5E

resolute
Forest Products

Augusta Mill
2434 Doug Barnard Pkwy, Augusta, GA 30906
Phone: (706) 798-3440 Fax: (706) 312-6473
www.resolutefp.com

RECEIVED
AIR TOXIC MONITORING BRANCH
2013 DEC 30 AM 11:18
US EPA REGION 4 - ATL, GA

December 18, 2013

Karen Hays
Georgia Department of Natural Resources
4244 International Pkwy., Suite 120
Atlanta, Georgia 30354
CM 7004 2890 0003 1101 8828

EPA Region IV
Air Toxics and Monitoring Branch
Atlanta Federal Center, 61 Forsyth Street
Atlanta, GA 30303– 8960
CM 7004 2890 0003 1101 7531

RE: Resubmittal of "Initial Notification Report", National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters - 40 CFR Part 63 Subpart DDDDD, Resolute FP Augusta LLC, Augusta, GA, AIRS No. 04-13-245-00062

Dear Sir or Madam:

Enclosed is an updated "Initial Notification Report" for Resolute FP Augusta LLC (Augusta Mill) regarding the National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters - 40 CFR Part 63 Subpart DDDDD (Boiler MACT).

Based on information provided to the US EPA (copied GA EPD) in a letter dated October 7, 2013, with a concurrence letter from the US EPA dated November 7, 2013, the Augusta Mill has determined our Hog Fuel Boiler (BLR1) meets the Boiler MACT definition of a hybrid suspension grate boiler.

If you have any questions or require further information, please feel free to contact me at (706) 798-3440 x365.

Sincerely,

Roxanne Fincher
Environmental Engineer

Enclosure

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7004 2890 0003 1101 7531

"I certify, based on information and belief formed after reasonable inquiry, that the statements and information in this report are true, accurate, and complete."

Jay Grantham, Interim General Manager — Date 12/18/13

SECTION II: SOURCE DESCRIPTION

1. Please complete the table below for each affected source (boiler and/or process heaters) per §63.9(b)(2)(iv).

Emission Unit ID[c]	Emission Unit Name (design and manufacturer name)	Size: Rated Heat Input Capacity (mmbtu/hr)[d]	Fuels Used[e]
BLR1	Hog Fuel Boiler (Hybrid Suspension Grate, Babcock and Wilcox)	400	Woodwaste, Natural Gas, Kerosene, #2 Fuel Oil/Diesel, Pulping Sludges, Used Oil
BLR2	Package Boiler (Limited Use, Babcock and Wilcox)	250 by nameplate, 270 by permit	Natural Gas, Kerosene, #2 Fuel Oil/Diesel

[c] If the source has an operating permit, use the IDs that are consistent with those reported in the permit.

[d] mmbtu/hr refers to million British thermal units per hour. Boilers often have a nameplate listing the rated heat input capacity on the unit. This rated capacity may have also been reported to the entity insuring the boiler or the state labor and safety inspector.

[e] Report all fuels used in each of the units subject to the standard (e.g., bituminous coal, #6 fuel oil, #2 fuel oil, natural gas, bark, lumber, etc.).

3. Additional notes

BLR1 emits typical biomass, natural gas, and distillate fuel oil hazardous air pollutants (HAPs) and BLR2 emits typical natural gas and distillate fuel oil HAPs as provided in AP-42, Fifth Edition, Volume I, Chapter 1: External Combustion Sources. These pollutants are too numerous to list in this document.

BLR1 will be regulated by numeric emission limits per this NESHAP. This resubmittal of this "initial notification" is due to an update of this boiler's classification under Boiler MACT as hybrid suspension grate.

BLR2 is a limited use boiler as described in Part 70 Operating Permit 2621-245-0062-V-03-0 Condition 3.3.8.

4. My facility is a: ☒ Major source of hazardous air pollutants. ☐ Area source

SECTION III: CERTIFICATION

"I certify, based on information and belief formed after reasonable inquiry, that the statements and information in this report are true, accurate, and complete."

"I certify that the information contained in this form to be accurate and true to the best of my knowledge."

Signature: _____ Date: 12/17/13

Jay Grantham, Interim General Manager
Name/title

(706) 798-3440 x 103
Telephone Number

2010 E International Speedway Blvd
DeLand, FL 32724

Tel: 386-734-3685
Fax: 386-738-8540
www.Covidien.com

COVIDIEN

5-I

Director, Air, Pesticides and Toxics Management Division
61 Forsyth Street,
Atlanta, GA 30303-3104

Date: 12-17-13

RE: 120094-016-AV

Covidien is hereby providing initial notification (attached) of applicability as per *§63.9(b)(2))* in order to meet the requirements under the National Emission Standards for Hazardous Air Pollutants (NESHAP) for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters (40 CFR Part 63, Subpart DDDDD), commonly referred to as the **Boiler MACT**.

If you need any additional information please feel free to contact Sue Williams at (386) 738-8233 or sue.williams@covidien.com .

Mike McGrew

Mike McGrew

Plant Manager
Covidien
2010 E. International Speedway Blvd
DeLand, Florida 32724

Plant: (386) 738-3685
Fax: (386) 734-2634

CERTIFIED MAIL™

7012 1010 0000 8159 6190

National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters

SECTION I : GENERAL INFORMATION

Operating Permit Number (IF AVAILABLE)[a]	Facility ID Number (IF AVAILABLE)[b]
120094-016-AV	1270094

Responsible Official's Name	Title
Michael McGrew	Plant Manager

Street Address

2010 E. International Speedway Blvd

City	State	ZIP Code
DeLand	Florida	32724

[a] (e.g., Title V permit number)
[b] (e.g., Air Facility System (AFS) facility ID)

Facility Name

Covidien LP

Facility Street Address (if different than Responsible Official's Street Address listed above)

Same as Above

Street Address

2010 E. International Speedway Blvd

City	State	ZIP Code
DeLand	Florida	32724

Facility Local Contact Name	Title
Sue Williams	Environmental Engineer

Anticipated Compliance Date(s) **(01/31/16)**
(§63.9(b)(2)(iii))[c]: _____

[c] See instructions on pg. 3 of this form to determine the compliance dates applicable to you.

SECTION II: SOURCE DESCRIPTION

1. Please complete the table below for each affected boiler and process heater per §63.9(b)(2)(iv).

Emission Unit ID[d]	Emission Unit Name (design and manufacturer name)	Size: Rated Heat Input Capacity (mmBtu/hr)[e]	Fuels Used[f]
80 hp boiler	Cleaver brook	2,675,680	Natural Gas

[Add rows to the table for additional boilers, as necessary.]

[d] If the source has an operating permit, use the IDs that are consistent with those reported in the permit.

[e] mmBtu/hr refers to million British thermal units per hour. Boilers often have a nameplate listing the rated heat input capacity on the unit. This rated capacity may have also been reported to the entity insuring the boiler or the state labor and safety inspector.

[f] Report all fuels used in each of the units subject to the standard (e.g., bituminous coal, #6 fuel oil, #2 fuel oil, natural gas, bark, lumber, etc.).

3. Optional: Additional notes

4. My facility is a (please choose one): ☒ Major source ☐ Area source

If your facility is an area source of hazardous air pollutants (HAP), please refer to the National Emission Standards for Hazardous Air Pollutants for Area Sources: Industrial, Commercial, and Institutional Boilers, 40 CFR Part 63 Subpart JJJJJJ at http://www.epa.gov/ttn/atw/boiler/boilerpg.html.

SECTION III: CERTIFICATION

I hereby certify that the information presented herein is correct to the best of my knowledge.

Signature	Date
Michael McGrew/Plant Manager	(386) 738-3685
Name/title	Telephone Number

5 D

Initial Notification Report

National Emission Standards for Hazardous Air Pollutants for Major Sources:
Industrial, Commercial, and Institutional Boilers and Process Heaters

SECTION I: GENERAL INFORMATION

Operating Permit Number (IF AVAILABLE)[a]: 309-0030

Facility ID Number (IF AVAILABLE)[b]: 0112100030

Responsible Official's Name: JOE GROGAN

Title: VICE-PRESIDENT

Street Address: 100 LEGACY BOULEVARD

City: EASTABOGA

State: ALABAMA

ZIP Code: 36260

[a] (e.g., Title V permit number)
[b] (e.g., Air Facility System (AFS) Facility ID)

Facility Name: LEGACY CABINETS, LLC

Facility Street Address (If different than Responsible Official's Street Address listed above): SAME

Street Address: 100 LEGACY BOULEVARD

City: EASTABOGA

State: ALABAMA

ZIP Code: 36260

Facility Local Contact Name: CHUCK FREEMAN

Title: EHS MANAGER

Anticipated Compliance Date(s) (mm/dd/yy) (§63.9(b)(2)(iii))[c]: January 31, 2016

[c] See instructions on pg. 3 of this form to determine the compliance dates applicable to you.

