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Mid-South Lumber

Weyerhaeuser

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APR 24 2006
Air/Toxics & Inspection
Coordination Branch
6EN-A

Mitchel Stroh
Inspector/Stack Test Supervisor
Air Division, ADEQ
8001 National Drive
Little Rock, AR 72209

Re: **Boiler MACT HBCA Test Plan**
Weyerhaeuser Company
Dierks Lumber Mill
Title V Permit No.: 0023-AOP-R3
AFIN: 31-00016

Dear Mr. Stroh:

Enclosed is the Hazardous Air Pollutant Source Test Plan, Boiler MACT HBCA for the Dierks Lumber Facility. Note that we have scheduled stack testing for manganese (Mn) emissions from both our boilers, source #s SN-32 and SN-45, for the May 23-24, 2006 time period. Environmental Services Company (ESC) will be doing this testing.

If you have any questions regarding this submission, please contact me at (870) 286-4380 or Shane Wells at (318) 242-0213.

Sincerely,

Larry Huntsberger
Environmental Manager

Cc w/enclosure: Richard E. Greene, Regional Administrator, Region 6, USEPA
Shane Wells, Weyerhaeuser
Steve Woosley, ESC
Jeremy W. Jewell, Trinity Consultants

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Hazardous Air Pollutant Source Test Plan
Boiler MACT HBCA
Weyerhaeuser Company – Dierks Lumber Facility

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1 INTRODUCTION

A Hazardous Air Pollutant (HAP) source testing program has been scheduled at the Weyerhaeuser manufacturing facility located in Dierks, Arkansas. The test report will provide supporting documentation for the determination of worst-case emissions of manganese (Mn) emissions in accordance with provisions of Appendix A to Subpart DDDDD of 40 CFR Part 63 – "*Methodology and Criteria for Demonstrating Eligibility for the Health-Based Compliance Alternatives.*" The report will address the worst-case emissions and associated firing rates for the Health Based Compliance Alternative (HBCA) for manganese.

The boiler stack test is scheduled for May 23-24, 2006. Environmental Service Company (ESC) will be conducting the emission sampling.

Weyerhaeuser, Dierks operates two wood residual fired boilers. The boilers employ individual electrostatic precipitators (ESPs) as emission controls. Mn emissions from the boilers will be determined by a stack test and evaluated against the proposed Mn emission limit.

The emission test plan is organized as follows:

- **Section 2** - Sampling and Analysis Procedures
- **Section 3** - Worst Cast Operating Conditions
- **Section 4** - Parametric Monitoring Plans
- **Section 5** - Emission Rates and Stack Parameters
- **Section 6** – Quality Assurance /Quality control Measures

2 SAMPLING AND ANALYSIS PROCEDURES

2.1 *Introduction*

This section provides a summary of the sampling and analytical methods employed.

Hourly Mn emissions from the boilers will be determined via stack tests. Mn emission factors will be developed from the emission test results and EPA Method 19.

Samples of fuel will be collected and analyzed for Mn, heating value, and ultimate analysis during the test to provide information to calculate Fc for use in Method 19.

The heat input to each boiler during the emission tests will be determined by EPA Method 19. The heat input will be correlated to the steam production rate to calibrate process production parameters.

2.2 Mn stack emission test procedure

Table 2.2 lists stack sampling procedures for determining Mn emissions from boiler.

Table 2.2 - Stack test procedures

Emission Test Parameter	Procedure
Sampling port location and the number of traverse points.	Method 1 of 40 CFR part 60, appendix A.
Emission velocity and volumetric flow rate.	Method 2, 2F, or 2G in appendix to 40 CFR part 60.
Gas molecular weight analysis.	Method 3A or 3B in appendix A to 40 CFR part 60.
Moisture content of the stack gas.	Method 4 in appendix A to CFR part 60.
Manganese emission concentration sampling.	Method 29 in 40 CFR part 60, Appendix A (mercury analysis not conducted; acidified potassium permanganate impingers NOT included in sampling train.
Manganese emission test sample analysis method.	SW-846-6010B
Boiler heat input	EPA Method 19 of 40 CFR part 60, appendix A.

Emissions tests will not be conducted during periods of startup, shutdown, or malfunction, as specified in §63.7(e) (1). The boilers will be tested under worst-case operating conditions as defined in section 4.0 of this report. Three separate test runs will be used to determine Mn emissions during the tests.

