Response to Public Comments on
Draft Title V Air Operating Permit
&
Draft Non-Title V Air Operating Permit

Stimson Lumber Company; Permits R10T5020200 and R10NT501001

July 1, 2021

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I. Introduction – Summary of the Public Participation Process

On April 21, 2021, the U.S. Environmental Protection Agency (EPA), Region 10 (Region 10) provided public notice of, and requested public comment on, Region 10's proposed action to revise and renew a Clean Air Act (CAA) Title V operating permit and revise a CAA non-Title V operating permit for the Stimson Lumber Company (Stimson or Permittee) facility in Plummer, Idaho (facility). The facility consists of a sawmill, lumber dry kilns, planer mill and steam-electric generating plant. The permits would authorize the Permittee to continue operating the facility in accordance with the terms and conditions of the permits.

Region 10 announced its proposed permit decisions and the public comment period, which included an opportunity for public hearing,[1] through public notices published on Region 10's website on April 20, 2021 (and continued to appear through May 21, 2021) and in the *St. Maries Gazette Record* on April 21, 2021.[2] Public notices were physically posted on notice boards throughout the cities of Plummer, St. Maries and Worley in city halls, libraries, post offices and tribal headquarters. Region 10 also distributed the public notices to the necessary parties via e-mail in accordance with 40 CFR parts 71 and 49.139, thus satisfying Title V and non-Title V permit issuance requirements, respectively.

All data submitted by the Permittee as part of the Title V permit renewal application through the date of the notice of public comment was made available for public review as part of the administrative record for the Title V and non-Title V permits. The administrative record also includes all information exchanged between the Permittee and Region 10 relating to the revision of the non-Title V permit initiated by Region 10. This administrative record, including the draft Title V and non-Title V permits, documentation of Region 10's analysis (a draft Title V Statement of Basis as provided in 40 CFR 71.11(b) and a draft non-Title V Technical Support Document as provided in 40 CFR 49.139(c)(3)), the application, and other supporting information was made available through the Region 10 public notice website.

II. Responses to Public Comments

The purpose of this document is to respond to significant issues raised in the public comments received during the public comment period and to explain what changes have been made in the final Title V permit and the final non-Title V permit as compared with the draft permits. All timely comments were fully considered, regardless of the method used to submit them.

This section presents all public comments received by Region 10 on our proposed permit decisions and provides our responses to the comments, including an explanation of what changes have been made, if any, in the final permits as a result of those comments. Comments were received from the Benewah County Board of Commissioners and Stimson.

A. Comments of the Benewah County Board of Commissioners

Comment: The Benewah County Board of Commissioners would like to pledge our full support to Stimson Lumber Company and their proposal to revise and renew a non-Title V operating permit and a Title V operating permit. Stimson Lumber Company is an environmentally responsible company who plays a large role in this community. They are a major employer in the

[1] No public hearing was scheduled due to a lack of public interest.
[2] Public notice was also published in the May 2021 edition of the Coeur d'Alene Tribe's *Council Fires*.

City of Plummer as well as the larger surrounding area. The board fully supports their proposed project and does not have any adverse comments or concerns. We respectfully request that the appropriate permits be approved.

Response: Region 10 appreciates the commenters support for the facility and is issuing the permits.

B. Comments of Stimson Lumber Company on the Draft Non-Title V Permit

Comment B.1: Condition 5.3. EPA changed this condition in response to Stimson's previous comments on a pre-draft of the permit but it was our suggestion to REPLACE the phrase "maintenance procedures" with the phrase "maintenance records." EPA, however, choose to ADD the phrase "review of operating and maintenance records" in addition to the language about procedures.

Response: Region 10 is finalizing the permit condition as proposed. Review of both operating and maintenance procedures and operating and maintenance records is appropriate for determining whether equipment is "maintained and operated in a manner consistent with good air pollution control practices for minimizing emissions at all times." Obviously, a company's operations and maintenance procedures may be an important factor in any such a determination. Moreover, the list is not an exclusive list—it is a list of examples of "available information" EPA may consider in such a determination. Even if these items are not included in the list, as Stimson requests, nothing would preclude EPA from considering Stimson's operating and maintenance procedures in making any such determination.

See also Region 10's April 19, 2021 response to comment 3 in Stimson's March 1, 2021 comments on the February 1, 2021 pre-draft permit Region 10 shared with Stimson, document 9hh in the administrative record supporting this permit action (Document 9hh). Document 9hh is appended to this response to comments.

Comment B.2: Table 5.1. In relation to appropriate oxidation states we here simply duplicate information from our technical consultant. It appears that there would be a minimal impact on calculated emissions either way.

"Since Chromium is a 6B transition metal, the possible oxidation states are +2, +3 and +6. Chromous oxide (CrO) is the oxide form of Cr+2. Cr+2 is formed when Cr+3 is reduced but Cr+2 is readily oxidized in the atmosphere.

"Selenium is a Group 6A metalloid in the same group as oxygen and sulfur with 4 p-orbital electrons. Although selenium can have an oxidation state of -2, +4 and +6, when combined with Oxygen, which is a strong oxidizer with a dominant oxidation state of -2, the oxide is selenium dioxide (SeO2). The term selenium oxide is slang for selenium dioxide or SeO3 or Se2O5; any references to SeO are inaccurate. For more information on selenium oxide, see The Merck Index. Although not exhaustive, for more information on the oxidation states of selenium, see https://www.britannica.com/science/selenium and https://nj.gov/health/eoh/rtkweb/documents/fs/1651.pdf.

For a quick and well laid out reference on oxidation states see https://chem.libretexts.org/Bookshelves/Inorganic_Chemistry/Modules_and_Websites_(Inorganic_Chemistry)/Descriptive_Chemistry/Elements_Organized_by_Block/3_d-Block_Elements/1b_Properties_of_Transition_Metals/Oxidation_States_of_Transition_Metals

Response: Stimson is not requesting any specific change to the permit. Region 10 is finalizing Table 5.1 and Appendix B of the permit and Appendices A and B of the Technical Support Document as proposed.

Information presented by Stimson does not demonstrate that it is more appropriate to assume chromium is emitted as CrO (Cr +2 oxidation state) as opposed to either Cr2O3 (Cr +3 oxidation state) or CrO3 (Cr +6 oxidation state). EPA expects that the most common oxidation states for chromium are either +3 or +6 based upon information presented in *Chemistry of the Elements*.[3] EPA's understanding of chromium oxidation states is documented in "Supporting information for: Emissions Inventory of PM2.5 Trace Elements across the United States"[4], and EPA's Speciate database[5] relies upon this work to help create particulate matter speciation profiles (that include metal oxides) for air pollution sources. The chromium compounds adjustment factor 1.46154 in Table 5-1 of the permit and the $1.14x10^{-4}$ lb/mmBtu chromium compounds emission factor in Appendix B of the permit are based upon a reasonable lowest-weight-oxide-per-unit-of-metal assumption that chromium is emitted as Cr2O3. See Appendices A and B of the Technical Support Document for the derivations. Had Region 10 assumed chromium compounds were emitted as CrO3 or a combination of Cr2O3 and CrO3, the estimated adjustment factor and emission factor would have been higher. Region 10 chose to assume all chromium is emitted as CrO3 (rather than Cr2O3) because we are not aware of a technical basis for assuming one is more likely to be emitted than the other. Given this uncertainty, when deriving a chromium compounds adjustment factor and emission factor based upon EPA Reference Method 26 source test results, Region 10 assumed that the measured chromium was emitted as the metal oxide in the form that generates a lower chromium compounds adjustment factor and emission factor.

Information presented by Stimson also does not demonstrate that it is more appropriate to assume selenium is emitted as SeO2 or SeO3 rather than SeO. Information presented in *Chemistry of the Elements* supported EPA listing SeO (Se +2 oxidation state) as an assumed oxide form of selenium along with SeO2 and SeO3 (Se +4 and +6 oxidation states, respectively) in the document entitled, "Supporting information for: Emissions Inventory of PM2.5 Trace Elements across the United States." EPA's Speciate database relies upon this work. The adjustment factor 1.20262 in Table 5-1 of the permit for selenium compounds is based upon a reasonable lowest-weight-oxide-per-unit-of-metal assumption that selenium is emitted as SeO. Region 10 chose to assume all selenium is emitted as SeO (rather than SeO2 or SeO3) because we are not aware of a technical basis for assuming one is more likely to be emitted than the

[3] Greenwood, N. N.; Earnshaw, A. Chemistry of the Elements; Oxford: Butterworth-Heinemann: Oxford, 1997.
[4] "Supporting information for: Emissions Inventory of PM2.5 Trace Elements across the United States." Adam Reff,* Prakash V. Bhave, Heather Simon, Thompson G. Pace, George A. Pouliot, J. David Mobley, and Marc Houyoux. Available on-line at https://pubs.acs.org/doi/suppl/10.1021/es802930x/suppl_file/es802930x_si_001.pdf
[5] EPA's Speciate Version 5.1 Database Development Documentation, June 2020. EPA/600/R-20/189. Available on-line at https://www.epa.gov/air-emissions-modeling/speciate-51-and-50-addendum-and-final-report

other. Given this uncertainty, when deriving a selenium compounds adjustment factor and emission factor based upon EPA Reference Method 26 source test results, Region 10 assumed that the measured selenium was emitted as the metal oxide in the form that generates a lower selenium compounds adjustment factor and emission factor.

As Stimson conceded in its comments and as Region 10 eluded to on page 8 of Document 9hh, assuming chromium is emitted as CrO rather than CrO3 and assuming selenium is emitted as either SeO2 or SeO3 rather than SeO (as Stimson seems to suggest is more appropriate) would result in a minimal impact on calculated emissions.

See also response to comment 5 in Document 9hh.

Comment B.3: Condition 5.7.2.2. See our comments focused on the FHISOR for Condition 5.8. below (Comment B.4). Similarly, Stimson recommends merely adding the phrase "or other approved source tests." to the end of Condition 5.7.2.2. This will provide provision for additional voluntary testing to be considered. This would address the incorporation of additional voluntary tests as they would need prior approval of the source test protocol by EPA under Conditions 3.22 and 3.23 of the Title V permit.

Response: Region 10 is finalizing the permit condition as proposed. Under the final permit, emission factors for the eleven organic HAP identified in Table 6-1 of the permit are required to be developed based upon two source tests of boiler EU-1. One source test must take place between July 1 and September 30, 2021, and the other between December 1, 2021 and March 31, 2022. The extent to which near complete combustion (of biomass fuel) is achieved is key to minimizing these organic HAP emissions. Boiler EU-1 was manufactured in 1951, installed at its current location in 1983, and has never been tested to measure its organic HAP emissions. Given the age of the boiler, EU-1 may not combust fuel as efficiently as a newer boiler. In 2020, Stimson installed a programmable logic controller (PLC) on boiler EU-1 to improve combustion, but Region 10 is not certain of the extent to which the full capability of the PLC is being utilized at this time.

Region 10 anticipates that Stimson would likely only conduct testing beyond that required by the permit if the results of the required tests were not satisfactory to Stimson (e.g., emission factors measured to be higher than expected, which would in turn constrain production). Emissions may be higher than expected for a multitude of reasons. Stimson's investigation into the root cause of the higher-than-expected emissions may result in change(s) to boiler operation. And if change(s) to boiler operation are carried out and a test plan submitted in hopes of mitigating the previous high test results, it may not be appropriate to combine new test data with previous test data without further EPA review to ensure the measures Stimson takes to reduce emissions are enforceable requirements under the permit. For the sake of illustration, boiler operating parameters that could be evaluated for change to help improve combustion and reduce organic HAP emissions include, but are not limited to minimum fire box temperature and/or oxygen content, minimum combustion air temperature, minimum/maximum combustion air flow rate and/or minimum/maximum proportion of underfire air to overfire air. Shifting fuel management practices to enable firing dryer fuel would help combustion. If adjustments are made prior to additional testing, Region 10 review of the adjustments may conclude that a permit revision is required to assure that the boiler continues to operate in the same manner as during the testing

that resulted in the lower emission factors. If after the conclusion of testing required by the permit Stimson would like to conduct additional organic HAP testing to update the emission factors, Region 10 advises Stimson to approach Region 10 at that time to discuss plans for submitting a permit revision request.

Comment B.4: Condition 5.8. Stimson has previously commented that mandating source tests during the wettest and/or coldest portion of the year without a seasonal counterbalance introduces a bias into the FHISOR calculations. EPA in response cites previous tests to maintain that there is no explicit evidence to this effect. Stimson, by contrast maintains that this is a simple matter of basic physics: the heat input needed to drive off additional moisture, as well as to further heat the fuel will produce a downward pressure on the FHISOR as a matter of simple math. Thus, the continued incorporation of the periodic source tests mandated, again, during the wettest and/or coldest portion of the year will inexorably pressure the FHISOR calculation to less efficient operation. While EPA's regression graph does not have a strong R2, the visual trend is clear.

Stimson recommends merely adding the phrase "or other approved source tests." to the end of this condition. This will provide provision for additional voluntary testing to be considered. This would address the incorporation of additional voluntary tests as they would need prior approval of the source test protocol by EPA under Conditions 3.22 and 3.23 of the Title V permit. See our additional comments on Title V draft Conditions 5.14 and 5.15 (Comment C.6).

Response: Region 10 is finalizing the permit condition as proposed. The final permit requires Stimson to conduct EPA Reference Method 2 (RM2) source testing of boiler EU-1, perform fuel sampling and analysis, and utilize the results to update FHISOR each time the Title V permit requires Stimson to conduct RM5 testing of boiler EU-1 to demonstrate compliance with the FARR grain loading standard. It is important to periodically check on and update the FHISOR for this aging boiler, and EPA is minimizing the cost of doing so by requiring RM2 testing and fuel sampling and analysis be conducted only when a source test company is already scheduled to be on-site for some other purpose. The FARR grain loading standard compliance demonstration must be conducted at a frequency between once every calendar year to once every four calendar years, depending upon the compliance margin observed in the most recent test results. Based upon the most recent test results, the current testing frequency is once every four calendar years. Consistent with EPA's stack testing guidance[6], testing is required to be conducted when demonstrating compliance is expected to be the most challenging. Achieving good combustion is expected to be the most challenging during the winter months (between December 1 and March 31) when the moisture content of the fuel is highest. Stimson shelters only a portion of its fuel from the weather.

Region 10 agrees with Stimson that wintertime FHISOR is likely to be higher than summertime FHISOR. Wintertime conditions and lack of shelter for the fuel results in wetter fuel, and the combustion of wetter fuel makes for less efficient steam production. More fuel (i.e., more heat input) is needed in the wintertime to produce a target amount of steam. The available test results to date (from October 2012, 2014 and 2018), however, do not illustrate a strong correlation

[6] April 27, 2009 EPA memorandum entitled, "Issuance of the Clean Air Act National Stack Testing Guidance" available online at https://www.epa.gov/compliance/clean-air-act-national-stack-testing-guidance.

between FHISOR and fuel moisture content, and Stimson has not shown otherwise. See response to comment 6 in Document 9hh.

Therefore, there is currently insufficient information on the degree to which environmental conditions influence FHISOR to justify including permit conditions to address the issue. If the two rounds of testing required by the non-Title V permit illustrates a strong correlation between FHISOR and fuel moisture content, or between FHISOR and some other environmental factor(s) (e.g., ambient temperature), then Stimson can request a revision to the non-Title V permit to conduct one summertime FHISOR test for each wintertime RM5 PM/FHISOR test. Alternatively, Stimson and Region 10 could consider revising the permit to create season-specific FHISOR. During the development of the draft permit, Region 10 suggested Stimson consider the idea. Stimson, however, did not express an interest in this approach.

Comment B.5: Condition 5.10. Stimson's previous comments cited the definition of "traditional fuels" found at 40 CFR 241.2 (which also includes the relevant definition of "Clean cellulosic biomass") and the process for determining that alternate fuel sources are not considered solid waste. Stimson prefers this broader approach but has previously recognized that some fuels will need prior approval.

Besides the restricted definition of biomass this draft of the permit does not appear to provide an avenue for seeking approval for other fuels as did Condition 5.4 of the previous draft. Please add this option back to the permit.

Note, also, the spelling of "resinated" rather than "resonated." This looks like an auto spell check issue and appears elsewhere in the permit.

Response: In response to this comment, Region 10 is revising this permit condition as follows:

> *5.10 The Permittee is prohibited from combusting in boiler EU-1 any fuel other than ~~biomass. Biomass means any biomass-based solid fuel that includes only~~ resi~~o~~nated and non-resi~~o~~nated wood residue and wood products (e.g., trees, tree stumps, tree limbs, bark, lumber, sawdust, sander dust, chips, scraps, slabs, millings, and shavings); logging residues (slash); and agricultural-derived biomass (i.e., crop residue) such as wheat chaff.*

The proposed permit already allowed Stimson to combust all types of wood residue and wood products, both resinated and non-resinated, in boiler EU-1. The change from the draft to the final permit allows Stimson to combust all types of crop residue in the boiler without seeking prior authorization. Wood and crop residues are forms of biomass. Region 10 anticipates that the emission factors for combustion in a boiler for the two categories of biomass will generally be similar. Thus, Region 10 is not finalizing a case-by-case review and approval requirement for the combustion of crop residues. To assure the overall representativeness of the emission factors specified in the permit (those specified in the appendices and those derived through testing required by the permit), new Condition 5.11 limits the amount of agricultural-derived biomass Stimson can combust. Condition 5.11 and associated monitoring in Conditions 7.5 and 7.6 and reporting in Condition 8.5 are as follows:

5.11 *The monthly mass of agricultural-derived biomass combusted in boiler EU-1 shall not constitute more than 1% of the monthly total mass of fuel combusted in boiler EU-1. Compliance is determined by dividing the monthly mass of agricultural-derived biomass combusted in boiler EU-1 by the monthly total mass of fuel combusted in boiler EU-1 and multiplying the quotient by 100. The mass of fuel combusted shall be determined in accordance with Condition 7.5.*

7.5 ~~*No later than the sixth calendar month after the month in which the permit becomes effective, the Permittee shall develop and implement a plan to document the biomass (other than bark and wood residue arriving in the form of logs to be manufactured into lumber) received at the facility to be combusted in boiler EU-1. The plan shall be updated as necessary and shall include the following, at a minimum:*~~

~~*7.5.1. Inspection of all boiler EU-1 biomass fuel truckloads received at the mill;*~~

~~*7.5.2. The form that the employees fill out to document the inspection of each biomass fuel truckload. The information on the form shall include, but not be limited to, date of truckload arrival, date of inspection, whether the biomass fuel was accepted or rejected, fuel supplier, description of fuel(s) (e.g., planer shavings), estimated moisture content of each fuel, estimated quantity of each fuel;*~~

~~*7.5.3. Recordkeeping procedures for the completed forms.*~~*No later than the sixth calendar month after the month in which the permit becomes effective, the Permittee shall develop and implement a plan for determining monthly the mass of fuel combusted in boiler EU-1 for the following two categories: (1) wood residue, wood products and logging residues, and (2) agricultural-derived biomass. The plan shall be updated as necessary and shall include the following, at a minimum:*

7.5.1. Methodology and associated assumptions for calculating monthly the mass of fuel combusted for each of the two categories;

7.5.2. Monitoring necessary to implement the methodology; and

7.5.3. Recordkeeping procedures.

7.6 *At the end of each month, for the* ~~*volume of biomass*~~ *fuel combusted in boiler EU-1 during that month, the Permittee shall estimate and record (a) beginning the month immediately following the month in which the plan required in Condition 7.5 is first implemented, the percentage of monthly total mass of fuel combusted in boiler EU-1 consisting of agricultural-derived biomass,* ~~*the percentage of the biomass fuel that was hogged bark, (b) the percentage of the biomass fuel that was wood residue, (c) the percentage of the biomass fuel that was biomass other than hogged bark*~~

~~or wood residue,~~ (~~d~~b) the volume of ~~biomass~~ fuel fired (wet basis) while not generating steam (ft3/event, ft3/month), and (~~e~~c) the basis for the estimations.

8.5 The boiler EU-1 O&M plan required pursuant to Condition 5.13, boiler EU-1 fuel ~~received inspection~~ monitoring plan required pursuant to Condition 7.5, kilns EU-2…

Monitoring Conditions 7.5 and 7.6 require Stimson to track the percentage (by mass) of monthly total fuel combusted in boiler EU-1 consisting of agricultural-derived biomass. Because the new monitoring conditions assure limited combustion of agricultural-derived biomass, it is no longer necessary to require Stimson to track the fuel received from off-site.

Comment B.6: Condition 5.15. In response to Stimson comments EPA has proposed to reduce the kiln temperature "adder" to five degrees above setpoint. EPA justifies this approach on two major premises: (1) kiln temperatures occasionally spike above the setpoint and (2) the graphical interface provides only instantaneous readings and not hourly averages. Stimson would like to clarify these issues and note changes in our tracking capability:

(1) The kiln operation graphs that EPA has previously reviewed include a broader track of temperatures that are not representative of the lumber enter air. Stimson's kilns do operate with an enter air setpoint but this was not displayed on the graphical interface. It can potentially be added but we are also now generating data that provide a record of the enter air temperatures. Though we have limited initial records (one week), they indicate that the hourly average enter air is generally ±1°F – we have one example of a differential of 1.8 °F. Here are the results of the first week of such monitoring:

Kiln	Max Hourly - Run 1	Max Hourly – Run 2
1	201.8 °F	200.3 °F
2	201.7 °F	200.4 °F
3	200.9 °F	Not yet available
4	199.1 °F	199.6°F

(2) Note that these are maximums and the ongoing hourly averages are even closer to the setpoint. The maximum hourly average differential in all cases is less than 1% from the setpoint.