40 CFR Part 63 Subpart DDDDD

SECTION II: SOURCE DESCRIPTION

1. Please complete the table below for each affected boiler and process heater per §63.9(b)(2)(iv).

Emission Unit ID[d]	Emission Unit Name (design and manufacturer name)	Size: Rated Heat Input Capacity (mmBtu/hr)[e]	Fuels Used[f]
NGB-1	Natural Gas Boiler (Hurst – Series 400)	3.0	Natural Gas

[Add rows to the table for additional boilers, as necessary.]

[d] If the source has an operating permit, use the IDs that are consistent with those reported in the permit.

[e] mmBtu/hr refers to million British thermal units per hour. Boilers often have a nameplate listing the rated heat input capacity on the unit. This rated capacity may have also been reported to the entity insuring the boiler or the state labor and safety inspector.

[f] Report all fuels used in each of the units subject to the standard (e.g., bituminous coal, #6 fuel oil, #2 fuel oil, natural gas, bark, lumber, etc.)

3. Optional: Additional notes

N/A

4. My facility is a (please choose one): ☒ Major source ☐ Area source

If your facility is an area source of hazardous air pollutants (HAP), please refer to the National Emission Standards for Hazardous Air Pollutants for Area Sources: Industrial, Commercial, and Institutional Boilers, 40 CFR Part 63 Subpart JJJJJJ at http://www.epa.gov/ttn/atw/boiler/boilerpg.html.

40 CFR Part 63 Subpart DDDDD

SECTION III: CERTIFICATION

I hereby certify that the information presented herein is correct to the best of my knowledge.

Signature

12/16/13
Date

Name/title

Telephone Number

5D

Columbia Gulf Transmission℠
A NiSource Company

December 20, 2013

EPA Region IV
Air Toxics and Monitoring Branch
Atlanta Federal Center, 61 Forsyth Street,
Atlanta, GA 30303

RE: Columbia Gulf Transmission Co.
Banner Compressor Station
Boiler MACT Initial Notification Submittal

Dear Sir or Ma'am,

Attached is the Initial Notification for Columbia Gulf Transmission's Banner Compressor Station, in accordance with §63.7545(c) of Part 63, Subpart DDDDD, National Emissions Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters.

If you require any further information concerning these notifications, please contact me at 318-342-4015.

Respectfully;

Diron White
HSE Coordinator

RECEIVED
AIR TOXIC MONITORING BRANCH
2013 DEC 30 A 11:22
US EPA REGION #4-ATL.GA

Initial Notification Report for Columbia Pipeline Group Banner Compressor Station

National Emission Standards for Hazardous Air Pollutants:
Industrial, Commercial, and Institutional Boilers Major Sources

SECTION I : GENERAL INFORMATION

1. Name and address of the owner or operator

Operating Permit Number (IF AVAILABLE)[a]	Facility ID Number (IF AVAILABLE)[b]
0300-00005	

Responsible Official's Name	Title
John D. Sellers	Manager of Operations

Street Address
Columbia Gulf Transmission

201 Energy Prkwy #100

City	State	ZIP Code
Lafayette	LA	70508

[a] (e.g., Title V permit number)
[b] (e.g., Air Facility System (AFS) facility ID)

Facility Name

Columbia Gulf Transmission Company

Banner Compressor Station

Facility Street Address (if different than Responsible Official's Street Address listed above)

Street Address

82 CR 233

City	State	ZIP Code
Water Valley	MS	38965

Facility Local Contact Name	Title
Diron White	HS&E Coordinator

2. Anticipated Compliance Date(s) (mm/dd/yy)[c]:

According to 40 CFR Subpart DDDDD Section 63.7495(b), Compliance by 01/31/16

[c] See instructions on pg. 3 of this form to determine the compliance dates applicable to you.

SECTION II : SOURCE DESCRIPTION

1. Please complete the table below for each affected source (boiler and/or process heaters) per §63.9(b)(2)(iv).

Emission Unit ID[d]	Emission Unit Name (design and manufacturer name)	Size: Rated Heat Input Capacity (mmbtu/hr)[e]	Fuels Used[f]	Types of HAPs	Emission Point
HTR4	Ajax Boiler	5.25	Natural Gas	Refer to AP42 table 1.4-3	Stack

[Add rows to the table for additional boilers, as necessary.]

[d] If the source has an operating permit, use the IDs that are consistent with those reported in the permit.

[e] mmbtu/hr refers to million British thermal units per hour. Boilers often have a nameplate listing the rated heat input capacity on the unit. This rated capacity may have also been reported to the entity insuring the boiler or the state labor and safety inspector.

[f] Report all fuels used in each of the units subject to the standard (e.g., bituminous coal, #6 fuel oil, #2 fuel oil, natural gas, bark, lumber, etc.).

3. Optional: Additional notes

HTR4 started up on 12/10/13 and is being used for engine jacket water heating.

4. My facility is a (please choose one): X Major source ☐ Area source of hazardous air pollutants.

If your facility is an area source of hazardous air pollutants (HAP), please refer to the National Emission Standards for Hazardous Air Pollutants for Area Sources: Industrial, Commercial, and Institutional Boilers , 40 CFR Part 63 Subpart JJJJJJ at http://www.epa.gov/ttn/atw/boiler/boilerpg.html.

SECTION III: CERTIFICATION

I hereby certify that the information presented herein is correct to the best of my knowledge.

John D Sellers
Signature

12/13/13
Date

John D Sellers Manager
Name/title

(337) 266-4003
Telephone Number

DELHI LA 71232

SHIP TO:
AIR TOXICS AND MONITORING BRANCH
USEPA REGION IV
61 FORSYTH STREET, SW
ATLANTA GA 30303-8930

GA 303 9-02

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REGION 4
ATLANTA FEDERAL CENTER
61 FORSYTH STREET
ATLANTA, GEORGIA 30303-8960

SD

Lockheed Martin Aeronautics Company
86 South Cobb Drive Marietta, GA 30063
Telephone 770-494-3760
E-mail: david.m.miska@lmco.com

LOCKHEED MARTIN

David M. Miska
Senior Manager of Environment, Safety and Health

Shipped VIA
Federal Express

October 18, 2013

Mr. Michael Odom
Manager, Air Toxics Unit
Stationary Source Compliance Program
Air Protection Branch
Georgia Environmental Protection Division
4244 International Parkway, Suite 120
Atlanta, GA 30354

Re: Boiler Start-up Notification
Permit No. 3721-067-0027-V-07-1
Lockheed Martin Aeronautics Company
Marietta, Georgia

Dear Mr. Odom:

Per permit condition 6.2.50, Lockheed Martin Aeronautics Company is submitting this notification that the actual startup of Boilers EUID# 2847 and 2848 was performed on October 16, 2013. The following information and this notification satisfies the requirements of 40 CFR 60.48(c) (for NSPS – 40 CFR 60 Subpart Dc) and 40 CFR 63 Subpart DDDDD (Boiler MACT).

Emission Unit ID: 2847
Emission Unit Description: Small boiler subject to 40 CFR 60 Subpart Dc and Georgia Rule (III) and capable of firing distillate fuel oil.
Manufacturer & Model No.: Johnson Boiler Company, Model: PFTX600-4LG150S
Heat Input Capacity (MMBtu/Hr): 24.796 MMBtu/Hr
Fuels Used: Natural Gas, with Fuel Oil Backup.
Anticipated Annual Capacity Factor: Natural gas will be used exclusively, with the exception of times of curtailment, when Fuel Oil Backup will be used. We do not anticipate using Fuel Oil backup greater than 10% of the Annual Capacity.
Date of Construction: N/A (Packaged Units)
Date of Actual Startup: October 16, 2013

Emission Unit ID: 2848
Emission Unit Description: Small boiler subject to 40 CFR 60 Subpart Dc and Georgia Rule (III) and capable of firing distillate fuel oil.