2.3 Fuel Sample Collection Procedures

The fuel samples will be collected in accordance to the procedures from Subpart DDDDD, § 63.7521(c) (2). A composite sample of fuel will be collected during each emission test run made up of 3 to 5 individual grab samples. Each individual grab sample will be collected at approximately equal intervals during the testing period.

Each composite sample will consist of a minimum of 5 individual grab samples taken from 5 sampling locations uniformly spaced over the surface of the pile of fuel being burned during each emission test. The minimum target size for each composite sample is approximately 1 gallon (6 lbs) for bark/wood fuel (wet weight)

- At each sampling site, dig into the pile to a depth of 18 inches using a plastic shovel.
- Withdraw a 1 quart sample (approximately 1 pound), making sure that large pieces do not fall off during sampling.
- Transfer the sample to a clean, air tight 2 gallon plastic bag and seal.
- Label the composite sample bag with the time and date of the sampling episode.
- Keep the completed composite sample bag sealed and refrigerated (if possible) before shipment.

Composite fuel samples will then be shipped to the Weyerhaeuser Analytical Chemistry Laboratory in Federal Way, WA for analysis.

Miscellaneous materials are burned in the boilers from time to time, but will not be burned during the emission test. These fuels are judged to not be representative of the worst case conditions for Mn emissions because they generally contain less Mn than the wood residuals burned in the boilers. To partially demonstrate that these fuels will not have higher Mn emissions than from burning the normal wood residual fuel, samples will be collected either prior to or after the Mn emission sampling. A single composite sample of the following materials oil or grease spill-clean up residuals mixed with wood fuel will be collected for metals analysis in addition to the wood residual (hog fuel) collected during the emission test:

- waste paper
- diesel fuel
- oil spill cleanup products

2.3.1 Fuel sampling safety procedures

The loader operator in the area will be notified before entering the fuel shed and approaching the fuel pile over the infeed floor chains. Gloves will be worn in addition to safety glasses and hardhat by employees who collect the samples. At least two knowledgeable employees will be placed so as to be able to directly view the activities in the fuel shed when a sample is being taken. One of these employees will also pull the samples.

2.4 Fuel analysis procedures

Table 2-4 lists the reference methods listed in Subpart DDDDD, Appendix A, Table 1 and alternate fuel analysis. An approval from EPA to use the alternative methods is contained in the Appendix A of this test plan. Table 2-4 also lists methods that will be used to measure the heat content of the fuel, its energy content, and parameters to calculate Fc factors for use in EPA Method 19.

Table 2-4 Reference Test Methods for Mn Fuel Testing

Fuel Test	Method specified in the rule	Method used for this test
Fuel preparation (grinding)	ASTM D5198-92	ASTM E829-94
Fuel preparation (digestion)	SW-846-3050B ASTM E711-87	TAPPI T266
Fuel Mn content	SW 846-6010B or ASTM ASTM E885-88 (biomass)	SW-846-6010B
Fuel heat content - Gross Calorific Value (GCV)	ASTM – D5865-03a or ASTM – E711-87	ASTM D5865-03(a)
Fuel moisture	ASTM D3173-02 or ASTM E871	ASTM E871-82
Ultimate (Elemental) analysis	ASTM D3176-74 (in Method 19, 40 CFR part 60, Appendix A)	C, H, N: ASTM D5373-02 O: ASTM D3176 S: ASTM D1552-90 Ash: ASTM D3174

2.5 Heat input calculation for emission tests

EPA Method 19 will be used to convert emission sampling results to lb/MMBtu units using the Fc factors derived from ultimate analysis (C, H, S, N, O, ash) of the fuel.

2.6 Heat input calculation for process parameter monitoring

A factor to relate heat input to each boiler as a function of steam production will be developed during the emission tests. The factor will be developed as the ratio of Btu input rate as determined by stack testing to the steam production rate during the emission test. The steam production rate for the test will be measured as the difference in the steam meter totalizer at the beginning and end of each test run divided by the difference in time between the two readings.

3 WORST CASE OPERATING CONDITIONS

3.1 Boiler operating conditions identified as worst case during emission testing.

In accordance with Appendix A of 40 CFR Part 63, Subpart DDDDD, emissions are measured through emissions testing under worst-case operating conditions. These conditions are described in Table 3-1.

