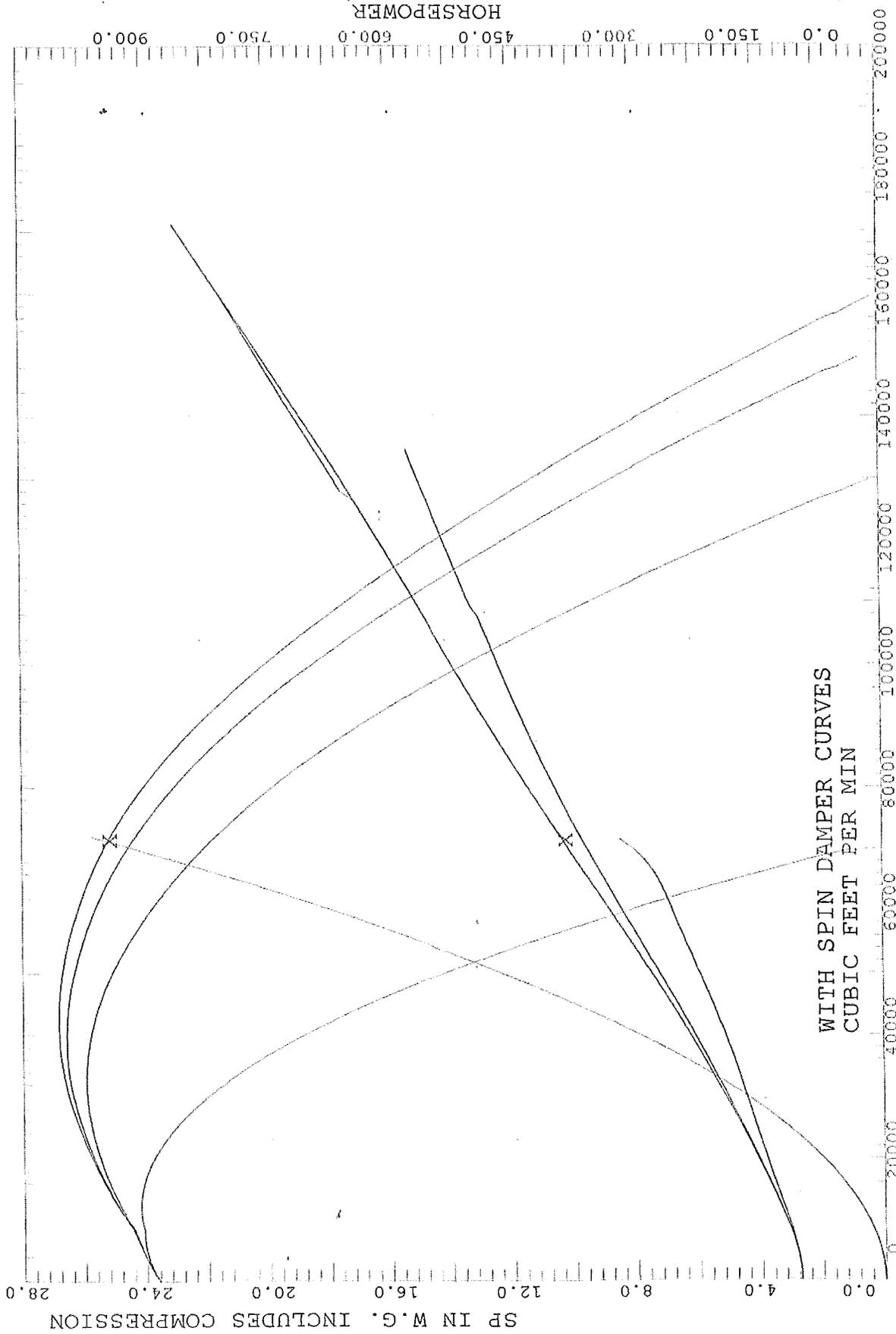
CLARAGE

A TWIN CITY FAN COMPANY
202 Commerce Way
Pulaski TN 38478
Ph: 931.424.2500 Fax: 931.363.3155

FAN PERFORMANCE CURVE

DATE: 11/10/15

DENS= 0.0391



WITH SPIN DAMPER CURVES
CUBIC FEET PER MIN

SIZE 150. TYPE RB SERIES 3530 83 PC DW STD WHL, ARR 3D2 AT 1180 RPM 3530-dw
STD. DIA= 75.0000 OA= 11.9766
D47094

CUST. REF.-FH00891

ASPEN Consulting & Testing, Inc
Method 2 - Flow Determination Spreadsheet

Facility	Idaho Forest Group	Stack Diameter (in.)	55
Location	Chilco, ID	Stack Area ft ²	16.49885
Date	March 26, 2015	Barometric Pressure	28.4
Time	9:50, 11:07, 12:20	Static Pressure (in H ₂ O)	0.2
Stack Gas Dry MW (gmol)	30.16	Pitot Cp	0.84
Stack Gas wet MW (gmol)	28.75	% Moisture	11.588

Port	Point	Run 1		Run 2		Run 3	
		Delta P (in H ₂ O)	Stack Temp Deg F	Delta P (in H ₂ O)	Stack Temp Deg F	Delta P (in H ₂ O)	Stack Temp Deg F
A	1	0.42	253	0.48	263	0.42	267
	2	0.38	257	0.45	265	0.44	264
	3	0.38	258	0.43	266	0.42	262
	4	0.36	256	0.43	267	0.45	258
	5	0.33	261	0.33	269	0.44	265
	6	0.32	262	0.31	269	0.32	260
B	1	0.38	258	0.38	260	0.42	265
	2	0.39	260	0.38	263	0.38	258
	3	0.36	257	0.36	262	0.42	259
	4	0.44	255	0.43	265	0.43	259
	5	0.4	256	0.31	266	0.45	263
	6	0.31	259	0.29	266	0.31	264
Average Square Root Delta P		0.61		0.62		0.64	
Average Absolute Temp.		717.7		725.1		722.0	
Stack Pressure (in Hg)		28.41		28.41		28.41	
Stack Velocity (ft/sec)		41.03		41.67		43.07	
Actual Flow Rate (ACFM)		40614.39		41246.11		42633.91	
Standard Flow Rate (SCFM)		28377.40		28524.01		29609.66	
Dry Standard Flow Rate (DSCF)		25088.92		25218.54		26178.39	

Method 4 - Moisture Determination Spreadsheet

Run Number	#	1	2	3	Average
Start Time	hh:mm	9:50	11:07	12:20	
Meter Box Identification	#	0012	0012	0012	
Meter "Y" Factor	Factor	0.985	0.985	0.985	
Barometric Pressure	in Hg	28.40	28.40	28.40	
Sample Time	min	60	60	60	
Ambient Temperature	Deg F	48	53	54	
Average Meter Temperature	Deg F	59.00	63.67	65.33	
Average Condenser Temperature	Deg F	54.67	57.50	58.50	
Meter Volume	dcf	42.429	43.54	44.362	
Corrected Meter Volume	dscf	40.357	41.045	41.687	
Average Delta H	in H ₂ O	1.7	1.7	1.7	
Total Impinger Gain	ml	102.0	109.0	102.0	
Total Silica Gel Gain	g	9.6	10	10.1	
Volume of Condensed Water Vapor	scf	5.254	5.602	5.277	5.378
Moisture Calculation	Bws (%)	11.519	12.010	11.237	11.588



DEQ AIR QUALITY PROGRAM
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Air Permit Hotline – 1-877-5PERMIT

AIR PERMIT APPLICATION

Revision 6
 10/7/09

For each box in the table below, CTRL+click on the blue underlined text for instructions and information.

IDENTIFICATION	
1. Company Name: Idaho Forest Group LLC	2. Facility Name: IFG - Chilco
3. Brief Project Description: Add natural gas boiler, replace hog fuel boiler EFB with ESP and raise CO limit, raise kiln VOC limit.	
APPLICABILITY DETERMINATION	
4. List applicable subparts of the New Source Performance Standards (NSPS) (40 CFR part 60). Examples of NSPS affected emissions units include internal combustion engines, boilers, turbines, etc. The applicant must thoroughly review the list of affected emissions units.	List of applicable subpart(s): NSPS Subpart Dc applies to the proposed natural gas boiler.
5. List applicable subpart(s) of the National Emission Standards for Hazardous Air Pollutants (NESHAP) found in 40 CFR part 61 and 40 CFR part 63 . Examples of affected emission units include solvent cleaning operations, industrial cooling towers, paint stripping and miscellaneous surface coating. EPA has a web page dedicated to NESHAP that should be useful to applicants.	List of applicable subpart(s): NESHAP Subpart DDDD – Plywood and Composite Wood Products MACT applies to kilns NESHAP Subpart ZZZZ – Reciprocating Internal Combustion Engines. Applies to fire-water pump engine. NESHAP Subpart DDDDD – Boiler MACT applies to hog fuel boiler and natural gas boiler
6. For each subpart identified above, conduct a complete a regulatory analysis using the instructions and referencing the example provided on the following pages. Note - Regulatory reviews must be submitted with sufficient detail so that DEQ can verify applicability and document in legal terms why the regulation applies. Regulatory reviews that are submitted with insufficient detail will be determined incomplete.	<input type="checkbox"/> A detailed regulatory review is provided (Follow instructions and example). Regulatory Reviews for NSPS Subpart Dc, NESHAPS Subparts DDDD, DDDDD and ZZZZ are attached to this Form FRA.

REGULATORY ANALYSIS FOR ATTACHMENT TO FORM FRA
e-CFR Data is current as of November 29, 2012

Title 40: Protection of Environment
PART 60—STANDARDS OF PERFORMANCE FOR NEW STATIONARY SOURCES

SUBPART DC—STANDARDS OF PERFORMANCE FOR SMALL INDUSTRIAL-COMMERCIAL-INSTITUTIONAL STEAM GENERATING UNITS

Contents

§ 60.40c	Applicability and delegation of authority.
§ 60.41c	Definitions.
§ 60.42c	Standard for sulfur dioxide (SO ₂).
§ 60.43c	Standard for particulate matter (PM).
§ 60.44c	Compliance and performance test methods and procedures for sulfur dioxide.
§ 60.45c	Compliance and performance test methods and procedures for particulate matter.
§ 60.46c	Emission monitoring for sulfur dioxide.
§ 60.47c	Emission monitoring for particulate matter.
§ 60.48c	Reporting and recordkeeping requirements.

§ 60.40C APPLICABILITY AND DELEGATION OF AUTHORITY.

(a) Except as provided in paragraphs (d), (e), (f), and (g) of this section, the affected facility to which this subpart applies is each steam generating unit for which construction, modification, or reconstruction is commenced after June 9, 1989 and that has a maximum design heat input capacity of 29 megawatts (MW) (100 million British thermal units per hour (MMBtu/h)) or less, but greater than or equal to 2.9 MW (10 MMBtu/h).

The IFG Natural Gas boiler has a heat input capacity greater than 10 MMBtu/h and less than 100 MMBtu/h. It was built after June 9, 1989. Therefore, NSPS Subpart Dc applies to this boiler.

(b) In delegating implementation and enforcement authority to a State under section 111(c) of the Clean Air Act, § 60.48c(a)(4) shall be retained by the Administrator and not transferred to a State.

NSPS is administered by EPA, not the State of Idaho.

(c) Steam generating units that meet the applicability requirements in paragraph (a) of this section are not subject to the sulfur dioxide (SO₂) or particulate matter (PM) emission limits, performance testing requirements, or monitoring requirements under this subpart (§§ 60.42c, 60.43c, 60.44c, 60.45c, 60.46c, or 60.47c) during periods of combustion research, as defined in § 60.41c.

IFG has no plans to use the natural gas boiler for combustion research. If this changes, IFG will notify EPA and the State of Idaho.

(d) Any temporary change to an existing steam generating unit for the purpose of conducting combustion research is not considered a modification under § 60.14.

IFG has no plans to use the natural gas boiler for combustion research. If this changes, IFG will notify EPA and the State of Idaho.

(e) Affected facilities (i.e. heat recovery steam generators and fuel heaters) that are associated with stationary combustion turbines and meet the applicability requirements of subpart KKKK of this part are not subject to this subpart....

The IFG Natural Gas boiler is not associated with a stationary combustion turbine.

(f) Any affected facility that meets the applicability requirements of and is subject to subpart AAAA or subpart CCCC of this part is not subject to this subpart.

This provision does not apply to the IFG Natural Gas Boiler.

(g) Any facility that meets the applicability requirements and is subject to an EPA approved State or Federal section 111(d)/129 plan implementing subpart BBBB of this part is not subject to this subpart.

This provision does not apply to the IFG Natural Gas Boiler.

(h) Affected facilities that also meet the applicability requirements under subpart J or subpart Ja of this part are subject to the PM and NO_x standards under this subpart and the SO₂ standards under subpart J or subpart Ja of this part, as applicable.

This provision does not apply to the IFG Natural Gas Boiler.

(i) Temporary boilers are not subject to this subpart.

From § 60.41c Definitions: *Temporary boiler* means a steam generating unit that combusts natural gas or distillate oil with a potential SO₂ emissions rate no greater than 26 ng/J (0.060 lb/MMBtu), and the unit is designed to, and is capable of, being carried or moved from one location to another by means of, for example, wheels, skids, carrying handles, dollies, trailers, or platforms. A steam generating unit is not a temporary boiler if any one of the following conditions exists: (1) The equipment is attached to a foundation. (2) The steam generating unit or a replacement remains at a location for more than 180 consecutive days. Any temporary boiler that replaces a temporary boiler at a location and performs the same or similar function will be included in calculating the consecutive time period. (3) The equipment is located at a seasonal facility and operates during the full annual operating period of the seasonal facility, remains at the facility for at least 2 years, and operates at that facility for at least 3 months each year. (4) The equipment is moved from one location to another in an attempt to circumvent the residence time requirements of this definition.

The Natural Gas Boiler is being permitted as a permanent stationary source.

§ 60.42C STANDARD FOR SULFUR DIOXIDE (SO₂).

The IFG Natural Gas Boiler will only burn natural gas. This section does not contain applicable requirements.

§ 60.43C STANDARD FOR PARTICULATE MATTER (PM).

The IFG Natural Gas Boiler will only burn natural gas. This section does not contain applicable requirements.

§ 60.44C COMPLIANCE AND PERFORMANCE TEST METHODS AND PROCEDURES FOR SULFUR DIOXIDE.

The IFG Natural Gas Boiler will only burn natural gas. This section does not contain applicable requirements.

§ 60.45C COMPLIANCE AND PERFORMANCE TEST METHODS AND PROCEDURES FOR PARTICULATE MATTER.

The IFG Natural Gas Boiler will only burn natural gas. This section does not contain applicable requirements.

§ 60.46C EMISSION MONITORING FOR SULFUR DIOXIDE.

The IFG Natural Gas Boiler will only burn natural gas. This section does not contain applicable requirements.

§ 60.47C EMISSION MONITORING FOR PARTICULATE MATTER.

The IFG Natural Gas Boiler will only burn natural gas. This section does not contain applicable requirements.

§ 60.48C REPORTING AND RECORDKEEPING REQUIREMENTS.

(a) The owner or operator of each affected facility shall submit notification of the date of construction or reconstruction and actual startup, as provided by § 60.7 of this part. This notification shall include:

- (1) The design heat input capacity of the affected facility and identification of fuels to be combusted in the affected facility.
- (2) If applicable, a copy of any federally enforceable requirement that limits the annual capacity factor for any fuel or mixture of fuels under § 60.42c, or § 60.43c.
- (3) The annual capacity factor at which the owner or operator anticipates operating the affected facility based on all fuels fired and based on each individual fuel fired.
- (4) Notification if an emerging technology will be used for controlling SO₂ emissions.

IFG will submit the required notifications to EPA, with a copy to Idaho DEQ, as required in § 60.7 of this part.

(b) The owner or operator of each affected facility subject to the SO₂ emission limits of § 60.42c... The IFG Natural Gas Boiler will only burn natural gas. This section does not apply.

(c) In addition to the applicable requirements in § 60.7, the owner or operator of an affected facility subject to the opacity limits... The IFG Natural Gas Boiler will only burn natural gas. This section does not apply.

Applicability Review for Attachment to Idaho Form FRA

TITLE 40--PROTECTION OF ENVIRONMENT, CHAPTER I--ENVIRONMENTAL PROTECTION AGENCY, PART 63 NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS FOR SOURCE CATEGORIES. Subpart DDDD - National Emission Standards for Hazardous Air Pollutants: Plywood and Composite Wood Products

Sec. 63.2231 Does this subpart apply to me?

This subpart applies to you if you meet the criteria in paragraphs (a) and (b) of this section.

(a) You own or operate a PCWP manufacturing facility. A PCWP manufacturing facility is a facility that manufactures plywood... and/or composite wood... **Plywood and composite wood products manufacturing facilities also include facilities that manufacture dry veneer and lumber kilns located at any facility.** Plywood and composite wood products include, but are not limited to, plywood, veneer, particleboard, oriented strand board, hardboard, fiberboard, medium density fiberboard, laminated strand lumber, laminated veneer lumber, wood I-joists, kiln-dried lumber, and glue-laminated beams.

(b) The PCWP manufacturing facility is located at a major source of HAP emissions.

The IFG Chilco facility is a major source of HAPs and includes lumber dry kilns. Therefore the PCWP NESHAPS applies.

Sec. 63.2232 What parts of my plant does this subpart cover?

(a) This subpart applies to each new, reconstructed, or existing affected source at a PCWP manufacturing facility. (b) ... **The affected source includes lumber kilns at PCWP manufacturing facilities and at any other kind of facility.** (c) An affected source is a new affected source if you commenced construction of the affected source after January 9, 2003, and you meet the applicability criteria at the time you commenced construction. (d) An affected source is reconstructed if you meet the criteria as defined in Sec. 63.2. (e) An affected source is existing if it is not new or reconstructed.

The lumber kilns at the Chilco sawmill are an affected existing source.

Sec. 63.2252 What are the requirements for process units that have no control or work practice requirements?

...For process units not subject to the compliance options or work practice requirements specified in Sec. 63.2240 (including, but not limited to, lumber kilns), you are not required to comply with the compliance options, work practice requirements, performance testing, monitoring, SSM plans, and recordkeeping or reporting requirements of this subpart, or any other requirements in subpart A of this part, except for the initial notification requirements in Sec. 63.9(b).

There are no applicable requirements in the PCWP MACT regulations for lumber dry kilns except for initial notification requirements. Riley Creek Lumber, a predecessor of Idaho Forest Group, submitted the initial notification for the PCWP MACT as required.

Applicability Review for Attachment to Idaho Form FRA
IFG – Chilco, Revised Nov. 16, 2012

PART 63_NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS FOR SOURCE. Subpart ZZZZ_National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines

§ 63.6585 Am I subject to this subpart?

You are subject to this subpart if you own or operate a stationary RICE at a major or area source of HAP emissions ... (a) A stationary RICE is any internal combustion engine which uses reciprocating motion to convert heat energy into mechanical work and which is not mobile. **The Chilco fire-water pump engine is a diesel-fired (compression ignition) RICE. IFG's Chilco facility is a Major Source of HAP.**

§ 63.6590 What parts of my plant does this subpart cover?

This subpart applies to each affected source... (ii) For stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions, a stationary RICE is existing if you commenced construction or reconstruction of the stationary RICE before June 12, 2006. **The Chilco fire-water pump engine is an affected source. It is an existing stationary RICE with a site rating of 150 brake HP, and was installed in 2004.**

§ 63.6595 When do I have to comply with this subpart?

(a) Affected sources. (1) If you have ... an existing stationary CI RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions... you must comply with the applicable emission limitations and operating limitations no later than May 3, 2013.

§ 63.6602 What emission limitations must I meet if I own or operate an existing stationary RICE with a site rating of equal to or less than 500 brake HP located at a major source of HAP emissions?