LOCKHEED MARTIN

Manufacturer & Model No.: Johnson Boiler Company, Model: PFTX600-4LG150S
Heat Input Capacity (MMBtu/Hr): 24.796 MMBtu/Hr
Fuels Used: Natural Gas, with Fuel Oil Backup.
Anticipated Annual Capacity Factor: Natural gas will be used exclusively, with the exception of times of curtailment, when Fuel Oil Backup will be used. We do not anticipate using Fuel Oil backup greater than 10% of the Annual Capacity.
Date of Construction: N/A (Packaged Units)
Date of Actual Startup: October 16, 2013

As described in the Title V Permit condition 6.1.7 (b) xvii, no fuel containing more than 0.5% sulfur by weight shall be used. Fuel supplier certification records will be maintained on-file, and submitted with the Title V Semi Annual Report as required.

If you have any questions, please call Carl Jacobsen at (770) 494-2631 or Sarah Hibbs at (770) 494-6766.

Sincerely,

David M. Miska
Senior Manager of Environment, Safety and Health

cc: Director
Air, Pesticides and Toxics Management Division
U.S. EPA Region IV
Atlanta Federal Center
61 Forsyth Street, Atlanta, GA 30303–3104

Tammy Martiny
Stationary Source Compliance Program
Air Protection Branch
Georgia Environmental Protection Division
4244 International Parkway, Suite 120
Atlanta, GA 30354

5D

Example Initial Notification Report

National Emission Standards for Hazardous Air Pollutants for Major Sources:
Industrial, Commercial, and Institutional Boilers and Process Heaters

SECTION I : GENERAL INFORMATION

Operating Permit Number (IF AVAILABLE)[a]

2824-217-0020-V-03-0

Facility ID Number (IF AVAILABLE)[b]

AIRS Number: 04-13-217-00020

Responsible Official's Name

Scott Powell

Title

Plant Manager

Street Address
7101 Alcovy Rd

City	State	ZIP Code
Covington	GA	30014

[a] (e.g., Title V permit number)
[b] (e.g., Air Facility System (AFS) facility ID)

Facility Name

FiberVisions Manufacturing Company

Facility Street Address (if different than Responsible Official's Street Address listed above)

Street Address

City	State	ZIP Code

Facility Local Contact Name

Thomas Brown

Title

EHS Engineer

Anticipated Compliance Date(s) (mm/dd/yy) (§63.9(b)(2)(iii))[c]: March 21, 2014

40 CFR Part 63 Subpart DDDDD

[c] See instructions on pg. 3 of this form to determine the compliance dates applicable to you.

SECTION II: SOURCE DESCRIPTION

1. Please complete the table below for each affected boiler and process heater per §63.9(b)(2)(iv).

Emission Unit ID[d]	Emission Unit Name (design and manufacturer name)	Size: Rated Heat Input Capacity (mmBtu/hr)[e]	Fuels Used[f]
B001	Murray Trane Model MCF1-23	18 mmbtu/hr	Natural Gas, #2 Fuel Oil
B002	Murray Trane Model MCF1-23	18 mmbtu/hr	Natural Gas, #2 Fuel Oil
B003	Murray Trane Model MCF2-33	36 mmbtu/hr	Natural Gas, #2 Fuel Oil

[Add rows to the table for additional boilers, as necessary.]

[d] If the source has an operating permit, use the IDs that are consistent with those reported in the permit.

[e] mmBtu/hr refers to million British thermal units per hour. Boilers often have a nameplate listing the rated heat input capacity on the unit. This rated capacity may have also been reported to the entity insuring the boiler or the state labor and safety inspector.

[f] Report all fuels used in each of the units subject to the standard (e.g., bituminous coal, #6 fuel oil, #2 fuel oil, natural gas, bark, lumber, etc.).

3. Optional: Additional notes

4. My facility is a (please choose one): ☐ Major source ☒ Area source

If your facility is an area source of hazardous air pollutants (HAP), please refer to the National Emission Standards for Hazardous Air Pollutants for Area Sources: Industrial, Commercial, and Institutional Boilers, 40 CFR Part 63 Subpart JJJJJJ at http://www.epa.gov/ttn/atw/boiler/boilerpg.html.

40 CFR Part 63 Subpart DDDDD

SECTION III: CERTIFICATION

I hereby certify that the information presented herein is correct to the best of my knowledge.

Signature	1/20/14 Date
Scott Powell Name/title	770 784 7131 ( ) Telephone Number

FiberVisions

7101 Alcovy Road
Covington, GA 30014

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$00.46⁰

01/20/2014

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EPA Region IV
Director, Air, Pesticides and Toxics Management Division
61 Forsyth Street, Atlanta, GA 30303–3104

30303999955

5D

Initial Notification Report

National Emission Standards for Hazardous Air Pollutants:
Industrial, Commercial, and Institutional Boilers Major Sources

SECTION I : GENERAL INFORMATION

1. Name and address of the owner or operator

Operating Permit Number (IF AVAILABLE)[a]

Facility ID Number (IF AVAILABLE)[b]

Responsible Official's Name: GARY KELLEY

Title: ASSISTANT SUPERINTENDENT

Street Address: 126 STARKSVILLE AVE N

City: LEESBURG

State: GA

ZIP Code: 31763

[a] (e.g., Title V permit number)
[b] (e.g., Air Facility System (AFS) facility ID)

Facility Name: LEE COUNTY BOARD OF EDUCATION

Facility Street Address (if different than Responsible Official's Street Address listed above)

Street Address

City

State

ZIP Code

Facility Local Contact Name: FRANKLIN RASH

Title: DIRECTOR OF PLANT OPERATIONS

SECTION III: CERTIFICATION

I hereby certify that the information presented herein is correct to the best of my knowledge.

Signature	1/16/2014 Date
Gary Kelley Name/title	(229) 903-2100 Telephone Number

LEE COUNTY BOARD OF EDUCATION
ATTN: FRANKLIN RASH
P.O. BOX 399
LEESBURG, GA 31763

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Air Toxics and Monitoring Branch
Atlanta Federal Center
61 Forsyth Street
Atlanta, GA 30303-8960

30303399999

5P

Initial Notification Report

National Emission Standards for Hazardous Air Pollutants:
Industrial, Commercial, and Institutional Boilers Major Sources

SECTION I : GENERAL INFORMATION

1. Name and address of the owner or operator

Operating Permit Number (IF AVAILABLE)[a]	Facility ID Number (IF AVAILABLE)[b]
07629R04	9200266

Responsible Official's Name	Title
Steve Walters	Associate Vice President for Business and Finance

Street Address
3800 Hillsborough Street

City	State	ZIP Code
Raleigh	NC	27607

[a] (e.g., Title V permit number)
[b] (e.g., Air Facility System (AFS) facility ID)

Facility Name

Meredith College

Facility Street Address (if different than Responsible Official's Street Address listed above)

Street Address

City	State	ZIP Code

Facility Local Contact Name	Title
Sharon Campbell	Director of Facilities Services

2. Anticipated Compliance Date(s) (mm/dd/yy)[c]:

October 31,2012 (renewal permit granted)

[c] See instructions on pg. 3 of this form to determine the compliance dates applicable to you.

SECTION II : SOURCE DESCRIPTION

1. Please complete the table below for each affected source (boiler and/or process heaters) per §63.9(b)(2)(iv).

Emission Unit ID[d]	Emission Unit Name (design and manufacturer name)	Size: Rated Heat Input Capacity (mmbtu/hr)[e]	Fuels Used[f]
254442 (NSP)	NG/#2 Fuel Oil Fired Burnham Boiler	14.645	Natural gas with #2 Fuel oil for gas curtailment, gas emergencies and periodic testing only

[Add rows to the table for additional boilers, as necessary.]

[d] If the source has an operating permit, use the IDs that are consistent with those reported in the permit.

[e] mmbtu/hr refers to million British thermal units per hour. Boilers often have a nameplate listing the rated heat input capacity on the unit. This rated capacity may have also been reported to the entity insuring the boiler or the state labor and safety inspector.

[f] Report all fuels used in each of the units subject to the standard (e.g., bituminous coal, #6 fuel oil, #2 fuel oil, natural gas, bark, lumber, etc.).