Worst-case operating conditions means operation of an affected unit during emissions testing under the conditions that result in the highest HAP emissions or that result in the emissions stream composition (including HAP and non-HAP) that is most challenging for the control device if a control device is used.

Table 3-1 Worst-Case Operating Parameters as Applicable to Boiler for the Mn HBCA

Operating Parameter	Maximum or Minimum	How Maximum Value will be Determined During Test	Measurement method
Fuel type/mix	100 % wood residuals maximum	Average of 3 runs	Use only self generated fuel
Heat input	Boiler rated capacity MMBtu/hr (Maximum)	Highest one hour run	Method 19 during emission test. Correlation to steam production for parametric monitoring.

3.2 Rational for selecting worst case operating condition for Mn emissions

3.2.1 Boiler Heat Input – The boiler rated capacities are 169 MMBtu/hr for SN-32, the Keeler boiler, and 249 MMBtu/hr for SN-45, the Wellons boiler. The boilers will be operated at, or as near as possible to this value during the test period. The highest Mn emissions will occur at the higher boiler operational levels.

3.2.2 Fuel mix - The highest Mn emissions are expected when each boiler is operating at its maximum capacity while burning wood residue fuels. The boilers may also burn small amounts of oil spill clean up debris from the mill, and **waste paper generated onsite**. Collection of fuel samples to document that this fuel has a lower Mn content than wood residuals is addressed in section 2.3 of this document.

3.2.3 Grate cleaning - Mn emissions from a boiler are a function of heat input to the boiler. Not only does the hourly Mn emission decrease with lower firing rates, the percentage of Mn in the fuel that is emitted also decreases. Thus, Mn hourly emissions during grate cleaning are expected to be less than Mn emissions during normal operation because the boiler heat input is reduced during grate cleaning. For this reason and the fact that air flows are abnormal during grate cleaning, no testing during these times will be attempted.

3.2.4 Soot-blowing – EPA guidance for boiler MACT testing procedures require that one particulate/metal test run be conducted during the normal soot blowing process. The Wellons boiler (SN-45) is equipped with soot blowers that are operated for 15 minutes per shift. The soot blowers will be operated during one of the sampler runs for the Wellons boiler. The Keeler boiler (SN-32) is not equipped with soot blowers and will not include soot blowing during the emission test.

The Wellons boiler (SN-45) emission results will be calculated as a time weighted average of the soot blowing test and the two non-soot blowing tests using the following equation:

$$E = ESB \times \frac{(A + B) \times S}{A \times R} + ENSB \times \left(\frac{R - S}{R} - \frac{B \times S}{A \times R} \right)$$

E = Average emissions (lb/MMBtu): three tests including soot-blowing test

ESB = Emissions (lb/MMBtu) of soot-blowing test

ENSB = Average emissions (lb/MMBtu) of non-soot-blowing tests

A = Soot-blowing time (min) / sample time (min)

B = Non-soot-blowing time (min) / sample time (min)

S = Soot-blowing time (min) x number of soot blows per 24 hours / 60 min/hr

S = 15 min x 3 times/day / 60 min/hr = 0.75 hr

R = hours operation per 24-hr period (continuous operation = 24)

4 EMISSION TEST RESULTS

The emission test results will be used to demonstrate that the combined Mn emission rate at each boiler's maximum heat input rate will be less than the Mn emission rate used in the dispersion modeling for determining the HQ in the HBCA eligibility.

The following information will be used to calculate the emission rate at each boiler's rated heat input rate:

- Stack test results
- Calculation of Fc for determining boiler heat input (sdcf CO2/MMBtu)
- Calculation of maximum emission rate (lb/MMBtu)

4.1 Stack test results

Table 4-1 shows how the emission test results will be summarized and how the Mn emission factor in lb Mn/MMBtu input and heat input to each boiler during the emission tests will be calculated.