(3) Our kiln software had the capability to generate tab delineated data if additional files were added and options were set. Stimson was previously unaware of this but has now enabled this at the facility. As noted above, the initial results indicate that the enter air is always quite close to the setpoint. This data does present some challenges to analysis as the kiln computer is isolated from Stimson's broader computer network for security reasons and the tab delineated files take some work to convert to something usable in a SQL database. Nevertheless, we expect to be able to access this data going forward.

Given these developments, Stimson considers the requirement to add five degrees to the kiln setpoint unnecessary and suggests simply using the setpoint.

Response: In response to this comment and the new information submitted by Stimson, Region 10 is finalizing the permit condition by modestly reducing the "adder" (as referred to by Stimson) from 5°F to 4°F as follows:

> ~~*5.15*~~*5.16* *Monthly kilns EU-2 HAP emissions…*
>
> - *"$EF_{X,species\ i}$" is determined pursuant to Appendix G to this permit. Add ~~5~~4°F to the monthly maximum set point temperature…*
>
> *Appendix G*
>
> *The species-specific lumber drying EF… plus ~~5~~4°F. The EF is calculated... temperature + ~~5~~4 for "x"…calculated as follows: (0.00465×~~200~~199) – 0.73360 = ~~0.1964~~ 0.1918 lb/mbf.*

In establishing this condition in the proposed permit, Region 10 considered requiring Stimson to calculate one-hour average "entering air" temperatures based upon actual measurements and use the maximum to calculate formaldehyde and methanol emission factors. Region 10 is not requiring this, however, because Stimson does not currently have an automated system in place to calculate one-hour average "entering air" temperatures. Region 10 also considered eliminating the 5°F "adder" (the term used by Stimson) as requested by Stimson in its comments on the proposed permit, but has determined there is currently insufficient data to support Stimson's request. Stimson presented monitoring data from just seven kiln charges to support its request to use the set point temperature without adjustment to calculate emission factors. In addition, the data Stimson provided shows one-hour average temperatures above the set point for five out of seven charges. The data presented therefore does not support Stimson's request that the "adder" be eliminated. EPA has reduced, however, the "adder" from 5°F to 4°F based on the data provided in Stimson's comment. 4°F is approximately two times the 1.8°F maximum temperature differential (between set point and one-hour average kiln-wide "entering air" temperature) observed over seven May 2021 charges (information provided during public comment period) in which Stimson was isolating "entering air" temperature measurements and manually calculating one-hour average values.

To the extent Stimson is able to acquire additional data based on its newly discovered monitoring capabilities to justify a revision to this monitoring requirement in the future, Stimson is welcome to approach Region 10 about revising the permit based upon temperature monitoring developments.

Comment B.7: Condition 6.2.8. Stimson maintains our previously stated position on the treatment of "non-detects" but recognizes that EPA disagrees and we are unlikely to make further compromise on this condition.

Response: Region 10 is finalizing the permit condition as proposed.

Stimson's March 1, 2021 position on Condition 6.2.8 (as presented in pre-draft permit at the time):

> *Stimson continues to find the assumption of the presence of an analyte when it was not actually detected to be problematic. While we recognize the thinking behind EPA's position, it is based upon pure assumptions. We would propose an approach that, while not completely dispensing with such assumptions, does not assume so much when nothing is actually detected:*

Analytic Results	*EPA Proposal*	*Stimson Proposal*
Analyte detected in all samples	*Use respective detected values for all samples*	*Use respective detected values for all samples*
Analyte not detected in any sample	*Assign presence in all samples at ½ the detection limit*	*Assign zero value in all samples (not present)*
Analyte detected in one or more samples	*"non-detect" samples assigned value equal to detection limit*	*"non-detect" samples assigned value of ½ detection limit*

A source test run is a one or two-hour "snapshot" of boiler emissions. Stimson is required to conduct six runs, and the resultant average emission factor will be used to calculate 12-month rolling emissions. No further testing is required to measure HAP emissions. EPA's AP-42 and NCASI technical bulletins document emission factors for 88 HAP based upon source testing of emission units similar to boiler EU-1. Stimson is required to test only for the highest-emitting 17 of these 88 HAP, which constitute 95% of expected boiler EU-1 emissions. Facility-wide emissions are limited to 9 and 24 tons per year, individual and combined HAP limits respectively. Given rounding conventions, these limits in practice are 9.5 and 24.5 ton-per-year limits. That's 95 and 98 percent of the 10 and 25 ton-per-year major source thresholds, respectively. Boiler EU-1 and kilns EU-2 HAP emissions constitute nearly 100% of the facility's HAP emissions. The permit does not require additional monitoring or testing of the units as actual emissions approach the limits. Given EPA's AP-42 and NCASI technical bulletins, Region 10 assumes all 17 analytes are present in boiler EU-1 emissions. If an analyte is not detected during a particular test run – a snapshot in time – the permit requires the analyte be assumed present at the method detection limit (MDL) if detected in at least one other run, and if the analyte is not detected in any of the other runs then the permit requires the analyte be assumed present at one-half the MDL. For the metal HAP for which testing is required, whether an analyte is detected for a particular run could be influenced by Stimson's selection of analytical technique and sampling duration. For example, a longer sampling period, which is authorized under the required test method, results in a lower MDL.

As discussed in the TSD for the non-Title V permit, the approach in Condition 6.2.8 for addressing source test data less than the test MDL is less stringent than EPA Boiler MACT regulations at 40 CFR 63.7520(f), which requires that all measurement results below the MDL be assumed equal to the method detection limit. Boiler MACT source testing is conducted to demonstrate compliance, on an emission-unit-by-emission-unit basis, with CO, PM (or total select metals), HCl and Hg emission limits reflecting application of MACT.

We acknowledge that Condition 6.2.8 is more stringent than Appendix B (Procedures for Handling Test Data That are Below the Method Detection Limits) to EPA's Draft Final August 2013 "Recommended Procedures for Development of Emission Factors and Use of the WebFIRE Database," EPA-453/D-13-001. WebFIRE is an online data storage and emission factor retrieval and development tool for the intended use of supporting national and regional emissions inventory programs. The referenced document recommends (1) no emission factor be assigned when all measurements are below the MDL, and (2) measurements below the MDL be

assigned a value of one-half the MDL when at least one other run measures the pollutant at a concentration above the MDL. Given that the testing and use of method detection limits in this permit is to determine compliance with an emission limit, Region 10 believes a more rigorous approach to the use of method detection limits is appropriate than that proposed by Stimson and used in WebFire.

Comment B.8: Condition 7.5. The new condition requires logging of biomass fuels to document that fuels other than resinated and non-resinated wood residuals make up a small percentage of biomass burned. The amount of fuel combusted is evaluated monthly. Simply tracking the biomass "other than bark and wood residue" would provide evidence of less than or equal to 1 percent of "other than bark and wood residue" in the processed fuel rather than having to inspect and document all fuel truckloads of biomass including bark and wood residue. See also our comments on Condition 5.10 (Comment B.5).

Response: In response to this comment and Comment B.5, Region 10 has revised the monitoring required in Condition 7.5. See response to Comment B.5. As revised, this condition no longer requires the permittee to inspect and document all fuel truckloads of biomass including bark and wood residue, but instead requires monthly tracking of boiler EU-1 fuel by one of two broad categories.

Comment B.9: Condition 7.7.1. We continue to support a longer boiler averaging time in keeping with the recognition in the boiler NESHAP (MACT) that the values derived from one hour test runs are not fully determinative of compliance. The equivalent standards in the MACT are 30-day rolling averages. However, we recognize that further movement on this from EPA Region 10 is unlikely.

Response: Region 10 is finalizing Condition 7.8.1 (erroneously referred to as Condition 7.7.1) as proposed. Stimson is requesting in this comment that the averaging time for the four boiler and scrubber parameter threshold values assuring the representativeness of boiler EU-1 emission factors be 30-day rolling averages, rather than one-hour averages, as required in this permit condition. As an initial matter, Stimson's comment does not make an apt comparison. The 30-day rolling Boiler MACT averaging times are for operating limits. Operation outside a limit constitutes non-compliance. In contrast, the permit's one-hour averaging times are for indicator threshold values that trigger the Permittee to take any necessary corrective actions to restore normal operation and prevent the likely recurrence of the cause of operating with an indicator out of range. Operating outside the indicator range does not in and of itself constitute non-compliance and does not constitute a deviation. Failure to take appropriate action in response to operating outside the indicator range does constitute non-compliance. Operating outside an indicator range for an hour is a sufficient duration to recognize that some aspect of boiler or scrubber operation may require attention to maintain the representativeness of the emission factors, and thus ensure compliance with the emission limit. Investigation will determine what (if any) corrective action is warranted. Stimson did not support its comment with specific examples illustrating how operating outside an indicator range for one hour was not of sufficient duration to identify a potential problem.

As EPA explained in response to Stimson's March 1, 2021 comments on the pre-draft non-Title V permit, it is appropriate to align the indicator averaging times with the test run duration over which the operating data was gathered to set the indicator threshold. The permit provides Stimson six opportunities (in the form of six test runs (three in the winter and three in the summer) to determine the indicator ranges that will apply under all operating conditions except

startup and shutdown. This provides Stimson a good amount of flexibility in setting the parameter ranges. For example, Stimson can focus one run on operating the boiler at a normal one-hour low exhaust gas oxygen content to set the minimum threshold value for that indicator. Stimson could operate the boiler for one run at an oxygen content of 4.5% while the other five runs reflect normal but higher oxygen contents between 7 and 12%. The resultant emission factor is a six-run average, but corrective action (with respect to oxygen) would be triggered only if the one-hour average oxygen content is less than 4.5. The minimum oxygen content to assure the representativeness of the emissions factors specified in the permit would be 4.5%, yet the oxygen content observed during five of six runs would be well above 4.5%. As illustrated through this example, Condition 7.8.1 provides Stimson the opportunity to shape indicator ranges to some extent by choosing the operating conditions under which it conducts source testing. Stimson can use this opportunity to provide itself sufficient operational flexibility while setting indicator ranges that assure the representativeness of the emission factors.

Stimson did not present any new information or explanation in its comments on the proposed permit to counter EPA's response to Stimson's March 1, 2021 comments on the pre-draft permit. See response to comment 19 in Document 9hh.

Comment B.10: Condition 8.3.2. We note that the emissions numbers calculated under Conditions 8.3.2.1 and 8.3.2.2 are done on a monthly basis. It is unclear how 24 hour reporting would be implemented in these cases.

Response: Region 10 is finalizing the permit condition as proposed. By the tenth of each month, the Permittee is required to calculate and record facility-wide 12-month rolling HAP emissions pursuant to Conditions 5.1 and 5.2. To the extent the calculation shows facility-wide HAP emissions greater than 9 and/or 24 tpy, Stimson is required to report the deviation(s) pursuant to Conditions 8.3.2.1 and 8.3.2.2 within 24 hours of performing the calculation.

C. Comments of Stimson Lumber Company on the Draft Title V Permit

Comment C.1: Condition 3.28. This condition as written would require an entire new test if post-field processing (e.g. QC, lab practices) rendered a test run invalid. Although losing a test run is rare, it is inconsistent with past compliance demonstrations (e.g. MACT database) to invalidate the entire test due to an invalid test run.

Response: Region 10 is finalizing the permit condition as proposed. Condition 3.28 is a general testing requirement that states, "Each source test shall follow the reference test methods specified by this permit and consist of at least three (3) valid test runs." The requirement applies whenever Stimson conducts a performance test required by the Title V permit unless specifically stated otherwise in the permit. See Condition 3.22 for reference to the unit-specific exception.

The only testing required under the Title V permit is in Section 5. Section 5 requires testing of boiler EU-1 for various pollutants at different frequencies for different reasons. Section 5, however, does not specify a requirement different from Condition 3.28's requirement that each source test consist of at least three valid test runs. Therefore, Condition 3.28 applies to all source testing required of boiler EU-1.

If post-field processing (e.g. QC, lab practices) renders a boiler EU-1 test run invalid, Region 10 may in practice either (a) require Stimson to conduct another run to replace an invalid one, or (b) accept a test result supported by less than three valid runs. Whereas HAP emission factor and response factor testing is required just twice (Condition 5.13), RM5 PM and follow-up FHISOR

testing is required every one to four years (Conditions 5.11, 5.15 and 5.16). No further HAP testing of boiler EU-1 is required beyond the two rounds required in Condition 5.13. Given the relative significance of boiler EU-1 HAP emission factors to the facility's ability to manage compliance with the facility-wide HAP limits that make the Boiler MACT inapplicable, Region 10 would likely require Stimson to conduct another run if one run was determined to be invalid. This approach is consistent with NESHAP general performance testing requirements in 40 CFR 63.7(e) (note, however, that those requirements are not applicable to the testing required in Section 5).

Comment C.2: Condition 3.43.5 (and 3.46.2). The condition stipulates that the annual emissions report and fee calculation worksheet must be submitted in accordance with Condition 3.40 which is CDX/CEDRI, but the annual emission report is submitted utilizing EPA's CDX/FORS portal.

Response: In response to this comment, Region 10 is finalizing Condition 3.44 (erroneously referred to as Condition 3.43.5) as proposed, but is revising Conditions 3.46.2 and 4.20 as follows:

> *3.46.2. ~~The annual registration report shall be submitted with the annual emission report and fee calculation worksheet required by Conditions 3.41 and 3.42 of this permit. The Permittee may submit a single combined report provided that the combined report clearly identifies which emissions are the basis for the annual registration report, the part 71 annual emission report, and the part 71 fee calculation worksheet. All registration information and reports shall be submitted on forms provided by the Regional Administrator.~~*
>
> *The annual registration report shall be submitted to the EPA electronically through EPA's FARR Online Reporting System (FORS). FORS can be accessed through EPA's CDX at https://cdx.epa.gov/. A copy of each document submitted to EPA that does not contain CBI shall be sent to the Tribal address specified in Condition 3.40. CBI may not be submitted through CDX and must be submitted on CD or flash drive and mailed to:*
>
> *FARR Registration Coordinator*
> *U.S. EPA – Region 10, 15-H13*
> *1200 Sixth Avenue, Suite 155*
> *Seattle, WA 98101*
>
> *[40 CFR 49.138(d) and (f) and 40 CFR 71.6(c)(1)]*
>
> *4.20~~4.22~~ Once each year, on or before April 1, the Permittee shall~~, along with the annual registration required in Condition 3.46,~~ submit to EPA a report containing the 12 monthly rolling 12-month emissions calculations, calculated and recorded pursuant to Condition 4.15~~4.17~~, for the previous calendar year. The report shall contain a description of all emissions estimating methods used, including EF and their sources, assumptions made and production data.*
>
> *[Permit No. R10NT501001]*

Condition 3.44 requires the part 71 annual emission report and fee calculation worksheet be submitted utilizing EPA's CDX/CEDRI. Although former Condition 3.46.2 reflects current underlying rule language in the FARR from 2005, EPA has more recently requested the annual FARR registration be submitted through FORS. Therefore, revised Condition 3.46.2 requires the

permittee to submit the annual FARR registration through FORS, as the permittee has done for the past several years. Annual HAP emissions reporting shall be submitted through CEDRI pursuant to Conditions 3.40 and 4.20.

Comment C.3: Condition 4.5. In light of the fact that the facility is prohibited from using the used oil burner (Condition 5.21) we suggest deleting the reference to the used oil tank. It is possible to continue use of this tank for the purposes of collection for off-site recycling.

Response: In response to this comment, Region 10 is deleting draft Conditions 4.3 (40 CFR 49.130(d)(4) and (e)(1)) and 4.5 (40 CFR 49.130(f)(1)(i)) from the permit. As noted by Stimson, with the issuance of this permit, the permittee is no longer authorized to combust a liquid fuel in a stationary source. Thus, draft Conditions 4.3 and 4.5 will no longer be applicable requirements.

Comment C.4: Condition 5.3. See earlier comments on draft non-Title V permit Condition 5.10 (Comment B.5.)

Response: See response to Comment B.5 with respect to requirements originating in the underlying non-Title V permit. To address the PM emissions resulting from the combustion of agricultural-derived biomass in boiler EU-1, Condition 5.1 is being finalized as follows:

> *5.1. FARR Particulate Matter Limits. Particulate matter emissions from the boiler stack shall not exceed either of the limits in Conditions 5.1.1 and 5.1.2. Compliance with the particulate matter limits is determined using EPA Reference Method 5 (see 40 CFR part 60, Appendix A).*
> *[40 CFR 49.125~~(d)(2) and~~ (e)]*
>
> *5.1.1. An average of 0.23 grams per dry standard cubic meter (0.1 grains per dry standard cubic foot), corrected to seven percent oxygen, during any three-hour period when boiler EU-1 is combusting agricultural-derived biomass alone or in combination with wood; and [40 CFR 49.125(d)(1)]*
>
> *5.1.2. ~~a~~An average of 0.46 grams per dry standard cubic meter (0.2 grains per dry standard cubic foot), corrected to seven percent oxygen, during any three-hour period when boiler EU-1 is exclusively combusting wood. [40 CFR 49.125(d)(2)]*

Different particulate emission rates apply under the FARR depending on the fuel burned.

To address the SO2 emissions resulting from the combustion of agricultural-derived biomass in boiler EU-1, Condition 4.3 is revised as follows:

> *4.3 The Permittee shall keep records showing that only wood or agricultural-derived biomass is combusted in the boiler. [40 CFR 49.130(f)(1)(iii)]*

Comment C.5: Condition 5.10. After the initial HAPs tests this condition would only add source tests done during the worst case conditions mandated in Conditions 5.14 and 5.15, once again biasing the FHISOR to less efficient operation. At the very least the FHISOR calculations should incorporate all approved tests and the permit should provide an avenue for approval of voluntary testing, opening the possibility for Stimson to conduct additional testing to counterbalance the worst case envisioned in the draft. See also our comments on draft Conditions 5.14 and 5.15 (Comment C.6) and non-Title V draft Conditions 5.7 and 5.8 (Comments B.3 and B.4).

Response: See response to Comment B.4.

Comment C.6: Conditions 5.14 and 5.15. EPA has answered previous comments expressing concern with the continued worse case testing by maintaining that there is insufficient information to indicate that this is truly a concern. EPA further states that Stimson can petition for a change if a strong correlation becomes evident. As we point out in our comments to the Non-Title V draft (Condition 5.8), it is a matter of simple physics (Comment B.4).

However, rather than propose further alternate scenarios, Stimson would propose merely to add the option for additional testing if Stimson chooses to do so as noted in our comments on non-Title V draft Condition 5.8. While we believe the option of added testing always exists the permit provisions that refer only to "required" testing would seem to preclude their inclusion in FHISOR, and emission factor calculations.

Response: See response to Comment B.4.

Comment C.7: Condition 5.21.1. We note EPA's response to our previous comments here but there remains an issue in light of the ranges mandated in Condition 5.20.1 How would these ranges be applied after the second test mandated in Condition 5.20.1? These ranges may be applicable prior to the ranges adopted in Condition 5.20.1 but would appear obsolete after that.

Response: In response to this comment, Region 10 is revising this permit condition to automatically update (if certain conditions are met) the CAM excursion thresholds as provided for in 40 CFR 64.6(c)(2) as follows:

> ~~*5.21.1*~~*.5.22.1 An excursion is defined as any one-hour average scrubber pressure drop less than 3.0 inches of water, any one-hour average scrubber water flow rate less than 30 gallons per minute or any scrubber stack opacity greaterthan 10%. [40 CFR 64.1 and 64.6(c)(2)]*
>
> *5.22.2. If the Permittee conducts EPA Reference Methods 5 and 9 testing to determine PM emissions (gr/dscf at 7% O2) and visible emissions (% opacity) during both tests required to be conducted in Condition 5.13, and if PM emissions do not exceed 0.2 gr/dscf at 7% O2 for all runs, and if visible emissions do not exceed 20% opacity for all runs, then an excursion is defined as follows:*
>
> *5.22.2.1. Any one-hour block average pressure drop across the scrubber less than the threshold established in Condition 5.21.1.2;*
>
> *5.22.2.2. Any one-hour block average water flow to the scrubber less than the threshold established in Condition 5.21.1.3; and*
>
> *5.22.2.3 Any scrubber stack opacity greater than 10%.*
>
> *[40 CFR 64.1 and 64.6(c)(2)]*

The Title V permit must continue to contain monitoring to assure compliance with the FARR grain loading and opacity limits irrespective of the outcome of HAP testing and indicator monitoring to assure the representativeness of the HAP emission factors. If RM5 and RM9 testing is performed concurrent with summertime and wintertime HAP testing required in Condition 5.13, then an opportunity exists to align some of the indicator thresholds under Condition 5.21.1.2 and 5.21.1.3 with CAM excursion thresholds under Condition 5.22. If

concurrent testing as noted above is performed, and if RM5 and RM9 test results show compliance with the FARR grain loading and opacity limits for each run, then indicator monitoring thresholds under Condition 5.21 and CAM excursion levels under Condition 5.22 would be the same for (1) pressure drop across the scrubber and (2) water flow to the scrubber.

Visible emissions is not an indicator of HAP emission factor representativeness, but it is a CAM parameter for FARR grain loading and opacity limits. Visible emissions were approximately 0% opacity and PM was less than one-quarter of the 0.2 gr/dscf @7% O2 limit during 2012 testing to establish the excursion levels in Condition 5.22.1. Given the compliance margins observed, a 10% opacity excursion level was set for visible emissions. Because Region 10 anticipates that PM and visible emissions during upcoming HAP testing will be similar to the levels measured during 2012 testing, Region 10 is not changing the 10% opacity excursion level. If PM and/or visible emissions during upcoming HAP testing are not as anticipated, then Region 10 will consider reopening the permit to set a new excursion level for visible emisisons that assures compliance with the FARR grain loading and opacity limits.