3. Optional: Additional notes

4. My facility is a (please choose one): ☐ Major source X☐ Area source of hazardous air pollutants.

If your facility is an area source of hazardous air pollutants (HAP), please refer to the National Emission Standards for Hazardous Air Pollutants for Area Sources: Industrial, Commercial, and Institutional Boilers , 40 CFR Part 63 Subpart JJJJJJ at http://www.epa.gov/ttn/atw/boiler/boilerpg.html.

SECTION III: CERTIFICATION

I hereby certify that the information presented herein is correct to the best of my knowledge.

Sharon Campbell	1/17/2014
Signature	Date
Director of Facilities Services	(919)760-8011
Name/title	Telephone Number

To whom do I submit the initial notification?

a. Please submit the notification to your State agency found at the following link: http://www.epa.gov/ttn/atw/area/table_state_contacts.doc

If your state/local contact is not listed at the above link, go to: http://www.4cleanair.org/contactUsaLevel.asp

b. Also submit the notification to the appropriate EPA Regional Office below:

EPA Region I (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont)
US Environmental Protection Agency
5 Post Office Square, Suite 100, Mail code: OES04-2,
Boston MA 02109-3912 Attention: Air Clerk

EPA Region II (New Jersey, New York, Puerto Rico, Virgin Islands)
Chief, Air Compliance Branch
290 Broadway, New York, NY 10007-1866

EPA Region III (Delaware, District of Columbia, Maryland, Pennsylvania, Virginia, West Virginia)
Director, Air Protection Division, 1650 Arch Street, Philadelphia, PA 19103

EPA Region IV (Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee)
Air Toxics and Monitoring Branch
Atlanta Federal Center, 61 Forsyth Street, Atlanta, GA 30303– 8960

EPA Region V (Illinois, Indiana, Michigan, Minnesota, Ohio, Wisconsin)
Director, Air and Radiation Division, 77 West Jackson Blvd., Chicago, IL 60604–3507

EPA Region VI (Arkansas, Louisiana, New Mexico, Oklahoma, Texas)

US EPA Region 6, Compliance Assurance and Enforcement Division, Air/Toxics Inspection & Coordination Branch (6 EN-A), 1445 Ross Avenue, Dallas, TX 75202–2733

EPA Region VII (Iowa, Kansas, Missouri, Nebraska)
Director, Air and Waste Management Division, U.S. Environmental Protection Agency
901 N. 5th Street, Kansas City, KS 66101

EPA Region VIII (Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming)
Director, Air and Toxics Technical Enforcement Program, Office of Enforcement, Compliance and Environmental Justice, 1595 Wynkoop Street, Denver, CO 80202-1129

EPA Region IX (Arizona, California, Hawaii, Nevada, American Samoa, Guam)
Enforcement Office Chief, Air Division, U.S. EPA Region IX, 75 Hawthorne Street, San Francisco, CA 94105

EPA Region X (Alaska, Idaho, Oregon, Washington)
Director, Office of Air, Waste and Toxics, 1200 6th Ave., Suite 900, AWT-107, Seattle, WA 98101

[9] To determine whether your State has been delegated the authority for this regulation under section 112(l) of the Clean Air Act, contact your EPA Regional Office.

MEREDITH
COLLEGE
FACILITIES SERVICES
3800 Hillsborough Street
Raleigh, North Carolina 27607-5298

RALEIGH NC 275
Research Triangle Region
21 JAN 2014 PM 2 L

EPA Region IV
Air Toxics and Monitoring Branch
Atlanta Federal Center
61 Forsyth Street
Atlanta, GA 30303-8960

30303999955

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Initial Notification Report

National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters

SECTION I : GENERAL INFORMATION

Operating Permit Number (IF AVAILABLE)[a]

V-12-008

Facility ID Number (IF AVAILABLE)[b]

Source ID: 21-103-00005, AI Number: 1854

Responsible Official's Name:

Patrick Keely

Title:

Compliance Manager

Street Address: 3700 La Grange Road

City: Smithfield State: KY ZIP Code: 40068

[a] (e.g., Title V permit number)
[b] (e.g., Air Facility System (AFS) facility ID)

Facility Name: Safety-Kleen Systems Inc.

Facility Street Address (if different than Responsible Official's Street Address listed above)

Street Address

City State ZIP Code

Facility Local Contact Name Title

Anticipated Compliance Date(s) (mm/dd/yy) (§63.9(b)(2)(iii))[c]: January 31, 2016
[c] See instructions on pg. 3 of this form to determine the compliance dates applicable to you.

40 CFR Part 63 Subpart DDDDD

SECTION II: SOURCE DESCRIPTION

1. Please complete the table below for each affected boiler and process heater per §63.9(b)(2)(iv).

Emission Unit ID[d]	Emission Unit Name (design and manufacturer name)	Size: Rated Heat Input Capacity (mmBtu/hr)[e]	Fuels Used[f]
EP001	Boiler (B02), Cleaver Brooks Model 800-200	8.4	Natural Gas
EP018	Boiler (B01), Cleaver Brooks Model CB 655 400, 400 HP	16.7	Natural Gas

[Add rows to the table for additional boilers, as necessary.]

[d] If the source has an operating permit, use the IDs that are consistent with those reported in the permit.

[e] mmBtu/hr refers to million British thermal units per hour. Boilers often have a nameplate listing the rated heat input capacity on the unit. This rated capacity may have also been reported to the entity insuring the boiler or the state labor and safety inspector.

[f] Report all fuels used in each of the units subject to the standard (e.g., bituminous coal, #6 fuel oil, #2 fuel oil, natural gas, bark, lumber, etc.).

3. Optional: Additional notes

4. My facility is a (please choose one): ☒ Major source ☐ Area source

If your facility is an area source of hazardous air pollutants (HAP), please refer to the National Emission Standards for Hazardous Air Pollutants for Area Sources: Industrial, Commercial, and Institutional Boilers, 40 CFR Part 63 Subpart JJJJJJ at http://www.epa.gov/ttn/atw/boiler/boilerpg.html.

40 CFR Part 63 Subpart DDDDD

SECTION III: CERTIFICATION

I hereby certify that the information presented herein is correct to the best of my knowledge.

Patrick W Keely
Signature

January 27, 2014
Date

Patrick W. Keely
Name/title

(502) 653-6724
Telephone Number

safety-kleen.
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Smithfield, KY 40068

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Air

Air, Pesticides and Toxics Management Division
Attn: Director
61 Forsyth Street
Atlanta, GA 30303-3104

30303999955

Summary Report
Gaseous and Opacity Excess Emission and Continuous Monitoring System Performance

63.2281(C)(l)

Company Name: Weyerhaeuser NR Company

Address: 524 Pride Way
Elkin, NC 28621

63.2281(c)(3)

This report covers the period: 7/1/13 - 12/30/13

Regulatory Requirements

This source is subject to Subpart DDDD, National Emission Standards for Hazardous Air Pollutants: Plywood and Composite Wood Products. The emission and operating parameter limitations specified in subpart DDDD are:

The RO controlling the dryer emissions is required to achieve 90% removal of HAPs. The facility elected to demonstrate compliance by achieving 90% removal of THC as specified in Table 1B, option (1).

Periods when emissions are not collected and treated are considered to not meet the 90% THC removal requirement.

The RO is required to maintain a 3 hr block average operating minimum temperature in the combustion chamber above the temperatures established during performance demonstrations. A minimum 3 hr block average combustion chamber temperature of 1276°F, established during the 10/28/2008 performance test.

The Biofilter controlling the press emissions is required to achieve 90% removal of formaldehyde. The facility elected to demonstrate compliance by reducing formaldehyde emissions by 90% as specified in Table 1B, option (1).

The Biofilter is required to maintain a 24 hr block average bed temperature within the operating range established during performance demonstrations. The minimum 24 hr block average Biofilter temperature of 60.9 °F, established during the 1/8/2010 performance test. The maximum 24 hr block average Biofilter bed chamber temperature of 92.933 °F, re-established during the 8/19/11 performance test.

Use non-HAP coatings in coating operations.

Use a press enclosure that meets the definition of a wood products enclosure in the rule.

Wood/oil/natural gas thermal oil heater exhaust routinely pass through the dryers and is treated by the RO, but are exhausted directly to atmosphere when the dryers are not operating and are therefore considered excess emissions from the dryer. These emissions to atmosphere are permitted under the facility's Title V air permit.