If you own or operate an existing stationary RICE with a site rating of equal to or less than 500 brake HP located at a major source of HAP emissions, you must comply with the emission limitations in Table 2c to this subpart which apply to you. The following is the portions of Table 2C to Subpart ZZZZ of Part 63 which apply to the firewater pump at IFG – Chilco.

Table 2c to Subpart ZZZZ of Part 63—

For each ...	You must meet the following requirement, except during periods of startup ...	During periods of startup you must ...
1. Emergency stationary CI RICE and black start stationary CI RICE. ¹	a. Change oil and filter every 500 hours of operation or annually, whichever comes first; ² b. Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first; c. Inspect all hoses and belts	Minimize the engine's time spent at idle and minimize the engine's startup time at startup to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the non-startup emission limitations apply. ³

For each . . .	You must meet the following requirement, except during periods of startup . . .	During periods of startup you must . . .
	every 500 hours of operation or annually, whichever comes first, and replace as necessary. ³	
<p>¹ If an emergency engine is operating during an emergency and it is not possible to shut down the engine in order to perform the work practice requirements on the schedule required in Table 2c of this subpart, or if performing the work practice on the required schedule would otherwise pose an unacceptable risk under Federal, State, or local law, the work practice can be delayed until the emergency is over or the unacceptable risk under Federal, State, or local law has abated. The work practice should be performed as soon as practicable after the emergency has ended or the unacceptable risk under Federal, State, or local law has abated. Sources must report any failure to perform the work practice on the schedule required and the Federal, State or local law under which the risk was deemed unacceptable.</p> <p>² Sources have the option to utilize an oil analysis program as described in § 63.6625(i) in order to extend the specified oil change requirement in Table 2c of this subpart.</p> <p>³ Sources can petition the Administrator pursuant to the requirements of 40 CFR 63.6(g) for alternative work practices.</p>		

The Chilco fire-water pump engine is an emergency engine. It is only used for fire suppression. It is tested regularly to ensure readiness. IFG reserves the right to use the options referenced in footnotes 2 and 3 to Table 2c, and described in § 63.6625(i)

§ 63.6605 What are my general requirements for complying with this subpart?

- (a) You must be in compliance with the emission limitations and operating limitations in this subpart that apply to you at all times.
- (b) At all times you must operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. . . .

IFG Chilco must comply with the general requirements of the Subpart.

§ 63.6625 What are my monitoring, installation, collection, operation, and maintenance requirements? (e) If you own or operate any of the following stationary RICE (an existing emergency stationary RICE with a site rating of less than or equal to 500 HP located at a major source of HAP emissions) you must operate and maintain the stationary RICE and after-treatment control device (if any) according to the manufacturer's emission-related written instructions or develop your own maintenance plan which must provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions. (f) If you own or operate an existing emergency stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions you must install a non-resettable hour meter if one is not already installed.

IFG Chilco must follow a maintenance plan based on the manufacturer's instructions for maintenance and operation of the engine as described above. The engine must be equipped with a non-resettable hour meter.

§ 63.6640 How do I demonstrate continuous compliance with the emission limitations and operating limitations?

IFG must comply with the following conditions for operation of the emergency fire-water pump engine.

(f) Requirements for emergency stationary RICE. (1) If you own or operate an existing emergency stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions...you must operate the emergency stationary RICE according to the requirements in paragraphs (f)(1)(i) through (iii) of this section.

(i) There is no time limit on the use of emergency stationary RICE in emergency situations.

(ii) You may operate your emergency stationary RICE for the purpose of maintenance checks and readiness testing, provided that the tests are recommended by Federal, State or local government, the manufacturer, the vendor, or the insurance company associated with the engine.

(iii) You may operate your emergency stationary RICE up to 50 hours per year in non-emergency situations, but those 50 hours are counted towards the 100 hours per year provided for maintenance and testing.

§ 63.6645 What notifications must I submit and when?

(5) This requirement does not apply if you own or operate an existing stationary RICE less than 100 HP, an existing stationary emergency RICE, or an existing stationary RICE that is not subject to any numerical emission standards.

According to 63.6645(5), notifications are not required for an existing stationary emergency CI RICE. IFG understands that notification is not required for the fire-water pump engine.

§ 63.6650 What reports must I submit and when?

(a) You must submit each report in Table 7 of this subpart that applies to you.

No reports in Table 7 apply.

Sec. 63.6655 What records must I keep?

IFG must keep records of engine operation for 5 years, as described below.

(f) If you own or operate any of the stationary RICE in paragraphs (f)(1) or (2) of this section, you must keep records of the hours of operation of the engine that is recorded through the nonresettable hour meter. The owner or operator must document how many hours are spent for emergency operation, including what classified the operation as emergency and how many hours are spent for non-emergency operation. If the engines are used for demand response operation, the owner or operator must keep records of the notification of the emergency situation, and the time the engine was operated as part of demand response.

Title 40: Protection of Environment. Part 63, National Emission Standards for Hazardous Air Pollutants (NESHAPS). Subpart DDDDD—National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters

Based on Regulation obtained from eCFR on January 31, 2016. Regulation Version is: [76 FR 15664, Mar. 21, 2011, as amended at 78 FR 7162, Jan. 31, 2013; 80 FR 72806, Nov. 20, 2015]

Only sections of the regulation that are could possibly be applicable to IFG are included. Comments related IFG's compliance methodology are in green font and are underlined.

~~~~~  
**§ 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. IFG operates industrial boilers at the Chilco sawmill and is subject to this subpart (DDDDD). The Chilco sawmill is a major source of HAP emissions.

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

§ 63.7490(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. (2) The affected source of this subpart is each new or reconstructed industrial, commercial, or institutional boiler or process heater, as defined in § 63.7575, located at a major source.

§ 63.7490(b) A boiler or process heater is new if you commence construction of the boiler or process heater after June 4, 2010, and you meet the applicability criteria at the time you commence construction. The natural gas (gas 1) boiler is a new boiler which will be installed at the facility in 2016.

§ 63.7490(c) A boiler or process heater is reconstructed ... Does not apply.

§ 63.7490(d) A boiler or process heater is existing if it is not new or reconstructed. The Chilco wood-fired (hog fuel) boiler is an affected source and is an existing boiler.

§ 63.7490(e) An existing electric utility steam generating unit (EGU) ... Does not apply.

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**§ 63.7491 Are any boilers or process heaters not subject to this subpart?** IFG- Chilco does not have any boilers or process heaters that are not subject to this subpart.

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

§ 63.7495(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. The natural gas boiler will be a new source and must comply with applicable work practices, summarized in Table 3, upon startup.

§ 63.7495(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). IFG has been granted a one-year extension for compliance as provided in § 63.6(i). The applicable compliance date is January 31, 2017.

§ 63.7495(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... Does not apply to IFG-Chilco.

§ 63.7495(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. Notification compliance is discussed under § 63.7545.

§ 63.7495(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, ... Does not apply.

§ 63.7495(f), (g), (h), (i) ... Do not apply.

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

The subcategories of boilers and process heaters, as defined in § 63.7575 are:

- (a) Pulverized coal/solid fossil fuel units.
- (b) Stokers designed to burn coal/solid fossil fuel.
- (c) Fluidized bed units designed to burn coal/solid fossil fuel.
- (d) Stokers/sloped grate/other units designed to burn kiln dried biomass/bio-based solid.
- (e) Fluidized bed units designed to burn biomass/bio-based solid.
- (f) Suspension burners designed to burn biomass/bio-based solid.
- (g) Fuel cells designed to burn biomass/bio-based solid.
- (h) Hybrid suspension/grate burners designed to burn wet biomass/bio-based solid.
- (i) Stokers/sloped grate/other units designed to burn wet biomass/bio-based solid. The IFG-Chilco hog fuel boiler falls into this subcategory.
- (j) Dutch ovens/pile burners designed to burn biomass/bio-based solid.
- (k) Units designed to burn liquid fuel that are non-continental units.
- (l) Units designed to burn gas 1 fuels. The natural gas (gas 1) boiler falls into this subcategory.
- (m) Units designed to burn gas 2 (other) gases.
- (n) Metal process furnaces.
- (o) Limited-use boilers and process heaters.
- (p) Units designed to burn solid fuel.
- (q) Units designed to burn liquid fuel.
- (r) Units designed to burn coal/solid fossil fuel.
- (s) Fluidized bed units with an integrated fluidized bed heat exchanger designed to burn coal/solid fossil fuel.
- (t) Units designed to burn heavy liquid fuel.
- (u) Units designed to burn light liquid fuel.

~~~~~  
§ 63.7500 What emission limitations, work practice standards, and operating limits must I meet?
Tables are listed at the end of this analysis.

§ 63.7500(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. IFG will meet the requirements.

§ 63.7500(a)(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 steam. 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 electricity. 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 (a)(1)(iii) of this section, but on or after January 31, 2016, you must comply with the emission limits in Table 1 to this subpart.

Table 1 contains no emission limits for new boilers burning gas 1 fuel, so there are no emission limits that apply to the natural gas boiler.

Table 2 contains the applicable emission limits for existing boilers that apply to the hog fuel boiler: HCl, mercury, CO and PM.

Table 3 contains applicable work practice standards for the hog fuel boiler and the natural gas boiler. The hog fuel boiler will have to have annual tune-ups and a one-time energy assessment. The natural gas boiler is retained, it will also have to have annual tune-ups and a one-time energy assessment.

The startup and shutdown requirements in Items 5 and 6 of Table 3 are applicable and have been revised to allow clean dry biomass during startup.

§ 63.7500(a)(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).

Table 4 contains operating limits for the hog fuel boiler. MACT limits the opacity to 10% (daily block average), while the permit allows 20% over a 3-minute average. MACT requires that the boiler can only be operated at 110% of the average steaming limit during the PM source test.

§ 63.7500(a)(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 currently meets this requirement and will continue to comply.

§ 63.7500(b) As provided in § 63.6(g), EPA may approve use of an alternative to the work practice standards in this section. IFG will request approval for alternative work practice standards if needed.

§ 63.7500(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 does not have or expect to have any limited use boilers or process heaters.

§ 63.7500(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. ... Does not apply.

§ 63.7500(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 natural gas boiler is larger than 10 million Btu/hr and does not have an oxygen trim system. Annual tune-ups will be required.

§ 63.7500(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 Table 3 to this subpart. The opacity and emission limits on the hog fuel boiler do not apply during startup and shutdown.

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**§ 63.7501 Reserved.**

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

§ 63.7505(a) You must be in compliance with the emission limits, work practice standards, and operating limits in this subpart. These limits apply to you at all times the affected unit is operating except for the periods noted in § 63.7500(f). IFG will comply with all applicable emission limits, work practice standards and operating limits in this subpart, as summarized in Tables 2, 3 and 4.

§ 63.7505(b) [Reserved]

§ 63.7505(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), continuous parameter monitoring system (CPMS), 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 testing, if subject to an applicable emission limit listed in Tables 1, 2, or 11 through 13 to this subpart. IFG will use source testing and fuel analysis as appropriate to demonstrate compliance. Note that the COMS has been removed from this section because opacity is not an emission limit.

§ 63.7505(d) (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 will develop a site-specific monitoring plan for the COMS.

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

§ 63.7510(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 testing, your initial compliance requirements include all the following:

§ 63.7510(a)(1) Conduct performance tests according to § 63.7520 and Table 5 to this subpart. IFG will comply.

§ 63.7510(a)(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. IFG will comply.

§ 63.7510(a)(2)(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. Noted.

§ 63.7510(a)(2)(ii) When natural gas, refinery gas, or other gas 1 fuels are co-fired with other fuels. Does not apply

§ 63.7510(a)(2)(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. Noted.

§ 63.7510(a)(3) Establish operating limits according to § 63.7530 and Table 7 to this subpart. Compliance is discussed under § 63.7530

§ 63.7510(a)(4) Conduct CMS performance evaluations according to § 63.7525. IFG will need to install a CMS for opacity (COMS) on the hog fuel boiler and will conduct the performance evaluations as required.

§ 63.7510(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. ... IFG will use either fuel testing or source testing for HCl and mercury compliance. PM testing will be used as allowed for TSM compliance demonstration.

§ 63.7510(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 12, 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 will source test the hog fuel boiler for CO.

§ 63.7510(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 will source test the hog-fuel boiler for PM.

§ 63.7510(e) For existing affected sources (as defined in § 63.7490), you must complete the initial compliance demonstration, 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, except as specified in paragraph (j) of this section. The hog-fuel boiler source tests are due by July 29, 2017 based on the one-year compliance extension granted by the Administrator.

§ 63.7510(f) For new or reconstructed affected sources...The natural gas boiler is a new gas 1 boiler, and is not subject to any emission limits.

§ 63.7510(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 § 63.7540(a) 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 § 63.7540(a). The first tune-up for the natural gas boiler will be completed when the boiler is installed and starts operating.

§ 63.7510(h) For affected sources (as defined in § 63.7490) that ceased burning solid waste consistent with § 63.7495(e) ... Does not apply.

§ 63.7510(i) For an existing EGU that becomes subject after January 31, 2013... Does not apply.

§ 63.7510(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. Noted.

§ 63.7510(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. Noted.

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

§ 63.7515(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 will schedule source tests as required.

§ 63.7515(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. This provision is similar to the current permit. IFG will schedule source tests as required/allowed under the rule.

If you elect to demonstrate compliance using emission averaging under § 63.7522, you must continue to conduct performance tests annually. IFG has no current plans to use emission averaging.

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 may source test for HCl and TSM (PM as a surrogate). IFG will comply with the maximum chloride and maximum TSM input requirements as necessary.

§ 63.7515(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). This provision is similar to the current permit. IFG will schedule source tests as required under the rule.

§ 63.7515(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 the initial startup of the new or reconstructed affected source. IFG will schedule boiler tune-ups as required under the rule.

§ 63.7515(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 IFG chooses to use fuel analysis, the sampling program will comply with the schedule in Paragraph (e).

§ 63.7515(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 will report results of performance tests and fuel analyses in the specified time frame. Boiler operating levels during the source tests will be documented.

§ 63.7515(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. Noted.

§ 63.7515(h) If your affected boiler or process heater is in the unit designed to burn light liquid subcategory ... Does not apply.

§ 63.7515(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 does not plan to use a CO CEMS.

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§ 63.7520 What stack tests and procedures must I use?

§ 63.7520(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. Source test protocols will be submitted as required and equipment will be operated during testing as required by the EPA reference methods.

§ 63.7520(b) You must conduct each performance test according to the requirements in Table 5 to this subpart. Source tests will be performed following the appropriate EPA reference methods.

§ 63.7520(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. This may not apply because the hog fuel boiler is a single fuel boiler. Chlorine and mercury concentrations in the hog fuel are only trace amounts and vary naturally.

§ 63.7520(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. Each test will comply with the reference method requirements.

§ 63.7520(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. Source test results will be converted to heat-input basis using the F-Factors as required.

§ 63.7520(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. If measured emissions are below the detection limit, the detection limit will be used as the measured emission level.

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

§ 63.7521(a) For solid and liquid fuels, you must conduct fuel analyses for chloride and mercury according to the procedures in paragraphs (b) through (e) of this section and Table 6 to this subpart, as applicable. For solid fuels and liquid fuels, you must also conduct fuel analyses for TSM if you are opting to comply with the TSM alternative standard. This section applies to hog fuel (wood, biomass).

For gas 2 (other) fuels... Does not apply.

You are required to conduct fuel analyses only for fuels and units that are subject to emission limits for mercury, HCl, or TSM in Tables 1 and 2 or 11 through 13 to this subpart. Gaseous and liquid fuels are exempt from the sampling requirements in paragraphs (c) and (d) of this section and Table 6 to this subpart. This section applies to hog fuel only, not to natural gas (gas 1).

§ 63.7521(b) *et seq.* You must develop a site-specific fuel monitoring plan according to the following procedures and requirements in paragraphs (b)(1) and (2) of this section, if you are required to conduct fuel analyses as specified in § 63.7510. IFG will provide the site-specific fuel monitoring plan as required.

§ 63.7521(c) *et seq.* At a minimum, you must obtain three composite fuel samples for each fuel type according to the procedures in paragraph (c)(1) or (2) of this section, or the methods listed in Table 6 to this subpart, or use an automated sampling mechanism that provides representative composite fuel samples for each fuel type that includes both coarse and fine material. IFG will collect fuel samples as required. Details will be provided in the fuel monitoring plan.

§ 63.7521(d) *et seq.* You must prepare each composite sample according to the procedures in paragraphs (d)(1) through (7) of this section. IFG will prepare fuel samples as required. Details will be provided in the fuel monitoring plan.

§ 63.7521(e) You must determine the concentration of pollutants in the fuel (mercury and/or chlorine and/or TSM) in units of pounds per million Btu of each composite sample for each fuel type according to the procedures in Table 6 to this subpart, for use in Equations 7, 8, and 9 of this subpart. IFG will follow the specified procedures and use the required calculations.

§ 63.7521(f) To demonstrate that a gaseous fuel other than natural gas ... Does not apply.

§ 63.7521(g) You must develop and submit a site-specific fuel analysis plan for other gas 1 fuels ... Does not apply.

§ 63.7521(h) You must obtain a single fuel sample for each fuel type according to the sampling procedures listed in Table 6 for fuel specification of gaseous fuels. Does not apply.

§ 63.7521(i) You must determine the concentration in the fuel of mercury, in units of microgram per cubic meter, dry basis, of each sample for each other gas 1 fuel type ... Does not apply.

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

(a) As an alternative to meeting the requirements of § 63.7500 for PM (or TSM), HCl, or mercury on a boiler or process heater-specific basis, if you have more than one existing boiler or process heater in any subcategories located at your facility, you may demonstrate compliance by emissions averaging, if your averaged emissions are not more than 90 percent of the applicable emission limit, according to the procedures in this section. You may not include new boilers or process heaters in an emissions average. IFG-Chilco does not have more than one existing boiler in any subcategory. This section does not apply.

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

§ 63.7525(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 according to the procedures in paragraphs (a)(1) through (7) of this section.

§ 63.7525(a)(1) Install the CO CEMS and oxygen analyzer by the compliance date specified in § 63.7495. IFG has an oxygen analyzer system in place and does not intend to install a CO CEMS.

§ 63.7525(a)(2) To demonstrate compliance with the applicable alternative CO CEMS emission ... Does not apply. IFG does not plan to install a CO CEMS.

§ 63.7525(a)(3) – (6) ... Do not apply because IFG does not plan to use a CO CEMS.

§ 63.7525(a)(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 oxygen level measured during the CO MACT compliance test becomes the lower set point for the oxygen trim system. If IFG operates an oxygen trim system on the Chilco boiler, this requirement will be met.

§ 63.7525(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 ... Does not apply.

§ 63.7525(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 will install and operate a COMS on the ESP stack. IFG will install the COMS as required before the January 31, 2017 compliance date.

§ 63.7525(c)(1) Each COMS must be installed, operated, and maintained according to Performance Specification 1 at appendix B to part 60 of this chapter. The COMS installation will conform to PS1.

§ 63.7525(c)(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. The COMS calibration and certification will conform to PS1.

§ 63.7525(c)(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. The COMS will be set up as required.

§ 63.7525(c)(4) The COMS data must be reduced as specified in § 63.8(g)(2). The COMS will be set up as required.

§ 63.7525(c)(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. The COMS monitoring plan will include the calibration and audit requirements.

§ 63.7525(c)(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. The COMS will be operated and maintained according to the monitoring plan.

§ 63.7525(c)(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. The COMS will be programmed to provide the appropriate averages.

§ 63.7525(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. Does not apply.

§ 63.7525(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.... Does not apply. IFG does not intend to install a gas flow monitoring system.

§ 63.7525(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. .... Does not apply

§ 63.7525(g) If you have an operating limit that requires a pH monitoring system.... Does not apply

§ 63.7525(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, .... Does not apply.