Comment C.8: Condition 5.29.3. For clarity with the multiple applicable regulations, please add the full reference – "40 CFR" in front of 64.8 in the condition.

Response: Region 10 is revising the permit condition as requested by the commenter.

Comment C.9: Condition 5.30. Stimson believes that default reporting of every hourly average (c) during the period outside of an indicator range is excessive. Previously we have simply reported the duration of such events. Of course, the information will be available to EPA upon request.

Response: Region 10 is finalizing the permit condition as proposed. Reporting all one-hour average values recorded during out-of-range periods will provide Region 10 the magnitude of each indicator out-of-range occurrence. Boiler EU-1 oxygen content of 5% less than the minimum threshold value is different than oxygen content 0.5% less than the threshold. This information will enable Region 10 to make a more informed judgement as to whether the emisson factors specified in the permit remain representative of boiler EU-1 emissions during out-of-range periods.

Comment C.10: Condition 6.6. See our comments and proposal under the non-Title V Condition 5.15 (Comment B.6).

Response: See response to Comment B.6.

Appendix - April 19, 2021 EPA Region 10 Document 9hh from Administrative Record Supporting Permit Action

Text of pre-draft permit, technical support document (TSD) and regulations is in red italics.
EPA Region 10 responses to Stimson comments are in red bold.

STIMSON LUMBER COMPANY
Environmental Management
520 SW Yamhill, Suite 700
Portland, Oregon 97204
(503) 306-4655

1 March 2021

Mr. Dan Meyer
Air Permit Writer
Air Permits and Toxics Branch, Air and Radiation Division,
U.S. EPA Region 10
1200 Sixth Avenue, Suite 155, Mailcode 15-H13
Seattle, WA 98101-3188

RE: Comments on Pre-Draft Air Permits

Dear Mr. Meyer:

Stimson Lumber Company (SLC) thanks EPA for this opportunity to review and comment on the 2/1/2021 pre-draft Title V and non-Title V permits for Our Plummer facility. SLC is appreciative of the significant progress with EPA on issues identified in the previous non-Title V pre-draft.

Stimson's comments start with continued comments on the non-Title V permit. Comments on this permit pertain, also, to the provisions incorporated into the Title V permit. In contrast to our previous comments, we have organized these simply in order of the conditions.

Stimson Comments on the Non-Title V Pre-Draft (R10NT501001)

1. Non-Title V Pre-Draft Permit Table 3.1
We note that the Title V renewal application listed a potential throughput of 130 mmbf for the sawmill and kilns, but 109.2 for the sawmill. However, the application cover letter listed 130 for the planer and kilns and only 109.2 for the sawmill. The pre-draft adopts the numbers from the cover letter and this appears to be correct.

R10 02/01/21 Non-Title V Pre-Draft Permit Table 3-1

Table 3-1: Emission Units and Control Devices

EU #	*Emission Unit Description*	*HAP Control Devices**
EU-2	*Lumber Drying Kilns: Four, batch-type, indirect steam-heated, dual-track kilns; combined annual capacity 130 mmbf.*	*None*
*EU-3***	*Sawmill: Includes log bucking and debarking, hog, bark conveying, log sawing, sawdust conveying, chipper, chip conveying and loading, unloading and storage of materials in sawdust and chip truck bins; annual capacity 109.2 mmbf of logs, or 393,000 dry tons of logs*	*None*

EU #	*Emission Unit Description*	*HAP Control Devices**
*EU-4***	*Planer Mill; includes planer shavings cyclone and the planer chipper cyclone; annual capacity 130 mmbf*	*None*

Response: Stimson is not requesting any changes to the pre-draft non-Title V permit or TSD in this comment. Therefore, R10 is not making any changes in response to this comment.

2. Non-Title V Pre-Draft Permit Condition 4.5

Stimson continues to be concerned about the inflexibility inherent in this condition. The question is whether temporary monitoring measures required due to unforeseen emergency events (e.g., failure or malfunction of monitoring equipment) would be disallowed due to the need for a permit modification. We would recommend language that allows temporary alternatives with EPA approval. Note that our previous comments on this condition still apply.

Stimson 10/07/20 Comment

This condition states that "Alternatives to the testing, monitoring, recordkeeping, and reporting required by this permit may be established through the issuance or renewal of a Title V operating permit issued by EPA to the permittee under 40 CFR part 71, or through a significant modification thereto…" This is unwieldy and is in conflict with 40 CFR 71.7(e) which stipulates when an EPA permit must be modified and Condition 8.1.7 that states that source test plans are supposed to include any "specifically requesting approval for any proposed alternatives to the reference test methods." The approach of a specific request to EPA for alternative testing, monitoring, and record-keeping would be appropriate for temporary or one-time requests. For instance, if monitoring equipment is temporary unavailable (e.g., malfunction) and an alternative is needed until normal function is restored. Having to modify the permit for such instances is unrealistic.

R10 02/01/21 Non-Title V Pre-Draft Permit Condition

4.5. Alternatives to Testing, Monitoring, Recordkeeping and Reporting Requirements. Alternatives to the testing, monitoring, recordkeeping, and reporting required by this permit may be established through the issuance or renewal of a Title V operating permit issued by EPA to the Permittee under 40 CFR part 71, or through a significant modification thereto, provided that the FARR non-Title operating permit requirements continue to be satisfied and that the Title V permit identifies the provisions of this permit that are no longer in effect.

R10 02/01/21 Explanation in the TSD for Non-Title V Pre-Draft Permit Condition

Condition 4.5 provides authority to establish alternative testing, monitoring, recordkeeping and reporting requirements through our Title V monitoring authority through issuance, renewal, or significant modification of a part 71 permit.

Response: R10 is not making any changes to the pre-draft non-Title V permit or TSD in response to this comment. Condition 4.5 authorizes R10 to makes changes to testing, monitoring, recordkeeping and reporting requirements established in the non-Title V permit by revising one permit (the Title V permit that incorporates all applicable requirements) and not both the non-Title V and Title V permits. In this respect, it streamlines the process of revising the permits. Condition 4.5 does not impose new requirements on Stimson or prohibit Stimson from requesting or EPA from making changes that are otherwise authorized. The permit already provides a degree of flexibility to the permittee to achieve monitoring using back-up equipment that serves the same purpose of malfunctioning equipment it is temporarily or permanently replacing. For instance, the permit requires steam to be continuously measured, but the permit does not specify the technology to be employed or the

make/model/serial number of the device to perform the measurements. The permittee would not need a modification to the permit before replacing one steam flow monitor with another. The permittee, however, would need to update the monitoring plan required by Condition 7.4 to reflect the change.

3. Non-Title V Pre-Draft Permit Condition 5.3

EPA review is focused on records so we suggest changing the language from "maintenance procedures" to "maintenance records."

R10 02/01/21 Non-Title V Pre-Draft Permit Condition

5.3. Boiler EU-1, including the boiler, multiclone and scrubber, kilns EU-2, sawmill EU-3 and planer mill EU-4 shall be maintained and operated in a manner consistent with good air pollution control practices for minimizing emissions at all times. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to EPA which may include, but is not limited to, testing and monitoring results, opacity observations, review of operating and maintenance procedures and inspection of the source.

R10 02/01/21 Explanation in the TSD for Non-Title V Pre-Draft Permit Condition

Condition 5.3 helps assure that default and test-derived factors do not underreport emissions. Stimson and EPA Region 10 are relying upon EF to be representative of emissions. Condition 5.3 assures that emission units and control devices are maintained so that effectiveness does not diminish from the levels achieved during boiler EU-1 source testing (when FHISOR, EF and RF are established).

Response: In response to this comment, R10 is revising Condition 5.3 of the pre-draft non-Title V permit as follows:

5.3. Boiler EU-1, including the boiler, multiclone and scrubber, kilns EU-2, sawmill EU-3 and planer mill EU-4 shall be maintained and operated in a manner consistent with good air pollution control practices for minimizing emissions at all times. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to EPA which may include, but is not limited to, testing and monitoring results, opacity observations, review of operating and maintenance procedures, review of operating and maintenance records and inspection of the source.

The underlined added text is consistent with NESHAP 6J general duty requirement applicable to Boiler EU-1.

4. Non-Title V Pre-Draft Permit Condition 5.7.2.2

Stimson is concerned that the repeated use of the term "3-run" has the potential to cause problems if a testing event is truncated due to technical problems. In discussions with EPA Stimson was told that tests would still be valid if only two test runs were conducted due to unforeseen factors. While we agree that the default assumption is three test runs, we would suggest language somewhere that accounts for this possibility. In any event, this change should be global.

R10 02/01/21 Non-Title V Pre-Draft Permit Condition

5.7.2.2. For organic HAP compounds identified in Table 6-1, EF_X is the average of the two 3-run (or more) average values determined based upon the two source tests conducted pursuant to Condition 6.2;

R10 02/01/21 Non-Title V Pre-Draft Permit Condition

6.1.4. Each source test shall follow the reference test methods specified by this permit and consist of at least three (3) valid test runs. Source test emission data shall be reported as the arithmetic average of all valid test runs and in the terms of any applicable emission limit, unless otherwise specified in the emission unit sections of this permit.

40 CFR 60.8(f) – less than three runs may be accepted if approved by EPA
In the event that a sample is accidentally lost or conditions occur in which one of the three runs must be discontinued because of forced shutdown, failure of an irreplaceable portion of the sample train, extreme meteorological conditions, or other circumstances, beyond the owner or operator's control, compliance may, upon the Administrator's approval, be determined using the arithmetic mean of the results of the two other runs.

40 CFR 63.7(e)(3) – less than three runs will not be accepted
Unless otherwise specified in a relevant standard or test method, each performance test shall consist of three separate runs using the applicable test method. Each run shall be conducted for the time and under the conditions specified in the relevant standard. For the purpose of determining compliance with a relevant standard, the arithmetic mean of the results of the three runs shall apply. Upon receiving approval from the Administrator, results of a test run may be replaced with results of an additional test run in the event that—
(i) A sample is accidentally lost after the testing team leaves the site; or
(ii) Conditions occur in which one of the three runs must be discontinued because of forced shutdown; or
(iii) Extreme meteorological conditions occur; or
(iv) Other circumstances occur that are beyond the owner or operator's control.

April 27, 2009 Clean Air Act National Stack Testing Guidance

VII Major Issues

6. STOPPAGES

• The primary issue is whether it is appropriate to stop a stack test being conducted to determine and demonstrate compliance once it has been started, and if so, under what circumstances.

• There are no regulatory provisions in the NSPS, NESHAP, or MACT programs that address whether a facility is allowed to stop a stack test once it has been started.[6] Depending on the circumstances surrounding the stoppage, the facility may be found in violation of the requirement to conduct a stack test, the underlying regulatory requirement, or both. For example:

- If a facility stopped the stack test because it was exceeding applicable emission standards and would have failed the test, it would be considered in violation of both the requirement to conduct a stack test (if it does not complete a performance test by the applicable deadline) and to comply with the underlying regulatory requirement or permit condition. Consistent with 40 CFR §§ 60.11 and 61.12, any credible evidence may be used to demonstrate non-compliance. For major sources, the test should be reported in the Title V quarterly or semi-annual deviation reports, and taken into consideration as part of the annual compliance certifications. In addition, the stoppage should be reported as a failure in the national air data system, and an enforcement action should be initiated and penalties assessed consistent with the HPV Policy and CAA Civil Penalty Policy.

- If a facility is forced to stop a test due to a Force Majeure Event, the facility shall provide written notification to the Administrator in accordance with the applicable

regulations. The performance test shall be conducted as soon as practicable after the force majeure occurs. Whether to grant an extension to the performance test deadline is solely within the discretion of the Administrator. Until an extension has been approved by the Administrator, the facility remains strictly subject to the performance test requirements of the applicable regulations. 40 CFR §§ 60.8(a)(1-4), 61.13(a)(3-6), 63.7(a)(4).

[6] However, under 40 CFR § 63.7(e), the results of a test run may, upon approval from the Administrator, be replaced with the results of an additional test run in the event that a test run is discontinued because of forced shutdown or other circumstances discussed in the regulation. Under 40 CFR § 60.8(f), if a sample is accidentally lost or conditions occur in which one of the three runs must be discontinued for certain types of circumstances beyond the owner or operator's control, the results of two runs may be used with the Administrator's approval.

Response: R10 is not making any changes to the pre-draft non-Title V permit or TSD in response to this comment. Because (a) no testing is required beyond the two rounds specified in the permit, and (b) the resultant test-derived EF will be used to calculate emissions, R10 expects each round to produce at least three valid test runs. If at the conclusion of three runs Stimson has any doubts about the validity of any of the runs, R10 encourages Stimson to conduct another. Otherwise, Stimson runs the risk of R10 requiring Stimson to promptly conduct another run to replace the invalid one or to conduct a new round of testing altogether.

5. Non-Title V Pre-Draft Permit Table 5.1

We believe that the oxidation state for chromium should be CrO. Also, we do not believe that SeO exists.

R10 02/01/21 Non-Title V Pre-Draft Permit Condition

Table 5-1: Lowest Weight Oxide per Unit of Metal

Trace Metal Compound	*Adjustment Factor (unitless)*
1. Antimony compounds	*1.19710*
2. Arsenic compounds	*1.32031*
3. Beryllium compounds	*2.77526*
4. Cadmium compounds	*1.14233*
5. Chromium compounds	*1.46154*
6. Cobalt compounds	*1.27148*
7. Lead compounds	*1.07722*
8. Manganese compounds	*1.29122*
9. Mercury compounds	*1.03988*
10. Nickel compounds	*1.27259*
11. Phosphorus	*1 (not applicable)*
12. Selenium compounds	*1.20262*

R10 02/01/21 Explanation in the TSD for Non-Title V Pre-Draft Permit Condition

From Appendices A and B to the TSD:

Hazardous Air Pollutants	*Oxide Form 1*	*Oxide Form 2*	*Oxide Form 3*	*MW Trace Metal*
Chromium (Cr) Compounds	*Cr_2O_3*	*CrO_3*		*51.9961*
Selenium (Se) Compounds	*SeO*	*SeO_2*	*SeO_3*	*78.96*

EF Basis:

Speciate Version 5.0 Database Development Documentation, June 2019. EPA/600/R-19/098. Table 5 within the document.

Text of pre-draft permit, technical support document (TSD) and regulations is in red italics.
EPA Region 10 responses to Stimson comments are in red bold.

Link to document: https://www.epa.gov/air-emissions-modeling/speciate-50-final-report

Supplemental information (Reff 2019): https://pubs.acs.org/doi/suppl/10.1021/es802930x/suppl_file/es802930x_si_001.pdf
Data entry for Beryllium was created by EPA Region 10 in the absence of an entry in referenced document.

Table 5 of EPA's June 2019's SPECIATE 5.0 Final Report:

Table 5. Assumed Oxide Forms of Each Metal and Resulting Mean Oxygen-to-Metal Ratio Used to Calculate the Emissions of Metal-Bound Oxygen

Species	Oxide Form 1	Oxide Form 2	Oxide Form 3	Oxygen/Metal Ratio
Na	Na_2O			0.348
Mg	MgO			0.658
Al	Al_2O_3			0.889
Si	SiO_2			1.139

Species	Oxide Form 1	Oxide Form 2	Oxide Form 3	Oxygen/Metal Ratio
P	P_2O_3	P_2O_5		1.033
K	K_2O			0.205
Ca	CaO			0.399
Ti	TiO_2			0.669
V	V_2O_5			0.785
Cr	Cr_2O_3	CrO_3		0.692
Mn	MnO	MnO_2	Mn_2O_7	0.631
Fe	FeO	Fe_2O_3		0.358
Co	CoO	Co_2O_3		0.339
Ni	NiO			0.273
Cu	CuO			0.252
Zn	ZnO			0.245
Ga	Ga_2O_3			0.344
As	As_2O_3	As_2O_5		0.427
Se	SeO	SeO_2	SeO_3	0.405
Rb	Rb_2O			0.094
Sr	SrO			0.183
Zr	ZrO_2			0.351
Mo	MoO_2	MoO_3		0.417
Pd	PdO	PdO_2		0.226
Ag	Ag_2O			0.074
Cd	CdO			0.142
In	In_2O_3			0.209
Sn	SnO	SnO_2		0.202
Sb	Sb_2O_3	Sb_2O_5		0.263
Ba	BaO			0.117
La	La_2O_3			0.173
Ce	Ce_2O_3	CeO_2		0.2
Hg	Hg_2O	HgO		0.06
Pb	PbO	PbO_2		0.116

From Supplemental information (Reff 2019):
https://pubs.acs.org/doi/suppl/10.1021/es802930x/suppl_file/es802930x_si_001.pdf:

S3.7.2 Metal-Bound Oxygen

Metal-bound oxygen (MO) was calculated by multiplying most of the trace elemental emissions by an oxygen-to-metal ratio . These ratios were based on the expected oxidation states of the metals in the atmosphere. Table S5 shows the expected oxide forms of each metal, which are based on the most common oxidation states of the metals (*13*). Total MO was then calculated for each source

Table S5. Assumed oxide forms of each metal and resulting mean oxygen-to-metal ratio used in Equation S2 to calculate the emissions of Metal-bound Oxygen (MO).

Species	Oxide Form 1	Oxide Form 2	Oxide Form 3	Oxygen/Metal Ratio
Na	Na_2O			0.348
Mg	MgO			0.658
Al	Al_2O_3			0.889
Si	SiO_2			1.139
P	P_2O_3	P_2O_5		1.033
K	K_2O			0.205
Ca	CaO			0.399
Ti	TiO_2			0.669
V	V_2O_5			0.785
Cr	Cr_2O_3	CrO_3		0.692
Mn	MnO	MnO_2	Mn_2O_7	0.631
Fe	FeO	Fe_2O_3		0.358
Co	CoO	Co_2O_3		0.339
Ni	NiO			0.273
Cu	CuO			0.252
Zn	ZnO			0.245
Ga	Ga_2O_3			0.344
As	As_2O_3	As_2O_5		0.427
Se	SeO	SeO_2	SeO_3	0.405
Rb	Rb_2O			0.094
Sr	SrO			0.183
Zr	ZrO_2			0.351
Mo	MoO_2	MoO_3		0.417
Pd	PdO	PdO_2		0.226
Ag	Ag_2O			0.074
Cd	CdO			0.142
In	In_2O_3			0.209
Sn	SnO	SnO_2		0.202
Sb	Sb_2O_3	Sb_2O_5		0.263
Ba	BaO			0.117
La	La_2O_3			0.173
Ce	Ce_2O_3	CeO_2		0.200
Hg	Hg_2O	HgO		0.060
Pb	PbO	PbO_2		0.116

(13) Greenwood, N. N.; Earnshaw, A. *Chemistry of the Elements*; Oxford:Butterworth-Heinemann: Oxford, 1997.

Response: R10 is not making any changes to the pre-draft non-Title V permit or TSD in response to this comment.

Stimson does not explain why it believes that the oxidation state for chromium should be CrO. According to EPA's June 2019 SPECIATE 5.0 Final Report, CrO is not one of the most common oxide forms of chromium. Cr2O3 and CrO3 are. See Table 5 of the document. Not knowing the relative probability of the oxide being in the form of Cr2O3 or CrO3, R10 chose

the oxide form (Cr2O3) resulting in the lower of the two chromium compounds EF. Using CrO instead of Cr2O3 in calculating the ratio of lowest weight oxide per unit of metal would decrease the chromium compounds EF by 11 percent. Because CrO is not one of the most common oxide forms of chromium, its use in this context would have the potential to underestimate emissions.

Stimson does not explain the basis for its assertion that SeO does not exist. According to EPA's Substance Registry Services, SeO (CAS Number 12640-89-0) does exist. Not knowing the relative probability of the oxide being in the form of SeO, SeO2 and SeO3, R10 chose the oxide form (SeO) resulting in the lowest of the three selenium compounds EF. Using SeO2 instead of SeO in calculating the ratio of lowest weight oxide per unit of metal would increase the selenium compounds EF by 17 percent. Because SeO does exist and is one of the most common oxide forms of selenium, using SeO2 rather than SeO in this context would have the potential to overestimate emissions.

6. Non-Title V Pre-Draft Permit Condition 5.8

As previously commented, mandating source tests during the wettest and/or coldest portion of the year without a seasonal counter balance introduces a bias into the FHISOR calculations. EPA has resolved the issue with the time course of the initial tests and Stimson is appreciative of this. However, the continued incorporation of the periodic source tests mandated, again, during the wettest and/or coldest portion of the year will inexorably pressure the FHISOR calculation to less efficient operation.

Stimson is suggesting a simple solution in the non-Title V permit: simply remove the reference to the mandated Title V tests and replace with a reference to "approved compliance tests." This will also address the incorporation of additional voluntary tests as they would need prior approval of the source test protocol by EPA. We address the direct issue of the timing of the mandated tests in our comments on the Title V.

Stimson Comment on 02/01/21 Pre-Draft Title V Condition 5.20

Stimson successfully worked with EPA to determine a HAPs testing schedule that would avoid testing only under worst case or ideal conditions but, considering that the results of the PM testing will be incorporated into subsequent FHISOR calculations, this condition once again skews the testing regime to what is likely to be worst case conditions of temperature and moisture. There are several options here:

(1) Determine one time of the year considered to be "average." Stimson suggests the Fall
(2) Alternate source tests between summer and winter. This is conceptual attractive but given that there may be years between tests could be cumbersome and may not actually solve the issue.
(3) Test twice during the years when testing is required. This does generally solve the issues but requires twice the amount of testing, so we are unsure at this point how supportive we could be.
(4) Stimson propose a sampling plan for EPA approval that details one of these approaches or proposes another. d propose an alternative.