§63.2281(e)(8)

Process description:
Three direct fired strand dryers with combined emissions controlled by an RO.

OSB press controlled by a Biofilter

§63.2281(e)(9)

Continuous Process Monitoring System (CPMS) description:

The CPMS system monitors the following:
- RO combustion chamber temperature (3 hr average)
- Biofilter bed temperature (24 hr average)
- Process up-time and SSM events

The mill uses the following monitoring equipment:

Part
RO Thermocouples
Biofilter Thermocouples
Programmable Logic Controls for collecting data
IP.21 Data historian
Proficy software for data tracking / reporting

§63.2281(e)(10)

Last date of CMS Certification or Audit: **12/17/2013 (PM Order 14478329)**

§63.2281(e)(5)

Total Operating time and duration of excess emissions in the reporting period:

Process	Hours of source operation	Hours of deviations or excess emissions	Percent of source operating time there were excess emissions
Dryers	4,179.760	38.689	0.926%
Press	4,101.376	5.397	0.132%
Thermal Oil heater #1	2,926.591	19.339	0.661%
Thermal Oil heater #2	4,335.457	74.993	1.730%
Thermal Oil heater #3	4,267.675	49.161	1.152%

§63.2281(e)(6)

Dryer/RO System Breakdown of excess emissions according to cause:

Cause of deviation	Total duration of deviation in hours	Percent of operating time deviation occurred
Startup	0.071	0.002%
Shutdown	0.779	0.019%
Malfunction	24.245	0.580%
Control system problems	0.053	0.001%
Process problems	13.542	0.324%
Other known causes	0.000	0.000%
Other unknown causes	0.000	0.000%
Total	38.689	0.926%

Thermal Oil Heater System #1 Breakdown of excess emissions according to cause:

Cause of deviation	Total duration of deviation in hours	Percent of operating time deviation occurred
Startup	0.000	0.000%
Shutdown	17.911	0.000%
Malfunction	1.266	0.128%
Control system problems	0.000	0.000%

Process problems	0.000	0.000%
Other known causes	0.000	0.000%
Other unknown causes	0.162	0.004%
Total	19.339	0.661%

Thermal Oil Heater System #2 Breakdown of excess emissions according to cause:

Cause of deviation	Total duration of deviation in hours	Percent of operating time deviation occurred
Startup	0.000	0.000%
Shutdown	43.062	0.993%
Malfunction	4.820	0.111%
Control system problems	0.000	0.000%
Process problems	0.000	0.000%
Other known causes	0.000	0.000%
Other unknown causes	27.110	0.625%
Total	74.993	1.730%

Thermal Oil Heater System #3 Breakdown of excess emissions according to cause:

Cause of deviation	Total duration of deviation in hours	Percent of operating time deviation occurred
Startup	0.000	0.000%
Shutdown	45.338	1.062%
Malfunction	1.299	0.030%
Control system problems	0.000	0.000%
Process problems	0.000	0.000%
Other known causes	0.000	0.000%
Other unknown causes	2.523	0.059%
Total	49.161	1.152%

Press/Biofilter Breakdown of excess emissions according to cause:

Cause of deviation	Total duration of deviation in hours	Percent of operating time deviation occurred
Startup	0.000	0.000%
Shutdown	0.000	0.000%
Malfunction	5.251	0.128%
Control system problems	0.000	0.000%
Process problems	0.000	0.000%
Other known causes	0.000	0.000%
Other unknown causes	0.146	0.004%
Total	5.397	0.132%

§63.2281(e)(4)

Date and time each deviation started, stopped and whether the deviation occurred during SSM:
See Attachment A - SSM Log

System	Date/Time started	Date/Time stopped	SSM Event type, routine control device maintenance or other
See Attachment A - SSM Log			

§63.2281(e)(7)

Control Monitoring System (CMS):

CMS downtime in reporting period due to:	CMS downtime duration in hours	% unavailable (% of system op. time)
Total Dyer system RO CMS downtime	0	0.000%
Total Press system Biofilter CMS downtime	0	0.000%

§63.2281(e)(1-2)

Date and time each CMS was malfunction and/or not operative, except for zero and high level checks:
See Attachment B - CMS Log

Part	Incident No.	Start date/time	End date/time	Duration (hours)
RO CMS				
See Attachment B - CMS Log				
Biofilter CMS				
See Attachment B - CMS Log				

§63.8(c)(8), §63.2281(e)(3)

Date and time each CMS component was out of control: ***See Attachment B - CMS Log***

Part	Start date/time	End date/time	Duration (hours)	Corrective actions taken
RO Thermocouple(s)				
See Attachment B - CMS Log				
Biofilter Thermocouple(s)				
See Attachment B - CMS Log				

§63.2281(e)(11)

The following changes have occurred since the last reporting period:

CMS: None
Process: None
Emission Controls: None

§63.2281(d)(1)

Total operating time of each source during reporting period where a CMS is not used to assess compliance:

Source	Operating time (hours)
Coating operations	4,101.38

§63.2281(d)(2)

Number and duration of excess emissions in the reporting period where a CMS is not used to assess compliance:

Requirement	Number of deviations	Duration of deviations	Cause of deviation	Corrective actions taken
Use non-HAP coatings	0	0	n/a	n/a
Maintain records of coating HAPS	0	0	n/a	n/a
Documented that fugitive emission plan was followed	0	0	n/a	n/a

§63.2281(c)(5)

Description of Device Maintenance Performed under Control Device Maintenance Exemption:
See Attachment C - RME log

Date and time control device shut down for routine maintenance	Date & Time restarted	Processes Operating	Was maintenance included in approved maintenance control device exemption?
See Attachment C - RME Log			

Hours each process operated

Process Unit	Hours each process operated in semiannual period: This semiannual reporting period	Previous semiannual reporting period	or Biofilter was offline for Routine Maintenance: This semiannual reporting period	Previous semiannual reporting period	Annual percentage of process unit operating time when control device was offline for routine maintenance
Dryer Systems	4,179.76	3,949.58	44.19	96.66	1.73%
Thermal oil heater #1	2,926.59	4,113.45	n/a	n/a	n/a
Thermal oil heater #2	4,335.46	2,998.08	n/a	n/a	n/a
Thermal oil heater #3	4,267.67	3,508.54	n/a	n/a	n/a
Press System	4,101.38	3,879.07	0.00	1.33	0.02%

* Calculated in accordance with equation 1 in §63.2281(c)(5)(iii)(C)

§63.2281(c)(6)

The results of RO performance test, conducted on 5/28/13 & 5/29/13, were submitted to NC DENR DAQ. Summary of the results are included with this report.
The results of Biofilter performance tests, conducted on 1/8/10 and 5/31/13, were submitted to NC DENR DAQ. Summary of the results are included with this report.

§63.10(e)(3)(vi)(L), (M), , 63.2281(c)(2)

I certify, based on information and belief formed after reasonable inquiry, the statements and information in this report are true, accurate, and complete.

Debbie Tadlock / mill manager	Debbie Tadlock	1/9/14
Name / Title	Signature	Date

Startup, Shutdown, Malfunction Report

Company Name: Weyerhaeuser NR Company

Address 524 Pride Way
Elkin, NC 28621

This report covers the period: 7/1/13 - 12/31/13

§63.10(d)(5)(i)

All actions taken during startups and shutdown that caused an exceedance of an applicable emission limitation and/or all malfunctions were consistent with the procedures specified in the facility's startup, shutdown, malfunction plan- with the exception of the following:

• Events occurring were consistent with SSM plan

An immediate SSM report was filed for events not consistent with SSM plan.

§63.10(d)(5)(i), §63.2281(c)(4)

Actions taken to minimize emissions

Startups
Actions taken to minimize emissions during dryer startups were:

• The WESP and RO are normally operating before strands are introduced into the dryers.
Excess emissions do not normally occur during RO startup because emissions are not delivered to the RO until RO startup is complete. During this reporting period duct over and under pressure events occurred on the Dryer/RO systems. These appear to be related to atmospheric conditions and associated PLC logic. Changes have been initiated which have eliminated some events but adjustments to PLC logic continues when issues are identified.
• The Biofilter system is normally fully operational before product is pressed.