§ 63.7525(i) If you have an operating limit that requires the use of a monitoring system to measure sorbent injection rate .... Does not apply

§ 63.7525(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 .... Does not apply

§ 63.7525(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. IFG will follow the requirements if they install or convert a boiler to limited use.

§ 63.7525(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.... Does not apply

§ 63.7525(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 use an SO<sub>2</sub> CEMS, .... Does not apply

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

§ 63.7530(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)(i). If applicable, you must also install, operate, and maintain all applicable CMS (including CEMS, COMS, and CPMS) according to § 63.7525. IFG will demonstrate initial compliance by source testing or fuel analyses.

§ 63.7530(b) If you demonstrate compliance through performance 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 will establish site-specific operating limits based on performance testing as required. IFG will follow all the applicable procedures listed in Paragraph (b).

§ 63.7530(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. If demonstrating compliance through fuel analysis, IFG will follow all the applicable procedures listed in Paragraph (c).

§ 63.7530(d) If you own or operate an existing unit with a heat input capacity of less than 10 million Btu per hour or a unit in the unit designed to burn gas 1 subcategory. ... Does not apply. The natural gas boiler is a new unit designed to burn gas 1.

§ 63.7530(e) You must include with the Notification of Compliance Status a signed certification that the energy assessment was completed according to Table 3 to this subpart and is an accurate depiction of your facility at the time of the assessment. IFG will provide appropriate notification for the energy assessment.

§ 63.7530(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 will provide all required notifications.

§ 63.7530(g) If you elect to demonstrate that a gaseous fuel meets the specifications of another gas 1 fuel as defined in § 63.7575... Does not apply.

§ 63.7530(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 item 5 of Table 3 of this subpart. The work practices standards in Items 5 and 6 of Table 3 have been amended to allow the use of clean dry biomass during startup. IFG will comply.

§ 63.7530(i) If you opt to comply with the alternative SO₂ CEMS operating limit ... Does not apply.

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

IFG may choose to use efficiency credits at Chilco, and will follow all the requirements of this section.

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§ 63.7535 How do I monitor and collect data to demonstrate continuous compliance?

§ 63.7535(a) You must monitor and collect data according to this section and the site-specific monitoring plan required by § 63.7505(d). IFG will comply with this section of the regulation and the site-specific monitoring plan when collecting data from the COMS.

§ 63.7535(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. Noted.

§ 63.7535(c) You may not use data recorded during 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. Noted.

§ 63.7535(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 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 annual report. Noted.

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

§ 63.7540(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. Applicable portions of the tables are included at the end of this analysis.

§ 63.7540(a)(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. Noted.

§ 63.7540(a)(2) As specified in § 63.7550(c), 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: (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. IFG will keep appropriate records.

§ 63.7540(a)(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 may demonstrate HCl compliance through fuel analysis. The Chilco boiler only burns woody biomass, and IFG does not foresee ever using a different fuel type.

§ 63.7540(a)(4) *et seq.* 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... IFG will likely demonstrate HCl compliance through source testing. The Chilco boiler only burns woody biomass and IFG does not foresee ever using a different fuel type.

§ 63.7540(a)(5) *et seq.* 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 13 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 may demonstrate mercury compliance through fuel analysis. The Chilco boiler only burns woody biomass and IFG does not foresee ever using a different fuel type.

§ 63.7540(a)(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 may demonstrate mercury compliance through source testing. The Chilco boiler only burns woody biomass and IFG does not foresee ever using a different fuel type.

§ 63.7540(a)(7) If your unit is controlled with a fabric filter... Does not apply.

§ 63.7540(a)(8) To demonstrate compliance with the applicable alternative CO CEMS ...IFG does not intend to use this provision of the rule.

§ 63.7540(a)(9) The owner or operator of a boiler or process heater using a PM CPMS or a PM CEMS ...IFG does not intend to use this provision of the rule.

§ 63.7540(a)(10) *et seq.* 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. 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. IFG will conduct the annual boiler tune-ups on the hog fuel boiler as required. IFG will also tune-ups on the natural gas boiler as required.

§ 63.7540(a)(11) If your boiler or process heater has a heat input capacity of less than 10 million Btu per hour ... Does not apply.

§ 63.7540(a)(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 IFG installs and operates a continuous oxygen trim system that maintains an optimum air to fuel ratio, they may switch to the 5-year tune up schedule for the hog fuel boiler.

§ 63.7540(a)(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. Noted.

§ 63.7540(a)(14) If you are using a CEMS measuring mercury emissions to meet requirements ... Does not apply.

§ 63.7540(a)(15) If you are using a CEMS to measure HCl emissions ... Does not apply.

§ 63.7540(a)(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 ... The IFG Chilco boiler burns only woody biomass and no other fuel is expected to be used.

§ 63.7540(a)(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... The IFG Chilco boiler burns only woody biomass and no other fuel is expected to be used.

§ 63.7540(a)(18) If you demonstrate continuous PM emissions compliance with a PM CPMS ... Does not apply.

§ 63.7540(a)(19) If you choose to comply with the PM filterable emissions limit by using PM CEMS ... Does not apply.

§ 63.7540(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 will comply with the deviation reporting requirements.

§ 63.7540(c) If you elected to demonstrate that the unit meets the specification for mercury for the unit designed to burn gas 1 subcategory... Does not apply.

§ 63.7540(d) For startup and shutdown, you must meet the work practice standards according to item 5 of Table 3 of this subpart. IFG will comply with the work practice standards in Items 5 and 6 of Table 3.

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**§ 63.7541 How do I demonstrate continuous compliance under the emissions averaging provision?** IFG Chilco does not intend to use the emissions averaging provision because there is not more than one boiler in any one subcategory.

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§ 63.7545 What notifications must I submit and when?

§ 63.7545(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.

§ 63.7(b) *Notification of performance test.* (1) The owner or operator of an affected source must notify the Administrator in writing of his or her intention to conduct a performance test at least 60 calendar days before the performance test is initially scheduled to begin to allow the Administrator, upon request, to review and approve the site-specific test plan required under paragraph (c) of this section and to have an observer present during the test. IFG will notify the Administrator (DEQ and EPA) 60 days in advance of a planned MACT compliance test.

§ 63.7(c) *Quality assurance program.* (1) The results of the quality assurance program required in this paragraph will be considered by the Administrator when he/she determines the validity of a performance test. (2)(i) *Submission of site-specific test plan.* Before conducting a required performance test, the owner or operator of an affected source shall develop and, if requested by the Administrator, shall submit a site-specific test plan to the Administrator for approval. The test plan shall include a test program summary, the test schedule, data quality objectives, and both an internal and external quality assurance (QA) program. Data quality objectives are the pretest expectations of precision, accuracy, and completeness of data. The pre-test protocol for MACT compliance testing must meet the requirements of this section.

§ 63.8(e) *Performance evaluation of continuous monitoring systems* — (1) *General.* When required by a relevant standard, and at any other time the Administrator may require under section 114 of the Act, the owner or operator of an affected source being monitored shall conduct a performance evaluation of the CMS. Such performance evaluation shall be conducted according to the applicable specifications and procedures described in this section or in the relevant standard. (2) *Notification of performance evaluation.* The owner or operator shall notify the Administrator in writing of the date of the performance evaluation simultaneously with the notification of the performance test date required under § 63.7(b) or at least 60 days prior to the date the performance evaluation is scheduled to begin if no performance test is required. IFG will comply with the notification requirements for the hog fuel boiler COMS.

§ 63.8(f)(4 and 6) *Use of an alternative monitoring method.* IFG does not intend to use any alternative monitoring methods.

§ 63.9(b) *Initial notifications.* (1)(i) The requirements of this paragraph apply to the owner or operator of an affected source when such source becomes subject to a relevant standard... (2) The owner or operator of an affected source that has an initial startup before the effective date of a relevant standard under this part shall notify the Administrator in writing that the source is subject to the relevant standard. The notification, which shall be submitted not later than 120 calendar days after the effective date of the relevant standard (or within 120 calendar days after the source becomes subject to the relevant standard). IFG submitted the Subpart DDDDD initial notification on January 28, 2005 and again on May 15, 2013.

§ 63.9(c) *Request for extension of compliance.* If the owner or operator of an affected source cannot comply with a relevant standard by the applicable compliance date for that source, or if the owner or operator has installed BACT or technology to meet LAER consistent with § 63.6(i)(5) of this subpart, he/she may submit to the Administrator (or the State with an approved permit program) a request for an extension of compliance as specified in § 63.6(i)(4) through § 63.6(i)(6). § 63.6(i)(4) through § 63.6(i)(6) would allow the state to grant up to 1 additional year to comply with the standard, if such additional period is necessary for the installation of controls. IFG has requested and been granted a one-year extension to allow replacement of the boiler EFB with an ESP.

§ 63.9(d) *Notification that source is subject to special compliance requirements.* An owner or operator of a new source that is subject to special compliance requirements ... This does not apply to the IFG Chilco boiler because it is an existing source.

§ 63.9(e) *Notification of performance test.* The owner or operator of an affected source shall notify the Administrator in writing of his or her intention to conduct a performance test at least 60 calendar days before the performance test is scheduled to begin to allow the Administrator to review and approve the site-specific test plan required under § 63.7(c), if requested by the Administrator, and to have an observer present during the test. IFG will notify the Administrator (DEQ and EPA) 60 days in advance of a planned MACT compliance test.

§ 63.9(f) *Notification of opacity and visible emission observations.* The owner or operator of an affected source shall notify the Administrator in writing of the anticipated date for conducting the opacity or visible emission observations specified in § 63.6(h)(5), if such observations are required for the source by a relevant standard. The notification shall be submitted with the notification of the performance test date, as specified in paragraph (e) of this section, or if no performance test is required or visibility or other conditions prevent the opacity or visible emission observations from being conducted concurrently with the initial performance test required under § 63.7, the owner or operator shall deliver or postmark the notification not less than 30 days before the opacity or visible emission observations are scheduled to take place. IFG will provide required notifications prior to opacity compliance tests.

§ 63.9(g) *Additional notification requirements for sources with continuous monitoring systems.* The owner or operator of an affected source required to use a CMS by a relevant standard shall furnish the Administrator written notification as follows: (1) A notification of the date the CMS performance evaluation under § 63.8(e) is scheduled to begin, submitted simultaneously with the notification of the performance test date required under § 63.7(b). ... (2) A notification that COMS data results will be used to determine compliance with the applicable opacity emission standard during a performance test required by § 63.7 in lieu of Method 9 or other opacity emissions test method data, ... The notification shall be submitted at least 60 calendar days before the performance test is scheduled to begin. IFG will submit all source test notifications at least 60 days prior to the scheduled test date.

§ 63.9(h) *Notification of compliance status.* (1) The requirements of paragraphs (h)(2) through (h)(4) of this section apply when an affected source becomes subject to a relevant standard.

§ 63.9(h)(3) After a title V permit has been issued to the owner or operator of an affected source [Applies because IFG Chilco has a Title V (Tier I) permit], the owner or operator of such source shall comply with all requirements for compliance status reports contained in the source's title V permit, including reports required under this part. After a title V permit has been issued to the owner or operator of an affected source, and each time a notification of compliance status is required under this part, the owner or operator of such source shall submit the notification of compliance status to the appropriate permitting authority following completion of the relevant compliance demonstration activity specified in the relevant standard. IFG must submit compliance status reports to DEQ.

§ 63.7545(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 submitted the Subpart DDDDD initial notification on January 28, 2005 and again on May 15, 2013.

§ 63.7545(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. IFG will comply when the natural gas boiler is installed.

§ 63.7545(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 will notify the Administrator (DEQ and EPA) 60 days in advance of a planned MACT compliance test.

§ 63.7545(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), 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). The pre-test protocol for MACT compliance testing must meet the requirements of this section. IFG must review the pre-test protocol carefully before it is submitted by the testing firm.

§ 63.7545(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... Does not apply.

§ 63.7545(g) If you intend to commence or recommence combustion of solid waste... Does not apply.

§ 63.7545(h) If you have switched fuels or made a physical change to the boiler and the fuel switch or physical change resulted in the applicability of a different subcategory ... Does not apply. IFG does not anticipate switching fuels in any boilers.

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

§ 63.7550(a) You must submit each report in Table 9 to this subpart that applies to you.

§ 63.7550(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 an annual, biennial, or 5-year tune-up according to § 63.7540(a)(10), (11), or (12), respectively, and not subject to emission limits or 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 can submit an annual compliance report for the natural gas boiler, to match the schedule of the tune-ups. IFG will submit semi-annual compliance reports for the hog fuel boiler. The first compliance report is for the period of January 31 – July 31, 2017. That report will be due January 31, 2018. The next compliance report will be for July 1 2017 to December 31, 2017, and will be due January 31, 2018. Subsequent reports will cover each calendar half and will be due at the end of July or January.

§ 63.7550(c) *et seq.* A compliance report must contain the following information depending on how the facility chooses to comply with the limits set in this rule. IFG will submit compliance reports with all the information specified in this paragraph.

§ 63.7550(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, the compliance report must additionally contain the information required in paragraphs (d)(1) through (3) of this section. IFG will include all required information in the compliance report. The compliance report will follow this regulation to the letter.

§ 63.7550(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). This section applies to opacity from the hog fuel boiler because it will have a COMs (opacity CMS). IFG will include all required information in the compliance report.

§ 63.7550(f)-(g) [Reserved]

§ 63.7550(h) You must submit the reports according to the procedures specified in paragraphs (h)(1) through (3) of this section. IFG will submit all reports according to the requirements of this section. IFG will use EPA's electronic reporting systems to submit the reports to EPA.

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§ 63.7555 What records must I keep?

§ 63.7555(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). (2) Records of performance tests, fuel analyses, or other compliance demonstrations and performance evaluations as required in § 63.10(b)(2)(viii). (3) For units in the limited use subcategory... IFG must keep copies of all the notifications and reports they submit.

§ 63.7555(b) For each CEMS, COMS, and continuous monitoring system you must keep records according to paragraphs (b)(1) through (5) of this section. IFG must keep copies of the COMS charts and/or electronic records, as well as all performance test information and reports. Recommend storing records off-site as well.

§ 63.7555(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 will keep COMS records, oxygen records and fuel analysis records as required.

§ 63.7555(d) *et seq.* (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. IFG will keep all the applicable records for the hog fuel boiler.

In accordance with § 63.7555(d)(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. IFG will make the calculations as per the required equation and will keep all calculations and supporting information on file.

In accordance with § 63.7555(d)(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. IFG will make the calculations as per the required equation and will keep all calculations and supporting information on file.

In accordance with § 63.7555(d)(9), a copy of all calculations and supporting documentation of maximum TSM fuel input, using Equation 9 of § 63.7530... IFG intends to show compliance through PM testing, not through TSM fuel analysis.

§ 63.7555(e) If you elect to average emissions consistent with § 63.7522... IFG does not intend to use emissions averaging.

§ 63.7555(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 will keep all the applicable records if they chose to use efficiency credits from energy conservation measures.

§ 63.7555(g) If you elected to demonstrate that the unit meets the specifications for mercury for the unit designed to burn gas 1 subcategory ... Does not apply.

§ 63.7555(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 ... Does not apply.

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**§ 63.7560 In what form and how long must I keep my records?** IFG will keep the records in the format required for at least 5 years.

§ 63.7560(a) Your records must be in a form suitable and readily available for expeditious review, according to § 63.10(b)(1).

§ 63.7560(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.

§ 63.7560(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.

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§ 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. Table 10 is included at the end of this analysis showing which General Provisions apply to IFG Chilco.

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**Tables to Subpart DDDDD  
 Including only the items that apply to IFG Chilco**

Table 1 contains no applicable emission limits for new natural gas (gas 1) boilers.

**Table 2: Emission Limits for Existing Boilers and Process Heaters  
 [Units with heat input capacity of 10 million Btu per hour or greater]**

| If your boiler or process heater is in this subcategory ...        | For the following pollutants ... | The emissions must not exceed the following emission limits, except during startup and shutdown...                                                                            | The emissions must not exceed the following alternative output-based limits, except during startup and shutdown... <sup>(1)</sup> | Using this specified sampling volume or test run duration...                                                                                                         |
|--------------------------------------------------------------------|----------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. Units in all subcategories designed to burn solid fuel.         | a. HCl                           | 2.2E-02 lb per MMBtu of heat input.                                                                                                                                           | 2.5E-02 lb per MMBtu of steam output or 0.27 lb per MWh.                                                                          | For M26A, collect a minimum of 1 dscm per run; for M26 collect a minimum of 120 liters per run.                                                                      |
|                                                                    | b. Mercury                       | 5.7E-06 lb per MMBtu of heat input.                                                                                                                                           | 6.4E-06 lb per MMBtu of steam output or 7.3E-05 lb per MWh.                                                                       | For M29, collect a minimum of 3 dscm per run; for M30A or M30B, collect a minimum sample as specified in the method; for ASTM D6784 lb) collect a minimum of 3 dscm. |
| 2,3,4,5,6                                                          | Do not apply.                    |                                                                                                                                                                               |                                                                                                                                   |                                                                                                                                                                      |
| 7. Stokers/sloped grate/others designed to burn west biomass fuel. | a. CO (or CEMS)...               | 1,500 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (720 ppm by volume on a dry basis corrected to 3 percent oxygen, 30-day rolling average). | 1.4 lb per MMBtu of steam output or 17 lb per MWh; 3-run average.                                                                 | 1 hr minimum sampling time.                                                                                                                                          |
|                                                                    | b. Filterable PM (or TSM).       | 3.7E-02 lb per MMBtu of heat input; or (2.4E-04 lb per MMBtu of heat input).                                                                                                  | 4.3E-02 lb per MMBtu of steam output or 5.2E-01 lb per MWh; or (2.8E-04 lb per MMBtu of steam output or 3.4E-04 lb per MWh).      | Collect a minimum of 2 dscm per run.                                                                                                                                 |
| 8,9,10,11,12,13,14,15,16,17,18                                     | Do not apply.                    |                                                                                                                                                                               |                                                                                                                                   |                                                                                                                                                                      |

(1) 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 electricity according to § 63.7500(a)(1).