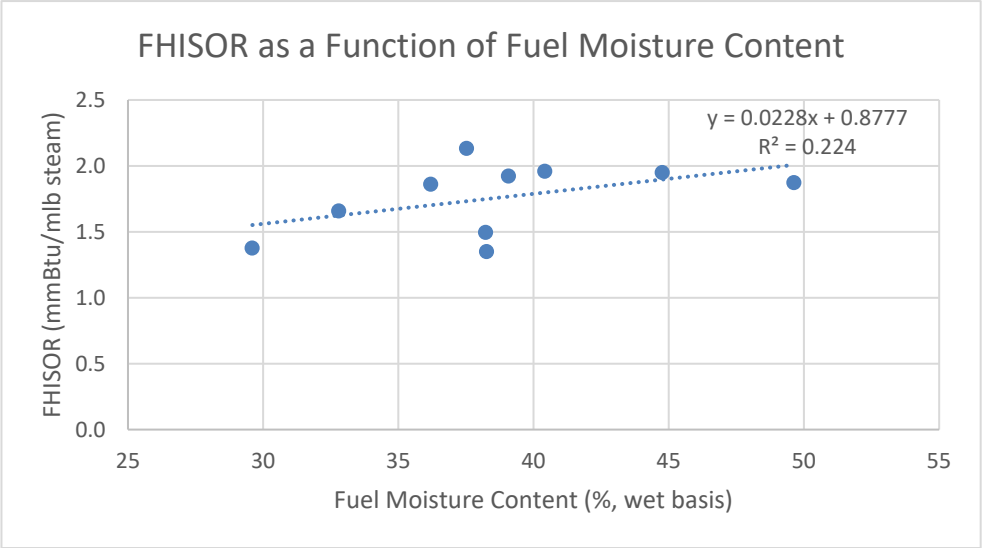
At the very least the FHISOR calculations should incorporate all approved tests, opening the possibility for Stimson to conduct additional testing to counterbalance the worst case envisioned in the pre-draft.

R10 02/01/21 Non-Title V Pre-Draft Permit Condition

5.8. Beginning the month after EPA approves FHISOR specified in a source test report submitted to EPA to satisfy a Title V permit requirement to conduct source testing, monthly boiler EU-1 emissions (tons) shall be calculated using Equation 5-1 consistent with Condition 5.7, except "FHISOR" equal to the average of the following six or more values: 2.005, 1.632, 1.667, two 3-run (or more) average FHISOR associated with the two source tests conducted pursuant to Condition 6.2, and all additional 3-run (or more) average FHISOR associated with source tests conducted pursuant to a Title V permit requirement.

R10 02/01/21 Explanation in the TSD for Non-Title V Pre-Draft Permit Condition
Condition 5.8 requires the permittee, after completion of boiler EU-1 FHISOR testing required by a part 71 permit (but not the non-Title V permit), to use an updated FHISOR in boiler EU-1 emissions calculations. To update FHISOR, the permittee is required to average at least six values; three existing test-derived values from October 2012, 2014 and 2018, two test-derived values from the two rounds of testing required by this permit, and all subsequent test-derived values resulting from testing required to be conducted by Title V permits.

Response: R10 is not making any changes to the pre-draft non-Title V permit or TSD in response to this comment. Test results from October 2012, 2014 and 2018 do not illustrate a strong correlation between FHISOR and fuel moisture content. The following chart is in the administrative record for this permitting action.



If the two rounds of testing required by the non-Title V permit illustrates a strong correlation between FHISOR and fuel moisture content, or between FHISOR and some other environmental factor(s) (e.g., ambient temperature), then Stimson can request a revision to the non-Title V permit to provide the opportunity to conduct one summer-time FHISOR test for each winter-time RM5 PM/FHISOR test in order to counter-balance the test results. Alternatively, Stimson and R10 could consider revising the permit to create season-specific FHISOR. There is currently insufficient information on the degree to which environmental conditions influence FHISOR (if at all) to justify including permit conditions to address the issue.

7. Non-Title V Pre-Draft Permit Condition 5.9
Even though the boiler will not be generating "usable steam" during startup and shutdown the steam will still be counted by the steam meter. Thus, these calculations will need to be subtracted from the standard emissions estimates.

R10 02/01/21 Non-Title V Pre-Draft Permit Condition

5.9 Beginning the calendar month after the month in which the permit becomes effective, the Permittee shall calculate monthly boiler EU-1 startup and shutdown HAP emissions (tons) using Equation 5-5 as follows:

Equation 5-5

$$E_X = fuel \times \left(0.227\ \frac{mmBtu}{ft^3}\right) \times EF_X \times \left(\frac{ton}{2000\ lb}\right); where$$

- "E_X" *is monthly emissions of HAP X in units of "ton/month";*
- "$fuel$" *is the volume of fuel fired in boiler EU-1 during the month while not generating steam in units of "ft3/month, wet basis";*
- "$0.227\ \frac{mmBtu}{ft^3}$" *is the heat content of fuel on a wet, volume basis;*
- "EF_X" *is EF for HAP X in units of "lb/mmBtu" determined consistent with Conditions 5.6 or 5.7 (depending upon when emission generated); and*
- "$\frac{ton}{2000\ lb}$" *is a conversion factor.*

R10 02/01/21 Explanation in the TSD for Non-Title V Pre-Draft Permit Condition
Condition 5.9 requires the permittee to calculate boiler EU-1's emissions generated during startup and shutdown by tracking the volume of fuel fired (wet) and converting that volume to heat input, which is then used with the EF listed in Appendix B to the permit to calculate emissions. The 0.227 mmBtu/ft3 conversion factor is calculated as follows:

mmBtu/ft3 fuel = fuel density [lb/ft3] * higher heating value [Btu/lb] * (mmBtu/1,000,000 Btu)			
mmBtu/ft3 fuel = (48.7 lb/ft3) * (4655 Btu/lb) * (mmBtu/1,000,000 Btu)			
mmBtu/ft3 fuel = 0.227			
Fuel Density			
Species	Idaho 2015 Timber Harvest of Saw and Veneer Logs[a], (mbf)	Average Green Weight of Wood & Bark[b], (lb/ft3)	
True Fir (Grand Fir)	376,811	52	
Douglas Fir	300,871	47	
Western Red Cedar	59,110	31	
Ponderosa Pine	89,307	52	
Western Larch	70,197	53	
Western Hemlock	53,638	51	
Lodgepole Pine	37,942	42	
Engelmann Spruce	18,689	45	
Western White Pine	8,386	42	
	Weighted average:	48.7	
[a] University of Montana Bureau of Business and Economic Research document entitled, "Idaho's Forest Products Industrty and Timber Harvest, 2015." August 2, 2017. Table 5.			
[b] USDA Forest Service, Northern Research Statation, Research Note NRS-38 entitled, "Specific Gravity and Other Properties of Wood and Bark for 156 Tree Speces Found in North America." October 2009. Table 1B. https://www.nrs.fs.fed.us/pubs/rn/rn_nrs38.pdf			
Fuel Higher Heating Value			
Year of Fuel Sampling & Analysis at Stimson	Test/Sample Number	Higher Heating Value (as fired, ie. wet basis), (Btu/lb)	Average
2018	1	5183	5048
	2	5045	
	3	4917	
2014	1	4060	3847
	2	3800	
	3	3680	
2012	1	5640	5069
	2	4713	
	3	5273	
	4	4650	
		3-Test Average:	4655

Response: When drafting the pre-draft non-Title V permit that R10 shared with Stimson on 02/01/21, R10 understood (apparently incorrectly) that only useful steam enters the system metered by the steam monitor. Based upon Stimson's comment, the steam monitor meters steam during startup and shutdown when the steam is not useful. It is R10's understanding that boiler EU-1 startup and shutdown emissions constitute a very small fraction of the boiler's emissions, especially given nearly continuous operation to provide steam to generate electricity to the local power grid. To avoid (a) double counting emissions attributable to the boiler's combustion of fuel to generate non-useful steam, and (b) further complicating the permit by more precisely defining useful steam and requiring Stimson to monitor steam quality to differentiate useful from non-useful steam, R10 is revising the pre-draft non-Title V permit as follows:

~~***4.6. Definitions. With respect to boiler EU-1, the following definitions apply to this permit:***~~

~~***4.6.1. Startup begins with the firing of fuel in a boiler after a shutdown event for any purpose. Startup ends when any of the useful thermal energy from the boiler is supplied for any purpose.***~~

~~4.6.2. Shutdown begins when the boiler no longer supplies useful thermal energy for any purpose. Shutdown ends when no fuel is being combusted in the boiler.~~

~~4.6.3. Useful thermal energy means steam that meets the minimum operating temperature, flow, and/or pressure required by any energy use system that uses energy provided by the boiler.~~

5.4. Monthly boiler EU-1 HAP emissions (tons), excluding periods ~~of startup and shutdown~~ while not generating steam, shall be calculated using Equation 5-1…

5.9. Beginning the calendar month after the month in which the permit becomes effective, the Permittee shall calculate monthly boiler EU-1 ~~startup and shutdown~~ HAP emissions (tons) while not generating steam using Equation 5-5…

7.5. At the end of each month, for the volume of fuel combusted in boiler EU-1 during that month, the Permittee shall estimate and record (a) the percentage of the fuel that was hogged bark, (b) the percentage of the fuel that was wood residue, (c) ~~for each startup or shutdown,~~ the volume of fuel fired (wet basis) while not generating steam (ft3/event, ft3/month), and…

In addition, R10 is revising the explanation for these permit conditions in the pre-draft non-Title V TSD as follows:

~~Condition 4.6 provides definitions for certain terms that are used in the permit. Stimson is required to determine boiler EU-1 emissions for all the time that it is operating to determine compliance with the 9/24 tpy HAP emission limits. This includes during startup and shutdown when no useful steam is being supplied. See permit Condition 5.9.~~

Condition 5.9 requires the permittee to calculate boiler EU-1's emissions ~~generated during startup and shutdown~~ while not generating steam by tracking the volume of fuel fired (wet) and converting that volume to heat input…

Condition 7.5 requires the permittee to estimate monthly the types of fuel that are being combusted in boiler EU-1 and the percentage of each. This information provides a check on whether the test-derived EF, RF and FHISOR continue to be representative of boiler EU-1 emissions. Condition 7.5 also requires the permittee to collect information to enable the calculation of emissions ~~during startup and shutdown~~ when no steam is being generated.

8. Non-Title V Pre-Draft Permit Condition 5.10

As currently drafted this condition will require EPA approval to burn any wood residuals that are not generated at a wood products mill. Stimson would rather depend upon the regulatory definition of "traditional fuels" and the process for determining that alternate fuel sources are not considered solid waste. Potential issues here include construction and demolition (C&D) residuals, yard debris, forest slash, and pallets. While Stimson currently has no plans to utilize C&D products there is a process in the solid waste rules for the use of such materials. Further, pallets, slash, and yard debris would normally be considered a traditional fuel and should not require additional approval. Stimson has discussed the potential use of non-wood cellulosic agricultural residuals with EPA and recognizes that such fuels will need prior approval.

R10 02/01/21 Non-Title V Pre-Draft Permit Condition

5.10. The Permittee is prohibited from combusting in boiler EU-1 any fuel other than wood residue (some of which is hogged) and hogged bark generated from the manufacture of wood products at a mill, except as authorized in writing by EPA.

R10 02/01/21 Explanation in the TSD for Non-Title V Pre-Draft Permit Condition

Condition 5.10 restricts the permittee to firing in boiler EU-1 only certain types of fuel typically generated at Stimson or other similar wood products facilities. It is our understanding that boiler EU-1 combusts only hogged bark and wood residue generated at a mill, not slash generated in the forest. The permit does not prohibit the combustion of resinated wood residue, but EPA understands that this type of fuel constitutes less than 1% of the fuel combusted. Stimson must request authorization from EPA in writing to combust a fuel beyond the types identified in Condition 5.10. The request must include characterization of the fuel, technique for combusting (e.g., fuel mixing), quantity to be combusted and over what duration, and EF (if available). If EF are unavailable, then Stimson must supply technical literature (to the extent available) on the emissions resulting from the combustion of the proposed fuel.

Response: In response to this comment, R10 is revising the pre-draft non-Title V permit as follows:

5.10. The Permittee is prohibited from combusting in boiler EU-1 any fuel other than biomass. – wood residue (some of which is hogged) and hogged bark generated from the manufacture of wood products at a mill, except as authorized in writing by EPA. Biomass means any biomass-based solid fuel that includes only resonated and non-resonated wood residue and wood products (e.g., trees, tree stumps, tree limbs, bark, lumber, sawdust, sander dust, chips, scraps, slabs, millings, and shavings); logging residues (slash); and wheat chaff.

New Condition 7.5 (not to replace existing Condition 7.5) is as follows:
7.5. No later than the sixth calendar month after the month in which the permit becomes effective, the Permittee shall develop and implement a plan to document the biomass (other than bark and wood residue arriving in the form of logs to be manufactured into lumber) received at the facility to be combusted in boiler EU-1. The plan shall be updated as necessary and shall include the following, at a minimum:
7.5.1. Inspection of all boiler EU-1 biomass fuel truckloads received at the mill;
7.5.2. The form that the employees fill out to document the inspection of each biomass fuel truckload. The information on the form shall include, but not be limited to, date of truckload arrival, date of inspection, whether the biomass fuel was accepted or rejected, fuel supplier, description of biomass fuel(s) (e.g., planer shavings), estimated moisture content of each fuel, estimated quantity of each fuel;
7.5.3. Recordkeeping procedures for the completed forms.

7.57.6. At the end of each month, for the volume of biomass fuel combusted in boiler EU-1 during that month, the Permittee shall estimate and record (a) the percentage of the biomass fuel that was hogged bark, (b) the percentage of the biomass fuel that was wood residue, (c) the percentage of the biomass fuel that was biomass other than hogged bark or wood residue, (ed) for each startup or shutdown, the volume of biomass fuel fired (wet basis) while not generating steam (ft3/event, ft3/month), and (de) the basis for the estimations.

8.5. The boiler EU-1 O&M plan required pursuant to Condition 5.12, boiler EU-1 biomass fuel received inspection plan required pursuant to Condition 7.5, kilns EU-2 O&M plan required pursuant to Condition 5.17, kilns EU-2 log scaling plan required pursuant to Condition 7.1416, and elements …

In addition, R10 is revising the explanation for these permit conditions in the pre-draft non-Title V TSD as follows:

Condition 5.10 restricts the permittee to firing "biomass" as that term is defined in the permit condition. Condition 5.10 restricts the permittee to firing in boiler EU-1 only certain types of fuel typically generated at Stimson or other similar wood products facilities. It is Region 10's understanding that boiler EU-1 generally combusts only hogged bark and wood residue

generated at a mill and that, on an annual basis, less than 1% of the fuel combusted in boiler EU-1 is something other than hogged bark and wood residue generated at a mill., not slash generated in the forest. The permit does not prohibit the combustion of resinated wood residue, but EPA understands that this type of fuel constitutes less than 1% of the fuel combusted. Stimson must request authorization from EPA in writing to combust a fuel beyond the types identified in Condition 5.10. The request must include characterization of the fuel, technique for combusting (e.g., fuel mixing), quantity to be combusted and over what duration, and EF (if available). If EF are unavailable, then Stimson must supply technical literature (to the extent available) on the emissions resulting from the combustion of the proposed fuel. The EU-1 boiler emission factors specified in the permit reflect emissions resulting from the combustion of bark or wood. If the amount of other types of biomass burned remains less than 1%, requiring testing while burning the other types of biomass is not needed in the absence of other information. On an annual basis, these emissions factors are representative of boiler EU-1's annual emissions given our understanding that Stimson generally combusts only bark and wood residue.

New Condition 7.5 requires the permittee to develop and implement a plan to document the biomass received at the facility to be combusted in boiler EU-1. The condition is needed to generate records documenting that less than 1% of the biomass fuel burned in boiler EU-1 is biomass other than bark or wood. Region 10 is uncertain as to the representativeness of the emission factors specified in the permit (or derived through testing specified in the permit) for combustion of biomass other than bark and wood. If greater than 1% of the biomass fuel combusted in boiler EU-1 is biomass other than bark and wood, Region 10 will consider revising the permit to accommodate the range of biomass fuels being combusted and ensure the EF remain representative of operations.

9. Non-Title V Pre-Draft Permit Condition 5.15

The mandate to add 10 degrees to the kiln set point temperature is not acceptable to Stimson. A review of kiln charges makes it apparent that any excursions above the setpoint are exceedingly transitory and minor. This would introduce minor variation in the surface temperature of the wood but absent an extended excursion the majority of the wood would remain unaffected. We make a suggestion for how to deal with such excursions below, but the provision of this condition mandating the automatic addition of 10 degrees should be removed.

Rather than assuming that even small temperature variances have a systemic effect upon the drying wood Stimson proposes making adjustments only for those excursions that have the potential for a true impact. We would propose that if such excursions are greater than two hours then the emissions for the load be adjusted accordingly.

R10 02/01/21 Non-Title V Pre-Draft Permit Condition

5.15 Except as specified in Condition 5.16, monthly kilns EU-2 HAP emissions (tons) beginning the calendar month after the month in which the permit becomes effective shall be calculated using Equation 5-6 as follows:

- *"$lumber_{species\ i}$" is determined pursuant to Condition 7.13; and*
- *"$EF_{X,species\ i}$" is determined pursuant to Appendix G to this permit. Add 10°F to the monthly maximum set point temperature (specified in the drying schedule for the heated air entering a load of lumber) from among all charges consisting of the wood species, in whole or in part, to determine methanol and formaldehyde EF.*

R10 02/01/21 Explanation in the TSD for Non-Title V Pre-Draft Permit Condition

Condition 5.15 specifies, for time period beginning the month after the month the permit becomes effective, the methodology to determine species-specific lumber volumes and EF to be used in Condition 5.13's Equation 5-6. Stimson is required to have measured product-specific lumber volumes for all charges and scaled a portion of incoming truckloads for the preceding six-month period to estimate monthly species-specific kilns EU-2 lumber throughputs.

Species-specific EF for five HAP are specified in Appendix G to the permit. Appendix G is EPA Region 10's January 2021 EF. Stimson is required to have recorded for each charge (1) the maximum set point "entering air" temperature and (2) all measured/calculated kiln-wide average "entering air" temperatures. The recorded set point information (plus 10°F) is needed to determine a species-specific monthly maximum to determine species-specific monthly formaldehyde and methanol EF via Appendix G. Appendix G reflects best-fit linear equations for formaldehyde and methanol.

It is not uncommon for kiln-wide average instantaneous temperatures to spike above the maximum set point temperature. Because Stimson is not currently capable of calculating kiln-wide 60-minute average "entering air" temperatures, Region 10 is requiring Stimson to use drying schedule maximum temperatures plus 10°F to calculate methanol and formaldehyde EF. For those charges in which instantaneous kiln-wide average temperatures exceed the species-specific monthly maximum set point by more than 10°F, formaldehyde and methanol emissions for those charges need to be calculated separately in accordance with Condition 5.16.

Response: Stimson's data acquisition and handling system associated with the monitoring of "entering air" temperature inside each of its kilns regularly generates the instantaneous kiln-wide average temperature, but the system does not generate a 60-minute average temperature. A charge's maximum 60-minute average is not determined. Moreover, for all charges during a month that contain lumber of a particular wood species, the overall maximum 60-minute average temperature cannot be determined. Because the calculation to determine the formaldehyde and methanol EF for lumber drying is based upon the maximum entering air temperature inside the kiln, and because the EF equation was derived based upon small scale kiln test data collected during charges in which the maximum entering air temperature was stable for a number of hours, using the maximum 60-minute average temperature rather than the highest instantaneous temperature will generate a more representative EF. Ideally, that overall maximum value would be employed to calculate the monthly formaldehyde and methanol EF for a particular wood species. In the absence of a monitoring system that is capable of generating a charge's maximum 60-minute average temperature, the permit must prescribe an alternative methodology for generating a charge's maximum temperature. Stimson's proposal to use the set point temperature for charges in which the entering air temperature is greater than the set point for up to two hours would result in an underreporting of formaldehyde and methanol emissions as the set point temperature used in the EF equation is less than the actual stable maximum temperature experienced during the charge. Upon consideration of your comment, R10 agrees that 10°F is too large of an adjustment in the absence of operating records illustrating the frequency of temperatures of that degree that are greater than the set point. R10 does, however, believe some adjustment is warranted given our knowledge that temperatures do exceed the set point by some degree for some duration on most charges and that higher drying temperatures correlate with higher emissions. In response to this comment and the next (Comment 10), R10 is therefore revising the pre-draft non-Title V permit as follows:

5.15 ~~Except as specified in Condition 5.16, m~~Monthly kilns EU-2 HAP emissions (tons) beginning the calendar month after the month in which the permit becomes effective shall be calculated using Equation 5-6 as follows:

- ***"$lumber_{species\ i}$" is determined pursuant to Condition 7.13; and***
- ***"$EF_{X,species\ i}$" is determined pursuant to Appendix G to this permit. Add ~~10~~5°F to the monthly maximum set point temperature (specified in the drying schedule for the heated air entering a load of lumber) from among all charges consisting of the wood species, in whole or in part, to determine methanol and formaldehyde EF.***

Appendix G

The species-specific lumber drying EF for acetaldehyde, propionaldehyde and acrolein are self-explanatory. For methanol and formaldehyde, the variable "x" in the mathematical expression represents the monthly maximum set point temperature (°F) (specified in the drying schedule for the heated air entering a load of lumber) from among all charges consisting of the same wood species, plus ~~10~~5°F. The EF is calculated by substituting the max set point temperature + ~~10~~5 for "x" and performing the math. For instance, the monthly Western True Firs methanol EF for a month in which the maximum set point temperature from among all relevant charges was 195°F is calculated as follows: (0.00465×~~205~~200) – 0.73360 = ~~0.2197~~ 0.1964 lb/mbf…

Conditions 5.16 and 7.14 are being deleted as is the explanation for them in the TSD.