Shutdown
Actions taken to minimize emissions during shutdowns include:
• Dryer emissions are exhausted to the RO until the dryer is empty of strands
• Thermal oil heaters are operated at reduced firing rate when dryers are down when the heat is needed and vented to atmosphere as described in the Title V operating permit. Thermal oil heaters routinely exhaust to the dryers when the dryers are operating.
• Biofilter is not shut down until after press is down.

Malfunction
Malfunctions that occurred during the last 6 months are listed in the following table along with the total duration for each type of malfunction.

Total number of malfunctions occurring during the reporting period (Attachment A - SSM log; Attachment B – CMS log; Attachment D – Malfunction Log).	124

)ryer Systems: Number, type, and duration of malfunctions:

Malfunction type description	Number of this type of malfunction	Total duration in hours of this type of malfunction
RO		
Mechanical Failure	10	2.334
Power / Electrical Failure	15	9.570
Instrumentation Failure	2	0.535
Fire	0	0.000
Media	0	0.000
Process	0	0.000
Other	4	0.343
Temperature control problem	1	0.426
)ryer Emission Collection System		
Mechanical Failure	0	0.000
Power / Electrical Failure	6	1.662
Instrumentation Failure	0	0.000
Fire	0	0.000
Process	2	0.458
Other	0	0.000
VESP		
Mechanical Failure	0	0.000
Power / Electrical Failure	0	0.000
Instrumentation Failure	2	0.066
Fire	0	0.000
Water	41	7.721
Process	0	0.000
Other	0	0.000
)ryer		
Mechanical Failure	0	0.000
Power / Electrical Failure	24	15.397
Instrumentation Failure	2	0.211
Fire	24	3.799
Process	0	0.000
Other	0	0.000
Thermal Oil Heater #1		
Mechanical Failure	0	0.000
Power / Electrical Failure	0	0.000
Instrumentation Failure	0	0.000
Fire	0	0.000
Process	0	0.000
Other	0	0.000
Thermal Oil Heater #2		
Mechanical Failure	0	0.000
Power / Electrical Failure	0	0.000

Instrumentation Failure	0	0.000
Fire	0	0.000
Process	0	0.000
Other	1	0.199
Thermal Oil Heater #3		
Mechanical Failure	0	0.000
Power / Electrical Failure	0	0.000
Instrumentation Failure	0	0.000
Fire	0	0.000
Process	0	0.000
Other	0	0.000
Monitoring system		
Mechanical Failure	0	0.000
Power / Electrical Failure	0	0.000
Instrumentation Failure	1	1.128
Fire	0	0.000
Process	0	0.000
Other	0	0.000

Press System: Number, type, and duration of malfunctions:

Malfunction type description	Number of this type of malfunction	Total duration in hours of this type of malfunction
Biofilter		
Mechanical Failure	0	0.000
Power Failure	0	0.000
Instrumentation Failure	7	1.829
Fire	0	0.000
Water System Failure	10	4.487
Media Failure	0	0.000
Process	0	0.000
Other	0	0.000
Temperature control problem	0	0.000
PCWP Wood Products Enclosure		
Mechanical Failure	0	0.000
Power Failure	0	0.000
Instrumentation Failure	0	0.000
Fire	0	0.000
Press		
Mechanical Failure	0	0.000
Power Failure	0	0.000
Instrumentation Failure	0	0.000
Fire/spark detection	0	0.000
Monitoring system		
Mechanical Failure	0	0.000
Power Failure	0	0.000
Instrumentation Failure	0	0.000

Fire	0	0.000
Process	0	0.000
Other	0	0.000

§63.10(c)(11), §63.10(d)(5)(i)

:orrective Actions taken to minimize emissions during malfunctions include:
:O
Shut down strand dryers
Restart RO before starting dryers
Replace media when needed
VESP
Slow process down or shut down dryers
Run in manual if controls fail
Activate fire suppression system, shut down
:mission collection system
Shut down strand dryers or
Adjust duct pressures.
trand dryers
Slow process down or shut down dryers
Run in manual if controls fail
Activate fire suppression system, shut down
'hermal oil heaters
Shut down thermal oil system
Repair as rapidly as possible
Adjust dryer dampers to overcome backpressure complicated by ambient conditions
Monitoring system
Repair as rapidly as possible and restart

'ress Biofilter
Replace media when needed
Keep water system operating to maintain water temperatures; cooling during summer months and maintaining heat
luring winter months
Monitor health of bacteria in water during days of high temperature to ensure bacteria is active.
Monitoring system
Repair/replace as rapidly as possible
Restart
A preventive maintenance program is in place to minimize malfunctions.

§63.2281(e)(1), §63.10(c)(10)

List of malfunctions - *see Attachment D – Malfunction Log*

§63.10(d)(5)(i)

I certify, based on information and belief formed after reasonable inquiry, the statements and information in this report are true, accurate, and complete.

Debbie Tadlock / mill manager	Debbie Tadlock	1/9/14
Name / Title	Signature	Date

Attachment A
MACT Compliance Reporting - SSM Log

Weyerhaeuser Company			Excess emissions:	Hours
Elkin, NC			Dryers/RO	38.69
Semiannual Reporting Period:		7/1/13 - 12/30/13	Press/Biofilter	5.40
			Thermal Oil Heater #1	19.34
			Thermal Oil Heater #2	74.99
			Thermal Oil Heater #3	49.16
			Total	187.58

Affected Process	Date/Time started	Date/Time stopped	SSM event type, routine control device maintenance or other	Duration Hours
Thermal Oil Heater #3	7/1/13 13:36	7/1/13 13:42	other known causes	0.103
Thermal Oil Heater #2	7/1/13 21:27	7/1/13 21:27	other known causes	0.310
Thermal Oil Heater #3	7/1/13 21:40	7/1/13 21:43	other known causes	0.051
Thermal Oil Heater #2	7/1/13 21:51	7/1/13 21:56	other known causes	0.076
Thermal Oil Heater #3	7/1/13 21:58	7/1/13 22:01	other known causes	0.048
Thermal Oil Heater #2	7/3/13 2:10	7/3/13 2:39	other known causes	0.491
Thermal Oil Heater #2	7/3/13 2:40	7/3/13 2:40	other known causes	0.057
Thermal Oil Heater #2	7/3/13 13:35	7/3/13 13:44	other known causes	0.150
Thermal Oil Heater #2	7/3/13 13:53	7/3/13 13:54	other known causes	0.014
Thermal Oil Heater #2	7/3/13 14:14	7/3/13 14:15	other known causes	0.009
Thermal Oil Heater #2	7/3/13 14:32	7/3/13 14:39	other known causes	0.102
Thermal Oil Heater #3	7/9/13 8:01	7/9/13 13:37	shutdown	5.606

Affected Process	Date/Time started	Date/Time stopped	SSM event type, routine control device maintenance or other	Duration Hours
hermal Oil Heater #2	7/9/13 8:01	7/9/13 8:36	shutdown	0.585
hermal Oil Heater #2	7/9/13 15:02	7/9/13 16:18	shutdown	1.270
hermal Oil Heater #3	7/9/13 15:03	7/9/13 16:23	shutdown	1.323
hermal Oil Heater #1	7/9/13 15:05	7/9/13 16:15	shutdown	1.162
)ryer/RO	7/9/13 16:16	7/9/13 16:23	shutdown	0.132
hermal Oil Heater #3	7/12/13 3:49	7/12/13 3:50	other known causes	0.007
hermal Oil Heater #3	7/12/13 3:55	7/12/13 3:58	other known causes	0.056
hermal Oil Heater #2	7/14/13 4:01	7/14/13 4:09	other known causes	0.133
hermal Oil Heater #2	7/16/13 5:55	7/16/13 6:01	other known causes	0.094
hermal Oil Heater #3	7/16/13 13:30	7/16/13 15:14	shutdown	1.736
hermal Oil Heater #2	7/16/13 14:00	7/16/13 15:13	shutdown	1.215
ress/Biofilter	7/17/13 2:50	7/17/13 3:12	malfunction	0.368
)ryer/RO	7/17/13 3:35	7/17/13 3:36	malfunction	0.009
)ryer/RO	7/17/13 3:36	7/17/13 3:38	malfunction	0.037
)ryer/RO	7/17/13 3:36	7/17/13 3:38	malfunction	0.030
)ryer/RO	7/17/13 3:39	7/17/13 4:10	malfunction	0.526
)ryer/RO	7/17/13 12:55	7/17/13 12:55	malfunction	0.009
)ryer/RO	7/17/13 12:55	7/17/13 13:01	malfunction	0.104