**Table 3: Work Practices Standards**

| If your unit is...                                                                                                                                                                                                                                                                            | You must meet the following...                                                             |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|
| 1. A new or existing boiler or process heater with 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 in any of the following subcategories: unit designed to burn gas 1; unit designed to | Conduct a tune-up of the boiler or process heater every 5 years as specified in § 63.7540. |

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| If your unit is...                                                                                                                                                                                                                                     | You must meet the following...                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| burn gas 2 (other); or unit designed to burn light liquid, or a limited use boiler or process heater.                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| 2. This requirement does not apply because both Chilco boilers are larger than 10 mmBtu/hr.                                                                                                                                                            | Conduct a tune-up of the boiler or process heater biennially as specified in § 63.7540.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| 3. A new or existing boiler or process heater without a continuous oxygen trim system and with heat input capacity of 10 million Btu per hour or greater.<br><u>This requirement applies to both the natural gas boiler and the wood-fired boiler.</u> | Conduct a tune-up of the boiler or process heater annually as specified in § 63.7540. Units in either the Gas 1 or Metal Process Furnace subcategories will conduct this tune-up as a work practice for all regulated emissions under this subpart. Units in all other subcategories will conduct this tune-up as a work practice for dioxins/furans.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| 4. An existing boiler or process heater located at a major source facility, not including limited use units.<br><br><u>This requirement applies to both the hog fuel boiler and to the natural gas boiler.</u>                                         | Must have a one-time energy assessment performed on the major source facility by qualified energy assessor. An energy assessment completed on or after January 1, 2008, that meets or is amended to meet the energy assessment requirements in this table, satisfies the energy assessment requirement. The energy assessment must include:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|                                                                                                                                                                                                                                                        | <ul style="list-style-type: none"> <li>a. A visual inspection of the boiler or process heater system.</li> <li>b. An evaluation of operating characteristics of the facility, specifications of energy using systems, operating and maintenance procedures, and unusual operating constraints.</li> <li>c. An inventory of major energy consuming systems consuming energy from affected boilers and process heaters and which are under the control of the boiler/process heater owner/operator.</li> <li>d. A review of available architectural and engineering plans, facility operation and maintenance procedures and logs, and fuel usage.</li> <li>e. A review of the facility's energy management practices and provide recommendations for improvements consistent with the definition of energy management practices, if identified.</li> <li>f. A list of cost-effective energy conservation measures that are within the facility's control.</li> <li>g. A list of the energy savings potential of the energy conservation measures identified.</li> <li>h. A comprehensive report detailing the ways to improve efficiency, the cost of specific improvements, benefits, and the time frame for recouping those investments.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 5. An existing or new boiler or process heater subject to emission limits in Table 1 or 2 or 11 through 13 to this subpart during startup.<br><br><u>This requirement applies to the wood-fired boiler.</u>                                            | <ul style="list-style-type: none"> <li>a. You must operate all CMS during startup.</li> <li>b. For startup of a boiler ... you must use one or a combination of the following clean fuels: Natural gas, synthetic natural gas, propane, other Gas 1 fuels, distillate oil, syngas, ultra-low sulfur diesel, fuel oil-soaked rags, kerosene, hydrogen, paper, cardboard, refinery gas, liquefied petroleum gas, <b>clean dry biomass</b>, and any fuels meeting the appropriate HCl, mercury and TSM emission standards by fuel analysis.</li> <li>c. You have the option of complying using either of the following work practice standards. (1) If you choose to comply using definition (1) of "startup" in §63.7575, once you start firing fuels that are not clean fuels, you must vent emissions to the main stack(s) and engage all of the applicable control devices .... Startup ends when steam or heat is supplied for any purpose. OR (2) If you choose to comply using definition (2) of "startup" in §63.7575, once you start to feed fuels that are not clean fuels, you must vent emissions to the main stack(s) and engage all of the applicable control devices so as to comply with the emission limits within 4 hours of start of supplying useful thermal energy. You must engage and operate PM control within one hour of first feeding fuels that are not clean fuels". You must start all applicable control devices as expeditiously as possible, but, in any case, when necessary to comply with other standards applicable to the source by a permit limit or a rule other than this subpart that require operation of the control devices. You must develop and implement a written startup and shutdown plan, as specified in §63.7505(e).</li> <li>d. You must comply with all applicable emission limits at all times except during startup and shutdown periods at which time you must meet this work practice. You must collect monitoring data during periods of startup, as specified in §63.7535(b). You must</li> </ul> |

| If your unit is...                                                                                                                                                                                           | You must meet the following...                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                                                                                                                                              | keep records during periods of startup. You must provide reports concerning activities and periods of startup, as specified in §63.7555.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 6. An existing or new boiler or process heater subject to emission limits in Table 1 or 2 or 11 through 13 to this subpart during shutdown.<br><br><u>This requirement applies to the wood-fired boiler.</u> | You must operate all CMS during shutdown. While firing fuels that are not clean fuels during shutdown, you must vent emissions to the main stack(s) and operate all applicable control devices, ... when necessary to comply with other standards applicable to the source that require operation of the control device. If, in addition to the fuel used prior to initiation of shutdown, another fuel must be used to support the shutdown process, that additional fuel must be one or a combination of the following clean fuels: Natural gas, synthetic natural gas, propane, other Gas 1 fuels, distillate oil, syngas, ultra-low sulfur diesel, refinery gas, and liquefied petroleum gas. You must comply with all applicable emissions limits at all times except for startup or shutdown periods conforming with this work practice. You must collect monitoring data during periods of shutdown, as specified in §63.7535(b). You must keep records during periods of shutdown. You must provide reports concerning activities and periods of shutdown, as specified in §63.7555. |

Table 4: Operating Limits for Boilers and Process Heaters

| When complying with a Table 1,2,11,12, or 13 numerical emission limit using...                                                                                                                                                                               | You must meet these operating limits...                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1,2,3,4,5. Do not apply.                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| 4. Electrostatic precipitator control on a boiler or process heater not using a PM CPMS<br><br><u>Applies to the IFG Chilco hog fuel boiler, which is controlled by a multiclone followed by a dry electrostatic precipitator (ESP) and no wet scrubber.</u> | a. This option is for boilers and process heaters that operate dry control systems ( <i>i.e.</i> , an ESP without a wet scrubber). Existing and new boilers and process heaters must maintain opacity to less than or equal to 10 percent opacity or the highest hourly average opacity reading measured during the performance test run demonstrating compliance with the PM (or TSM) emission limitation (daily block average).                                                                                        |
| 5, 6. Do not apply                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| 7. Performance testing.<br><u>IFG will use performance testing to demonstrate compliance with one or more emission limits.</u>                                                                                                                               | For boilers and process heaters that demonstrate compliance with a performance test, maintain the operating load of each unit such that it does not exceed 110 percent of the highest hourly average operating load recorded during the most recent performance test.                                                                                                                                                                                                                                                    |
| 8. Oxygen analyzer system.<br><br><u>IFG will comply with this requirement.</u>                                                                                                                                                                              | For boilers and process heaters subject to a CO emission limit that demonstrate compliance with an O <sub>2</sub> analyzer system as specified in §63.7525(a), maintain the 30-day rolling average oxygen content at or above the lowest hourly average oxygen concentration measured during the most recent CO performance test, as specified in Table 8. This requirement does not apply to units that install an oxygen trim system since these units will set the trim system to the level specified in §63.7525(a). |
| 10. Does not apply.                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |

Table 5 lists the performance testing requirements. IFG will need to review all source test protocols very carefully to verify that they conform to the requirements listed in Table 5.

Table 6 lists the fuel analysis requirements. If IFG decides to demonstrate compliance through fuel analysis, they will need to follow the requirements in Table 6 for sample collection and analysis.

**Table 7: Establishing Operating Limits**

| If you have an applicable emission limit for. . .                                                                                        | And your operating limits are based on ...                                                             | You must...                                                                        | Using ...                                                                    | According to the following requirements                                                                                                                                                                                                                                                                                                                                                                                                       |
|------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. PM, TSM, or mercury...                                                                                                                | a. Wet scrubber operating parameters                                                                   | Does not apply                                                                     |                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|                                                                                                                                          | b. Electrostatic precipitator operating parameters (option only for units that operate wet scrubbers). | Does not apply. IFG has and ESP but no wet scrubber.                               |                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| 2. HCl                                                                                                                                   | a. Wet scrubber operating parameters                                                                   | Does not apply                                                                     |                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|                                                                                                                                          | b. Dry scrubber operating parameters.                                                                  | Does not apply                                                                     |                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|                                                                                                                                          | c. Alternative maximum SO <sub>2</sub> emission rate                                                   | Does not apply                                                                     |                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| 3. Mercury                                                                                                                               | All Activated carbon injection...                                                                      | Does not apply                                                                     |                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| 4. Carbon Monoxide<br><br><a href="#">This applies to the hog fuel boiler.</a>                                                           | a. oxygen...                                                                                           | i. Establish a unit-specific limit for minimum oxygen level according to §63.7525. | (1) data from the oxygen analyzer system specified in §63.7525(a).           | (a) You must collect oxygen data every 15 minutes during the entire period of the performance test.<br>(b) Determine the hourly average oxygen concentration by computing the hourly averages using all of the 15-minute readings taken during each performance test.<br>(c) Determine the lowest hourly average established during the performance test as your minimum operating limit.                                                     |
| 5. Any pollutant for which compliance is demonstrated by a performance test.<br><br><a href="#">This applies to the hog fuel boiler.</a> | a. Boiler or process heater operating load                                                             | i. Establish a unit-specific limit for maximum operating load §63.7520(c).         | (1) Data from the operating load monitors or from steam generation monitors. | (a) You must collect operating load or steam generation data every 15 minutes during the entire period of the performance test.<br>(b) Determine the average operating load by computing the hourly averages using all of the 15-minute readings taken during each performance test.<br>(c) Determine the average of the three test run averages during the performance test, and multiply this by 1.1 (110 percent) as your operating limit. |

**Table 8: Demonstrating Continuous Compliance**

| If you must meet the following operating limits or work practice standards...                    | You must demonstrate continuous compliance by ...                                                                                                                                                                                                     |
|--------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. Opacity...<br><br><a href="#">IFG will install and operate a COMS on the hog fuel boiler.</a> | a. Collecting the opacity monitoring system data according to §63.7525(c) and §63.7535; and<br>b. reducing the opacity monitoring data to 6-minute averages; and<br>c. Maintaining opacity to less than or equal to 10 percent (daily block average). |
| 2 – 7                                                                                            | Do not apply.                                                                                                                                                                                                                                         |

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| If you must meet the following operating limits or work practice standards... | You must demonstrate continuous compliance by ...                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|-------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 8. Emission limits using fuel analysis<br><br><u>IFG may use this method</u>  | a. conduct monthly fuel analysis for HCl or mercury or TSM according to Table 6 to this subpart; and<br>B. Reduce the data to 12-month rolling averages; and<br>c. Maintain the 12-month rolling average at or below the applicable emission limit for HCl or mercury or TSM in Tables 1 and 2 or 11 through 13 to this subpart.                                                                                                                                                        |
| 9. Oxygen content<br><br><u>Applies to the hog fuel boiler.</u>               | a. Continuously monitor the oxygen content using an oxygen analyzer according to §63.7525(a). This requirement does not apply to units that install an oxygen trim system since these units will set the trim system to the level specified in §63.7525(a)(2).<br>b. Reducing the data to 30-day rolling averages; and<br>c. Maintain the 30-day rolling average oxygen content at or above the lowest hourly average oxygen level measured during the most recent CO performance test. |
| 10. Boiler or process heater operating load.                                  | a. Collecting and operating load data or steam generation data every 15 minutes.<br>b. Maintaining the operating load such that it does not exceed 110 percent of the highest hourly average operating load recorded during the most recent performance test according to §63.7520(c)                                                                                                                                                                                                   |
| 11.                                                                           | Does not apply.                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |

Table 9: Demonstrating Continuous Compliance

| You must submit a(n)                                                                   | The report must contain...                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | You must submit the report...                                                                      |
|----------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|
| 1. Compliance Report<br><br><u>IFG will have to do semi-annual compliance reports.</u> | a. Information required in §63.7550(c)(10 through (5); and                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Semiannually, annually, biennially, or every 5 years according to the requirements in §63.7550(b). |
|                                                                                        | b. If there are no deviations from any emission limitation (emission limit and operating limit) that applies to you and there are no deviations from the requirements for work practice standards in Table 3 to this subpart that apply to you, a statement that there were no deviations from the emission limitations and work practice standards during the reporting period. If there were no periods during which the CMSs, including continuous emissions monitoring system, continuous opacity monitoring system, and operating parameter monitoring systems, were out-of-control as specified in § 63.8(c)(7), a statement that there were no periods during which the CMSs were out-of-control during the reporting period; and |                                                                                                    |
|                                                                                        | c. If you have a deviation from any emission limitation (emission limit and operating limit) where you are not using a CMS to comply with that emission limit or operating limit, or a deviation from a work practice standard during the reporting period, the report must contain the information in § 63.7550(d); and                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                    |
|                                                                                        | d. If there were periods during which the CMSs, including continuous emissions monitoring system, continuous opacity monitoring system, and operating parameter monitoring systems, were out-of-control as specified in § 63.8(c)(7), or otherwise not operating, the report must contain the information in § 63.7550(e)                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                    |

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Table 10 – Applicability of General Provisions to Subpart DDDDD, does not have specific requirements for IFG.

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Tables 11 through 13 do not apply to IFG Chilco.

Appendix B

Emission Calculation Spreadsheets and Supporting Documentation

Required Tables for Emissions Inventory

Table 1 PRE-PROJECT POTENTIAL TO EMIT FOR NSR REGULATED POLLUTANTS^a

Emissions Unit	PM10	PM2.5	CO	NO2	VOC	SO2
	T/yr	T/yr	T/yr	T/yr	T/yr	T/yr
Point Sources						
Dry Kilns	6.18	5.36			175.5	
Sawmill Chip Bin Vent	6.27	1.88				
Sawdust Bin Vent	2.65	0.80				
Planer Chipper Target Box	0.40	0.12				
Planer Shavings Cyclone Baghouse	5.44	1.63				
Hog Fuel Boiler	30.4	30.4	238	111	8.61	12.66
EFB Media Baghouse	1.0	0.30				
BRC Gas Boiler	0.11	0.09	7.06	13.46	1.18	0.13
Fugitive Sources emissions are not required because it is not listed source.						
Totals	52.45	40.59	246	125	185	12.79

a) For permitted emissions units provide the PTE under the existing permit conditions, for unpermitted emissions units provide the PTE based on the operational design capacity of the sources that are part of the project. The BRC Gas Boiler is not permitted because it is Below Regulatory Concern (BRC).

Table 2 POST PROJECT POTENTIAL TO EMIT FOR NSR REGULATED POLLUTANTS^a

Emissions Unit	PM10	PM2.5	CO	NO2	VOC	SO2
	T/yr	T/yr	T/yr	T/yr	T/yr	T/yr
Point Sources						
Dry Kilns	6.18	5.36			238.5	
Sawmill Chip Bin Vent	6.27	1.88				
Sawdust Bin Vent	2.65	0.80				
Planer Chipper Target Box	0.40	0.12				
Planer Shavings Cyclone Baghouse	5.44	1.63				
Hog Fuel Boiler	30.4	30.4	249	111	8.61	12.66
Natural Gas Boiler	0.22	0.18	15.86	26.05	2.28	0.25
Fugitive Sources emissions are not required because it is not listed source.						
Totals	51.55	40.37	265	137	249	12.91

a) Provide the requested permitted emission rates as the PTE.

Table 3 CHANGES IN POTENTIAL TO EMIT FOR NSR REGULATED POLLUTANTS

Emissions Unit	PM10	PM2.5	CO	NO2	VOC	SO2
	T/yr	T/yr	T/yr	T/yr	T/yr	T/yr
Point Sources						
Dry Kilns	0.00	0.00			63.0	
Sawmill Chip Bin Vent	0.00	0.00				
Sawdust Bin Vent	0.00	0.00				
Planer Chipper Target Box	0.00	0.00				
Planer Shavings Cyclone Baghouse	0.00	0.00				
Hog Fuel Boiler	0.00	0.00	10.94	0.00	0.00	0.00
Natural Gas Boiler	0.22	0.18	15.86	26.05	2.28	0.25
EFB Media Baghouse	No Credit Taken for Reductions from EFB Media Baghouse.					
BRC Gas Boiler	No Credit Taken for Reductions from BRC Gas Boiler.					
Fugitive Sources emissions are not required because it is not listed source.						
Totals	0.22	0.18	26.80	26.05	65.28	0.25

The following tables, Table 1a, Table 2a and Table 3a list the greenhouse gas emissions from the project. Units are in English tons per year (tpy), followed by metric tons carbon equivalent (CO_{2e}). Only combustion sources are listed.

Table 1a PRE-PROJECT POTENTIAL TO EMIT FOR NSR REGULATED POLLUTANTS^a

Emissions Unit	CO ₂ , biomass	CO ₂ , fossil fuel	CH ₄	N ₂ O	CO _{2e}	
	T/yr	T/yr	T/yr	T/yr	Metric tons	
Point Sources						
Hog Fuel Boiler	104,810	0.00	35.7	4.69	2,081	
BRC Gas Boiler		25,542	0.48	0.05	23,246	
Totals	104,810	25,542	36.2	4.74	25,327	

a) For permitted emissions units provide the PTE under the existing permit conditions, for unpermitted emissions units provide the PTE based on the operational design capacity of the sources that are part of the project.

Table 2a POST PROJECT POTENTIAL TO EMIT FOR NSR REGULATED POLLUTANTS^a

Emissions Unit	CO ₂ , biomass	CO ₂ , fossil fuel	CH ₄	N ₂ O	CO _{2e}	CO ₂ , biomass
	T/yr	T/yr	T/yr	T/yr	Metric tons	T/yr
Point Sources						
Hog Fuel Boiler	104,810		35.7	4.69	2,081	
Natural Gas Boiler		49,597	0.94	0.09	45,133	
Totals	104,810	49,597	36.6	4.78	47,214	

a) Provide the requested permitted emission rates as the PTE.

Table 3a CHANGES IN POTENTIAL TO EMIT FOR NSR REGULATED POLLUTANTS

Emissions Unit	CO ₂ , biomass	CO ₂ , fossil fuel	CH ₄	N ₂ O	CO _{2e}	
	T/yr	T/yr	T/yr	T/yr	Metric tons	
Point Sources						
Hog Fuel Boiler	0.00		0.00	0.00	0.00	
Natural Gas Boiler		49,597	0.94	0.09	45,133	
BRC Gas Boiler	No Credit Taken for Reductions from BRC Gas Boiler.					
Totals	0.00	49,597	0.94	0.09	45,133	

NSR Regulated air Pollutants are defined¹ as:

- Particulate Matter (PM, PM-10, PM-2.5)
- Carbon Monoxide
- Lead
- Nitrogen Dioxide
- Ozone (VOC)
- Sulfur Dioxide
- All pollutants regulated by NSPS (40 CFR 60)(i.e. TRS, fluoride, sulfuric acid mist)
- Class I & Class II Ozone Depleting Substances (40 CFR 82)(i.e. CFC, HCFC, Halon, etc.)
- CO_{2e}²
- Green House Gases Mass (GHG - carbon dioxide, nitrous oxide, methane, hydrofluorcarbons, perfluorcarbons, sulfur hexafluoride)

¹ 40 CFR 52.21(b)(50), as incorporated by reference at IDAPA 58.01.01.107.03.d

² Multiply each green house gas (GHG) by the global warming potential (GWP) listed at 40 CFR 98, Table A- 1 of Subpart A then sum all values to determine CO_{2e} (GHGs are carbon dioxide, nitrous oxide, methane, hydrofluorcarbons, perfluorcarbons, sulfur hexafluoride). Be sure to show all calculations as described in the instructions.

IDAHO FOREST GROUP - CHILCO, IDAHO
REVISED PROPOSAL MAY 2, 2016
Emission Inventory/Calculations

Point Sources, Proposed	PM10 (ton/yr)	PM2.5 (ton/yr)	SO2 (ton/yr)	NOx (ton/yr)	VOCs (ton/yr)	CO (ton/yr)	HAPS (ton/yr)
Lumber Drying							
LUMBER DRY KILNS	6.18	5.36	---	---	238.5	---	23.8
Sawmill Point Sources							
SAWMILL CHIP BIN VENT - POINT SOURCE	6.27	1.88	---	---	---	---	---
SAWDUST BIN VENT - POINT SOURCE	2.65	0.80	---	---	---	---	---
Planer Point Sources							
PLANER CHIPPER TARGET BOX - POINT SOURCE	0.40	0.12	---	---	---	---	---
PLANER SHAVINGS CYCLONE BAGHOUSE - POINT SOURCE	5.44	1.63	---	---	---	---	---
Steam Plant							
KIPPER & SONS HOG FUEL BOILER	30.4	30.4	12.66	111.39	8.6	249.4	20.2
NEW NATURAL GAS BOILER	0.22	0.18	0.25	26.05	2.28	15.86	0.78
Proposed Point Source Totals (tpy)	51.55	40.37	12.91	137.45	249	265	44.8
Proposed Point Source Totals (lb/hr)	11.8	9.21	3.18	33.4		65.20	

Point Sources, Current	PM10 (ton/yr)	PM2.5 (ton/yr)	SO2 (ton/yr)	NOx (ton/yr)	VOCs (ton/yr)	CO (ton/yr)	HAPS (ton/yr)
Sawmill Process Fugitives							
LUMBER DRY KILNS	6.18	5.36	---	---	176	---	23.8
Sawmill Point Sources							
SAWMILL CHIP BIN VENT - POINT SOURCE	6.27	1.88	---	---	---	---	---
SAWDUST BIN VENT - POINT SOURCE	2.65	0.80	---	---	---	---	---
Planer Point Sources							
PLANER CHIPPER TARGET BOX - POINT SOURCE	0.40	0.12	---	---	---	---	---
PLANER SHAVINGS CYCLONE BAGHOUSE - POINT SOURCE	5.44	1.63	---	---	---	---	---
Steam Plant							
KIPPER & SONS HOG FUEL BOILER	30.4	30.4	12.66	111	8.61	238.5	20.2
EFB MEDIA BAGHOUSE ⁽¹⁾	1.00	0.30	---	---	---	---	---
BRC NATURAL GAS BOILER ⁽²⁾	0.11	0.09	0.13	13.46	1.18	7.06	0.4
Current Point Source Totals (tpy)	52.45	40.59	12.79	124.85	185.29	245.54	44.5
Current Totals w/o Media BH and BRC Boiler(tpy)	51.34	40.19	12.66	111.39	184.11	238.48	44.5
Current Point Source Totals for modeling (lb/hr)	11.71	9.17	3.13	27.50		58.88	

- (1) EFB Media Baghouse Emissions omitted from calculation because they haven't been measured and are suspected to be over-estimated.
(2) Emissions from the rented natural gas boiler (BRC) are excluded from the calculations because it is not a permitted source.