In addition, R10 is revising the explanation for permit conditions 5.15 and 7.10.4 in the pre-draft non-Title V TSD as follows:

Condition 5.15 specifies…

Species-specific EF for five HAP are specified in Appendix G to the permit. Appendix G is EPA Region 10's January 2021 EF. Stimson is required to have recorded for each charge (1) the maximum set point "entering air" temperature and (2) all measured/calculated kiln-wide average "entering air" temperatures. The recorded set point information (plus ~~10~~5°F) is needed to determine a species-specific monthly maximum to determine species-specific monthly formaldehyde and methanol EF via Appendix G….

It is not uncommon for kiln-wide average instantaneous temperatures to spike above the maximum set point temperature. Because Stimson is not currently capable of calculating kiln-wide 60-minute average "entering air" temperatures, Region 10 is requiring Stimson to use drying schedule maximum temperatures plus ~~10~~5°F to calculate methanol and formaldehyde EF. ~~For those charges in which instantaneous kiln-wide average temperatures exceed the species-specific monthly maximum set point by more than 10°F, formaldehyde and methanol emissions for those charges need to be calculated separately in accordance with Condition 5.16.~~

Condition 7.10.4…

Table 7-2 – Kilns EU-2 Recording of Operations and Associated Emission Limitation

Monitoring Provision		*Emission Limitation Provision*	
Permit Condition…	*Summary of Information Recorded about a Batch*	*Permit Conditions…*	*Summary of Emission Limitation*
7.10.4	*At least every 15 minutes, the kiln-wide average dry bulb temperature of heated air that enters a load of lumber*	*5.1. and 5.2*	*9/24 tpy facility-wide HAP limit. Measurements/records are needed to check proposition that kiln-wide average temperatures do not exceed 5°F above the*

Monitoring Provision		***Emission Limitation Provision***	
			charge's set point. ~~If measured kiln-wide average temperature exceeds the set point temperature by more than 10°F, then kiln formaldehyde and methanol emissions determined separately. To calculate methanol and formaldehyde EF, use maximum "entering air" temperature measured.~~

Copies of the actual charts of kiln-wide average entering air drying temperature measurements over the entire duration of a kiln charge showing that excursions above the set point are transitory and minor as indicated by the Stimson could provide a basis for revision of this provision during the public comment period.

10. Non-Title V Pre-Draft Permit Condition 5.16
Likewise, a time component should be added to this condition.

R10 02/01/21 Non-Title V Pre-Draft Permit Condition
5.16 Beginning the calendar month after the month in which the permit becomes effective, for charges in which any instantaneous kiln-wide average "entering air" temperature exceeds the monthly maximum species-specific set point temperature by more than 10°F, methanol and formaldehyde emissions (tons) for that species of wood shall be calculated by charge using Equation 5-7 as follows:

Equation 5-7

$$E_{X,charge} = charge\ lumber_{species\ i} \times EF_{X,species\ i} \times \left(\frac{ton}{2000\ lb}\right); where$$

- "$E_{X,charge}$" *is the charge's emissions of HAP X (formaldehyde or methanol) considering wood species i present in units of "ton/month";*
- "$charge\ lumber_{species\ i}$" *is the volume of lumber for wood species i dried during the charge in units of "mbf/charge" determined pursuant to Condition 7.14;*
- "$EF_{X,species\ i}$" *is the HAP X EF (formaldehyde or methanol) for wood species i in units of "lb/mbf" determined pursuant to Appendix G except that the charge's highest instantaneous kiln-wide average "entering air" temperature is substituted (for the monthly maximum species-specific set point temperature plus 10°F) in the calculation to determine the EF; and*
- "$\frac{ton}{2000\ lb}$" *is a conversion factor.*

R10 02/01/21 Explanation in the TSD for the Non-Title V Pre-Draft Permit Condition
Condition 5.16 specifies, for time period beginning the month after the month the permit becomes effective, the calculation of species-specific formaldehyde and methanol emissions for a charge of lumber when kiln-wide average temperatures "spike" above the "entering air" species-specific set point by more than 10°F. The calculation is similar to that prescribed in Condition 5.15 except that (1) the sum of species-specific emissions are being calculated for one charge (as opposed to species-specific monthly emissions across all charges) and (2) the actual maximum instantaneous "entering air" temperature is used rather than the set point temperature (plus 10°F) to calculate the EF.

R10 02/01/21 Non-Title V Pre-Draft Permit Condition

7.14 For kilns EU-2, beginning the calendar month after the month in which the permit becomes effective, for charges in which any instantaneous kiln-wide average "entering air" temperature exceeds the monthly maximum species-specific set point temperature by more than 10°F, the Permittee shall determine the total lumber volume dried of that wood species per charge using Equation 7-2 as follows:

Equation 7-2

$$charge\ lumber = \sum_{i=1}^{n} charge\ product_i \times species\ fraction; where$$

- "$charge\ lumber$" *is the total lumber volume dried per charge for the wood species (mbf);*
- "$charge\ product_i$" *is the total lumber volume dried for a product i (mbf) determined and recorded pursuant to Condition 7.10.2;*
- "$species\ fraction$" *is the fraction of product i estimated to be the wood species;*
    - $species\ fraction = \frac{6\text{-}month\ total\ \#\ logs\ received\ for\ the\ species}{6\text{-}month\ total\ \#\ logs\ received\ for\ all\ species\ in\ product_i}$
        - *Use five months of existing on-site scaling data and one month of scaling data required to be collected pursuant to Condition 7.12 to perform this calculation for the month after the month the permit becomes effective; and*
        - *For each month thereafter, continue to replace an existing month's data with a new month's data until exclusively using scaling data required to be collected pursuant to Condition 7.12.*

R10 02/01/21 Explanation in the TSD for the Non-Title V Pre-Draft Permit Condition

Condition 7.14 is the calculation to determine lumber volume in a charge for a designated wood species beginning the month after the month the permit becomes effective. The calculation is only required for charges in which any instantaneous kiln-wide average "entering air" temperature exceeds the monthly maximum species-specific set point temperature by more than 10°F. The charge's product-specific lumber volume and relative break-down by species (estimated using ratio of relative number of logs received for subset of logs scaled) must be known to perform the calculation.

Response: See response to Comment 9.

11. Non-Title V Pre-Draft Permit Condition 5.18

Stimson notes that this provision requires *implementation* of the kiln O&M plan but elsewhere *submission* is required within six months. Was it EPA's intent to separate these events? The implementation deadline is extremely tight.

R10 02/01/21 Non-Title V Pre-Draft Permit Condition

Work practice requirement…

5.18. No later than the sixth calendar month after the month in which the permit becomes effective, the Permittee shall develop and implement an O&M plan for the lumber drying kilns that describes the methods and procedures that will be followed to assure good air pollution control practices and efficient operation in accordance with manufacturer specifications and recommendations. The O&M plan shall be updated as necessary and shall include the following, at a minimum:

5.18.1. Air temperature measurement systems used in the kiln;
5.18.2. Lumber moisture measurement systems used in the kiln;
5.18.3. Systems for ensuring only allowed species of wood are dried in the kiln;
5.18.4. Sizing and placement of stickers, bolsters and boards;
5.18.5. Door seals and kiln structure integrity;
5.18.6. Kiln vent, baffle and fan systems (including, but not limited to, regular air velocity hecks);
5.18.7. Kiln steam system;
5.18.8. Kiln control PC interface system;
5.18.9. Recordkeeping of inspections, maintenance and calibrations including dates and the personnel conducting the work; and
5.18.10. Availability of spare parts.

R10 02/01/21 Explanation in the TSD for Non-Title V Pre-Draft Permit Condition
Condition 5.18 requires Stimson to develop and implement an O&M plan for kilns EU-2 to minimize emissions. The permit allows Stimson to employ best-fit-curve and average EF based upon small-scale kiln testing to determine kilns EU-2 emissions without follow-up source testing for the reasons explained in Section 5.3 of this TSD. Compliance with this condition assures that drying will be carried out uniformly across the kiln to discourage the creation of "hot spots" that unnecessarily generate greater emissions. Compliance with this condition helps assure that use of the prescribed EF does not underreport kilns EU-2 emissions.

R10 02/01/21 Non-Title V Pre-Draft Permit Condition
Reporting requirement…

8.5. The boiler EU-1 O&M plan required pursuant to Condition 5.12, kilns EU-2 O&M plan required pursuant to Condition 5.17, kilns EU-2 log scaling plan required pursuant to Condition 7.14, and elements of the monitoring plan required pursuant to Condition 7.4 unrelated to boiler EU-1 (and associated multiclone and scrubber) shall be submitted to EPA no later than the sixth calendar month after the month in which the permit becomes effective. Elements of the monitoring plan required pursuant to Condition 7.4 related to boiler EU-1 (and associated multiclone and scrubber) shall be submitted to EPA at the same time the first source test report required pursuant to Condition 8.2 is submitted to EPA.

8.5.1. The Permittee shall review each plan at least annually, update it as needed, and submit updates to EPA within 30 days of the update.

8.5.2. The Permittee shall revise any of these plans at any time if EPA determines that a plan does not achieve the goal of the plan. In such event, EPA will notify the Permittee of the specified deficiencies, and the Permittee shall submit a revised plan to EPA within 30 days.

R10 02/01/21 Explanation in the TSD for Non-Title V Pre-Draft Permit Condition
Condition 8.5 requires that the specified plans be submitted by certain deadlines, reviewed annually and updated as needed or required by EPA.

Response: R10 is not making any changes to the pre-draft non-Title V permit or TSD in response to this comment. It was R10's intent to separate the plan implementation requirement from the plan submission requirement. One is a work practice requirement while the other is a reporting requirement. R10 does not believe that the 6-month implementation deadline is unreasonable. If Stimson needs more than six months (from the month after the month the permit becomes effective) to implement and submit a kiln O&M

plan, Stimson is invited to submit to R10 during the upcoming public comment period a proposed deadline along with justification.

12. Non-Title V Pre-Draft Permit Condition 5.19

The condition reference here appears to be erroneous. Stimson believes that this should reference Condition 7.16.

R10 02/01/21 Non-Title V Pre-Draft Permit Condition

5.19 Beginning the month in which the Permittee submits the plan required by Condition 7.14, but no later than the sixth calendar month after the month in which the permit becomes effective, monthly sawmill EU-3 HAP emissions (tons) shall be calculated using Equation 5-8 as follows:

Equation 5-8

$$E_{methanol} = \sum_{i=1}^{n} GWR_{EQPi} \times \left(\frac{0.00122\ lb}{odt}\right) \times \left(\frac{ton}{2000\ lb}\right); where$$

- *"$E_{methanol}$" is the sum of the emissions across all pieces of equipment (e.g., bin, target box) receiving green wood residue pneumatically conveyed to it during the month in units of "ton/month";*
- *"n" is the total number of pieces of equipment receiving green wood residue pneumatically conveyed to them;*
- *"GWR_{EQPi}" stands for green wood residue and is the mass of the residue conveyed to a piece of equipment during the month in units of "odt/month" determined pursuant to Condition 7.11. The term does not include hogged bark;*
- *"$\frac{0.00122\ lb}{odt}$" is the EF for single piece of equipment receiving green wood residue pneumatically conveyed to it. The EF is expressed in units of pounds of methanol emitted per oven dry tons of green wood residue received; and*
- *"$\frac{ton}{2000\ lb}$" is a conversion factor.*

R10 02/01/21 Explanation in the TSD for the Non-Title V Pre-Draft Permit Condition

Conditions 5.19 and 5.20 specify the methodology for calculating the sawmill EU-3 and planer mill EU-4 emissions resulting from the pneumatic conveyance of green wood residue. Green wood residue includes chips, shavings, hogged trim ends, sawdust, planer shavings, but not hogged bark. Pneumatic conveyance of kiln-dried wood residue likely generates some amount of HAP, but EPA is not aware of an EF for this emission generating activity. EPA is not requiring Stimson to conduct source testing to determine an EF for pneumatic conveyance for kiln-dried wood residue because this activity's emissions are expected to be relatively small. Its EF and throughput are expected to be a fraction of those of green wood residue.

Response: We agree that the correct reference is 7.16, not 7.14. The non-Title V pre-draft permit will be revised to correct the erroneous reference.

13. Non-Title V Pre-Draft Permit Condition 6.2

We believe that this condition should reference Condition 8.1 rather than 8.2

R10 02/01/21 Non-Title V Pre-Draft Permit Conditions

6.2. Between July 1 and September 30, 2021, and then again between December 1, 2021 and March 31, 2022, the Permittee shall simultaneously perform source testing of boiler EU-1 and conduct fuel sampling (and later analysis) to determine FHISOR, EF and RF (equal to EF/FC) in accordance with an EPA-approved test plan required in Condition 8.2 and as follows:

8.1. The Permittee shall submit to EPA for approval a source test plan 60 days prior to any required testing. The source test plan shall include and address the following elements:

8.2. Emission test reports shall be submitted to EPA within 60 days of completing any emission test required by this permit. The report shall include, but not be limited to, test-derived FHISOR, EFX for each organic compound listed in Table 6-1, RFX for each halogen, hydrogen halide and trace metal listed in Table 6-1 (and all supporting data and calculations) and items required to be recorded during the test.

Response: We agree that the correct reference is 8.1, not 8.2. The non-Title V pre-draft permit will be revised to correct the erroneous reference.

14. Non-Title V Pre-Draft Permit Table 6.2

Also, Stimson suggests the use of the word "or" rather than "and" in the list of required organic HAPs methods. The current wording suggests that all of the methods are required.

R10 02/01/21 Non-Title V Pre-Draft Permit Condition

Table 6-2: Test Methods Used to Determine Boiler EU-1 EF

Exhaust Gas Sampling and Analysis Performed to Determine…	***Test Method***
Port location/traverse	*EPA Method 1, 1A of Appendix A to 40 CFR part 60*
Velocity/flow	*EPA Method 2, 2A, 2C, 2D, 2F, 2G of Appendix A to 40 CFR part 60*
Molecular weight	*EPA Method 3, 3A, 3B of Appendix A to 40 CFR part 60*
Moisture content	*EPA Method 4 of Appendix A to 40 CFR part 60*
Concentration of organic HAP compounds	*EPA Method 18 of Appendix A to 40 CFR part 60, EPA Method 320 of Appendix A to 40 CFR part 63 and NCASI Method ISS/FP-A105.01*
Concentration of halogen and hydrogen halide HAP compounds	*EPA Method 26A of Appendix A to 40 CFR part 60*
Concentration of trace metal HAP compounds	*EPA Method 29 of Appendix A to 40 CFR part 60*
Fuel Sampling and Analysis Performed to Determine…	***Test Method***
F_d (dry F factor)	*Steps 1 – 7 of Procedure to Determine FHISOR in Appendix C to this permit, except that boiler steam and exhaust flow monitoring are not necessary to calculate F_d*

Response: We agree that the correct term to use is "or" rather than "and" with respect to an individual organic HAP needing to be measured using one "or" another of the methods listed, not both. The non-Title V pre-draft permit will be revised accordingly.

15. Non-Title V Pre-Draft Permit Condition 6.2.8

Stimson continues to find the assumption of the presence of an analyte when it was not actually detected to be problematic. While we recognize the thinking behind EPA's position, it is based upon pure assumptions. We would propose an approach that, while not completely dispensing with such assumptions, does not assume so much when nothing is actually detected (see next page):

Analytic Results	EPA Proposal	Stimson Proposal
Analyte detected in all Samples	Use respective detected values for all samples	Use respective detected values for all samples
Analyte not detected in any sample	Assign presence in all samples at ½ the detection limit	Assign zero value in all samples (not present)
Analyte detected in one or more samples	"non-detect" samples assigned value equal to detection limit	"non-detect" samples assigned value of ½ detection limit

NOTE: "detected" means found above Method Detection Limit.

R10 02/01/21 Non-Title V Pre-Draft Permit Condition

6.2.8. If each fuel sample analysis or source test run (at least three) results in a measurement that is less than the method detection limit for a halogen or trace metal (fuel analysis) or HAP (test run), the concentration of the constituent will be assumed equal to one-half the method detection limit for each fuel analysis or test run. If at least one fuel analysis or test run results in a measure greater than the method detection limit, the concentration for non-detect fuel analysis or non-detect test runs will be assumed equal to the method detection limit for each fuel analysis or test run.

R10 02/01/21 Explanation in the TSD for the Non-Title V Permit

Condition 6.2.8 specifies what to do in the event fuel sampling and analysis or source testing generates a "non-detect" measurement of a pollutant. Each of the pollutants is expected to be present in the sample collected/analyzed based upon emissions information supporting the EF in Appendices A and B to the permit. If at least one run detects the pollutant, then it is reasonable to conservatively assume that the pollutant concentration is equal to the method detection limit (MDL) for non-detect runs. If no runs detect the pollutant, then it is reasonable to assume that the pollutant concentration is half-way between 0 and the MDL. With respect to source testing, the permittee can reduce the level of the MDL by extending the duration of the test run.

Condition 6.2.8 is more stringent than Appendix B (Procedures for Handling Test Data That are Below the Method Detection Limits) to EPA's Draft Final August 2013 "Recommended Procedures for Development of Emission Factors and Use of the WebFIRE Database," EPA-453/D-13-001.[1] The referenced document recommends (1) no EF be assigned when all measurements are below the method detection limit, and (2) measurements below the method detection limit be assigned a value of one-half the method detection limit when at least one other run measures the pollutant at a concentration above the method detection limit. Condition 6.2.8 is less stringent than EPA Boiler MACT regulations at 40 CFR 63.7520(f) which requires that all measurement results below the method detection limit be assumed equal to the method detection limit.

Response: R10 is not making any changes to the pre-draft non-Title V permit or TSD in response to this comment. R10's proposal is reasonable and is technically justified.

16. Non-Title V Pre-Draft Permit Condition 6.3.1

These provisions of the kiln O&M plan are largely acceptable, but we do not believe that 5.18.4 and 5.18.5 are necessary to determining emissions.

R10 02/01/21 Non-Title V Pre-Draft Permit Conditions

[1] https://www3.epa.gov/ttn/chief/efpac/procedures/procedures81213.pdf

5.18. No later than the sixth calendar month after the month in which the permit becomes effective, the Permittee shall develop and implement an O&M plan for the lumber drying kilns that describes the methods and procedures that will be followed to assure good air pollution control practices and efficient operation in accordance with manufacturer specifications and recommendations. The O&M plan shall be updated as necessary and shall include the following, at a minimum:

5.18.1. Air temperature measurement systems used in the kiln;
5.18.2. Lumber moisture measurement systems used in the kiln;
5.18.3. Systems for ensuring only allowed species of wood are dried in the kiln;
5.18.4. Sizing and placement of stickers, bolsters and boards;
5.18.5. Door seals and kiln structure integrity;
5.18.6. Kiln vent, baffle and fan systems (including, but not limited to, regular air velocity hecks);
5.18.7. Kiln steam system;
5.18.8. Kiln control PC interface system;
5.18.9. Recordkeeping of inspections, maintenance and calibrations including dates and the personnel conducting the work; and
5.18.10. Availability of spare parts.

6.3. During each source test run, the Permittee shall perform the following:
6.3.1. Record the values (and time recorded) of the parameters specified in Condition 7.6. For monitoring devices that do not have continuous recording devices, the recorded values must consist of no fewer than one value recorded every 15 minutes; and

R10 02/01/21 Explanation in the TSD for the Non-Title V Pre-Draft Permit Condition
Condition 5.18 requires Stimson to develop and implement an O&M plan for kilns EU-2 to minimize emissions. The permit allows Stimson to employ best-fit-curve and average EF based upon small-scale kiln testing to determine kilns EU-2 emissions without follow-up source testing for the reasons explained in Section 5.3 of this TSD. Compliance with this condition assures that drying will be carried out uniformly across the kiln to discourage the creation of "hot spots" that unnecessarily generate greater emissions. Compliance with this condition helps assure that use of the prescribed EF does not underreport kilns EU-2 emissions.

Response: R10 is not making any changes to the pre-draft non-Title V permit or TSD in response to this comment. The ten minimum required elements of the kilns EU-2 O&M plan, including Conditions 5.18.4 (sizing and placement of stickers, bolsters and boards) and 5.18.5 door seals and kiln structure integrity), are recommended by the United States Forest Services – Forest Products Laboratory in its September 1991 General Technical Report FPL-IMP-GTR-1 entitled, "Quality Drying of Softwood Lumber." A copy of the document is available online at https://www.fpl.fs.fed.us/documnts/fplgtr/impgtr01.pdf. Compliance with this condition helps assure use of good operating and maintenance procedures required by Condition 5.3 and that use of the prescribed EF does not underreport kilns EU-2 emissions.

Stimson's reference to non-Title V pre-draft permit Condition 6.3.1 in the heading for this comment is likely a mistake as that condition is not related to Conditions 5.18.4 and 5.18.5.

17. Non-Title V Pre-Draft Permit Condition 7.5
Stimson has previously commented that we are not aware of any way in which the gross fuel classification is used for determining compliance. This portion of the condition should be removed as unnecessary. It would certainly not be very accurate on a monthly basis.

R10 02/01/21 Non-Title V Pre-Draft Permit Condition

7.5. At the end of each month, for the volume of fuel combusted in boiler EU-1 during that month, the Permittee shall estimate and record (a) the percentage of the fuel that was hogged bark, (b) the percentage of the fuel that was wood residue, (c) for each startup or shutdown, the volume of fuel fired (wet basis) while not generating steam (ft3/event, ft3/month), and (d) the basis for the estimations.