Table 4-1 Manganese Emission Test Summary

		(units)	Run 1	Run 2	Run 3	3-Run Average
Date		MM/DD/YR				
Start Time		HH:MM				
Stop Time		HH:MM				
Fuel Type(s)		% wood residue				
		% other				
Fuel Fc (From proximate analysis)		DSCF CO_2/MMBtu				
Stack Gas Flow Rate		acfm				
Stack Gas Flow Rate		dscfm				
Stack gas CO_2		% dry				
Firing Rate		MMBtu/hr				
Stack Gas Temperature		°F				
Emission Rate						
	Detection Limit	mg/m^3				
Manganese	***Measured Concentration***	mg/m^3				
	Measured Concentration	lb/sdcf				
	Emission Rate	lb/hr				
	Emission Rate	lb/MMBtu				
	Soot blowing during test	min				
	Emission Rate	lb/MMBtu*				

* Average emission rate is corrected for soot blowing in accordance with the procedures in 3.2.4

The firing rate in Btu heat input/hr will be calculated from the stack gas flow rate, the CO2 concentration, and the Fc derived according to EPA Method 19.

Heat input, MMBtu/hr = (Stack Gas Flow Rate, dscfm) x (60 min/hr) x (%CO2/100) / (Fc, sdcf carbon dioxide/MMBtu)

The emission rate in lb/MMBtu will be calculated using EPA Method 19

Mn Emissions, lb/MMBtu = (Measured Mn concentration, lb/sdcf) / (%CO2/100) x (Fc, sdcf carbon dioxide/MMBtu)

4.2 Calculation of Fc

The Fc used to calculate emission factors and heat input to each boiler will be derived from analysis of fuels samples for heat content and proximate analysis. Table 4-2 shows the data to be collected:

Table 4-2 Fuel analysis results for calculating Fc

Sample date	Sample time	Higher Heating Value BTU/lb O.D. Basis	% carbon in fuel O.D.Basis
Average			

The Fc will be calculated from the ultimate analysis of the fuel and the fuel heat content in accordance with equation 19-14 in EPA Method 19:

Fc, sdcf CO_2/MMBtu = (10^6 Btu/MMBtu) x (0.321 sdcf CO2/lb C) x (%Carbon) / (HHV, Btu/lb)

4.3 Calculation of maximum hourly emissions

The maximum hourly emission rate of manganese from each boiler based on the results of these emission tests will be calculated by multiplying the average emission test results in lb/MMBtu by the rated heat input capacity of the boiler.

Maximum hourly Mn emissions, lb/hr = (Average emission test factor lb Mn/MMBtu) x (Boiler rated capacity, MMBtu/hr)

The maximum hourly emission rates will be compared to a proposed hourly Mn emission limit to demonstrate that the emissions will not exceed the proposed limit when each boiler is operated at its maximum heat input. The facility will propose an hourly Mn emission limit based on the results of the emission dispersion modeling, the health risk analysis, and/or knowledge of expected emission variability.

5 PROCESS PARAMETER LIMITS AND MONITORING

Appendix A specifies that process operating parameters are to be incorporated into the facility Title V permit. This section discusses what information will be collected during the emission test to set permit limits for the appropriate process parameters for these boilers and how they will be determined as a result of the emission tests. Process parameter data to be collected during the emission test will be discussed.

Appendix A 8. (d) specifies that at least the following process operating parameters are to be incorporated into the facility Title V permit.

- Fuel type
- Fuel mix and amount burned (Annual Average)
- Emission rate
- Type of control device
- Emission control equipment process parameters
- Boiler heat input and steam production during emission test
- Stack height
- Others as appropriate

5.1 Fuel Type

Only wood residuals will be burned during the emission test as determined by visual inspection of the fuel. The plan is to burn only wood residuals during the emission test.

The current Title V permit allows the following fuels to be burned in the boiler:
- Wood residual fuels (hog fuel)
- Waste paper generated onsite
- Small quantities of sawdust which has been used to absorb incidental spills and leaks of oil.
- A small quantity of diesel fuel used to light the wood fuel during startup of a boiler.

5.2 Fuel Mixture and Amount Burned

Only wood residuals will be burned during the emission test as determined by visual inspection of the fuel. The permit limits to be proposed would allow the boiler to burn up to 100% wood residuals on an annual average.

With a 100% wood residual fuel mix allowed, there is no reason to monitor the amount of fuels burned to calculate the percentage fuel mix for these boilers.

The amount of wood residuals burned each month will be estimated using the monthly steam production rate and factors that relate fuel usage to steam production. The factors will be developed during the emission test as follows:

The steam production will be monitored during the emission test as shown in section 5.5 of this report. The fuel burned during the emission test will be determined from the CO2 emissions measured during the emission test and the proximate fuel analysis.