Proposed changes (tpy)	0.216	0.178	0.249	26.055	65.279	26.796	0.377
Proposed changes(lb/hr)	0.049	0.041	0.057	5.949		6.321	
Level II Modeling Threshold, tpy		4.1	14	14			
Level II Modeling Threshold, lb/hr	2.6	0.63	2.5	2.4		175	
Level I Modeling Threshold, tpy		0.35	1.2	1.2			
Level I Modeling Threshold, lb/hr	0.22	0.054	0.21	0.2		15	
Modeling Required?	No	No	No	Yes		No	

IDAHO FOREST GROUP - CHILCO

Emission Inventory/Calculations

PTE Production, Unchanged

Lumber Production		
Sawmill	325,000	mbdft/year
Dry Kilns	325,000	mbdft/year
Planer	325,000	mbdft/year
Logs Used	1,170,000	tons/year
Sawmill Hours	5,200	hours/year, est
Planer Hours	5,200	hours/year

Hog Fuel Boiler 607,594 1000 lbs/yr Steam Produced

Residuals Production			
	tons/year	Actual	
Sawmill Chips	158,925	978	BDT/mbf sawmill
Sawdust	69,550	428	BDT/mbf sawmill
Hog Bark	92,060		Tons burned, from heat
Planer Chips	7,800	48	BDT/mbf planer
Shavings	26,975	166	BDT/mbf planer

KIPPER & SONS HOG FUEL BOILER

Proposed Emissions

	75 klb steam/hr	Boiler Capacity
	125 mmBtu/hr maximum	Boiler Capacity
	1.6667 mmBtu/klb	
	607,594 klb steam, rolling 12-month	Permit Limit, unchanged
	1,012,657 MMBtu/yr maximum	Based on permit limit

CRITERIA POLLUTANTS

PM10/PM2.5 (controlled), old permit limit, less stringent than MACT limit.
 Emissions: 30.4 tons/year
 6.93 lbs/hr
 Current Permit Limit, used in modeling
 Current Permit Limit, used in modeling

PM, front and back half, based on MACT limit.
 PM10/PM2.5 (controlled), based on MACT limit.
 Emission Factor: 0.054 lb/mmBtu
 Emissions: 27.34 tons/year
 6.75 lbs/hr
 MACT limit of 0.037 plus AP-42 factor for condensable PM of 0.017 lb/MMBtu

Sulfur Dioxide:
 Emission Factor: 0.025 lb/mmBtu
 Emissions: 12.66 tons/year
 3.125 lbs/hr
 (AP-42 TABLE 1.6-2, Rev 9/03)
 Unchanged

Nitrogen Oxides (NOx)
 Emission Factor: 0.22 lb/mmBtu
 Emissions: 111.39 tons/year
 27.50 lbs/hr
 (AP-42 TABLE 1.6-2, Rev 9/03)
 Unchanged

Volatile Organic Compounds (VOC)
 Emission Factor: 0.017 lb/mmBtu
 Emissions: 8.61 tons/year
 2.13 lbs/hr
 AP-42 TABLE 1.6-2, Rev 9/03
 Unchanged

Lead (Pb)
 Emission Factor: 4.80E-05 lb/mmBtu
 Emissions: 3.038 tons/year
 6.00E-03 lbs/hr
 (AP-42 TABLE 1.6-4, Rev 9/03)
 Unchanged

Carbon Monoxide (CO)
 Emission Factor: 0.821 lb/1000 lb steam
 Emissions: 249.42 tons/year
 61.58 lbs/hr
 Proposed Permit Limit
 Proposed Permit Limit
 Max based on boiler capacity

Carbon Monoxide (CO)
 Emission Factor: 0.785 lb/1000 lb steam
 Emissions: 238.48 tons/year
 58.88 lbs/hr
 Current Permit Limit
 Current Permit Limit
 Max based on boiler capacity

Greenhouse Gas Calculations

Carbon Dioxide (CO2) (not actually a greenhouse gas when emitted from biomass burning)

Emission Factor:	207 lb/mmbtu
Emissions:	104,810 tpy CO2
Emission Factor:	0.0705 lb/mmbtu
Emissions:	35.7 tpy
	811.28 metric tons CO2e, GWP = 25
Emission Factor:	0.00926 lb/mmbtu
Emissions:	4.69 tpy
	1,270.18 metric tons CO2e, GWP = 298
Metric tons CO2e	2,081.46

Greenhouse Gas Emissions (CH4, N2O, CO2, CO2e [Carbon Dioxide equivalent]) uses emission factors from the Mandatory Greenhouse Gas Reporting Rule, 40 CFR Part 98 - Table C-1, Table C-2 - Wood Fuel and Table A-1 (Global Warming Potential GWP).

EFB MEDIA BAGHOUSE

Note: the media BH will be removed along with the EFB.
 5000 scf/min
 Baghouse design flow.

PM10:
 Emission Factor: 0.0054 gr/dscf
 Emissions: 1.00 tpy
 0.23 lb/hr
 Baghouse design emission rate.
 Permit Limit
 Permit Limit

PM10:
 Emission Factor: 0.0016 gr/dscf
 Emissions: 0.30 tpy
 0.069 lb/hr
 30% of PM10 for material handling sources
 Based on data from EPA's PM Calculator

NEW NATURAL GAS BOILER

Burners Modified to Restrict heat input to <100 MMBtu/hr

8,760 Hours/Year
 80,000 pph steam, approx.
 94,618 scfh gas, manufacturer
 1,000 btu/cf gas - low estimate
 94.6 mmBtu/hr
 0.095 mmscf gas per hour
 829 mmscf gas per year

CRITERIA POLLUTANTS

PM10

Emission Factor: 0.52 lb/mmscf
 Emissions: 0.216 tons/year
 0.0492 lb/hr

EPA NEI Emission Factors Revise
 March 30, 2012

PM2.5

Emission Factor: 0.43 lb/mmscf
 Emissions: 0.178 tons/year
 0.0407 lb/hr

EPA NEI Emission Factors Revise
 March 30, 2012

Sulfur Dioxide:

Emission Factor: 0.6 lb/mmscf
 Emissions: 0.249 tons/year
 0.057 lb/hr

(AP-42 TABLE 1.4-2, Rev 7/98)

Nitrogen Oxides (NOx) as NO2

Emission Factor: 62.87 lb/mmscf
 Emissions: 26.05 tons/year
 5.95 lb/hr

Based on 50 ppm @ 3% O2
 Manufacturer Specifications

Volatile Organic Compounds (VOC)

Emission Factor: 5.5 lb/mmscf
 Emissions: 2.279 tons/year
 0.520 lb/hr

(AP-42 TABLE 1.4-2, Rev 7/98)

Carbon Monoxide (CO)

Emission Factor: 38.27 lb/mmscf
 Emissions: 15.86 tons/year
 3.62 lb/hr

Based on 50 ppm @ 3% O2
 Manufacturer Specifications

Development of NOx and CO Emission Factors

f-factor natural gas, 0% O2 8710 dscf/mmBtu
 Gas vol at Std conditions 379.49 dscf/lbmol
 Mass exhaust flow at 3% O2 27 lbmol/mmBtu
 Gas Heat Content 1020 mmBtu/mmscf

NO2 PPM 50 ppm @3% O2
 NO2 Molecular Weight 46 lb/lbmol
 NO2 Emissions 62.87 lb/mmscf

CO PPM 50 ppm @3% O2
 CO Molecular Weight 28 lb/lbmol
 CO Emissions 38.27 lb/mmscf

Greenhouse Gas Emissions

Natural Gas Combustion 850,404 MMBtu/year

Carbon Dioxide (CO2)

Emission Factor: 53.02 kg/mmbtu
 Emissions: 45,088 metric tons CO2
 49,597 tpy
 45,088 metric tons CO2e, GWP = 1

Methane

Emission Factor: 0.001 kg/mmbtu
 Emissions: 0.85 metric tons CO2
 0.94 tpy
 17.86 metric tons CO2e, GWP = 21

Nitrous Oxide

Emission Factor: 1.00E-04 kg/mmbtu
 Emissions: 0.09 metric tons CO2
 0.09 tpy
 26.36 metric tons CO2e, GWP = 310

Metric tons CO2e 45,132.63

Greenhouse Gas Emissions (CH4, N2O, CO2, CO2e [Carbon Dioxide equivalent]) uses emission factors from the Mandatory Greenhouse Gas Reporting Rule. 40 CFR Part 98 - Table C-1, Table C-2 - Wood Fuel and Table A-1 (Global Warming Potential GWP).

NATURAL GAS BOILER, TEMP

Below Regulatory Concern

Won't be used after permanent boiler is installed.

8,760 Hours/Year, PTE
 50.00 mmBtu/hr, PTE
 1,020 btu/cf gas, typical value

CRITERIA POLLUTANTS

PM10 (controlled):

Emission Factor: 0.52 lb/mmscf
 Emissions: 0.11 tons/year
 0.03 lbs/hr

EPA NEI Emission Factors Revised
 March 30, 2012

PM2.5 (controlled):

Emission Factor: 0.43 lb/mmscf
 Emissions: 0.09 tons/year
 0.02 lbs/hr

EPA NEI Emission Factors Revised
 March 30, 2012

Sulfur Dioxide:

Emission Factor: 0.6 lb/mmscf
 Emissions: 0.13 tons/year
 0.03 lbs/hr

(AP-42 TABLE 1.4-2, Rev 7/98)

Nitrogen Oxides (NOx)

Emission Factor: 62.68 lb/mmscf
 Emissions: 13.5 tons/year
 3.07 lbs/hr

Based on 50 ppm @ 3% O2
 Manufacturer Specifications

Volatile Organic Compounds (VOC)

Emission Factor: 5.5 lb/mmscf
 Emissions: 1.18 tons/year
 0.27 lbs/hr

(AP-42 TABLE 1.4-2, Rev 7/98)

Carbon Monoxide (CO)

Emission Factor: 32.87 lb/mmscf
 Emissions: 7.06 tons/year
 1.61 lbs/hr

Based on 50 ppm @ 3% O2
 Manufacturer Specifications

HAPS, Total

Emission Factor: 1.89E+00 lb/mmscf
 Emissions: 4.05E-01 tons/year
 9.25E-02 lbs/hr

(AP-42 TABLE 1.4-2, Rev 7/98)

Greenhouse Gas Emissions

Natural Gas Combustion

438,000 MMBtu/year

Carbon Dioxide (CO2)

Emission Factor: 53.02 kg/mmbtu
 Emissions: 23,223 metric tons CO2
 25,545 tpy
 23,223 metric tons CO2e, GWP = 1

Methane

Emission Factor: 0.001 kg/mmbtu
 Emissions: 0.44 metric tons CO2
 0.48 tpy
 9.20 metric tons CO2e, GWP = 21

Nitrous Oxide

Emission Factor: 1.00E-04 kg/mmbtu
 Emissions: 0.04 metric tons CO2
 0.05 tpy
 13.58 metric tons CO2e, GWP = 310

Metric tons CO2e

23,245.54

Greenhouse Gas Emissions (CH4, N2O, CO2, CO2e [Carbon Dioxide equivalent]) uses emission factors from the Mandatory Greenhouse Gas Reporting Rule. 40 CFR Part 98 - Table C-1, Table C-2 - Wood Fuel and Table A-1 (Global Warming Potential GWP).

IDAHO FOREST GROUP - CHILCO BOILER

HAZARDOUS AIR POLLUTANTS (HAPS)

Operating Parameters:

Potential Hours of Operation 8,760 hours/yr
 Annual Boiler Heat Input, actual 1,012,657 mmBtu /yr

Emission Factors:		
AP-42 Ch. 1.6, Tables 1.6-3 and 1.6-4 (8/03)	Emission Factor (lb/mmBtu)	Total Annual Emissions (tons/yr)
Acetaldehyde	8.3E-04	4.20E-01
Acetophenone	3.2E-09	1.62E-06
Acrolein	4.0E-03	2.03E+00
Benzene	4.2E-03	2.13E+00
Benzo(a)pyrene	2.6E-08	1.32E-03
bis(2-ethylhexyl)phthalate	4.7E-08	2.38E-05
Bromomethane (methyl bromide)	1.5E-05	7.59E-03
2-Butanone (MEK)	5.4E-08	2.73E-03
Carbon tetrachloride	4.5E-05	2.28E-02
Chlorine	7.9E-04	4.00E-01
Chlorobenzene	3.3E-05	1.67E-02
Chloroform	2.8E-05	1.42E-02
Chloromethane (Methyl Chloride)	2.3E-05	1.16E-02
1,2-Dichloroethane	2.9E-05	1.47E-02
Dichloromethane (Methylenechloride)	2.9E-04	1.47E-01
1,2-Dichloropropane (Propylene dichloride)	3.3E-05	1.67E-02
Ethylbenzene	3.1E-05	1.57E-02
Formadehyde (Permit Limit = 2.41 tpy)	4.4E-03	2.23E+00
Hydrogen chloride	1.9E-02	9.62E+00
Methanol (from ODEQ)	1.4E-03	7.09E-01
Naphthalene	9.7E-05	4.91E-02
4-Nitrophenol	1.1E-07	5.57E-05
Pentachlorophenol	5.1E-08	2.58E-05
Phenol	5.1E-05	2.58E-02
Polycyclic Organic Matter (POM)	2.9E-06	1.46E-03
Benzo(a)anthracene	6.5E-08	3.20E-05
Benzo(a)pyrene	2.6E-08	1.28E-05
Benzo(b)fluoranthene	1.0E-07	5.00E-06
Benzo(k)fluoranthene	3.6E-08	1.77E-05
Indeno(1,2,3,cd)pyrene	8.7E-08	4.28E-05
Styrene	1.9E-03	9.62E-01
2,3,7,8-Tetrachlorodibenzo-p-dioxins	8.6E-12	4.35E-09
Toluene	9.2E-04	4.66E-01
1,1,1-Trichloroethane (Methyl Chloroform)	3.1E-05	1.57E-02
2,4,6-Trichlorophenol <	2.2E-08	1.11E-05
Vinyl Chloride	1.8E-05	9.11E-03
o-Xylene	2.5E-05	1.27E-02
Antimony	7.9E-08	4.00E-03
Arsenic	2.2E-05	1.11E-02
Beryllium	1.1E-08	5.57E-04
Cadmium	4.1E-06	2.08E-03
Chromium, total	2.1E-05	1.06E-02
Chromium, hexavalent	3.5E-08	1.77E-03
Cobalt	6.5E-06	3.29E-03
Lead	4.8E-05	2.43E-02
Manganese	1.6E-03	8.10E-01
Mercury	3.5E-06	1.77E-03
Nickel	3.3E-05	1.67E-02
Selenium	2.8E-06	1.42E-03
TOTAL HAPS		20.23

Natural Gas Boiler HAPs

Operating Parameters:

Potential Hours of Operation 8,760 hours/yr
 Annual Gas Input 829 mmscft/yr

Emission Factors:			
AP-42 Ch. 1.4, Tables 1.4-3 and 1.4-4 (7/98) emission factors	Emission Factor (lb/mmscft)	Total Annual (tons/yr)	Total Annual (lb/yr)
Acenaphthene	1.8E-06	7.46E-07	1.49E-03
Acenaphthylene	1.8E-06	7.46E-07	1.49E-03
Anthracene	2.4E-06	9.95E-07	1.99E-03
Benzene	2.1E-03	8.70E-04	1.74E+00
Benzo(a)pyrene	1.2E-06	4.97E-07	9.95E-04
Benzo(g,h,i)perylene	1.2E-06	4.97E-07	9.95E-04
7,12-Dimethylbenz(a)anthracene	1.6E-05	6.63E-08	1.33E-02
Dichlorobenzene	1.2E-03	4.97E-04	9.95E-01
Fluoranthene	3.0E-06	1.24E-06	2.49E-03
Fluorene	2.8E-06	1.16E-06	2.32E-03
Formadehyde	7.5E-02	3.11E-02	6.22E+01
Hexane	1.8E+00	7.46E-01	1.49E+03
2-Methylnaphthalene	2.4E-05	9.95E-06	1.99E-02
3-Methylchloranthrene	1.8E-06	7.46E-07	1.49E-03
Naphthalene	8.1E-04	2.53E-04	5.06E-01
Phenanthrene	1.7E-05	7.05E-06	1.41E-02
Pyrene	5.0E-08	2.07E-06	4.14E-03
Polycyclic Organic Matter (POM)	1.2E-05	4.97E-06	9.95E-03
Benzo(a)anthracene	1.8E-06		
Benzo(a)pyrene	1.2E-06		
Benzo(b)fluoranthene	1.8E-06		
Benzo(k)fluoranthene	1.8E-06		
Chrysene	1.8E-06		
Dibenzo(a,h)anthracene	1.8E-06		
Indeno(1,2,3-cd)pyrene	1.8E-06		
Toluene	3.4E-03	1.41E-03	
Arsenic	2.4E-04	9.95E-05	2.82E+00
Beryllium	1.2E-05	4.97E-06	1.99E-01
Cadmium	1.1E-03	4.58E-04	9.95E-03
Chromium	1.4E-04	5.80E-05	9.12E-01
Cobalt	8.4E-05	3.48E-05	1.16E-01
Manganese	3.8E-04	1.57E-04	6.96E-02
Mercury	2.8E-04	1.08E-04	3.15E-01
Nickel	2.1E-03	8.70E-04	2.16E-01
Selenium	2.4E-05	9.95E-06	1.74E+00
TOTAL HAPS	1.887	0.78	1563.81

LUMBER DRY KILNS

Production Unchanged 325,000 mbdft/yr, lumber dried
 Production Unchanged 65,000 mbdft/kiln/yr

CRITERIA POLLUTANTS 890.4109589 37.10045662

PM10 :	Emission Factor:	0.038 lbs/1000 bd.ft.	Willamette Ind. 1998 Source Tests
	Unchanged Emissions	6.18 tons/year	See below.
	Unchanged Emissions	1.41 lb/hr	References available upon request.
PM2.5 :	Emission Factor:	0.033 lbs/1000 bd.ft.	Willamette Ind. 1998 Source Tests
	Unchanged Emissions	5.36 tons/year	See below.
	Unchanged Emissions	1.22 lb/hr	References available upon request.
VOC:	Emission Factor:	1.47 lbs/1000 bd.ft.	Based on weight emission factor
	Proposed Emissions	238.5 tons/year	Proposed Permit Limit
	Current Emissions	175.50 tons/year	Permit Limit

VOC emissions based on species-dependent weighted emission factor, using information below.