Affected Process	Date/Time started	Date/Time stopped	SSM event type, routine control device maintenance or other	Duration Hours
Dryer/RO	7/17/13 12:55	7/17/13 13:02	malfunction	0.106
Dryer/RO	7/17/13 12:55	7/17/13 13:01	malfunction	0.102
Dryer/RO	7/17/13 13:02	7/17/13 13:47	malfunction	0.748
Thermal Oil Heater #3	7/17/13 17:20	7/17/13 17:21	other known causes	0.021
Press/Biofilter	7/19/13 10:04	7/19/13 10:48	malfunction	0.728
Thermal Oil Heater #3	7/21/13 0:05	7/21/13 0:05	other known causes	0.009
Thermal Oil Heater #3	7/21/13 0:07	7/21/13 0:08	other known causes	0.014
Thermal Oil Heater #3	7/21/13 14:27	7/21/13 14:31	other known causes	0.067
Thermal Oil Heater #3	7/21/13 15:17	7/21/13 15:17	other known causes	0.001
Thermal Oil Heater #3	7/22/13 20:03	7/22/13 20:20	other known causes	0.256
Thermal Oil Heater #3	7/22/13 22:10	7/22/13 22:11	other known causes	0.012
Thermal Oil Heater #3	7/22/13 22:11	7/22/13 22:35	other known causes	0.397
Thermal Oil Heater #3	7/22/13 22:46	7/22/13 22:47	other known causes	0.009
Thermal Oil Heater #3	7/25/13 1:57	7/25/13 2:01	other known causes	0.055
Thermal Oil Heater #3	7/25/13 7:11	7/25/13 7:14	other known causes	0.053
Thermal Oil Heater #3	7/25/13 8:09	7/25/13 8:14	other known causes	0.042
Thermal Oil Heater #3	7/25/13 8:16	7/25/13 8:21	other known causes	0.078

Affected Process	Date/Time started	Date/Time stopped	SSM event type, routine control device maintenance or other	Duration Hours
hermal Oil Heater #3	7/25/13 9:01	7/25/13 9:31	other known causes	0.503
hermal Oil Heater #3	7/30/13 7:01	7/30/13 7:14	shutdown	0.220
hermal Oil Heater #3	7/30/13 7:14	7/30/13 16:59	shutdown	9.751
hermal Oil Heater #2	7/30/13 15:22	7/30/13 16:59	shutdown	1.605
)ryer/RO	7/30/13 17:33	7/30/13 18:41	malfunction	1.128
hermal Oil Heater #2	8/1/13 8:43	8/1/13 8:44	other known causes	0.005
hermal Oil Heater #2	8/1/13 8:43	8/1/13 8:44	other known causes	0.005
hermal Oil Heater #3	8/6/13 10:16	8/6/13 10:19	other known causes	0.056
hermal Oil Heater #3	8/6/13 10:20	8/6/13 10:25	other known causes	0.093
)ryer/RO	8/7/13 9:37	8/7/13 9:51	malfunction	0.219
)ryer/RO	8/8/13 16:44	8/8/13 16:45	malfunction	0.011
)ryer/RO	8/8/13 16:45	8/8/13 17:13	malfunction	0.474
)ryer/RO	8/8/13 16:45	8/8/13 17:09	malfunction	0.407
)ryer/RO	8/8/13 16:45	8/8/13 17:13	malfunction	0.468
)ryer/RO	8/8/13 17:10	8/8/13 17:20	malfunction	0.156
hermal Oil Heater #2	8/8/13 23:17	8/8/13 23:18	other known causes	0.025
hermal Oil Heater #2	8/8/13 23:26	8/8/13 23:26	other known causes	0.008
hermal Oil Heater #2	8/8/13 23:27	8/8/13 23:30	other known causes	0.045

Affected Process	Date/Time started	Date/Time stopped	SSM event type, routine control device maintenance or other	Duration Hours
Thermal Oil Heater #2	8/8/13 23:35	8/8/13 23:52	other known causes	0.288
Thermal Oil Heater #2	8/9/13 0:07	8/9/13 0:10	other known causes	0.050
Thermal Oil Heater #2	8/9/13 0:11	8/9/13 0:13	other known causes	0.028
Thermal Oil Heater #2	8/9/13 0:13	8/9/13 0:13	other known causes	0.001
Thermal Oil Heater #2	8/9/13 0:14	8/9/13 0:24	other known causes	0.175
Thermal Oil Heater #2	8/9/13 0:50	8/9/13 0:51	other known causes	0.016
Thermal Oil Heater #2	8/9/13 0:52	8/9/13 0:55	other known causes	0.048
Thermal Oil Heater #2	8/9/13 8:09	8/9/13 8:29	other known causes	0.321
Thermal Oil Heater #2	8/9/13 8:35	8/9/13 8:36	other known causes	0.008
Thermal Oil Heater #2	8/9/13 10:06	8/9/13 10:12	other known causes	0.095
Thermal Oil Heater #2	8/9/13 10:41	8/9/13 10:59	other known causes	0.296
Thermal Oil Heater #3	8/11/13 22:06	8/11/13 22:10	other known causes	0.066
Thermal Oil Heater #3	8/11/13 22:10	8/11/13 22:17	other known causes	0.108
Thermal Oil Heater #3	8/13/13 13:18	8/13/13 17:43	shutdown	4.416
Thermal Oil Heater #2	8/13/13 14:27	8/13/13 17:37	shutdown	3.156
Thermal Oil Heater #2	8/18/13 15:00	8/18/13 15:02	other known causes	0.026

Affected Process	Date/Time started	Date/Time stopped	SSM event type, routine control device maintenance or other	Duration Hours
hermal Oil Heater #2	8/18/13 15:21	8/18/13 15:26	other known causes	0.094
hermal Oil Heater #2	8/18/13 15:30	8/18/13 15:35	other known causes	0.071
hermal Oil Heater #2	8/19/13 16:20	8/19/13 16:21	other known causes	0.020
hermal Oil Heater #2	8/19/13 16:22	8/19/13 16:31	other known causes	0.147
hermal Oil Heater #2	8/19/13 16:37	8/19/13 16:44	other known causes	0.113
hermal Oil Heater #2	8/19/13 17:08	8/19/13 17:09	other known causes	0.013
hermal Oil Heater #2	8/19/13 17:11	8/19/13 17:12	other known causes	0.017
hermal Oil Heater #2	8/19/13 17:22	8/19/13 17:33	other known causes	0.183
hermal Oil Heater #2	8/19/13 17:50	8/19/13 17:55	other known causes	0.070
hermal Oil Heater #2	8/19/13 17:56	8/19/13 17:57	other known causes	0.014
hermal Oil Heater #2	8/19/13 17:59	8/19/13 18:01	other known causes	0.032
hermal Oil Heater #2	8/19/13 18:07	8/19/13 18:13	other known causes	0.099
hermal Oil Heater #2	8/19/13 18:18	8/19/13 18:33	other known causes	0.242
hermal Oil Heater #2	8/19/13 18:43	8/19/13 18:45	other known causes	0.027
hermal Oil Heater #2	8/19/13 22:06	8/19/13 22:07	other known causes	0.014
hermal Oil Heater #2	8/19/13 22:07	8/19/13 22:16	other known causes	0.139

Affected Process	Date/Time started	Date/Time stopped	SSM event type, routine control device maintenance or other	Duration Hours
Thermal Oil Heater #2	8/20/13 13:15	8/20/13 13:17	other known causes	0.027
Thermal Oil Heater #2	8/20/13 14:26	8/20/13 14:26	other known causes	0.008
Thermal Oil Heater #2	8/20/13 14:36	8/20/13 14:42	other known causes	0.095
Thermal Oil Heater #2	8/20/13 15:00	8/20/13 15:01	other known causes	0.009
Thermal Oil Heater #2	8/20/13 15:19	8/20/13 15:24	other known causes	0.088
Thermal Oil Heater #2	8/20/13 15:29	8/20/13 15:34	other known causes	0.079
Thermal Oil Heater #2	8/20/13 21:29	8/20/13 21:35	other known causes	0.105
Thermal Oil Heater #2	8/20/13 21:58	8/20/13 22:03	other known causes	0.083
Dryer/RO	8/21/13 18:41	8/21/13 18:46	malfunction	0.070
Dryer/RO	8/22/13 8:39	8/22/13 8:48	malfunction	0.141
Thermal Oil Heater #2	8/22/13 14:09	8/22/13 14:23	other known causes	0.228
Thermal Oil Heater #2	8/22/13 14:24	8/22/13 14:25	other known causes	0.014
Thermal Oil Heater #2	8/24/13 18:09	8/24/13 18:20	other known causes	0.169
Thermal Oil Heater #2	8/26/13 1:56	8/26/13 1:57	other known causes	0.022
Thermal Oil Heater #2	8/26/13 2:06	8/26/13 2:06	other known causes	0.003
Thermal Oil Heater #2	8/26/13 2:14	8/26/13 2:16	other known causes	0.033