Fuel burned, ton/hr = (DSCFM emissions) x (60 min/hr) x (% CO2/100) / (385 SCF/mole) x (12 lb C/mole CO2) / (% C in fuel) / (2000 lb/ton)

The fuel burned per lb steam produced will be calculated by dividing the fuel burned during the emission test by the amount of steam produced during the emission test. This factor will be multiplied by the annual steam production rate to determine the total wood residual burned and the annual percentage of wood residual burned.

The results will be displayed as shown in Table 5-2.

Table 5-2 Calculation of factor to estimate fuel burned from steam production rates

Date	Time	Stack Gas Flow dscfm	% CO2	Fuel Burned ton/hr	Steam production Mlb/hr	Fuel Burned per Steam produced O.D. Ton/M lb Steam

5.3 Emission Rate

The maximum hourly Mn emission rate (lb/hr, 3 hr average) suggested for the Title V permit will be based on the maximum allowable emission rate specified for the existing boiler stack height and distance to the nearest plant property line. The toxicity weighted average stack height must be used when using the look-up table. The toxicity weighted stack height will be calculated in accordance with Appendix A, 6.(b), equation 4, as follows:

$$H_{Mn} = \frac{\sum_{s=1}^{n} \left(E_{Mn,s} \times H_s \right)}{E_{Mn,T}} \qquad \text{(Eq. 4)}$$

Where:

- HMn = weighted average stack height for determining the maximum allowable emission rate for manganese (in table 3 to this appendix), m.
- s = individual emission points
- n = total number of emission points
- EMn,s = maximum hourly manganese emissions from emission point s, lbs/hr.
- Hs = height of each individual stack s
- EMn,T = total maximum hourly manganese emissions from affected source (sum emission rates from all emission points), lb/hr

The stack heights for boilers SN-32 and SN-45 are 30.5 and 30.5 meters tall respectively, and the distance from the stacks to nearest the plant property line is approximately 295 meters. An allowable manganese emission rate in lb/hr will be provided in the test report based on the emission test results and Table 3 to Appendix A of Subpart DDDDD.

5.4 Type of control device

Electrostatic precipitators are used on each boiler to remove particulate. The particulate removed contains manganese.

5.5 Emission control device operating parameters

5.5.1 Keeler Boiler (SN-32)

This boiler is operated intermittently and therefore does not warrant extensive monitoring. Weyerhaeuser proposes that the ESP operation be verified by recording that the ESP was in operation when the boiler was in operation.

5.5.2 Wellons Boiler (SN-45)

To demonstrate that the precipitator is operating properly and to demonstrate continuous compliance with the proposed Mn emission limit, Weyerhaeuser proposes monitoring and maintaining opacity in compliance with the limits and conditions shown in the current Title V permit. Opacity readings will be recorded during the emissions test as required by the current permit.

5.6 Boiler heat input and steam production during the emission test

The heat input to each boiler will be calculated from the emission test results to show that the boiler was operating within +/- 10% of its rated capacity during the HBCA demonstration emission tests. The heat input to each boiler will be calculated from the emission test results as shown in section 4.1 of this report.

Since the heat input to each boiler is derived from discrete stack tests, the method is not suitable for continuous monitoring to assess compliance with a permit limit. Weyerhaeuser proposes to monitor steam production as a surrogate for heat input to the boilers.

A factor to relate heat input to steam production for each boiler will be developed during the emission tests. This factor may be updated using data collected during future emission tests. The factor will be developed as the ratio of Btu input rate as determined by stack testing to the steam production rate during the emission test. The steam input rate for the test will be measured as the difference in the steam meter totalizer at the beginning and ending of each test run divided by the difference in time between the two readings.

The boiler steam production will be monitored by taking a reading of the steam totalizer every 15 minutes during the emission test as shown in Table 5.6.

Table 5-6 Steam flow measurements during emission tests

Test	15 min block period	¼ hour average steam flow (lb/hr)	Hourly average steam flow (lb/hr)
1	1		
1	2		
1	3		
1	4		
2	1		
2	2		
2	3		
2	4		
3	1		
3	2		
3	3		
3	4		

5.7 Stack height

The boiler stacks are 100 feet tall each.