Wood Species:	% of Total	VOC as VOC (lb/MBdft)	Weighted (lb/MBdft)	Source of Emission Factor
Ponderosa Pine	26.2%	2.46	0.64	2007 OSU Study, interpolated for temperature 210 F
Douglas Fir (DF, DFL)	38.2%	1.03	0.39	2007 OSU Study, interpolated for temperature 220 F
Larch	0.0%	0.25	0.00	2007 OSU Study, test result for 235 F
Hemlock	0.0%	0.24	0.00	2007 OSU Study, interpolated for temperature 220 F
Grand (white) fir (WW)	0.0%	0.70	0.00	1996 U of I study
Hem Fir	6.5%	0.70	0.05	1996 U of I study
Lodgepole	0.0%	1.32	0.00	2007 OSU Study, interpolated for temperature 210 F
Spruce	0.0%	0.11	0.00	2007 OSU Study for spruce
Englemann Spruce/Lodge Pole (ESLP)	29.1%	1.32	0.38	2007 OSU Study, interpolated for temperature 210 F
Alpine Fir	0.0%	0.70	0.00	1996 U of I study
Cedar	0.0%	0.15	0.00	1996 U of I study
Any Other Type	0.0%	2.46	0.00	Highest factor
TOTAL	100.0%		1.47	

Dry Kiln Emission Factors, based on research
 Units are pounds per thousand board feet (lb/MBF)

1998 Source Test	PM Total (lb/MBF)	PM ₁₀ (lb/MBF)	PM _{2.5} (lb/MBF)
coastal hemlock	0.051	0.051	0.048
Douglas-fir	0.024	0.024	0.018
Average	0.038	0.038	0.033

Total PM was assumed to be PM10. Condensable fraction was determined to be PM2.5 fraction

Riley Creek - Chilco
Dry Kiln Haps

PROPOSED PTE

* white wood is Engleman spruce, white fir, etc.

ENTER

Total MBF processed	325,000	
% Douglas Fir /Larch	38.2%	124,150 MBF/Yr by species calculated by Total MBF * % species
% Hem Fir	6.5%	20,995
% Ponderosa Pine	26.2%	85,001
% ESLP	29.2%	94,998
% Cedar	0.0%	0
% AF (WW)	0.0%	0
	100%	325,143

EMISSION FACTORS: units of pounds per thousand board feet (lb/mbf)						
Pollutant	Total HAP	Methanol	Formal- dehyde	Acetal- dehyde	Propion- aldehyde	Acrolein
Douglas Fir / Larch	0.1700	0.0964	0.0033	0.0687	0.0007	0.0009
Hem Fir	0.2500	0.1328	0.0030	0.1039	0.0084	0.0018
Pinderosa Pine	0.1483	0.1021	0.0067	0.0334	0.0027	0.0034
ESLPAF	0.0915	0.0539	0.0030	0.0333	0.0005	0.0008
Cedar	0.0915	0.0539	0.0030	0.0333	0.0005	0.0008
AF (WW)	0.2500	0.1328	0.0030	0.1039	0.0084	0.0018

EMISSIONS units of pounds per year (lb/yr)						
Species	Total HAP	Methanol	Formal- dehyde	Acetal- dehyde	Propion- aldehyde	Acrolein
Douglas Fir / Larch	21104	11972	406	8531	89	106
Hem Fir	5248	2788	64	2182	176	39
Pinderosa Pine	12604	8677	570	2838	230	291
ESLP	8689	5121	284	3161	49	73
Cedar	0	0	0	0	0	0
AF (WW) or Other	0	0	0	0	0	0
TOTAL, lb/yr	47,645	28,557	1,324	16,711	543	509
TOTAL, ton/yr	23.82	14.28	0.66	8.36	0.27	0.25

SAWMILL CHIP BIN VENT - POINT SOURCE

Emissions based on permit limits in current permit.

	Sawmill Chips	250,792 BDT/yr (Permit Cond. 6.1, chips portion of 356,906 BDT/yr))	
PM10:	Emission Factor:	0.05 lbs/BDT	Idaho DEQ Target Box Factor (in App. A)
		6.27 tpy	Calculated Emission
	Emissions:	6.27 tons/year	Permit Limit
		1.4315 lb/hr	based on permit limit
PM25:	Emission Factor:	0.015 lbs/ton	30% of PM10 for material handling sources
	Emissions:	1.88 tons/year	Based on data from EPA's PM Claculator
		0.4295 lb/hr	

SAWDUST BIN VENT - POINT SOURCE

	Sawmill Sawdust	106,144 BDT/yr (Permit Cond. 6.1, sawdust portion of 356,906 BDT/yr))	
PM10:	Emission Factor:	0.05 lbs/ton	Idaho DEQ Target Box Factor.
		2.65 tpy	Calculated Emission
	Emissions:	2.65 tons/year	Permit Limit
		0.6050 lb/hr	based on permit limit
PM25:	Emission Factor:	0.015 lbs/ton	30% of PM10 for material handling sources
	Emissions:	0.80 tons/year	Based on data from EPA's PM Claculator
		0.1815 lb/hr	

PLANER CHIPPER TARGET BOX - POINT SOURCE

	Planer Chips	16,000 BDT/yr (Permit Cond. 9.5)	
PM10 :	Emission Factor:	0.05 lbs/ ton	Idaho DEQ Target Box Factor.
		0.40 tpy	Calculated Emission
	Emissions:	0.40 tons/year	Permit Limit
		0.0913 lb/hr	
PM2.5 :	Emission Factor:	0.015 lbs/ ton	30% of PM10 for material handling sources
	Emissions:	0.1200 tons/year	Based on data from EPA's PM Claculator
		0.02740 lb/hr	

PLANER SHAVINGS CYCLONE BAGHOUSE - POINT SOURCE

	Planer Chips	120,000 BDT/yr (Permit Cond. 9.6)	
		29,000 dscfm	Baghouse Throughput
		8,760 Hours per Year, potential	
PM10 :	Emission Factor:	0.005 gr/dscf	Baghouse Design
	Emissions:	5.44 tpy	Calculated Emission
		5.40 tpy	Permit Limit
		1.243 lb/hr	
PM25:	Emission Factor:	0.0015 gr/dscf	30% of PM10 for material handling sources
	Emissions:	1.63 tpy	Based on data from EPA's PM Claculator
		0.3729 lb/hr	

Subtotals, Proposed and Current

PM10 (tpy)	14.764
PM10 (lb/hr)	3.371
PM2.5 (tpy)	4.429
PM2.5 (lb/hr)	1.011

Appendix C

List of Applicable Regulations and Background Information

Citation Under IDAPA 58.01.01	Description of Requirements or Standards	Applicability/ Compliance Method	Emission Unit Affected
123	CERTIFICATION OF DOCUMENTS General Applicability	IFG will include required certification with affected submittals.	Facility wide
130	STARTUP, SHUTDOWN, SCHEDULED MAINTENANCE, SAFETY MEASURES, UPSET AND BREAKDOWN	IFG will record events as required.	Facility wide
131	EXCESS EMISSIONS	IFG will report excess emissions events as required.	Facility wide
132	CORRECTION OF CONDITION	IFG will corrected conditions causing excess emissions events as quickly as practicable.	Facility wide
133	STARTUP, SHUTDOWN AND SCHEDULED MAINTENANCE REQUIREMENTS	IFG will record events as required.	Facility wide
134	UPSET, BREAKDOWN AND SAFETY REQUIREMENTS	IFG will record events as required.	Facility wide
135	EXCESS EMISSIONS REPORTS	Recordkeeping and reporting will constitute on-going compliance.	Facility wide
136	EXCESS EMISSIONS RECORDS	Recordkeeping and reporting will constitute on-going compliance.	Facility wide
155	CIRCUMVENTION	General applicability.	Facility wide
156	TOTAL COMPLIANCE	General applicability.	Facility wide
157	TEST METHODS AND PROCEDURES	General applicability.	NA
160	PROVISIONS GOVERNING SPECIFIC ACTIVITIES AND CONDITIONS General Applicability	General Applicability	NA
161	TOXIC SUBSTANCES	Recordkeeping and reporting will constitute on-going compliance.	Facility Wide
162	MODIFYING PHYSICAL CONDITIONS	General Applicability	NA
163	SOURCE DENSITY	General Applicability	NA
164	POLYCHLORINATED BIPHENYLS (PCBs) Burning and sales prohibited.	IFG will continue to comply with this regulation.	Facility Wide
176-181	FACILITY EMISSIONS CAP (FEC) Regulations related permitting based on FEC.	IFG is not applying for coverage under the FEC regulations	NA
200	PROCEDURES AND REQUIREMENTS FOR PERMITS TO CONSTRUCT	IFG is filing a PTC application for the proposed project.	Gas boiler, hog fuel boiler, kilns
201	PERMIT TO CONSTRUCT REQUIRED	PTC is required because of boiler and kiln construction.	Gas boiler, hog fuel boiler, kilns

Citation Under IDAPA 58.01.01	Description of Requirements or Standards	Applicability/ Compliance Method	Emission Unit Affected
202	APPLICATION PROCEDURES	IFG has submitted an application that meets the application procedures.	Gas boiler, hog fuel boiler, kilns
203	PERMIT REQUIREMENTS FOR NEW AND MODIFIED STATIONARY SOURCES	The Chilco mill is a stationary source.	Facility Wide
204	PERMIT REQUIREMENTS FOR NEW MAJOR FACILITIES OR MAJOR MODIFICATIONS IN NONATTAINMENT AREAS	This does not apply to the Chilco mill because it is not a PSD major facility.	NA
205	PERMIT REQUIREMENTS FOR NEW MAJOR FACILITIES OR MAJOR MODIFICATIONS IN ATTAINMENT OR UNCLASSIFIABLE AREAS	This does not apply to the Chilco mill because it is not a PSD major facility.	NA
206	OPTIONAL OFFSETS FOR PERMITS TO CONSTRUCT Allows use of emission offsets in permitting.	Emissions offsets have not been used in the NAAQS modeling.	Facility Wide
207-208	REQUIREMENTS FOR EMISSION REDUCTION CREDIT	IFG is not applying for emissions reduction credits.	
209	PROCEDURE FOR ISSUING PERMITS	Applies to DEQ	NA
210	DEMONSTRATION OF PRECONSTRUCTION COMPLIANCE WITH TOXIC STANDARDS 20. NSPS and NESHAPS Sources exempted.	Mill TAP emissions are regulated under the Federal NESHAPS Subpart DDDD so IFG is exempted from IDEQ toxics analysis.	NA
211	CONDITIONS FOR PERMITS TO CONSTRUCT	IFG will comply with applicable notification and testing requirements.	Facility Wide
212	OBLIGATION TO COMPLY	IFG will comply with applicable requirements.	Facility Wide
213	PRE-PERMIT CONSTRUCTION	IFG is not applying under the pre-permit construction regulation.	NA
214	DEMONSTRATION OF PRECONSTRUCTION COMPLIANCE FOR NEW AND RECONSTRUCTED MAJOR SOURCES OF HAZARDOUS AIR POLLUTANTS	Not required because MACT standards apply.	Facility Wide
215	MERCURY EMISSION STANDARD FOR NEW OR MODIFIED SOURCES	Mercury emission factors are not available for natural gas combustion.	NA
220-223	EXEMPTION CRITERIA FOR PERMIT TO CONSTRUCT EXEMPTIONS	IFG is not invoking the exemption criteria.	NA
224	PERMIT TO CONSTRUCT APPLICATION FEE	A check is included for the PTC application fee.	Facility Wide
225	PERMIT TO CONSTRUCT PROCESSING FEE	IFG will pay the PTC processing fee when assessed by DEQ.	Facility Wide

Citation Under IDAPA 58.01.01	Description of Requirements or Standards	Applicability/ Compliance Method	Emission Unit Affected
300 <i>et seq</i>	PROCEDURES AND REQUIREMENTS FOR TIER I OPERATING PERMITS	A Tier I permit is in place for the mill. The PTC changes will be included in the Tier I permit as per DEQ processes.	Facility Wide
400 <i>et seq</i>	PROCEDURES AND REQUIREMENTS FOR TIER II OPERATING PERMITS	The Chilco mill does not have a Tier II permit.	NA
440 – 441	REQUIREMENTS FOR ALTERNATIVE EMISSION LIMITS (BUBBLES)	IFG is not applying under this regulation.	NA
460	REQUIREMENTS FOR EMISSION REDUCTION CREDIT	IFG is not applying to bank ERCs	NA
461	REQUIREMENTS FOR BANKING EMISSION REDUCTION CREDITS (ERCs)	IFG is not applying to bank ERCs	NA
500	REGISTRATION PROCEDURES AND REQUIREMENTS FOR PORTABLE EQUIPMENT	IFG is not proposing any portable equipment.	NA
510-516	STACK HEIGHTS AND DISPERSION TECHNIQUES	All stack heights comply.	Facility Wide
510	STACK HEIGHTS AND DISPERSION TECHNIQUES	None Required	NA
590	NEW SOURCE PERFORMANCE STANDARDS (NSPS)	Not applicable to any equipment at the mill.	NA
591	NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS (NESHAPS)	NESHAPS Subparts DDDD and DDDDD apply to the mill.	Facility Wide
600	RULES FOR CONTROL OF OPEN BURNING	General applicability.	Facility Wide
601	FIRE PERMITS, HAZARDOUS MATERIALS AND LIABILITY	General applicability.	NA
602	NONPREEMPTION OF OTHER JURISDICTIONS	General applicability.	NA
603	GENERAL RESTRICTIONS	General applicability.	NA
608	WEED CONTROL FIRES	General applicability.	NA
625	VISIBLE EMISSIONS	Recordkeeping and reporting will constitute on-going compliance.	Facility Wide
650	RULES FOR CONTROL OF FUGITIVE DUST	Recordkeeping and reporting will constitute on-going compliance.	Facility Wide
651	GENERAL RULES	General applicability.	NA
675	FUEL BURNING EQUIPMENT - PARTICULATE MATTER	IFG is in compliance.	NA
700	PARTICULATE MATTER - PROCESS WEIGHT LIMITATIONS	General applicability.	
701	PARTICULATE MATTER – NEW EQUIPMENT PROCESS WEIGHT LIMITATIONS	Recordkeeping and reporting will constitute on-going compliance.	Facility Wide
702	PARTICULATE MATTER – EXISTING EQUIPMENT PROCESS WEIGHT LIMITATIONS	Recordkeeping and reporting will constitute on-going compliance.	Facility Wide

Citation Under IDAPA 58.01.01	Description of Requirements or Standards	Applicability/ Compliance Method	Emission Unit Affected
775	RULES FOR CONTROL OF ODORS	General applicability.	Facility Wide
776	GENERAL RULES	General applicability.	Facility Wide
785-786	RULES FOR CONTROL OF INCINERATORS	IFG does not operate any incinerators.	NA
808	FUGITIVE DUST CONTROL	Recordkeeping and reporting will constitute on-going compliance.	Facility Wide

Figure 5: Background Values for Modeling



Northwest International Air Quality Environmental Science and Technology Consortium

NW AIRQUEST

Lookup 2009–2011 design values of criteria pollutants

This tool facilitates the retrieval of design values at user-specified locations across Washington, Oregon and Idaho.

- [Overview](#)
- [Methodology](#)
- [FAQs](#)

PLEASE NOTE: Any background concentrations at coordinates not within 2 grid cells of Washington, Oregon or Idaho -- marked with a NO in the 4th row below -- should be used with caution.

Lat or UTMN	5301094
Lon or UTME	518792
UTM zone	11
In Washington Oregon or Idaho	YES
PM _{2.5} 24hr µg/m ³	9.7
PM _{2.5} annual µg/m ³	3.1
O ₃ daily 8hr max ppb	58
O ₃ for PVMRM ppb	51
NO ₂ 1hr ppb	12
NO ₂ annual ppb	1
SO ₂ 1hr ppb	1.3
SO ₂ 3hr ppb	1.4
SO ₂ 24hr ppb	0.6
SO ₂ annual ppb	0.3
CO 1hr ppb	1602
CO 8hr ppb	956
PM ₁₀ 24hr µg/m ³	81
PM ₁₀ no extremes 24hr µg/m ³	58

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IFG – Chilco Air Impact Modeling Analyses Report

1.0 Summary

This report follows the DEQ modeling report format. Evaluation criteria are presented at the end of each section in *italics*.

Modeling has been performed to demonstrate compliance with the significant impact levels (SILs) as presented in the Idaho Modeling Guideline. Compliance with the SILs ensures compliance with the National Ambient Air Quality Standards (NAAQS). The purpose of the dispersion modeling for the IFG sawmill is to demonstrate that the proposed steam plant changes will not cause or contribute to a violation of any NAAQS. The air quality analyses have been performed based on the *State of Idaho Guideline for Performing Air Quality Impact Analyses* (DEQ Modeling Guideline) and demonstrate compliance with applicable rules and standards.

General information regarding the IFG Chilco mill is presented in the permit application text. This report is presented as an appendix to the permit application, so the text has not been repeated in this report.

2.0 Project Description and Background as it relates to Modeling Analyses

IFG has revised the proposal significantly since the original modeling. The project now includes only the addition of the natural gas boiler and the changed stack parameters resulting from replacing the hog fuel boiler EFB stack with the ESP stack. Replacement of the EFB with an ESP has resulted in changes in the dispersion parameters but not the emissions. The EFB media baghouse will also be removed when the EFB is replaced.

2.1 General Facility/Project Description

IFG plans to install a natural gas boiler to provide backup for the hog fuel boiler which is the primary steam source. The natural gas boiler will be located inside the building that currently houses the EFB, with the natural gas boiler stack exiting the top of the building.

PM control from the hog fuel boiler is provided by a multiclone followed by an EFB. IFG plans to install an ESP to replace the EFB as the final PM control for the hog fuel boiler emissions. IFG plans to install the ESP west of the EFB building. Once the ESP is ready, IFG will switch the boiler exhaust from the EFB to the ESP. The future hog fuel boiler exhaust point will be the ESP stack, which is integral to the ESP. The ESP stack is the same height as the EFB stack, but has a larger diameter, resulting in a lower exit velocity.

2.2 Location of Project

The IFG Chilco facility is west of Highway 95, near Athol, Idaho in Kootenai County. Specific site location information is provided in the permit application text Section 1.1. The area surrounding the mill is primarily flat with some elevated terrain to the west. The general landuse is rural or semi-rural with homes and hobby-farms nearby. The site elevation is approximately 2,300 feet above sea level. **Figure 1** of the permit application provides United States Geological Survey (USGS) 7.5-minute quadrangle map showing the plant site and surrounding area.

Figure 2 of the permit application is a satellite photo of the Chilco facility with the emission sources and processing centers indicated. Air quality classification for the IFG sawmill area is "Unclassifiable or Better than National Standards" (40 CFR 81.327) for the National Ambient Air Quality Standards (NAAQS) for all criteria pollutants. The land-use classification for the area surrounding the IFG source is unchanged by this project. The land use classification information is on file at DEQ.

A map showing the geographical location of the facility is provided in this section or a reference is provided to another location in the application where a map is provided.

2.3 Existing Permits and Modeling Analyses Performed

The Chilco facility was just a sawmill and log yard in 2002. The current planer building had been used for an OSB plant, but was vacant. Modeling was performed in 2002 for the sawmill chip bin vent and the sawdust bin vent. Dispersion modeling was submitted in 2004 to support the permit application for the hog fuel boiler, dry kilns and the planer mill. Revised modeling was submitted in 2005 to represent the "as-built" status of the facility after construction was completed.

The 2004/2005 modeling used ISC3 and did not include PM_{2.5} as a modeled pollutant. The previous modeling is not relied upon in the analysis.

Any existing air quality permits are listed and described in this section, and any associated air quality modeling analyses have been described and referenced, and submitted if appropriate.

3.0 Modeling Analyses Applicability and Protocol

The purpose of the dispersion modeling is to demonstrate that the proposed steam plant changes will not cause or contribute to a violation of any NAAQS. The proposed actions are addition of a natural gas boiler, increase in the allowable CO emissions from the hog fuel boiler, and change to the stack characteristics of the hog fuel boiler.