R10 02/01/21 Explanation in the TSD for Non-Title V Pre-Draft Permit Condition

Condition 7.5 requires the permittee to estimate monthly the types of fuel that are being combusted in boiler EU-1 and the percentage of each. This information provides a check on whether the test-derived EF, RF and FHISOR continue to be representative of boiler EU-1 emissions. Condition 7.5 also requires the permittee to collect information to enable the calculation of emissions during startup and shutdown when no steam is being generated.

Response: See response to Comment 8.

18. Non-Title V Pre-Draft Permit Condition 7.6.6

Stimson would maintain that an aggregate water pressure for the scrubber nozzles is adequate to demonstrate normal operation of the scrubber. As written this condition appears to simply require the collection of data for no more than the sake of data. We do not believe that individual nozzle pressures are needed and this should be amended. Stimson is already increasing the monitoring load by collecting any nozzle pressure data with no demonstrated need.

R10 02/01/21 Non-Title V Pre-Draft Permit Condition

7.6.6. No later than the beginning of the first boiler EU-1 source test required in Condition 6.2, one-hour average pressure in each of the four pipes supplying water to the scrubber's four nozzles (inches of water): Measure water pressure at least every 15 minutes. Calculate and display rolling 60-minute average at least every 15 minutes based on all measurements performed within that 60-minute period. Record the one-hour block average each hour based on all measurements performed within that hour. 90% minimum monthly data capture based upon availability of hourly recordings.

R10 02/01/21 Explanation in the TSD for the Non-Title V Pre-Draft Permit Condition

Conditions 7.6.6 requires an hourly average H2O pressure in each of the four water supply distribution lines be calculated and recorded based on measurements performed at least every 15 minutes. The 2015 part 71 permit did not require monitoring of this parameter. The deadline to purchase, install, calibrate and to begin operating the monitoring equipment by the first boiler EU-1 source test provides the permittee time necessary to achieve compliance. Pressure in each of the four scrubber water supply lines (spraying water into the exhaust exiting the scrubber) is a real-time indicator of scrubber performance.

Response: In response to this comment, R10 is revising the pre-draft non-Title V permit as follows:

7.6.6. No later than the beginning of the first boiler EU-1 source test required in Condition 6.2, one-hour average pressure in ~~each of the four pipes supplying water to the scrubber's four nozzles~~ the water supply header (inches of water): Measure water pressure at least every 15 minutes. Calculate and display rolling 60-minute average at least every 15 minutes based on all measurements performed within that 60-minute period. Record the one-hour block average each hour based on all measurements performed within that hour. 90% minimum monthly data capture based upon availability of hourly recordings.

7.7.1.4 One-hour block average pressure in ~~each of the four pipes~~ the pipe exclusively dedicated to supplying water to the scrubber's four nozzles equal to or greater than the lowest test-run average pressure or equal to or less than the highest test-run average pressure for that pipe established during the two source tests required in Condition 6.2.

In addition, R10 is revising the explanation for permit condition 7.6.6 in the pre-draft non-Title V TSD as follows:

Conditions 7.6.6 requires an hourly average H2O pressure in ~~each of the four~~ the dedicated water supply distribution lines~~ *be calculated and recorded based on measurements performed at least every 15 minutes. The 2015 part 71 permit did not require monitoring of this parameter. The deadline to purchase, install, calibrate and to begin operating the monitoring equipment by the first boiler EU-1 source test provides the permittee time necessary to achieve compliance. Pressure in ~~each of the four~~ the dedicated scrubber water supply lines ~~(supplying spraying~~ the water to spray through four nozzles into the exhaust exiting the scrubber) is a real-time indicator of scrubber performance. The integrity of the nozzles is key to achieving the spray of water into the scrubber exhaust, and it is technically sound to assume a portion of boiler EU-1 HAP (halogen-based and trace metals) is reduced by spraying the water into the scrubber exhaust rather than simply pouring or pumping water into the scrubber tank. In meetings with Region 10 during the fall and winter of 2020, Stimson stated that corrosion or pluggage to a single nozzle can be detected by monitoring pressure in the upstream pipe supplying water to all four nozzles.***

19. Non-Title V Pre-Draft Permit Condition 7.7.1

We note that EPA has retained a one-hour averaging time for the boiler parameters. We continue to support a longer averaging time in keeping with the recognition in the boiler NESHAP (MACT) that the values derived from one hour test runs are not fully determinative of compliance. The equivalent standards in the MACT are 30-day rolling averages.

R10 02/01/21 Non-Title V Pre-Draft Permit Condition

7.7.1. Beginning the month after EPA approves the source test report associated with the second source test required in Condition 6.2, indicator ranges are defined as follows:
7.7.1.1 One-hour block average exhaust gas oxygen concentration equal to or greater than the lowest test-run average level established during the two source tests required in Condition 6.2;
7.7.1.2 One-hour block average pressure drop across the scrubber equal to or greater than the lowest test-run average level established during the two source tests required by Condition 6.2;
7.7.1.3 One-hour block average water flow to the scrubber equal to or greater than the lowest test-run average level established during the two source tests required by Condition 6.2; and
7.7.1.4 One-hour block average pressure in each of the four pipes supplying water to the scrubber's four nozzles equal to or greater than the lowest test-run average pressure or equal to or less than the highest test-run average pressure for that pipe established during the two source tests required in Condition 6.2.

R10 02/01/21 Explanation in the TSD for the Non-Title V Pre-Draft Permit Condition

Condition 7.7 requires Stimson, upon discovery of an indicator out of range, to expeditiously restore operation of boiler EU-1 and wet scrubber such that the indicator is no longer outside the range established in Condition 7.7.1. While failing to expeditiously restore boiler EU-1 or scrubber operations to normal or usual manner of operation (characterized by indicators operating within the acceptable range) is a permit deviation, an indicator out-of-range is not a permit deviation. Stimson is required to report each indicator out-of-range occurrence and its resolution in the semi-annual monitoring report required pursuant to Condition 8.4.2. Operating out of range indicates

that EF (used to calculate emissions) may not have been representative of emissions generated for the period.

Response: R10 is not making any changes to the pre-draft non-Title V permit or TSD in response to this comment. It is appropriate to align the indicator averaging times with the test run duration over which the operating data was gathered to set the indicator threshold. The permit provides Stimson six opportunities (in the form of six test runs; three in the winter and three in the summer) to determine the indicator ranges that will apply under all operating conditions except startup and shutdown. This provides Stimson a good measure of flexibility in setting the parameter ranges.

20. Non-Title V Pre-Draft Permit Condition 7.10.4.1

While requiring measuring of the temperature in each zone for purposes of calculating a kiln wide average temperature is appropriate, Stimson does not see the need for *recording* all of these numbers. The retention of average temperatures should be sufficient. Recording individual thermocouple values will add greatly to the volume of data that will need to be stored and managed with no real benefit. We note that Condition 7.10.5 takes this approach of recording the average only.

R10 02/01/21 Non-Title V Pre-Draft Permit Condition

7.10.4.1 For each load of lumber in each zone of the kiln, record an instantaneous "entering air" temperature at least every 15 minutes. Calculate and record a kiln-wide average "entering air" temperature at least every 15 minutes consistent with the O&M plan required in Condition 5.17.1 and monitoring plan required in Condition 7.4;

Response: In response to this comment, R10 is revising the pre-draft non-Title V permit as follows:

7.10.4.1 ~~For each load of lumber in each zone of the kiln, record an instantaneous "entering air" temperature at least every 15 minutes.~~ Calculate and record a kiln-wide average "entering air" temperature at least every 15 minutes consistent with the O&M plan required in Condition 5.17.1 and monitoring plan required in Condition 7.4;

21. Non-Title V Pre-Draft Permit Condition 7.15

We note that this condition requires the *adoption* of a plan for scaling incoming log loads the month after the effective date, but other conditions require the *submission* of such plan at the six month mark. Again, is it EPA's intent to separate these requirements? It is somewhat confusing.

R10 02/01/21 Non-Title V Pre-Draft Permit Condition

7.15. No later than the month after the month in which the permit becomes effective, the Permittee shall develop and implement a plan to estimate (in a manner that produces a representative result) the six-month rolling relative fraction of logs received at the facility, by species. The plan shall be updated as necessary and shall include the following, at a minimum:

7.15.1. Number of truckloads to be scaled per day;
7.15.2. Description of how the truckloads will be selected for scaling;
7.15.3. The form that the employees fill out to document the make-up of the load, by species;
7.15.4. Calculations to be performed; and
7.15.5. Recordkeeping procedures for the completed forms and calculations.

R10 02/01/21 Explanation in the TSD for the Non-Title V Pre-Draft Permit Condition

Condition 7.15 requires Stimson to develop and implement a plan to estimate (in a manner that produces a representative result) the six-month rolling relative fraction of logs received at the facility, by species. The estimate is used to calculate kilns EU-2 emissions.

R10 02/01/21 Non-Title V Pre-Draft Permit Condition
Reporting requirement…

8.5. The boiler EU-1 O&M plan required pursuant to Condition 5.12, kilns EU-2 O&M plan required pursuant to Condition 5.17, kilns EU-2 log scaling plan required pursuant to Condition 7.14, and elements of the monitoring plan required pursuant to Condition 7.4 unrelated to boiler EU-1 (and associated multiclone and scrubber) shall be submitted to EPA no later than the sixth calendar month after the month in which the permit becomes effective. Elements of the monitoring plan required pursuant to Condition 7.4 related to boiler EU-1 (and associated multiclone and scrubber) shall be submitted to EPA at the same time the first source test report required pursuant to Condition 8.2 is submitted to EPA.

8.5.1. The Permittee shall review each plan at least annually, update it as needed, and submit updates to EPA within 30 days of the update.

8.5.2. The Permittee shall revise any of these plans at any time if EPA determines that a plan does not achieve the goal of the plan. In such event, EPA will notify the Permittee of the specified deficiencies, and the Permittee shall submit a revised plan to EPA within 30 days.

Response: R10 is not making any changes to the pre-draft non-Title V permit or TSD in response to this comment. It was R10's intent to separate the plan implementation requirement from the plan submission requirement. One is a monitoring requirement that begins no later than the month after the month in which the permit becomes effective while the other is a reporting requirement that begins no later than the sixth calendar month after the month in which the permit becomes effective.

22. Non-Title V Pre-Draft Permit Condition 8.1
We note that the current Title V permit requires submission of tests plans 30 days prior to the testing. What is EPA's justification for increasing this to 60 days? Unlike the need for analysis and report preparation after the test, we do not believe that so much time is needed for prior review of a source test plan. We have some concerns about this timeline for the first required source test.

R10 02/01/21 Non-Title V Pre-Draft Permit Condition
8.1. The Permittee shall submit to EPA for approval a source test plan 60 days prior to any required testing. The source test plan shall include and address the following elements:
8.1.1. Purpose and scope of testing;
8.1.2. Source description, including a description of the operating scenarios and mode of operation during testing and including fuel sampling and analysis procedures;
8.1.3. For boiler EU-1, an estimate of the average hourly steam generating rate for the month in which the test is to be conducted;
8.1.4. Schedule/dates of testing;
8.1.5. Process data to be collected during the test and reported with the results, including source-specific data identified in the emission unit sections of this permit;
8.1.6. Sampling and analysis procedures, specifically requesting approval for any proposed alternatives to the reference test methods, and addressing minimum test length (e.g., one hour, 8 hours, 24 hours, etc.) and minimum sample volume;

8.1.7. Sampling location description and compliance with the reference test methods;
8.1.8. Analysis procedures and laboratory identification;
8.1.9. Quality assurance plan;
8.1.10. Calibration procedures and frequency;
8.1.11. Sample recovery and field documentation;
8.1.12. Chain of custody procedures;
8.1.13. Quality assurance/quality control project flow chart;
8.1.14. Data processing and reporting;
8.1.15. Description of data handling and quality control procedures; and
8.1.16. Report content and timing.

R10 02/01/21 Explanation in the TSD for the Non-Title V Pre-Draft Permit Condition
Conditions 8.1 and 8.2 requires a test plan be submitted before testing and a test report submitted after testing is completed. Monthly average steaming rate (for the month in which testing is to be performed) is required to be submitted by Condition 8.1.3 so that Region 10 can review and approve the conditions under which testing is to be conducted.

Response: In response to this comment, R10 is revising the pre-draft non-Title V permit as follows:

8.1. The Permittee shall submit to EPA for approval a source test plan ~~60~~30 days prior to any required testing. The source test plan shall include and address the following elements:

23. Non-Title V Pre-Draft Permit Condition 8.1.13
We do not consider a QA/QC project flow chart to be a standard inclusion in the protocol. We request removing this requirement.

R10 02/01/21 Non-Title V Pre-Draft Permit Condition
See permit condition above for text.

Response: R10 is not making any changes to the pre-draft non-Title V permit or TSD in response to this comment. A QA/QC project flow chart is an important element of a source test plan. All Title V permits issued by Region 10 require that a QA/QC project flow chart be submitted as part of every source test plan.

Stimson Comments on the Title V Pre-Draft (R10T5020200)

24. Condition 1
The description of the planer mill should include application of surface protection products. There are no HAPs associated with this activity so we have not noted this for the non-Title V pre-draft. However, there is the potential for a minor amount of VOCs (below the insignificant thresholds in 40 CFR 71.5(c)(11).

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EU-4	Planer Mill; includes planer shavings cyclone and the planer chipper cyclone; annual capacity 130 mmbf.	None
EU-5	Used Oil-Fired Heater: Clean Burn 4000, 280,000 Btu/hr.	None
EU-6	Piles and handling; bark fuel pile, sawdust pile, shavings pile; drop onto pile, wind erosion of piles	None
EU-7	Tanks: diesel (15,000 gallon), gasoline (500 gallon) and used oil (2,120 gallon) fuel tanks, horizontal	None
EU-8	Plant Traffic: in log yard, on paved areas and in green lumber stacking area; involves front-end loaders and trucks	None

[1] The multiclone and scrubber are required to be used by this permit

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EU-4	Planer Mill; includes planer shavings cyclone and the planer chipper cyclone; annual capacity 130 mmbf/year	None
EU-5	Used Oil-Fired Heater: Clean Burn 4000, 280,000 Btu/hr.	None
EU-6	Piles and handling; bark fuel pile, sawdust pile, shavings pile; drop onto pile, wind erosion of piles	None
EU-7	Tanks: diesel (15,000 gallon), gasoline (500 gallon) and used oil (2,120 gallon) fuel tanks, horizontal	None
EU-8	Plant Traffic: in log yard, on paved areas and in green lumber stacking area; involves front-end loaders and trucks	None

[1] The multiclone and scrubber are required to be used by this permit

An emission unit or activity qualifies as an insignificant emission unit (IEU) if it is an activity type listed in 40 CFR 71.5(c)(11)(i) or emits less than 2 tons per year of any regulated air pollutant excluding HAPs [40 CFR 71.5(c)(11)(ii)(A)] and less than 1000 pounds per year of any HAP or the de minimus HAP level established under Section 112(g), whichever is lower [40 CFR 71.5(c)(11)(ii)(B)]. There are no emission units being treated as IEUs in the Title V permit.

Response: In response to this comment, R10 is revising the pre-draft Title V permit as follows:

EU-4	Planer Mill; includes planer shavings cyclone and the planer chipper cyclone; annual capacity 130 mmbf.	None
EU-5	Used Oil-Fired Heater: Clean Burn 4000, 280,000 Btu/hr.	None
EU-6	Piles and handling; bark fuel pile, sawdust pile, shavings pile; drop onto pile, wind erosion of piles	None
EU-7	Tanks: diesel (15,000 gallon), gasoline (500 gallon) and used oil (2,120 gallon) fuel tanks, horizontal	None
EU-8	Plant Traffic: in log yard, on paved areas and in green lumber stacking area; involves front-end loaders and trucks	None
EU-9[2]	**Miscellaneous activities that consist of the application of surface protection products that generate emissions.**	**None**

[1] The multiclone and scrubber are required to be used by this permit.

[2] This source has been designated an 'Insignificant Emission Unit' as its potential to emit regulated air pollutants, excluding HAPs, do not exceed 2 tpy.

In addition, R10 is changing the explanation for IEUs in the pre-draft Title V SoB as follows:

EU-4	Planer Mill; includes planer shavings cyclone and the planer chipper cyclone; annual capacity 130 mmbf/year	None
EU-5	Used Oil-Fired Heater: Clean Burn 4000, 280,000 Btu/hr.	None
EU-6	Piles and handling; bark fuel pile, sawdust pile, shavings pile; drop onto pile, wind erosion of piles	None
EU-7	Tanks: diesel (15,000 gallon), gasoline (500 gallon) and used oil (2,120 gallon) fuel tanks, horizontal	None
EU-8	Plant Traffic: in log yard, on paved areas and in green lumber stacking area; involves front-end loaders and trucks	None
EU-9[2]	**Miscellaneous activities that consist of the application of surface protection products that generate emissions.**	**None**

[1] The multiclone and scrubber are required to be used by this permit.

[2] This source has been designated an 'Insignificant Emission Unit' as its potential to emit regulated air pollutants, excluding HAPs, do not exceed 2 tpy.

An emission unit or activity qualifies as an insignificant emission unit (IEU) if it is an activity type listed in 40 CFR 71.5(c)(11)(i) or emits less than 2 tons per year of any regulated air pollutant excluding HAPs [40 CFR 71.5(c)(11)(ii)(A)] and less than 1000 pounds per year of any HAP or the de minimus HAP level established under Section 112(g), whichever is lower [40 CFR 71.5(c)(11)(ii)(B)]. **Stimson is claiming that the application of surfacing protection products,**

listed under EU-9, is an IEU because there are no HAPs associated with this activity and the potential to emit of regulated air pollutants, excluding HAPs, is less than 2 tpy.

25. Conditions 4.23 and 4.24

This language appears to be from the federal regulations but we do not see the need for this level of detail. The previous permit language should suffice. We are, however, open to discussion with EPA on this.

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Monitoring for Modifications to the Facility not Undergoing PSD Review

4.23. Where there is a reasonable possibility (as defined in 40 CFR 52.21(r)(6)(vi)) that a project (other than projects at a source with a PAL) that is not a part of a major modification may result in a significant emissions increase of any regulated NSR pollutant and the Permittee elects to use the method specified in 40 CFR 52.21(b)(41)(ii)(a) through (c) for calculating projected actual emissions, the Permittee shall perform the following.

4.23.1. Before beginning actual construction of the project, document and maintain a record of the following information.

4.23.1.1. A description of the project.

4.23.1.2. Identification of the emissions unit(s) whose emissions of a regulated NSR pollutant could be affected by the project.

4.23.1.3. A description of the applicability test used to determine that the project is not a major modification for any regulated NSR pollutant, including the baseline actual emissions, the projected actual emissions, the amount of emissions excluded under 40 CFR 52.21(b)(41)(ii)(c) and an explanation for why such amount was excluded, and any netting calculations, if applicable.

4.23.2. Monitor the emission of any regulated NSR pollutant that could increase as a result of the project and that is emitted by any emissions unit identified in Condition 4.23.1.2; and calculate and maintain a record of the annual emissions, in tons per year on a calendar year basis, for a period of five years following resumption of regular operations after the change, or for a period of ten years following resumption of regular operations after the change if the project increases the design capacity or potential to emit of that regulated NSR pollutant at such emissions unit. [40 CFR 52.21(r)(6)]

Reporting for Modifications to the Facility not Undergoing PSD Review

4.24. If monitoring and recordkeeping is required in Condition 4.23.2, the Permittee shall report to EPA when the annual emissions, in tons per year, from the project identified in Condition 4.23.1.1 exceed the baseline actual emissions as documented and maintained pursuant to Condition 4.23.1.3 by a significant amount (as defined in 40 CFR 52.21(b)(23)) for that regulated NSR pollutant, and when such emissions differ from the preconstruction projection as documented and maintained pursuant to Condition 4.23.1.3. Such report shall be submitted to EPA within 60 days after the end of such year. The report shall contain the following:

4.24.1. The name, address and telephone number of the major stationary source.

4.24.2. The annual emissions as calculated pursuant to Condition 4.23.2.

4.24.3. Any other information that the owner or operator wishes to include in the report (e.g., an explanation as to why the emissions differ from the preconstruction projection).

[40 CFR 52.21(r)(6)]

R10 02/01/21 Title V Pre-Draft SoB

Permit Conditions 4.23 and 4.24. The PSD regulation applicability test for modifications was changed in December 2002. The rule change resulted in a new applicable requirement for PSD

major sources. Since the facility is a PSD major source, this term is included in the operating permit. In summary, when the permittee considers a plant modification project to be exempt from PSD via the method specified in 40 CFR 52.21(b)(41)(ii)(a-c) and there is a reasonable possibility that there will be a significant emissions increase resulting from the project, then the permittee must fulfill specified requirements related to documentation, monitoring, and notification. This term will be relevant only when the permittee is contemplating making physical or operational changes to the facility. In those instances it is strongly recommended that the permittee contact EPA to discuss their plans and verify their assumptions.

Response: R10 is not making any changes to the pre-draft Title V permit or SoB in response to this comment. This is standard language from the CFR that is incorporated in all of R10's permits for PSD applicability.

26. Condition 5.4
See earlier comments on pre-draft non-Title V permit Condition 5.10.

R10 02/01/21 Title V Pre-Draft Permit Condition
5.4. The Permittee is prohibited from combusting in boiler EU-1 any fuel other than wood residue (some of which is hogged) and hogged bark generated from the manufacture of wood products at a mill, except as authorized in writing by EPA.

R10 02/01/21 Explanation in the SoB for Title V Pre-Draft Permit Condition
Condition 5.4 restricts the permittee to firing in boiler EU-1 only certain types of fuel typically generated at Stimson or other similar wood products facilities. It is our understanding that boiler EU-1 combusts only hogged bark and wood residue generated at a mill, not slash generated in the forest. The permit does not prohibit the combustion of resinated wood residue, but EPA understands that this type of fuel constitutes less than 1% of the fuel combusted. Stimson must request authorization from EPA in writing to combust a fuel beyond the types identified in Condition 5.4. The request must include characterization of the fuel, technique for combusting (e.g., fuel mixing), quantity to be combusted and over what duration, and EF (if available). If EF are unavailable, then Stimson must supply technical literature (to the extent available) on the emissions resulting from the combustion of the proposed fuel.