5.8 Other Parameters Monitored During Emission Test

Appendix A 4.(e) requires that HAP emission control device monitoring data be collected during the emission test.

> Appendix A 4. (e) Collection of monitoring data for HAP control devices. During the emissions test, we will collect operating parameter monitoring system data at least every 15 minutes during the entire emissions test and establish the site-specific operating requirements in Tables 3 or 4, as appropriate, of subpart DDDDD using data from the monitoring system and the procedures specified in §63.7530 of subpart DDDDD.

The requirements in Table 3 are appropriate for the Mn HBCA. Table 4 describes requirements for HCl emission control equipment and does not pertain to this emission testing. This section describes monitoring conducted in accordance with Table 3.

Table 3 in the rule, "Operating Limits for Boilers and Process Heaters with Mercury Emission Limits and Boilers and Process Heaters That Choose to comply with the Alternative Total Selected Metals Emission Limits" provides several options on what parameters are to be monitored depending on how the facility plans to demonstrate compliance with the TSM emission limit. The Dierks mill plans to demonstrate compliance with the rule through the TSM

alternative via fuel analysis. Table 3 indicates that the appropriate operating limit for the fuel analysis option is to:

> Maintain the fuel type or fuel mixture such that the mercury and/or total selected metals emission
> rates calculated according to §63.7530(d) (4) and/or (5) is less than the applicable emission limits for mercury and/or total selected metals.

To meet these requirements, two parameters need to be evaluated, the metals input to the boilers, and the amounts and type of fuel burned.

5.8.1 Total Selected Metals - The metals content of the fuel will be determined in accordance with §63.7530(d)(4):

> §63.7530(d)(4) To demonstrate compliance with the applicable emission limit for TSM, the TSM emission rate that you calculate for your boiler or process heater using Equation 10 of this section must be less than the applicable emission limit for TSM.

$$TSM = \sum_{i=1}^{n} \left[(M_{i90})(Q_i) \right] \qquad \text{(Eq. 10)}$$

TSM = TSM emission rate from the boiler or process heater in units of pounds per million Btu;

M_{i90} = 90th percentile confidence level concentration of TSM in fuel, i, in units of pound per million Btu as calculated according to Equation 8 of this section;

Qi = Fraction of total heat input from fuel type, i, based on the fuel mixture that has the highest content of total selected metals. If you do not burn multiple fuel types, it is not necessary to determine the value of this term. Insert a value of "1" for Qi;

n = Number of different fuel types burned in your boiler or process heater for the mixture that has the highest content of TSM.

To meet this requirement, the fuel samples collected during testing will be analyzed for TSM. <u>These samples are not intended to demonstrate initial compliance with TSM provisions in the rule</u>. The results will be displayed as shown in Table 5-8.1.1

Table 5-8.1.1 Wood residue Fuel testing metals content results

Compound	Reporting Limit (RL) mg/kg	Sample Results, mg/kg			Mean
		Date/time	Date/time	Date/time	
Arsenic					
Beryllium					
Cadmium					
Chromium					
Nickel					
Lead					
Selenium					
Manganese					
Moisture @ 105°C % As-Is Basis					
HHV Btu/lb OD basis					

The lb/MMBtu of each compound will be calculated by dividing the metals concentrations by the higher heating value as shown in Table 5-8.1.2.

Table 5-8.1.2 Boiler metals content in terms of lb/MMBtu.

Compound	Sample Results, lb/MMBtu			Mean
	Date/time	Date/time	Date/time	
Arsenic				
Beryllium				
Cadmium				
Chromium				
Nickel				
Lead				
Selenium				
Manganese				

5.8.2 Metals content in miscellaneous fuels - The results of fuel analysis for miscellaneous fuels described in section 2.3 and 5.1 of this report will be reported as shown in Tables 5-8.2.1 and 5-8.2.2. A separate set of Tables will be provided for each miscellaneous fuel.

Table 5-8.2.1 Miscellaneous Fuel testing metals content results

Compound	Reporting Limit (RL) mg/kg	Sample Results, mg/kg			Mean
		Date/time	Date/time	Date/time	
Arsenic					
Beryllium					
Cadmium					
Chromium					
Nickel					
Lead					
Selenium					
Manganese					
Moisture @ 105°C % As-Is Basis					
HHV Btu/lb OD basis					

The lb/MMBtu of each compound will be calculated by dividing the metals concentrations by the higher heating value as shown in Table 5-8.2.2..