3.1 Applicable Standards

Criteria pollutant National Ambient Air Quality Standards (NAAQS) are listed in Table 1, along with significant impact levels (SILs).

Pollutant	Averaging Period	Significant Impact Levels ^a (µg/m ³) ^b	Regulatory Limit ^c (µg/m ³)	Modeled Design Value Used ^d
PM ₁₀ ^e	24-hour	5.0	150 ^f	Maximum 6 th highest ^g
PM _{2.5} ^h	24-hour	1.2	35 ⁱ	Mean of maximum 8 th highest ^j
	Annual	0.3	12 ^k	Mean of maximum 1 st highest ^l
Carbon monoxide (CO)	1-hour	2,000	40,000 ^m	Maximum 2 nd highest ⁿ
	8-hour	500	10,000 ^m	Maximum 2 nd highest ⁿ
Sulfur Dioxide (SO ₂)	1-hour	3 ppb ^o (7.8 µg/m ³)	75 ppb ^p (196 µg/m ³)	Mean of maximum 4 th highest ^q
	3-hour	25	1,300 ^m	Maximum 2 nd highest ⁿ
	24-hour	5	365 ^m	Maximum 2 nd highest ⁿ
	Annual	1.0	80 ^r	Maximum 1 st highest ⁿ
Nitrogen Dioxide (NO ₂)	1-hour	4 ppb (7.5 µg/m ³)	100 ppb ^s (188 µg/m ³)	Mean of maximum 8 th highest ^t
	Annual	1.0	100 ^r	Maximum 1 st highest ⁿ
Lead (Pb)	3-month ^u	NA	0.15 ^r	Maximum 1 st highest ⁿ
	Quarterly	NA	1.5 ^r	Maximum 1 st highest ⁿ
Ozone (O ₃)	8-hour	40 TPY VOC ^v	75 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/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 significant impact 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 O₃.
- w. Annual 4th highest daily maximum 8-hour concentration averaged over three years.

There are three sources of TAPs at the Chilco facility, the hog fuel boiler, the natural gas boiler and the dry kilns. All three TAPs sources are regulated under 40 CFR Part 63, the National Emission Standards for Hazardous Air Pollutants (NESHAPS) because the mill is a major source of HAPs. The dry kilns are subject

to the requirements of the NESHAPS Subpart DDDD, the Plywood and Composite Wood Products (PWCP) MACT. The hog fuel boiler and natural gas boiler are subject NESHAPS Subpart DDDDD, the Industrial and Commercial Boiler MACT. TAP emissions from the facility are identified in the attached spreadsheet.

Based on IDAPA 58.01.01.210.20 and in consultation with DEQ, IFG has determined that TAP analysis is not required for this permit application. The language of the applicable regulation is as follows:

20. NSPS and NESHAP Sources. **a.** If the owner or operator demonstrates that the toxic air pollutant from the source or modification is regulated by the Department at the time of permit issuance under 40 CFR Part 60, 40 CFR Part 61 or 40 CFR Part 63, no further procedures for demonstrating preconstruction compliance will be required under Section 210 for that toxic air pollutant as part of the application process. **b.** If the owner or operator demonstrates that the toxic air pollutant from the source or modification is regulated by the EPA at the time of permit issuance under 40 CFR Part 60, 40 CFR Part 61 or 40 CFR Part 63 and the permit to construct issued by the Department contains adequate provisions implementing the federal standard, no further procedures for demonstrating preconstruction compliance will be required under Section 210 for that toxic air pollutant as part of the application process.

All TAPs identified in the emissions inventory for the project are listed in the TAPs EL and AAC/AACC Table in this section.

3.2 Criteria Pollutant Modeling Applicability

Modeling is included to demonstrate compliance with the significant impact levels (SILs). Compliance with the SILs ensures compliance with the National Ambient Air Quality Standards (NAAQS). If the modeling inputs exceed the SILs, cumulative modeling is required to demonstrate compliance with the NAAQS.

Table 2 compares the proposed emission changes to the Idaho modeling thresholds. The annual emissions from the hog fuel boiler are limited by the permit-limited allowable steam production as demonstrated in permit application Section 3.2.2. All emissions calculations are explained in the application text and in the emissions calculation spreadsheet and supporting documentation on Appendix B of the permit application.

Table 2. PROPOSED EMISSIONS CHANGES AND MODELING THRESHOLDS					
Pollutant	Proposed PTE	Current PTE ⁽¹⁾	Change in Emissions	Thresholds	
				Level II	Level I
CO	65.2 lb/hr	58.9 lb/hr	6.32 lb/hr	175 lb/hr	15 lb/hr
NO _x	137 tpy	111 tpy	26.0 tpy	14 tpy	1.2 tpy
NO _x	33.4 lb/hr	27.5 lb/hr	5.95 lb/hr	2.4 lb/hr	0.20 lb/hr
SO ₂	12.91 tpy	12.66 tpy	0.25 tpy	14 tpy	1.2 tpy
SO ₂	3.18 lb/hr	3.13 lb/hr	0.057 lb/hr	2.5 lb/hr	0.21 lb/hr
PM ₁₀	11.8 lb/hr	11.7 lb/hr	0.049 lb/hr	2.6 lb/hr	0.22 lb/hr
PM _{2.5}	40.4 tpy	40.2 tpy	0.18 tpy	4.1 tpy	0.35 tpy
PM _{2.5}	9.21 lb/hr	9.17 lb/hr	0.041 lb/hr	0.63 lb/hr	0.054 lb/hr
Pb	4.4 lb/month	4.4 lb/month	0	14 lb/month	

(1) Current PTE emissions do not include the EFB Media Baghouse or the BRC natural gas boiler

IFG plans to install the ESP and remove the EFB before installing the natural gas boiler. Therefore, the EFB media baghouse is not included in the proposed PTE total. IFG has decided to exclude the EFB baghouse removal from net reduction in emissions for the modeling analysis because the actual emissions of the baghouse are unknown. IFG has always listed the EFB media baghouse as having 1.0 tpy of PM₁₀ emission so it would be identified as a source in the Tier I air quality permit rather than being listed with

the insignificant sources. Source tests on an equivalent baghouse at another IFG site have shown the PM emissions from the EFB media baghouse to be less than 0.5 tpy.

Table 3 lists criteria pollutants for which site-specific modeling analyses were performed to demonstrate compliance with NAAQS. The appropriate line is checked to show the reason modeling was not performed for the specified pollutant. Although the PM₁₀ and PM_{2.5} emissions increases are below the modeling thresholds, IFG has provided modeling to ensure that the changes in stack configuration for the hog fuel boiler are accounted for in the application.

Table 3. MODELING APPLICABILITY		
Criteria Pollutant	Modeled (yes/no)	Basis for Exclusion from Modeling
PM _{2.5} 24-hour	Yes, due to stack changes	<input type="checkbox"/> BRC Exempt ^a <input checked="" type="checkbox"/> Emissions Below Level I Thresholds ^b <input type="checkbox"/> Emissions Below Level II Thresholds ^c
PM _{2.5} annual	Yes, due to stack changes	<input type="checkbox"/> BRC Exempt <input checked="" type="checkbox"/> Emissions Below Level I Thresholds <input type="checkbox"/> Emissions Below Level II Thresholds
PM ₁₀ 24-hour	Yes, due to stack changes	<input type="checkbox"/> BRC Exempt <input checked="" type="checkbox"/> Emissions Below Level I Thresholds <input type="checkbox"/> Emissions Below Level II Thresholds
NO ₂ 1-hour	Yes	<input type="checkbox"/> BRC Exempt <input type="checkbox"/> Emissions Below Level I Thresholds <input type="checkbox"/> Emissions Below Level II Thresholds
NO ₂ annual	Yes	<input type="checkbox"/> BRC Exempt <input type="checkbox"/> Emissions Below Level I Thresholds <input type="checkbox"/> Emissions Below Level II Thresholds
SO ₂ 1-hour, 3-hour	No	<input type="checkbox"/> BRC Exempt <input checked="" type="checkbox"/> Emissions Below Level I Thresholds <input type="checkbox"/> Emissions Below Level II Thresholds
SO ₂ annual	No	<input type="checkbox"/> BRC Exempt <input checked="" type="checkbox"/> Emissions Below Level I Thresholds <input type="checkbox"/> Emissions Below Level II Thresholds
CO 1-hour, 8-hour	No	<input type="checkbox"/> BRC Exempt <input checked="" type="checkbox"/> Emissions Below Level I Thresholds <input type="checkbox"/> Emissions Below Level II Thresholds

- a. If the project would have qualified for a Category I BRC permitting exemption for the criteria pollutant in question, as per Idaho Air Rules Section 221.01, except for the emissions quantities of another criteria pollutant, then a NAAQS compliance analysis is not required under Section 203.02 or 403.02 for that criteria pollutant.
- b. Level I Modeling Thresholds from Table 2 in Section 3 of the DEQ Modeling Guideline. NAAQS compliance is assured through DEQ's non-site-specific modeling analyses.
- c. Level II Modeling Thresholds from Table 2 in Section 3 of the DEQ Modeling Guideline. NAAQS compliance is assured through DEQ's non-site-specific modeling analyses. Level II Modeling Thresholds can only be used with prior DEQ approval.

 Explanations/documentation why modeling was or was not performed for each criteria pollutant are provided in this section.

 Emissions calculations that clearly show how the modeling applicability determination was performed are provided in this section.

3.3 TAP Modeling Applicability

TAP modeling is not required as explained in Section 3.1 of this report.

Explanation/documentation on why modeling was or was not performed for emissions of each TAP identified in the emissions inventory of the application are provided in this section.

3.4 Modeling Protocol

IFG has submitted the compliance modeling input and output files and the modeling report for this permit application in November 2015 and again in February 2016. This modeling follows the same protocol, although the project has been greatly simplified.

3.5 Modeling File Names

This section provides a list of the modeling file names used in the analysis. The modeling files have been submitted electronically to DEQ. The modeling was done using the BEEST modeling interface for AERMOD. BEEST creates a number of auxiliary files, each with the same root name as the AERMOD input file. Table 4 lists the modeled file names used in the analysis.

Applicable Standard	Pollutant	Ave. Period	Receptor Data Set	BEEST File Name	AERMOD Input File Root Name
SIL	PM _{2.5}	24-hour Annual	Full grid (4114 rec)	SILPM_0416.BST	SILPM_0416_2008_PM25.*, etc.
SIL	PM ₁₀	24-hour	Full grid (4114 rec)	SILPM_0416.BST	SILPM_0416_2008_PM10.*, etc.
SIL	NO ₂	1-hour Annual	Expanded grid (4634 rec)	SILGAS_0416.BST	SILGAS_0416_2008_NO2.*, etc. SILGAS_0416_2008_NO2ANN.*, etc.
NAAQS	NO ₂	1-hour	NO ₂ 1-hr SIL rec (2093 rec)	NO2_1HR.BST	NO2_1hr.* (single 5-year run)
NAAQS	NO ₂	Annual	NO ₂ Annual SIL rec (22 rec)	NO2_ANN.BST	NO2_ANN_2008_NO2ANN.*, etc.
NAAQS	NO ₂	1-hour	NO ₂ 1-hr hotspot rec (806 rec)	NO2_HOT.BST	NO2_HOT.* (single 5-year run)

4.0 Modeled Emissions Sources

Emissions from the facility have been estimated using a spreadsheet that compares the potential emissions and current allowable emissions. The spreadsheet calculations contain details about the calculation methods and the source of the emission factors. The spreadsheet and supporting emissions information is contained in Appendix B of the permit application.

_____The modeling emissions inventory and the emissions inventory presented in other parts of the permit application are consistent, and if they are not identical numbers, it is clearly shown, with calculations submitted, how the modeled value was derived from the value provided in the emissions inventory.

4.1 Criteria Pollutants

The proposed criteria pollutant emissions inventory is listed in the permit application and the calculations are included in Appendix B of the application. The three emissions inventory tables required by DEQ for permit applications are also included in Appendix B.

The proposed natural gas boiler is an added source. The hog fuel boiler emissions are not changed, except for CO. PM₁₀, PM_{2.5} and NO_x from the hog fuel boiler are modeled both from the existing stack and the proposed stack to determine the changes in impacts. IFG is not claiming credit for removal of the temporary natural gas boiler that is below regulatory concern (BRC) because that boiler has not been included in previous permitting or modeling analyses.

IFG is also not claiming emissions reduction credit for the removal of the EFB Media Baghouse as explained in Section 3.2. The EFB media baghouse stack is located at almost exactly the same location as the proposed natural gas boiler stack but with a lower stack temperature. Inclusion of the EFB media baghouse as a negative source in the model would obscure the impacts of the natural gas boiler.

4.1.1 Modeled Emissions Rates for Significant Impact Level Analyses

The emissions calculations are included in the permit application and in the spreadsheets and supporting material in Appendix B of the application. The modeled point sources for SIL analysis are the hog fuel boiler emitting from the existing stack as a negative source, the hog fuel boiler emitting from the new stack, and the new natural gas boiler.

All potential emissions from the proposed natural gas boiler are included as increases in the SIL model. The natural gas boiler will be permitted to operate 24-hours per day at full capacity, so maximum potential emissions were used for every pollutant and averaging period.

The hog fuel boiler emissions are unchanged by this permitting action, with the exception of CO. The hog fuel boiler has an annual steam production limit in the permit that restricts the annual emissions to a level lower than the maximum hourly emissions. This difference is shown in the calculations in Section 3.2 of the permit application. Both PM₁₀ and PM_{2.5} are modeled at the currently permitted emission rate for PM₁₀ for both the annual and short-term averaging periods. If DEQ decides to lower the hog fuel boiler emission limits in the permit based on Boiler MACT, the modeling will still be sufficient to demonstrate compliance. Table 5 lists criteria pollutant emissions rates used in the SIL analyses.

Table 5. MODELED EMISSIONS RATES FOR SIL ANALYSES				
Source ID	Source Description	Pollutant	Averaging Period	Emissions
HOGBOIL	Hog Fuel Boiler	PM _{2.5}	24-hour	6.93 lb/hr
			Annual	30.4 tpy
		PM ₁₀	24-hour	6.93 lb/hr
			NOx	1-hour
		Annual		111 tpy
OLDSTACK	Existing hog fuel boiler stack	PM _{2.5}	24-hour	-6.93 lb/hr
			Annual	-30.4 tpy
		PM ₁₀	24-hour	-6.93 lb/hr
			NOx	1-hour
		Annual		-111 tpy
NEWGAS	New Natural Gas Boiler	PM _{2.5}	24-hour	0.041 lb/hr
			Annual	0.178 tpy
		PM ₁₀	24-hour	0.049 lb/hr
			NOx	1-hour
		Annual		26.05 tpy

_____ Emissions rates in Table 5 are identical to those in the model input files for SIL analyses.

_____ Calculation of modeled emissions are thoroughly documented in this section, and any unique handling of emissions in the model have been described.

4.1.2 Modeled Emissions Rates for Cumulative Impact Analyses

Table 6 lists criteria pollutant emissions rates used in the cumulative NAAQS impact analyses. NAAQS modeling is based on full time operating of all existing sources at full capacity.

Table 6. MODELED EMISSIONS RATES FOR NAAQS ANALYSES				
Source ID	Source Description	Pollutant	Averaging Period	Emissions ^a
HOGBOIL	Hog Fuel Boiler	NOx	1-hour	27.50 lb/hr
			Annual	111 tpy
NEWGAS	New Natural Gas Boiler	NOx	1-hour	5.95 lb/hr
			Annual	26.05 tpy

^a. Pound/hour emissions rate modeled is the project-specific increase in potential/allowable emissions increase for the averaging period specified for the pollutant.

_____ Emissions rates in Table 6 are identical to those in the model input files for the cumulative NAAQS impact analyses.

_____ Calculation of modeled emissions are thoroughly documented in this section (unless already described in Section 4.1.1), and any unique handling of emissions in the model have been described.

4.1.3 NO₂/NOx Ratio for NOx Chemistry Modeling

NO₂ compliance is determined based on the three-tiered approach identified in EPA guidance. Tier I is the most conservative approach, in which all NOx emissions are assumed to be NO₂. The IFG NO₂ modeling has demonstrated compliance with the annual and 1-hour NAAQS using the Tier I approach, so more advanced analyses were not necessary. Compliance with the 1-hour NO₂ NAAQS is based on the 98th percentile of 1-hour daily maximum concentrations, averaged over 3 years. This compliance demonstration was accomplished using the MAXDAILY function in BEEST. Compliance with the annual NO₂ NAAQS is based on the highest annual average of the modeled met years.

4.1.4 Special Methods for Modeling Criteria Pollutant Emissions

No unique methods were used for handling criteria pollutant emissions.

4.2 Toxic Air Pollutants

Toxic air pollutant modeling is not required for this application as described in Section 3.

NA. TAP emissions rates have been listed for each TAP that has project cumulative emissions exceeding the applicable EL.

NA. Emissions rates in Table X are identical to those in the model input file for TAP analyses.

4.3 Emissions Release Parameters

Documentation and justification of point source emissions release parameters is provided in this section. Table 7 lists stack parameters for point sources, there are no volume or area sources used in the model.

Release Point	Description	UTM ^a Coordinates		Stack Height (m)	Stack Gas Flow Temp. (K) ^c	Stack Gas Flow Velocity (m/sec) ^d	Modeled Stack Diameter (m)	Orient. Of Release ^e
		Easting-X (m) ^b	Northing-Y (m)					
HOGBOIL	Hog Fuel Boiler	518,528	5,301,316	24.4	401	7.99	1.78	V
OLDSTACK	Existing boiler stack	518,534	5,301,315	24.4	401	12.9	1.40	V
NEWGAS	New Gas Boiler	518,541	5,301,320	21.3	394	14.2	1.04	V

^a Universal Transverse Mercator.

^b Meters.

^c Kelvin.

^d Meters per second.

^e Vertical uninterrupted, rain-capped, or horizontal release.

The following is a description of the selection of modeled source parameters for each emitting point.

- Hog Fuel Boiler: The existing stack is 55" in diameter and 80 feet tall, and the proposed ESP stack is 70" in diameter and 80 feet tall. The flue gas temperature and flow rates are based on a 2015 source test. The previous modeling used design temperature and flow rate values that were slightly higher, based on design parameters. The EFB media baghouse stack will be removed as part of this project.
- Natural Gas Boiler: This boiler will be installed in the EFB building. The boiler stack will extend through the roof of the building to a height of 70'. Fuel gas temperature is a design parameter and the volume flowrate has been calculated based on the fuel combustion rate, f-factor, target oxygen content and target moisture content. Exit velocity is a function of volume flow rate and stack diameter.

_____ Thorough justification/documentation of release parameters for all modeled sources is provided in this section.

_____ The specific methods used to determine/calculate given release parameters is described in this section.

_____ The release orientation of all point source stacks (horizontal, rain-capped, or uninterrupted vertical release) has been verified and is documented in this section.

5.0 Modeling Methodology

This section of the Modeling Report describes the specific methods and data used in the air impact analyses. Table 8 summarizes the key modeling parameters used in the impact analyses.