Response: In response to this comment, R10 is revising the pre-draft Title V permit as follows:

5.3. The Permittee is prohibited from combusting in boiler EU-1 any fuel other than biomass. ~~wood residue (some of which is hogged) and hogged bark generated from the manufacture of wood products at a mill, except as authorized in writing by EPA.~~ Biomass means any biomass-based solid fuel that includes only resonated and non-resonated wood residue and wood products (e.g., trees, tree stumps, tree limbs, bark, lumber, sawdust, sander dust, chips, scraps, slabs, millings, and shavings); logging residues (slash); and wheat chaff.

New Condition 5.16 (not to replace existing Condition 5.16) is as follows:
5.16 No later than the sixth calendar month after the month in which the permit becomes effective, the Permittee shall develop and implement a plan to document the biomass (other than bark and wood residue arriving in the form of logs to be manufactured into lumber) received at the facility to be combusted in boiler EU-1. The plan shall be updated as necessary and shall include the following, at a minimum:

5.16.1. Inspection of all boiler EU-1 biomass fuel truckloads received at the mill;
5.16.2. The form that the employees fill out to document the inspection of each biomass fuel truckload. The information on the form shall include, but not be limited to, date of truckload arrival, date of inspection, whether the biomass fuel was accepted or rejected, fuel supplier, description of biomass fuel(s) (e.g., planer shavings), estimated moisture content of each fuel, estimated quantity of each fuel;
5.16.3. Recordkeeping procedures for the completed forms.

~~5.17~~5.17. At the end of each month, for the volume of biomass fuel combusted in boiler EU-1 during that month, the Permittee shall estimate and record (a) the percentage of the biomass fuel that was hogged bark, (b) the percentage of the biomass fuel that was wood residue, (c) the percentage of the biomass fuel that was biomass other than hogged bark or wood residue, (~~c~~d) ~~for each startup or shutdown,~~ the volume of biomass fuel fired (wet basis) while not generating steam (ft3/event, ft3/month), and (~~d~~e) the basis for the estimations.

Facility-Wide HAP Reporting Requirements
4.21. The boiler EU-1 O&M plan required pursuant to Condition 5.6, boiler EU-1 biomass fuel received inspection plan required pursuant to Condition 5.15, kilns EU-2 O&M plan required pursuant to Condition 6.3, kilns EU-2 log scaling plan required pursuant to Condition 6.13, and elements …

In addition, R10 is revising the explanation for these permit conditions in the pre-draft Title V SoB as follows:

Condition 5.4 restricts the permittee to firing "biomass" as that term is defined in the permit condition.~~Condition 5.4 restricts the permittee to firing in boiler EU-1 only certain types of fuel typically generated at Stimson or other similar wood products facilities.~~ It is Region 10's understanding that boiler EU-1 generally combusts only hogged bark and wood residue generated at a mill and that, on an annual basis, less than 1% of the fuel combusted in boiler EU-1 is something other than hogged bark and wood residue generated at a mill.~~, not slash generated in the forest. The permit does not prohibit the combustion of resinated wood residue, but EPA understands that this type of fuel constitutes less than 1% of the fuel combusted. Stimson must request authorization from EPA in writing to combust a fuel beyond the types identified in Condition 5.4. The request must include characterization of the fuel, technique for combusting (e.g., fuel mixing), quantity to be combusted and over what duration, and EF (if available). If EF are unavailable, then Stimson must supply technical literature (to the extent available) on the emissions resulting from the combustion of the proposed fuel.~~ The EU-1 boiler emission factors specified in the permit reflect emissions resulting from the combustion of bark or wood. If the amount of other types of biomass burned remains less than 1%, requiring testing while burning the other types of biomass is not needed in the absence of other information. On an annual basis, these emissions factors are representative of boiler EU-1's annual emissions given our understanding that Stimson generally combusts only bark and wood residue.

New Condition 5.17 requires the permittee to develop and implement a plan to document the biomass received at the facility to be combusted in boiler EU-1. The condition is needed to generate records documenting that less than 1% of the biomass fuel burned in boiler EU-1 is biomass other than bark or wood. Region 10 is uncertain as to the representativeness of the emission factors specified in the permit (or derived through testing specified in the permit) for combustion of biomass other than bark and wood. If greater than 1% of the biomass fuel combusted in boiler EU-1 is biomass other than bark and wood, Region 10 will consider revising

the permit to accommodate the range of biomass fuels being combusted and ensure the EF remain representative of operations.

27. Condition 5.20

Stimson successfully worked with EPA to determine a HAPs testing schedule that would avoid testing only under worst case or ideal conditions but, considering that the results of the PM testing will be incorporated into subsequent FHISOR calculations, this condition once again skews the testing regime to what is likely to be worst case conditions of temperature and moisture. There are several options here:

(1) Determine one time of the year considered to be "average." Stimson suggests the Fall
(2) Alternate source tests between summer and winter. This is conceptual attractive but given that there may be years between tests could be cumbersome and may not actually solve the issue.
(3) Test twice during the years when testing is required. This does generally solve the issues but requires twice the amount of testing, so we are unsure at this point how supportive we could be.
(4) Stimson propose a sampling plan for EPA approval that details one of these approachesor proposes another. d propose an alternative. At the very least the FHISOR calculations should incorporate all approved tests, opening the possibility for Stimson to conduct additional testing to counterbalance the worst case envisionedin the pre-draft.

Stimson Comment on 02/01/21 Pre-Draft Non-Title V Permit Condition 5.20

As previously commented, mandating source tests during the wettest and/or coldest portion of the year without a seasonal counter balance introduces a bias into the FHISOR calculations. EPA has resolved the issue with the time course of the initial tests and Stimson is appreciative of this. However, the continued incorporation of the periodic source tests mandated, again, during the wettest and/or coldest portion of the year will inexorably pressure the FHISOR calculation to less efficient operation.

Stimson is suggesting a simple solution in the non-Title V permit: simply remove the reference to the mandated Title V tests and replace with a reference to "approved compliance tests." This will also address the incorporation of additional voluntary tests as they would need prior approval of the source test protocol by EPA. We address the direct issue of the timing of the mandated tests in our comments on the Title V.

R10 02/01/21 Non-Title V Pre-Draft Permit Conditions 5.15 and 5.16

5.15. Particulate Matter Test. Between December 1, 2021 and March 31, 2022, the Permittee shall measure particulate matter emissions from the boiler stack using the test method specified in Condition 5.2.1.

5.15.1. During each source test run, the Permittee shall measure the visible emissions from the boiler stack for the duration of each particulate matter test run using the procedures specified in Condition 3.9.1.

5.15.2. During each source test run, the Permittee shall record the values (and time recorded) of the parameters specified in Condition 5.19. For monitoring devices that do not have continuous recording devices, the recorded values must consist of no fewer than three values recorded per test run.

5.15.3. During each source test run, the Permittee shall collect composite fuel samples. The Permittee shall estimate and record the percentages of bark, species of wood and material less than 1/8 inch in each composite fuel sample. The Permittee shall determine and record the boiler FHISOR using the procedures specified in Appendix C to this permit.

5.16. Periodic Particulate Matter Test. The Permittee shall measure particulate matter emissions from the boiler stack using the procedures specified in Condition 5.15 and at the frequency specified in Table 5-4:

Table 5-4: Frequency of Boiler EU-1 Particulate Matter Testing

If testing required in Condition 5.15 results in measured particulate matter emissions … Additional particulate matter testing shall be conducted …

≥ 90% of the emission limit in Condition 5.2

Once per calendar year, between December 1 and March 31

≥ 75% but < 90% of the emission limit in Condition 5.2

Once per two calendar years, between December 1 and March 31

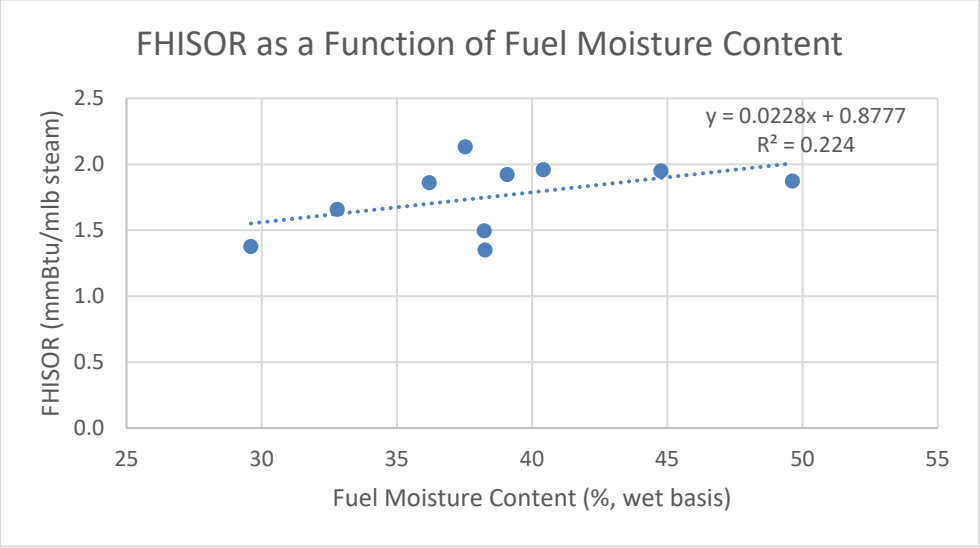
< 75% of the emission limit in Condition 5.2

Once per four calendar years, between December 1 and March 31

R10 02/01/21 Explanation in the TSD for Title V Pre-Draft Permit Condition 5.15 and 5.16

Permit Conditions 5.15 and 5.16 require measurement of particulate matter emissions. Test results over the years show PM emissions to be comfortably below the applicable FARR PM emission limit. Given that the last test was performed in October 2018, and that PM was measured to be less than 75% of the applicable FARR PM limit, the next test must be performed between December 1, 2021 and March 31, 2022. The schedule for additional testing after that depends on the results of that next test. During each test, visible emissions must be measured and all required periodic and compliance assurance monitoring required by the permit must be recorded. A heat-input-to-steam-output ratio must be developed during each particulate matter test, and that value must be considered along with the existing test-derived values to calculate an average ratio. The ratio is used to convert tracked steam production into heat input for calculating boiler emissions. PM testing is required to be performed during winter months to hopefully capture worst-case emissions due to wetter fuel and higher steam demand. Because the permittee prefers to measure and track steam output rather than fuel input, during each emission test a ratio of heat input to steam output must be determined using procedures found in Appendix C to the permit. The ratio is then used to convert measured steam flows (mlb/hr) to heat input (mmBtu/hr) which can be applied to emission factors that are normally in terms of heat input (lb/mmBtu). The general emission testing requirements in Permit Conditions 3.22 through 3.30 apply to all emissions testing; except, periodic visible emission testing is only required to meet 3.27 (emission unit operation), 3.29 (records during tests) and 3.30 (test reports) of the general requirements as well as the recordkeeping required in Condition 5.15.2 (note that all particulate matter testing must follow all of Condition 5.15).

Response: R10 is not making any changes to the pre-draft non-Title V permit or TSD in response to this comment. Test results from October 2012, 2014 and 2018 do not illustrate a strong correlation between FHISOR and fuel moisture content. The following chart is in the administrative record for this permitting action.



If the two rounds of testing required by the non-Title V permit illustrates a strong correlation between FHISOR and fuel moisture content, or between FHISOR and some other environmental factor(s) (e.g., ambient temperature), then Stimson can request a revision to the non-Title V permit to provide the opportunity to conduct one summer-time FHISOR test for each winter-time RM5 PM/FHISOR test in order to counter-balance the test results. Alternatively, Stimson and R10 could consider revising the permit to create season-specific FHISOR. There is currently insufficient information on the degree to which environmental conditions influence FHISOR (if at all) to justify including permit conditions to address the issue.

28. Condition 5.21

This condition continues the worst case testing scheduling and will inexorably lead to worsening numbers. Adopt proposed alternative resulting from Condition 5.20.

R10 02/01/21 Title V Pre-Draft Permit Conditions 5.15 and 5.16

5.15. Particulate Matter Test. Between December 1, 2021 and March 31, 2022, the Permittee shall measure particulate matter emissions from the boiler stack using the test method specified in Condition 5.2.1.

5.15.1. During each source test run, the Permittee shall measure the visible emissions from the boiler stack for the duration of each particulate matter test run using the procedures specified in Condition 3.9.1.

5.15.2. During each source test run, the Permittee shall record the values (and time recorded) of the parameters specified in Condition 5.19. For monitoring devices that do not have continuous recording devices, the recorded values must consist of no fewer than three values recorded per test run.

5.15.3. During each source test run, the Permittee shall collect composite fuel samples. The Permittee shall estimate and record the percentages of bark, species of wood and material less than 1/8 inch in each composite fuel sample. The Permittee shall determine and record the boiler FHISOR using the procedures specified in Appendix C to this permit.

5.16. Periodic Particulate Matter Test. The Permittee shall measure particulate matter emissions from the boiler stack using the procedures specified in Condition 5.15 and at the frequency specified in Table 5-4:

Table 5-4: Frequency of Boiler EU-1 Particulate Matter Testing

If testing required in Condition 5.15 results in measured particulate matter emissions …
Additional particulate matter testing shall be conducted …

≥ 90% of the emission limit in Condition 5.2

Once per calendar year, between December 1 and March 31

≥ 75% but < 90% of the emission limit in Condition 5.2

Once per two calendar years, between December 1 and March 31

< 75% of the emission limit in Condition 5.2

Once per four calendar years, between December 1 and March 31

R10 02/01/21 Explanation in the TSD for Title V Pre-Draft Permit Condition 5.15 and 5.16

Permit Conditions 5.15 and 5.16 require measurement of particulate matter emissions. Test results over the years show PM emissions to be comfortably below the applicable FARR PM emission limit. Given that the last test was performed in October 2018, and that PM was measured to be less than 75% of the applicable FARR PM limit, the next test must be performed between December 1, 2021 and March 31, 2022. The schedule for additional testing after that depends on the results of that next test. During each test, visible emissions must be measured and all required periodic and compliance assurance monitoring required by the permit must be recorded. A heat-input-to-steam-output ratio must be developed during each particulate matter test, and that value must be considered along with the existing test-derived values to calculate an average ratio. The ratio is used to convert tracked steam production into heat input for calculating boiler emissions. PM testing is required to be performed during winter months to hopefully capture worst-case emissions due to wetter fuel and higher steam demand. Because the permittee prefers to measure and track steam output rather than fuel input, during each emission test a ratio of heat input to steam output must be determined using procedures found in Appendix C to the permit. The ratio is then used to convert measured steam flows (mlb/hr) to heat input (mmBtu/hr) which can be applied to emission factors that are normally in terms of heat input (lb/mmBtu). The general emission testing requirements in Permit Conditions 3.22 through 3.30 apply to all emissions testing; except, periodic visible emission testing is only required to meet 3.27 (emission unit operation), 3.29 (records during tests) and 3.30 (test reports) of the general requirements as well as the recordkeeping required in Condition 5.15.2 (note that all particulate matter testing must follow all of Condition 5.15).

Response: R10 is not making any changes to the pre-draft Title V permit or SoB in response to this comment. See comment to Condition 5.15 PM testing. The scheduling issue will be resolved by or during the next Title V permit renewal.

29. Condition 5.22
Is there a hard deadline here?

R10 02/01/21 Title V Pre-Draft Permit Conditions 5.23

5.23. The Permittee shall develop and implement a quality improvement plan (QIP) in accordance with 40 CFR 64.8 if EPA Region 10 determines, pursuant to 40 CFR 64.7(d)(2), that the Permittee has not used acceptable procedures in response to an excursion or exceedance as defined in Condition 5.21.

R10 02/01/21 Explanation in the TSD for Title V Pre-Draft Permit Condition 5.23

Permit Condition 5.23 simply states EPA's option to require a quality improvement plan (QIP); this condition becomes a requirement only in the event EPA informs the permittee that a QIP is required.

Response: R10 is not making any changes to the pre-draft Title V permit or SoB in response to this comment. R10 is currently not requesting that a QIP be submitted and as stated in the statement of basis to this condition, Stimson would only be required to send a QIP in the event that EPA determines the need for one.

30. Condition 5.24.7

Stimson notes that we are not aware of any way in which the steam pressure is used to determine compliance. We suggest removing this requirement.

R10 02/01/21 Title V Pre-Draft Permit Conditions 5.23

5.20.7. Steam pressure (psig) - continuous measurement/display, recorded at least once per month;

R10 02/01/21 Explanation in the SoB for Title V Pre-Draft Permit Condition 5.23

Permit Condition 5.20.7 requires steam pressure be measured/displaed continuously and recorded once per month. Steam pressure provides an indication of potential changes in boiler duty and allows an estimation of steam heat content.

Response: R10 accepts Stimson's suggestion and is dropping this condition from both the pre-draft Title V permit and SoB in response to this comment.

31. Condition 5.25.1

Just a note. Stimson is unclear why EPA has rejected the approached used in the boiler NESHAP for setting the parametric ranges during a source test. However, given that we do not anticipate test runs in excess of one hour the results will be equivalent.

R10 02/01/21 Title V Pre-Draft Permit Conditions

5.21.1. Beginning the month after EPA approves the source test report associated with the second source test required in Condition 5.13, indicator ranges are defined as follows:

5.21.1.1. One-hour block average exhaust gas oxygen concentration equal to or greater than the lowest test-run average level established during the two source tests required in Condition 5.13;

5.21.1.2. One-hour block average pressure drop across the scrubber equal to or greater than the lowest test-run average level established during the two source tests required by Condition 5.13;

5.21.1.3. One-hour block average water flow to the scrubber equal to or greater than the lowest test-run average level established during the two source tests required by Condition 5.13; and

5.21.1.4. One-hour block average pressure in each of the four pipes supplying water to the scrubber's four nozzles equal to or greater than the lowest test-run average pressure or equal to or less than the highest test-run average pressure for that pipe established during the two source tests required in Condition 5.13.

R10 02/01/21 Explanation in the SoB for Title V Pre-Draft Permit Condition

Permit Condition 5.21 and 5.22 requires Stimson, upon discovery of an indicator excursion, to expeditiously restore operation of boiler EU-1 and wet scrubber such that the indicator is no longer outside the range established in Condition 5.22.1. Permit Condition 5.22.1 specifies scrubber Δp, scrubber H2O flow, and opacity CAM excursion thresholds based upon observations during December 2010 testing demonstrating compliance with FARR PM (40% of

the 0.2 gr/dscf @ 7%O2) and opacity limits. The lowest Δp during a single run was 3.4" H2O. The lowest scrubber H2O flow during a single run was 35 gallons per minute (gpm). Opacity was recorded as zero, so the threshold for an excursion has been set well below the opacity limit of 20%. See January 14, 2011 letter from Stimson to EPA.

Response: Stimson is not requesting any changes to the pre-draft Title V permit or SoB in this comment. Therefore, R10 is not making any changes in response to this comment.

32. Condition 5.25.1.4
See Stimson's earlier comment that we do not believe individual nozzle pressures are necessary.

Stimson Non-Title V Pre-Draft Permit Condition 7.6.6
Stimson would maintain that an aggregate water pressure for the scrubber nozzles is adequate to demonstrate normal operation of the scrubber. As written this condition appears to simply require the collection of data for no more than the sake of data. We do not believe that individual nozzle pressures are needed and this should be amended. Stimson is already increasing the monitoring load by collecting any nozzle pressure data with no demonstrated need.

R10 02/01/21 Title V Pre-Draft Permit Conditions 5.20.6 and 5.21.1.4
5.20.6. No later than the beginning of the first boiler EU-1 source test required in Condition 5.13, one-hour average pressure in each of the four pipes supplying water to the scrubber's four nozzles (inches of water): Measure water pressure at least every 15 minutes. Calculate and display rolling 60-minute average at least every 15 minutes based on all measurements performed within that 60-minute period. Record a one-hour block average each hour based on all measurements performed within that hour. 90% minimum monthly data capture based upon availability of hourly recordings; and

5.21.1.4. One-hour block average pressure in each of the four pipes supplying water to the scrubber's four nozzles equal to or greater than the lowest test-run average pressure or equal to or less than the highest test-run average pressure for that pipe established during the two source tests required in Condition 5.13.

R10 02/01/21 Explanation in the SoB for Title V Pre-Draft Permit Condition 5.20.6 and 5.21.1.4
Permit Condition 5.20.6 requires an hourly average H2O pressure in each of the four water supply distribution lines be calculated and recorded based on measurements performed at least every 15 minutes. The 2015 part 71 permit did not require monitoring of this parameter. The deadline to purchase, install, calibrate and to begin operating the monitoring equipment by the first boiler EU-1 source test provides the permittee time necessary to achieve compliance. Pressure in each of the four scrubber water supply lines (spraying water into the exhaust exiting the scrubber) is a real-time indicator of scrubber performance.

Permit Condition 5.21 and 5.22 requires Stimson, upon discovery of an indicator excursion, to expeditiously restore operation of boiler EU-1 and wet scrubber such that the indicator is no longer outside the range established in Condition 5.22.1. Permit Condition 5.22.1 specifies scrubber Δp, scrubber H2O flow, and opacity CAM excursion thresholds based upon observations during December 2010 testing demonstrating compliance with FARR PM (40% of the 0.2 gr/dscf @ 7%O2) and opacity limits. The lowest Δp during a single run was 3.4" H2O. The lowest scrubber H2O flow during a single run was 35 gallons per minute (gpm). Opacity was recorded as zero, so the threshold for an excursion has been set well below the opacity limit of 20%. See January 14, 2011 letter from Stimson to EPA.