Table 5-8.2.2 Alternative fuel metals content in terms of lb/MMBtu.

Compound	Sample Results, lb/MMBtu			Mean
	Date/time	Date/time	Date/time	
Arsenic				
Beryllium				
Cadmium				
Chromium				
Nickel				
Lead				
Selenium				
Manganese				

6 QUALITY ASSURANCE/QUALITY CONTROL MEASURES

All sampling activities and analytical measurements performed over the course of this program will be supported by quality assurance/quality control (QA/QC) measures as specified in the sampling methods. Specific procedures to ensure accurate, representative and complete data were implemented at every phase of the program.

APPENDIX A EPA APPROVAL OF ALTERNATIVE FUEL ANALYSIS METHODS

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
RESEARCH TRIANGLE PARK, NC 27711

JAN 12 2006

OFFICE OF
AIR QUALITY PLANNING
AND STANDARDS

Victor Dallons
Air Team Lead, Environmental Technical Networks
Weyerhaeuser Corporate Headquarters
P.O. Box 9777
Federal Way, WA 98063-9777

Dear Mr. Dallons:

I am writing in response to your letter dated November 18, 2005, which included several alternative method requests. You are requesting the alternative methods on behalf of Weyerhaeuser facilities in the following cities:

Albany, OR	Columbus, MS	Cosmopolis, WA
Oglethorpe, GA	Johnsonburg, PA	Hawesville, KY
Kingsport, TN	Bennettsville, SC	Longview, WA
New Bern, NC	Pine Hill, AL	Oxnard, CA
Port Wentworth, GA	Rothschild, WI	Campti, LA
Springfield, OR	Valliant, OK	Simsboro, LA
Bruce, MS	Buckhannon, WV	Chavies, KY
Colbert, GA	Deerwood, MN	Dierks, AR
Dodson, LA	Emerson, AR	Sweethome, OR
Greenville, NC	Millport, AL	Mountain Pine, AR
Philadelphia, MS	Raymond, WA	Warrenton, OR
Wright City, OK	Zwolle, LA	

All the listed facilities operate boilers subject to the National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters (40 CFR Part 63, Subpart DDDDD). The boilers must meet the standards in Subpart DDDDD for Particulate Matter (PM) or Total Select Metals (TSM), Mercury (Hg), and Hydrogen Chloride (HCl) emissions. These facilities have chosen to comply with Subpart DDDDD by conducting a fuel analysis and comparing the results to the TSM, Hg and HCl standards. Table 6 of Subpart DDDDD lists the various methods allowed for fuel analysis, but you have requested methods not listed in Table 6 for your fuel analysis plans. You have requested approval to use test methods with lower analytical detection limits and better selectivity than those specified in Subpart DDDDD, Table 6.

Pursuant to 40 CFR Part 63, Section 63.7, the U.S. Environmental Protection Agency hereby approves your request to use the following methods at all the facilities listed above:

SW-846-9076 or SW-846-9250 or ASTM E776-87 (HCl measurement)
EPA 1631E or ASTM D6722-01 (Mercury measurement)
ASTM E829-94 (Sample preparation - grinding)
SW-846-3050 (Sample preparation – digestion – for As, Cd, Pb, Se, all except fuel and waste oil)
TAPPI T266 (Sample preparation – digestion – for Be, Cr, Mn, Ni, all except fuel and waste oil)
SW-846-3050 (Sample preparation – digestion – total select metals, fuel oil and waste oil)
EPA 200.8 or ASTM D6357-04 and ASTM D4606-03 (Total Select Metals, all fuel types except fuel and waste oil, As, Cd, Pb, Se)
ASTM D6357-04 (Total Select Metals, all fuel types except fuel and waste oil, Be, Cr, Mn, Ni)
EPA 200.8 (Total Select Metals, Fuel and waste oil)

Since individual laboratories following the same method will have different detection capabilities, the facilities should review the specific candidate laboratory's demonstrated detection limits to ensure that they are sufficient to conclusively determine that the boilers comply with the Subpart DDDDD emission limits.

If you have further questions on this matter, please contact Rima Howell at (919) 541-0443.

Sincerely,

Conniesue B. Oldham

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