Table 8. MODELING PARAMETERS		
Parameter	Description/Values	Documentation/Addition Description
General Facility Location	Attainment	The Chilco area is attainment or unclassified for all criteria pollutants.
Model	AERMOD	AERMOD with the PRIME downwash algorithm, version 15181.
Meteorological Data	Coeur d'Alene surface data Spokane upper air data	The modeling has been performed using NWS met data provided by Idaho DEQ. The files use NWS data collected at the Coeur d'Alene airport (Station 24136) for the period from 2008–2012 with upper air from the Spokane airport (Station 4106) for the same period.
Terrain	Considered	3-dimensional receptor coordinates were obtained from USGS National Elevation Dataset (NED) files and were used to establish elevation of ground level receptors. AERMAP was used to determine each receptor elevation and hill height scale.
Building Downwash	Considered	Plume downwash was considered for the structures associated with the facility. BPIP-PRIME was used to evaluate building dimensions for consideration of downwash effects in AERMOD.
NOx Chemistry	None	
Receptor Grid	Significant Impact Analyses	
	Grid 1	25-meter spacing along the ambient air boundary
	Grid 2	50-meter spacing in a 2,100 meter (easting) by 1,800 meter (northing) grid centered on the facility
	Grid 3	100-meter spacing in a 4,400 meter (easting) by 4,000 meter (northing) grid centered on the facility
	Grid 4	200-meter spacing in a 6,000 meter (easting) by 6,000 meter (northing) grid centered on the facility
	Grid 5	500-meter spacing in a 10,000 meter (easting) by 10,000 meter (northing) grid centered on the facility
	Grid 6	1000-meter spacing in a 20,000 meter (easting) by 20,000 meter (northing) grid centered on the facility. Expanded to 25km x 25 km for NO ₂ modeling.
	NAAQS Analyses	
	NAAQS analysis used only the specific impact receptors from each pollutant and averaging period. Grids of hotspot receptors on 10-meter spacing were used for impacts approaching the NAAQS. The number of receptors for each run is listed in Table 3.	
	TAPs Analyses	
No TAPS analyses were required.		

5.1 Model Selection

The Idaho modeling guidance states that justification is not needed in cases where the AERMOD modeling system is used to evaluate near-field impacts. IFG performed the modeling using the AERMOD modeling system within the Bee-Line software BEEST program. AERMOD version 15181 and AERMAP version 11103 were used. DEQ provided the met data, so IFG did not need to use AERMET or AERSURFACE.

 The current versions of all models and associated programs were used in analyses, or alternate versions were specifically approved by DEQ.

 Any non-default model options used were approved by DEQ in advance.

5.2 Meteorological Data

The modeling has been performed using NWS met data provided by Idaho DEQ. The files use NWS data collected at the Coeur d'Alene airport (Station 24136) for the period from 2008 – 2012 with upper air from the Spokane airport (Station 4106) for the same period. The Coeur d'Alene airport is located approximately 7 miles southwest of the IFG Chilco mill and both sites are expected to experience the same wind patterns.

Meteorological data files are provided with the application.

NA. If meteorological data used for modeling were not provided by DEQ, then a detailed discussion of the data is provided along with documentation of the processing steps.

5.3 Effects of Terrain

The source and receptor locations are based on WGS84 and have been verified using Google Earth. The AERMOD auxiliary program, AERMAP was used to determine the elevations and hill heights for each of the modeled receptors. 3-dimensional receptor coordinates were obtained from USGS National Elevation Dataset (NED) files and were used to establish elevation of ground level receptors. AERMAP was used to determine each receptor elevation and hill height scale.

The datum of terrain data, building corner locations, emissions sources, and the ambient air boundary are specified and are consistent such that the modeled plot plan accurately represents the facility and surroundings.

5.4 Facility Layout

The modeling was based on the facility plot plan and verified using Google Earth. The building and source locations were entered into AERMOD using the BEEST interface. BEEST was then used to overlay the modeled buildings and sources on a Google Earth satellite photo to confirm the locations of sources, buildings and the ambient air boundary. Figure 2 of the permit application shows a satellite photo of the steam plant area of the mill. Figures included with this modeling report show the facility boundary and model inputs overlain on a satellite photo.

The location of each emission source was obtained from IFG plans for construction. Existing sources were verified using Google Earth satellite images. Building corners were obtained from an IFG site map and converted to UTM coordinates using a spreadsheet. The building locations were verified using Google Earth satellite images. The Datum for the UTM coordinates is WGS84.

The facility layout plot plan is provided in this section that clearly and accurately depicts buildings, emissions points, and the ambient air boundary.

This section of the Modeling Report has thoroughly described how locations of emissions sources, building corners, and the ambient air boundary were determined, specifying the datum used.

5.5 Effects of Building Downwash

IFG building dimension data was obtained from IFG and verified using the Google Earth overlay function. No structures were excluded that had the potential to impact the analysis. The ESP structure was added as a downwash structure. Building downwash was included in the modeling using BPIP-PRME through the BEEST modeling interface. A figure showing the boiler buildings and the ESP along with the modeled stacks is included with this modeling report.

5.6 Ambient Air Boundary

The ambient air quality boundary for the IFG modeling is defined as the IFG property line on three sides and a public roadway on the west side. The modeling was done in the BEEST program, which allows the AERMOD inputs to be overlain on Google Earth imagery. In recent years, a public roadway has been built through the IFG property. Access from the public roadway onto IFG's property is controlled by gates and signed. For modeling purposes, receptors have been placed along the public roadway and on the portion of the IFG property west of the public roadway. The new fenceline boundary is called NEWROAD in the BEEST files. The modeled boundary is shown on the attached figure.

_____ If any of the following apply, the effect on areas excluded from ambient air is thoroughly described in this section: a river/stream bisecting the facility; the facility is on leased property or is leasing property to another entity; the facility is not completely fenced; there are right-of-way areas on the facility; the nature of business is such that the general public have access to part or all of the facility.

_____ This section thoroughly describes how the facility can legally preclude public access (and practically preclude access) to areas excluded from ambient air in the modeling analyses.

5.7 Receptor Network

The receptor grid network is defined in Table 7 of this modeling report. The expanded receptor grid, along with the fenceline receptors, includes a total of 4,634 receptors. The SIL modeling results were sorted using an EXCEL spreadsheet to identify the receptors at which the proposed changes had a significant high-first-high impact for any of the modeling years. These receptors were used in the modeling files for the NAAQS compliance demonstrations.

Significant impacts were modeled for NO₂ 1-hour and annual averaging periods. Because the NO₂ modeling results were determined to be approaching the applicable NAAQS, a grid of hotspot receptors with 10-meter spacing was developed around the three highest modeled impact points. The NAAQS modeling results presented below are based on the highest impacts at the grid, fenceline or hotspot receptors.

_____ This section of the Modeling Report provides justification that receptor spacing used in the air impact analyses was adequate to reasonably resolve the maximum modeled concentrations to the point that NAAQS or TAP compliance is assured.

5.8 Background Concentrations

For this compliance demonstration, design background concentrations have been obtained from the Washington State University NW Air Quest Consortium website: lar.wsu.edu/nw-airquest/lookup.html. The background data is included in Appendix C.

_____ Background concentrations have been thoroughly documented and justified for all criteria pollutants where a cumulative NAAQS impact analysis was performed.

5.9 NO_x Chemistry

No NO_x chemistry was used in the analysis.

NA. If OLM or PVMRM was used to address NO_x chemistry, reasons for selecting one algorithm over the other are provided in this section.

6.0 Results and Discussion

6.1 Criteria Pollutant Impact Results

Criteria pollutant modeling results are presented here, demonstrating that the proposed project will not cause or significantly contribute to a NAAQS violation.

6.1.1 Significant Impact Level Analyses

Table 9 contains SIL analyses results comparing modeled results to applicable SILs. Multiple operational scenarios were not used in the analyses. Conservatism is provided in the model input data through use of maximum potential emissions in the modeling inputs. Annual SIL impacts are based on the highest annual average during the five year met period. Short-term SIL determinations are based on the high-first-high modeled impact over the 5-year met period.

Pollutant	Averaging Period	Maximum Modeled Concentration ($\mu\text{g}/\text{m}^3$) ^a	Significant Contribution Level ($\mu\text{g}/\text{m}^3$)	Impact Percentage of Significant Contribution Level	Cumulative NAAQS Analysis Required
PM _{2.5} ^b	24-hour	0.962	1.2	80.2 %	No
	Annual	0.057	0.3	19.0 %	No
PM ₁₀ ^c	24-hour	0.967	5.0	19.3 %	No
NO ₂ ^d	1-hour	64.37	7.5	858 %	Yes
	Annual	1.445	1.0	144 %	Yes

^a Micrograms/cubic meter. High first high modeled impact.

^b Particulate matter with an aerodynamic diameter less than or equal to a nominal 2.5 micrometers.

^c Particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers.

^d Nitrogen dioxide.

Model input and output files for SIL analyses have been provided with the application, with descriptions of the analyses associated with those files.

6.1.2 Cumulative NAAQS Impact Analyses

Cumulative NAAQS impact analyses results have been performed for all receptors where the SIL analyses showed that project impacts exceeded the applicable SILs. The SIL modeling results for each modeled year were transferred to a spreadsheet and sorted from largest to smallest impact, and the receptors with impacts below the SIL were deleted. The receptors with impacts larger than the SIL were then copied into the AERMOD model using the BEEST modeling interface discrete receptor menu.

Hotspot receptors were developed for the NO₂ 1-hour averaging period to ensure that the peak impact was captured in the modeling. Plots showing the modeled impacts at the hot spot receptors are attached to this report. There are modeled no NAAQS violations. Table 10 provides results of Cumulative NAAQS Impact analyses.

Pollutant	Averaging Period	Modeled Design Concentration ($\mu\text{g}/\text{m}^3$)^a	Background Concentration ($\mu\text{g}/\text{m}^3$)	Total Impact ($\mu\text{g}/\text{m}^3$)	NAAQS ($\mu\text{g}/\text{m}^3$)
NO ₂ ^b	1-hour	148 ^c	22.5	170 ^c	188
	Annual	5.04	1.88	6.92	100
^a Micrograms/cubic meter ^b Nitrogen dioxide. 1-hour Background is 12 ppb, equal to 22.5 $\mu\text{g}/\text{m}^3$ and annual background is 1 ppb equal to 1.88 $\mu\text{g}/\text{m}^3$. ^c Maximum of 5-year means (or a lesser averaging period if less than 5 years of meteorological data were used in the analyses) of 8 th highest modeled concentrations for each year modeled.					

Model input and output files for the cumulative NAAQS impact analyses are provided with the application.

NA. If there were modeled NAAQS violations, all violations were analyzed and clearly show that the project did not significantly contribute to those modeled violations. If there were multiple violations at a given receptor, all cumulative impacts (including background) for the averaging period analyzed were ranked along with the project contribution, and the project contributions were below the applicable SIL. A table was included to show all ranked impacts above the NAAQS along with the project contribution.

6.2 TAP Impact Analyses

TAP analysis was not required.

7.0 Quality Assurance/Control

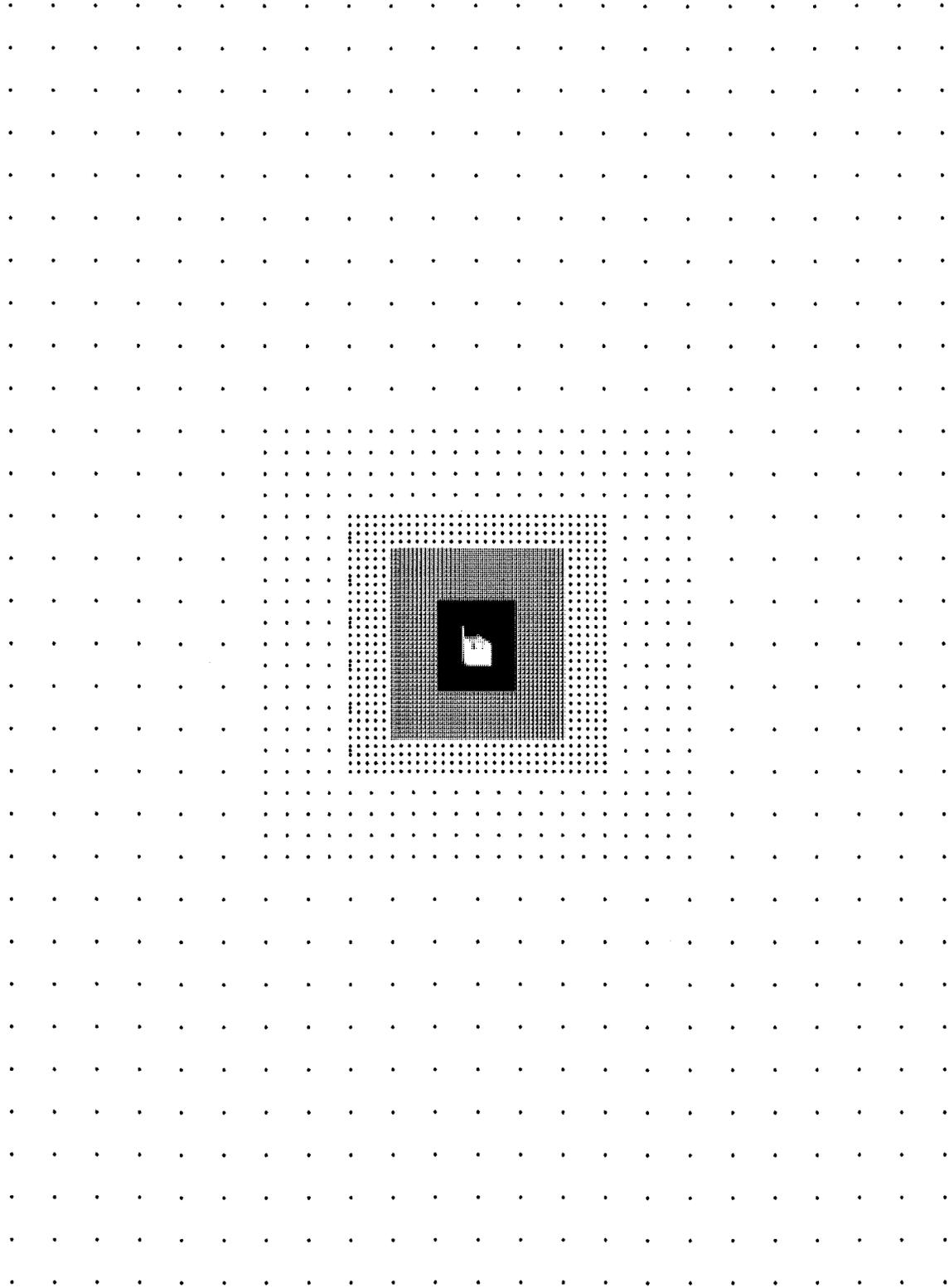
The purpose of this section is to describe quality assurance/control measures that were used for data and methods used in the air impact analyses. The air impact analyses were performed using EPA-developed air dispersion models. Input to the models was managed using a commercially-available interface program called BEEST. It is IFG's understanding that Idaho DEQ uses the BEEST program. The meteorological data was provided by Idaho DEQ for use in the modeling. All these programs combine to ensure that the calculations are made as accurately as possible.

The modeling input parameters were provided by the client and are as accurate as they are able to provide. The advent of the Google Earth satellite photo option virtually ensures that the plant layout used in the model is accurate. Calculations of emissions and other parameters were made using electronic spreadsheets to ensure accuracy and repeatability.

Appendix D

Dispersion Modeling Report

SIL Modeling Receptor Grid for NO2



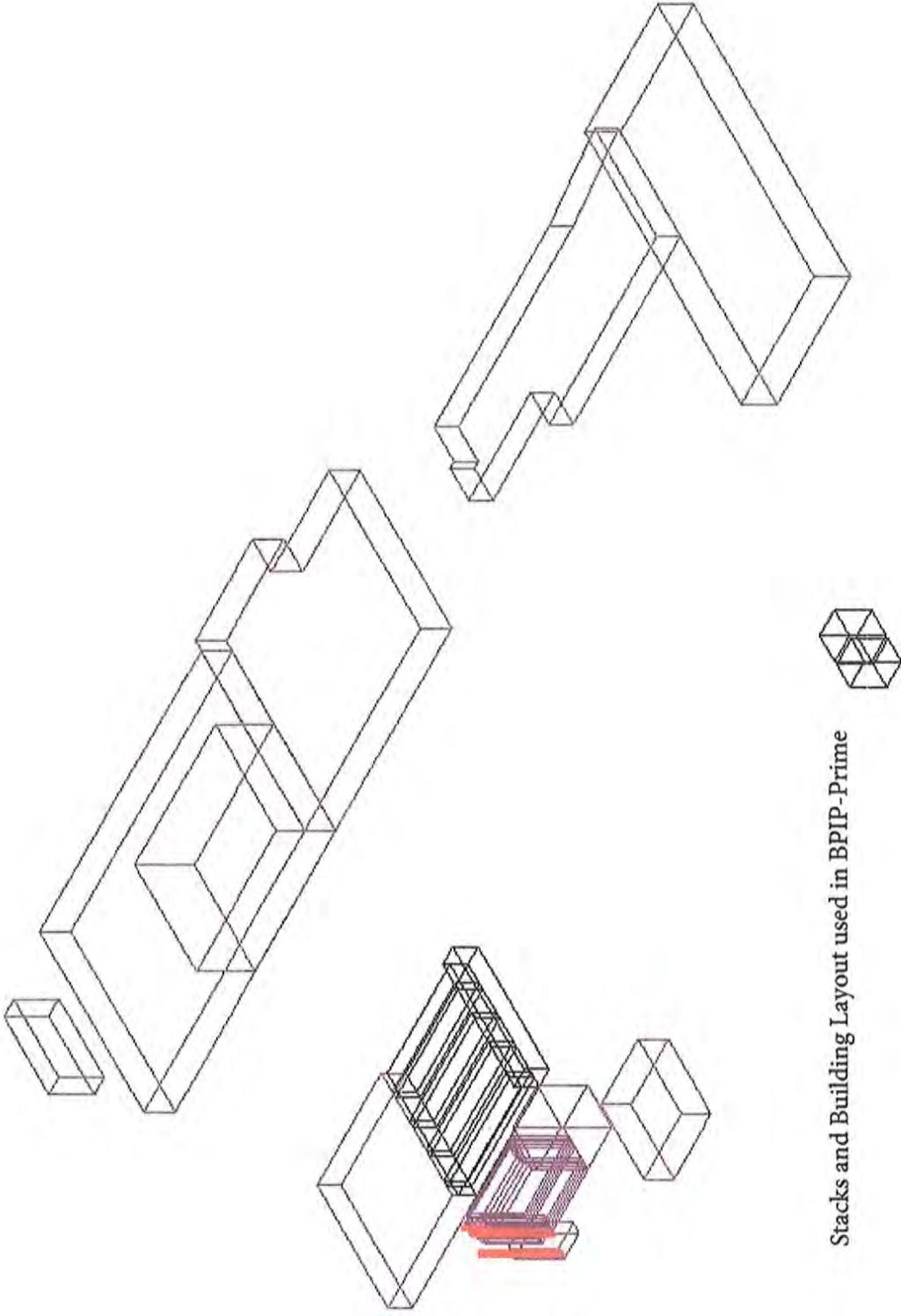
C:\Beework\Chilco\SIL Modeling\SILGAS_0416.BST

Scale: 1" = 3622.4 Meters



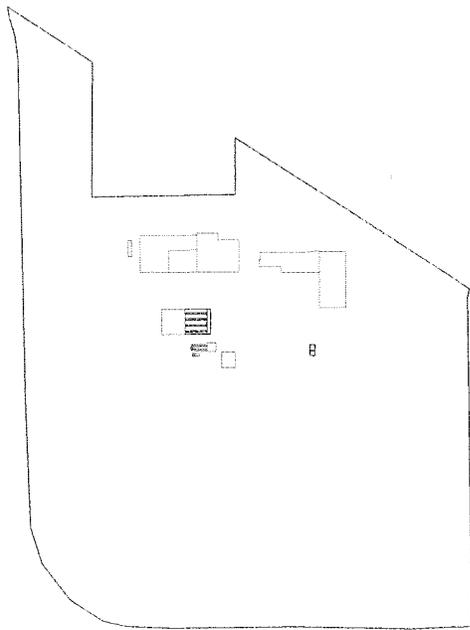
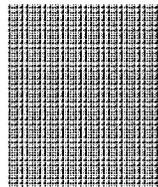
Google earth





Stacks and Building Layout used in BPiP-Prime

NO2 1-hour Hotspot Receptor Set



Chilco NO2 Annual Significant Impact Receptors