Response: In response to this comment, R10 is revising the pre-draft Title V permit as follows:

5.19.6 No later than the beginning of the first boiler EU-1 source test required in Condition 5.13, one-hour average pressure in ~~each of the four pipes supplying water to the scrubber's four nozzles~~ the water supply header (inches of water): Measure water pressure at least every 15 minutes. Calculate and display rolling 60-minute average at least every 15 minutes based on all measurements performed within that 60-minute period. Record the one-hour block average each hour based on all measurements performed within that hour. 90% minimum monthly data capture based upon availability of hourly recordings.

5.20.1.4 One-hour block average pressure in ~~each of the four pipes~~ the pipe exclusively dedicated to supplying water to the scrubber's four nozzles equal to or greater than the lowest test-run average pressure or equal to or less than the highest test-run average pressure for that pipe established during the two source tests required in Condition 5.12.

In addition, R10 is revising the explanation for permit condition 5.19.6 in the pre-draft Title V SoB as follows:

Conditions 5.20.6 requires an hourly average H2O pressure in ~~each of the four~~ the dedicated water supply distribution lines~~s~~ be calculated and recorded based on measurements performed at least every 15 minutes. The 2015 part 71 permit did not require monitoring of this parameter. The deadline to purchase, install, calibrate and to begin operating the monitoring equipment by the first boiler EU-1 source test provides the permittee time necessary to achieve compliance. Pressure in ~~each of the four~~ the dedicated scrubber water supply lines ~~spraying~~ (supplying the water to spray through four nozzles into the exhaust exiting the scrubber) is a real-time indicator of scrubber performance. The integrity of the nozzles is key to achieving the spray of water into the scrubber exhaust, and it is technically sound to assume a portion of boiler EU-1 HAP (halogen-based and trace metals) is reduced by spraying the water into the scrubber exhaust rather than simply pouring or pumping water into the scrubber tank. In meetings with Region 10 during the fall and winter of 2020, Stimson stated that corrosion or pluggage to a single nozzle can be detected by monitoring pressure in the upstream pipe supplying water to all four nozzles.

33. Condition 5.26.1

Stimson believe that this condition is now obsolete given the procedures to determine parametric ranges in Condition 5.25. It may be applicable prior to the ranges adopted in Condition 5.25 but if that is the case it should be made clear.

R10 02/01/21 Title V Pre-Draft Permit Conditions 5.22.1
5.22.1. An excursion is defined as one-hour average scrubber pressure drop less than 3.0 inches of water, one-hour average scrubber water flow rate less than 30 gallons per minute or scrubber stack opacity greater than 10%.

R10 02/01/21 Explanation in the SoB for Title V Pre-Draft Permit Condition5.22.1
Permit Condition 5.21 and 5.22 requires Stimson, upon discovery of an indicator excursion, to expeditiously restore operation of boiler EU-1 and wet scrubber such that the indicator is no longer outside the range established in Condition 5.22.1. Permit Condition 5.22.1 specifies scrubber Δp, scrubber H2O flow, and opacity CAM excursion thresholds based upon observations during December 2010 testing demonstrating compliance with FARR PM (40% of

the 0.2 gr/dscf @ 7%O2) and opacity limits. The lowest Δp during a single run was 3.4" H2O. The lowest scrubber H2O flow during a single run was 35 gallons per minute (gpm). Opacity was recorded as zero, so the threshold for an excursion has been set well below the opacity limit of 20%. See January 14, 2011 letter from Stimson to EPA.

Response: R10 is not making any changes to the pre-draft Title V permit or SoB in response to this comment. If Stimson would like to update the ranges, they would need to measure these indicators during a RM5 PM test and request the change after showing compliance with the PM standard at a lower flow rate. This condition will remain valid after HAP testing has occurred.

34. Condition 5.32

This condition does not align with the 30 day requirement in Conditions 3.23 and 3.24. Stimson believes that 30 days is adequate.

R10 02/01/21 Title V Pre-Draft Permit Conditions 5.28
5.28. For boiler EU-1, the Permittee shall submit to EPA for approval a source test plan 60 days prior to any required testing. The source test plan shall include and address the elements required in Condition 3.24 and provide an estimate of the average hourly steam generating rate for the month in which the test is to be conducted.

R10 02/01/21 Explanation in the SoB for Title V Pre-Draft Permit Condition
Permit Conditions 5.28 and 5.29 requires a test plan be submitted before testing and a test report submitted after testing is completed. Monthly average steaming rate (for the month in which testing is to be performed) is required to be submitted so that Region 10 can review and approve the conditions under which testing is to be conducted.

Response: R10 accepts Stimson's suggestion and is editing this condition for both the pre-draft Title V permit and SoB in response to this comment.

In response to this comment, R10 is revising the pre-draft Title V permit as follows:

5.28. For boiler EU-1, the Permittee shall submit to EPA for approval a source test plan ~~**60**~~ **30** days prior to any required testing. The source test plan shall include and address the elements required in Condition 3.24 and provide an estimate of the average hourly steam generating rate for the month in which the test is to be conducted.

35. Condition 6.7

As previously noted, Stimson cannot support the addition of 10 degrees to kiln set points for purposes of calculating emissions. See our comments and proposal under the pre-draft non-Title V Condition 5.15.

Stimson Comment on 02/01/21 Pre-Draft Non-Title V Permit Condition 5.15
The mandate to add 10 degrees to the kiln set point temperature is not acceptable to Stimson. A review of kiln charges makes it apparent that any excursions above the setpoint are exceedingly transitory and minor. This would introduce minor variation in the surface temperature of the wood but absent an extended excursion the majority of the wood would remain unaffected. We make a suggestion for how to deal with such excursions below, but the provision of this condition mandating the automatic addition of 10 degrees should be removed.

Rather than assuming that even small temperature variances have a systemic effect upon the drying wood Stimson proposes making adjustments only for those excursions that have the potential for a true impact. We would propose that if such excursions are greater than two hours then the emissions for the load be adjusted accordingly.

R10 02/01/21 Title V Pre-Draft Permit Conditions

6.6 Except as specified in Condition 6.7, monthly kilns EU-2 HAP emissions (tons) beginning the calendar month after the month in which Permit No. R10NT501001 becomes effective shall be calculated using Equation 6-1 as follows:

"〖lumber〗_(species i)" is determined pursuant to Condition 6.11; and

"〖EF〗_(X,species i)" is determined pursuant to Appendix G to this permit. Add 10°F to the monthly maximum set point temperature (specified in the drying schedule for the heated air entering a load of lumber) from among all charges consisting of the wood species, in whole or in part, to determine methanol and formaldehyde EF.

R10 02/01/21 Explanation in the SoB for Title V Pre-Draft Permit Condition

Permit Condition 6.6 specifies, for time period beginning the month after the month Permit No. R10NT501001 becomes effective, the methodology to determine species-specific lumber volumes and EF to be used in Condition 6.1's Equation 6-1. Stimson is required to have measured product-specific lumber volumes for all charges and scaled a portion of incoming truckloads for the preceding six-month period to estimate monthly species-specific kilns EU-2 lumber throughputs.

Species-specific EF for five HAP are specified in Appendix G to the permit. Appendix G is EPA Region 10's January 2021 EF. Stimson is required to have recorded for each charge (1) the maximum set point "entering air" temperature and (2) all measured/calculated kiln-wide average "entering air" temperatures. The recorded set point information (plus 10°F) is needed to determine a species-specific monthly maximum to determine species-specific monthly formaldehyde and methanol EF via Appendix G. Appendix G reflects best-fit linear equations for formaldehyde and methanol.

It is not uncommon for kiln-wide average instantaneous temperatures to spike above the maximum set point temperature. Because Stimson is not currently capable of calculating kiln-wide 60-minute average "entering air" temperatures, Region 10 is requiring Stimson to use drying schedule maximum temperatures plus 10°F to calculate methanol and formaldehyde EF. For those charges in which instantaneous kiln-wide average temperatures exceed the species-specific monthly maximum set point by more than 10°F, formaldehyde and methanol emissions for those charges need to be calculated separately in accordance with Condition 6.7.

Response: Stimson's data acquisition and handling system associated with the monitoring of "entering air" temperature inside each of its kilns regularly generates the instantaneous kiln-wide average temperature, but the system does not generate a 60-minute average temperature. A charge's maximum 60-minute average is not determined. Moreover, for all charges during a month that contain lumber of a particular wood species, the overall maximum 60-minute average temperature cannot be determined. Because the calculation to determine the formaldehyde and methanol EF for lumber drying is based upon the maximum entering air temperature inside the

kiln, and because the EF equation was derived based upon small scale kiln test data collected during charges in which the maximum entering air temperature was stable for a number of hours, using the maximum 60-minute average temperature rather than the highest instantaneous temperature will generate a more representative EF. Ideally, that overall maximum value would be employed to calculate the monthly formaldehyde and methanol EF for a particular wood species. In the absence of a monitoring system that is capable of generating a charge's maximum 60-minute average temperature, the permit must prescribe an alternative methodology for generating a charge's maximum temperature. Stimson's proposal to use the set point temperature for charges in which the entering air temperature is greater than the set point for up to two hours would result in an underreporting of formaldehyde and methanol emissions as the set point temperature used in the EF equation is less than the actual stable maximum temperature experienced during the charge. Upon consideration of your comment, R10 agrees that 10°F is too large of an adjustment in the absence of operating records illustrating the frequency of temperatures of that degree that are greater than the set point. R10 does, however, believe some adjustment is warranted given our knowledge that temperatures do exceed the set point by some degree for some duration on most charges and that higher drying temperatures correlate with higher emissions. In response to this comment and the next (Comment 10), R10 is therefore revising the pre-draft non-Title V permit as follows:

6.6 ~~Except as specified in Condition 6.7, m~~Monthly kilns EU-2 HAP emissions (tons) beginning the calendar month after the month in which the permit becomes effective shall be calculated using Equation 6-1 as follows:

- ***"$lumber_{species\ i}$" is determined pursuant to Condition 6.10; and***
- ***"$EF_{X,species\ i}$" is determined pursuant to Appendix G to this permit. Add ~~10~~5°F to the monthly maximum set point temperature (specified in the drying schedule for the heated air entering a load of lumber) from among all charges consisting of the wood species, in whole or in part, to determine methanol and formaldehyde EF.***

Appendix G

The species-specific lumber drying EF for acetaldehyde, propionaldehyde and acrolein are self-explanatory. For methanol and formaldehyde, the variable "x" in the mathematical expression represents the monthly maximum set point temperature (°F) (specified in the drying schedule for the heated air entering a load of lumber) from among all charges consisting of the wood species, plus ~~10~~5°F. The EF is calculated by substituting the max set point temperature + ~~10~~5 for "x" and performing the math. For instance, the monthly Western True Firs methanol EF for a month in which the maximum set point temperature from among all relevant charges was 195°F is calculated as follows: (0.00465×~~205~~200) – 0.73360 = ~~0.2197~~ 0.1964 lb/mbf.

Condition 6.7 and 6.11 are being deleted along with the explanation for them in the SoB.

In addition, R10 is changing the explanation for permit conditions 6.6 and 6.7.4 in the pre-draft Title V SoB as follows:

Condition 6.6 specifies…

Species-specific EF for five HAP are specified in Appendix G to the permit. Appendix G is EPA Region 10's January 2021 EF. Stimson is required to have recorded for each charge (1) the maximum set point "entering air" temperature and (2) all measured/calculated kiln-wide average "entering air" temperatures. The recorded set point information (plus ~~105~~ 5°F) is needed to determine a species-specific monthly maximum to determine species-specific monthly formaldehyde and methanol EF via Appendix G….

It is not uncommon for kiln-wide average instantaneous temperatures to spike above the maximum set point temperature. Because Stimson is not currently capable of calculating kiln-wide 60-minute average "entering air" temperatures, Region 10 is requiring Stimson to use drying schedule maximum temperatures plus ~~105~~ 5°F to calculate methanol and formaldehyde EF. ~~For those charges in which instantaneous kiln-wide average temperatures exceed the species-specific monthly maximum set point by more than 10°F, formaldehyde and methanol emissions for those charges need to be calculated separately in accordance with Condition 5.16.~~

Condition 6.7.4

Monitoring Provision		*Emission Limitation Provision*	
Permit Condition…	*Summary of Information Recorded about a Batch*	*Permit Conditions…*	*Summary of Emission Limitation*
6.7.4	*At least every 15 minutes, the kiln-wide average dry bulb temperature of heated air that enters a load of lumber*	*4.14 and 4.15*	*9/24 tpy facility-wide HAP limit. Measurements/records are needed to check proposition that kiln-wide average temperatures do not exceed 5°F above the charge's set point. ~~If measured kiln-wide average temperature exceeds the set point temperature by more than 10F, then kiln formaldehyde and methanol emissions determined separately. To calculate methanol and formaldehyde EF, use maximum "entering air" temperature measured.~~*

Copies of the actual charts of kiln-wide average entering air drying temperature measurements over the entire duration of a kiln charge showing that excursions above the set point are transitory and minor as indicated by the Stimson could provide a basis for revision of this provision during the public comment period.

36. Condition 6.8
Same concern and opposition to addition of 10 degrees.

R10 02/01/21 Title V Pre-Draft Permit Conditions 6.7
6.7 Beginning the calendar month after the month in which Permit No. R10NT501001 becomes effective, for charges in which any instantaneous kiln-wide average "entering air" temperature exceeds the monthly maximum species-specific set point temperature by more than 10°F, methanol and formaldehyde emissions (tons) for that species of wood shall be calculated by charge using Equation 6-2 as follows:
Equation 6-2
E_(X,charge)= 〖charge lumber〗_(species i)× 〖EF〗_(X,species i)×(ton/(2000 lb));where
〖"E"〗_(X,charge) " is the charge's emissions of HAP X (formaldehyde or methanol) considering wood species i present in units of "ton/month";

" 〖charge lumber〗_(species i) " is the volume of lumber for wood species i dried during the charge in units of "mbf/charge" determined pursuant to Condition 6.12;

〖"EF〗_(X,species i) " is the HAP X EF (formaldehyde or methanol) for wood species i in units of "lb/mbf" determined pursuant to Appendix G except that the charge's highest instantaneous kiln-wide average "entering air" temperature is substituted (for the monthly maximum species-specific set point temperature plus 10°F) in the calculation to determine the EF; and

"ton/(2000 lb)" is a conversion factor.

6.11 For kilns EU-2, beginning the calendar month after the month in which Permit No. R10NT501001 becomes effective, for charges in which any instantaneous kiln-wide average "entering air" temperature exceeds the monthly maximum species-specific set point temperature by more than 10°F, the Permittee shall determine the total lumber volume dried of that wood species per charge using Equation 6-3 as follows:

Equation 6-3

$$charge\ lumber = \sum_{i=1}^{n} charge\ product_i \times species\ fraction; where$$

- "$charge\ lumber$" is the total lumber volume dried per charge for the wood species (mbf);
- "$charge\ product_i$" is the total lumber volume dried for a product *i* (mbf) determined and recorded pursuant to Condition 6.8.2;
- "$species\ fraction$" is the fraction of product *i* estimated to be the wood species;
  - $species\ fraction = \frac{6\text{-}month\ total\ \#\ logs\ received\ for\ the\ species}{6\text{-}month\ total\ \#\ logs\ received\ for\ all\ species\ in\ product_i}$
    - Use five months of existing on-site scaling data and one month of scaling data required to be collected pursuant to Condition 6.10 to perform this calculation for the month after the month the permit becomes effective; and
    - For each month thereafter, continue to replace an existing month's data with a new month's data until exclusively using scaling data required to be collected pursuant to Condition 6.10.

[Permit No. R10NT501001]

R10 02/01/21 Explanation in the SoB for Title V Pre-Draft Permit Condition

Permit Condition 6.7 specifies, for time period beginning the month after the month Permit No. NT501001 becomes effective, the calculation of species-specific formaldehyde and methanol emissions for a charge of lumber when kiln-wide average temperatures "spike" above the "entering air" species-specific set point by more than 10°F. The calculation is similar to that prescribed in Condition 6.6 except that (1) the sum of species-specific emissions are being calculated for one charge (as opposed to species-specific monthly emissions across all charges) and (2) the actual maximum instantaneous "entering air" temperature is used rather than the set point temperature (plus 10°F) to calculate the EF.

Permit Condition 6.11 is the calculation to determine lumber volume in a charge for a designated wood species beginning the month after the month Permit No. R10NT501001 becomes effective. The calculation is only required for charges in which any instantaneous kiln-wide average "entering air" temperature exceeds the monthly maximum species-specific

set point temperature by more than 5°F. The charge's product-specific lumber volume and relative break-down by species (estimated using ratio of relative number of logs received for subset of logs scaled) must be known to perform the calculation.

Response: See response to Comment 35.

37. Condition 6.9.4
See our comments on pre-draft non-Title V Condition 7.10.4.1

R10 02/01/21 Title V Pre-Draft Permit Conditions 6.7.4
6.7.4. The dry bulb temperature of the heated air that enters each load of lumber in each zone of the kiln (°F), continuously measured;
6.7.4.1. For each load of lumber in each zone of the kiln, record an instantaneous "entering air" temperature at least every 15 minutes. Calculate and record a kiln-wide average "entering air" temperature at least every 15 minutes consistent with the O&M plan required in Condition 6.3 and monitoring plan required in Condition 4.20; and

Response: In response to this comment, R10 is revising the pre-draft Title V permit as follows:

6.7.4.1 ~~For each load of lumber in each zone of the kiln, record an instantaneous "entering air" temperature at least every 15 minutes.~~ Calculate and record a kiln-wide average "entering air" temperature at least every 15 minutes consistent with the O&M plan required in Condition 6.3 and monitoring plan required in Condition 4.20;

38. Condition 6.13
Again, Stimson cannot accept the proposal to automatically add 10 degrees to the kiln set points. See earlier proposal on incorporation of a time element.

R10 02/01/21 Title V Pre-Draft Permit Conditions 6.11
6.11 For kilns EU-2, beginning the calendar month after the month in which Permit No. R10NT501001 becomes effective, for charges in which any instantaneous kiln-wide average "entering air" temperature exceeds the monthly maximum species-specific set point temperature by more than 10°F, the Permittee shall determine the total lumber volume dried of that wood species per charge using Equation 6-3 as follows: …

R10 02/01/21 Explanation in the SoB for Title V Pre-Draft Permit Condition 6.11
Permit Condition 6.11 is the calculation to determine lumber volume in a charge for a designated wood species beginning the month after the month Permit No. R10NT501001 becomes effective. The calculation is only required for charges in which any instantaneous kiln-wide average "entering air" temperature exceeds the monthly maximum species-specific set point temperature by more than 10°F. The charge's product-specific lumber volume and relative break-down by species (estimated using ratio of relative number of logs received for subset of logs scaled) must be known to perform the calculation.

Response: See response to Comment 35.

39. Condition 6.14

Requires *implementation* of scaling plan in the month after permit effective date. However, Condition 4.21 requires *submission* of the plan to EPA within six months. We have noted this dichotomy with other plans and are wondering if it is EPA's intent to separate these requirements. It is somewhat confusing. Again, implementation the month after permit is effective is a tight timeline.

R10 02/01/21 Title V Pre-Draft Permit Conditions 4.21 and 6.12

4.21. The boiler EU-1 O&M plan required pursuant to Condition 5.6, boiler EU-1 fuel received inspection plan required pursuant to Condition 5.17, kilns EU-2 O&M plan required pursuant to Condition 6.3, kilns EU-2 log scaling plan required pursuant to Condition 6.12, and elements of the monitoring plan related to monitoring systems required in Conditions 5.17, 6.7, 6.9, 6.12, 7.3 and 8.3 shall be submitted to EPA no later than the sixth calendar month after the month in which Permit No. R10NT501001 becomes effective. Elements of the plan related to monitoring systems required in Conditions 5.19 (except 5.19.7) and 5.25 shall be submitted to EPA at the same time the first source test report required pursuant to Condition 5.28 is submitted to EPA.

6.12. No later than the month after the month in which Permit No. R10NT501001 becomes effective, the Permittee shall develop and implement a plan to estimate (in a manner that produces a representative result) the six-month rolling relative fraction of logs received at the facility, by species. The plan shall be updated as necessary and shall include the following, at a minimum:

6.12.1. Number of trucks to be scaled per day;
6.12.2. Description of how the truckloads will be selected for scaling;
6.12.3. The form that the employees fill out to document the make-up of the load, by species;
6.12.4. Calculations to be performed; and
6.12.5. Recordkeeping procedures for the completed forms and calculations.

R10 02/01/21 Explanation in the SoB for Title V Pre-Draft Permit Condition 4.21 and 6.12

Permit Condition 4.21 and 4.22 requires the permittee to report HAP emissions with their annual FARR emission report and sets the deadline for reporting. This allows all of the emission reporting to be done simultaneously for the facility.

Permit Condition 6.12 requires Stimson to develop and implement a plan to estimate (in a manner that produces a representative result) the six-month rolling relative fraction of logs received at the facility, by species. The estimate is used to calculate kilns EU-2 emissions.

Response: R10 is not making any changes to the pre-draft Title V permit or TSD in response to this comment. It was R10's intent to separate the plan implementation requirement from the plan submission requirement. One is a monitoring requirement that begins no later than the month after the month in which the permit becomes effective while the other is a reporting requirement that begins no later than the sixth month after the month in which the permit becomes effective.

Thank you again for this opportunity to comment. There is clearly much we can discuss and I encourage you to feel free to contact me with questions or comments.

Sincerely,

STEVEN A. PETRIN
Environmental Manager