Affected Process	Date/Time started	Date/Time stopped	SSM event type, routine control device maintenance or other	Duration Hours
hermal Oil Heater #2	8/26/13 2:20	8/26/13 2:21	other known causes	0.014
hermal Oil Heater #2	8/26/13 2:25	8/26/13 2:25	other known causes	0.001
hermal Oil Heater #2	8/26/13 2:34	8/26/13 2:35	other known causes	0.019
hermal Oil Heater #2	8/26/13 2:40	8/26/13 2:40	other known causes	0.006
hermal Oil Heater #2	8/26/13 3:05	8/26/13 3:06	other known causes	0.016
hermal Oil Heater #2	8/26/13 3:14	8/26/13 3:15	other known causes	0.018
hermal Oil Heater #2	8/26/13 3:24	8/26/13 3:24	other known causes	0.014
hermal Oil Heater #2	8/26/13 3:33	8/26/13 3:34	other known causes	0.020
hermal Oil Heater #2	8/26/13 3:46	8/26/13 3:47	other known causes	0.027
hermal Oil Heater #2	8/26/13 3:51	8/26/13 3:52	other known causes	0.009
hermal Oil Heater #2	8/26/13 3:57	8/26/13 3:57	other known causes	0.004
hermal Oil Heater #2	8/26/13 4:07	8/26/13 4:07	other known causes	0.008
hermal Oil Heater #2	8/26/13 4:12	8/26/13 4:12	other known causes	0.006
hermal Oil Heater #2	8/26/13 4:17	8/26/13 4:17	other known causes	0.006
hermal Oil Heater #2	8/26/13 4:21	8/26/13 4:22	other known causes	0.002
hermal Oil Heater #2	8/26/13 4:26	8/26/13 4:26	other known causes	0.002

Affected Process	Date/Time started	Date/Time stopped	SSM event type, routine control device maintenance or other	Duration Hours
Thermal Oil Heater #2	8/26/13 4:31	8/26/13 4:32	other known causes	0.006
Thermal Oil Heater #2	8/26/13 5:14	8/26/13 5:14	other known causes	0.004
Thermal Oil Heater #2	8/26/13 5:28	8/26/13 5:28	other known causes	0.004
Thermal Oil Heater #2	8/30/13 18:04	8/30/13 18:10	other known causes	0.090
Dryer/RO	9/4/13 7:58	9/4/13 8:24	malfunction	0.431
Dryer/RO	9/4/13 7:58	9/4/13 8:00	malfunction	0.027
Press/Biofilter	9/4/13 19:40	9/4/13 19:54	malfunction	0.241
Press/Biofilter	9/4/13 20:12	9/4/13 20:17	malfunction	0.081
Press/Biofilter	9/5/13 3:55	9/5/13 4:14	malfunction	0.322
Thermal Oil Heater #2	9/10/13 4:44	9/10/13 4:55	other known causes	0.178
Thermal Oil Heater #2	9/10/13 16:39	9/10/13 17:49	shutdown	1.164
Thermal Oil Heater #2	9/10/13 23:59	9/11/13 3:22	shutdown	3.398
Thermal Oil Heater #2	9/11/13 6:02	9/11/13 12:40	shutdown	6.646
Thermal Oil Heater #3	9/11/13 17:30	9/11/13 19:18	shutdown	1.801
Thermal Oil Heater #2	9/11/13 17:30	9/11/13 18:59	shutdown	1.484
Thermal Oil Heater #3	9/11/13 21:20	9/11/13 23:22	shutdown	2.045
Thermal Oil Heater #2	9/11/13 21:20	9/11/13 23:24	shutdown	2.063
Dryer/RO	9/11/13 23:23	9/11/13 23:24	malfunction	0.011

Affected Process	Date/Time started	Date/Time stopped	SSM event type, routine control device maintenance or other	Duration Hours
ryer/RO	9/13/13 9:08	9/13/13 9:12	malfunction	0.057
hermal Oil Heater #2	9/14/13 13:10	9/14/13 13:11	other known causes	0.008
hermal Oil Heater #2	9/14/13 13:14	9/14/13 13:15	other known causes	0.013
hermal Oil Heater #2	9/16/13 8:22	9/16/13 8:26	other known causes	0.059
hermal Oil Heater #2	9/16/13 8:35	9/16/13 8:39	other known causes	0.070
ress/Biofilter	9/16/13 12:53	9/16/13 13:03	malfunction	0.158
ryer/RO	9/17/13 0:39	9/17/13 0:40	malfunction	0.294
hermal Oil Heater #2	9/17/13 3:29	9/17/13 3:31	other known causes	0.029
hermal Oil Heater #2	9/17/13 3:33	9/17/13 3:33	other known causes	0.004
hermal Oil Heater #2	9/17/13 3:34	9/17/13 3:36	other known causes	0.029
hermal Oil Heater #2	9/17/13 3:38	9/17/13 3:39	other known causes	0.011
hermal Oil Heater #2	9/17/13 5:42	9/17/13 5:47	other known causes	0.097
hermal Oil Heater #2	9/17/13 7:56	9/17/13 8:00	other known causes	0.066
hermal Oil Heater #2	9/17/13 8:12	9/17/13 8:13	other known causes	0.023
hermal Oil Heater #2	9/17/13 10:17	9/17/13 10:24	other known causes	0.104
hermal Oil Heater #2	9/17/13 22:28	9/17/13 22:29	other known causes	0.021

Affected Process	Date/Time started	Date/Time stopped	SSM event type, routine control device maintenance or other	Duration Hours
Thermal Oil Heater #2	9/17/13 22:30	9/17/13 22:31	other known causes	0.009
Thermal Oil Heater #2	9/17/13 22:34	9/17/13 22:35	other known causes	0.021
Thermal Oil Heater #2	9/17/13 22:43	9/17/13 22:44	other known causes	0.015
Thermal Oil Heater #2	9/17/13 22:45	9/17/13 22:46	other known causes	0.024
Thermal Oil Heater #2	9/17/13 22:47	9/17/13 22:52	other known causes	0.083
Thermal Oil Heater #2	9/18/13 13:49	9/18/13 13:53	other known causes	0.068
Thermal Oil Heater #2	9/18/13 13:55	9/18/13 14:09	other known causes	0.241
Thermal Oil Heater #2	9/19/13 7:51	9/19/13 8:17	other known causes	0.433
Thermal Oil Heater #2	9/19/13 8:23	9/19/13 8:28	other known causes	0.079
Thermal Oil Heater #2	9/19/13 12:30	9/19/13 12:35	other known causes	0.089
Thermal Oil Heater #2	9/19/13 12:42	9/19/13 12:47	other known causes	0.098
Press/Biofilter	9/19/13 12:47	9/19/13 12:56	other known causes	0.146
Thermal Oil Heater #2	9/19/13 13:42	9/19/13 13:48	other known causes	0.102
Thermal Oil Heater #2	9/19/13 15:23	9/19/13 15:30	other known causes	0.113
Thermal Oil Heater #2	9/19/13 17:33	9/19/13 17:36	other known causes	0.057
Thermal Oil Heater #2	9/21/13 23:37	9/22/13 0:05	other known causes	0.459

Affected Process	Date/Time started	Date/Time stopped	SSM event type, routine control device maintenance or other	Duration Hours
ıermal Oil Heater #1	9/25/13 9:15	9/25/13 16:00	shutdown	6.748
ıermal Oil Heater #2	9/25/13 9:33	9/25/13 9:34	shutdown	0.005
ıermal Oil Heater #2	9/25/13 9:35	9/25/13 9:37	shutdown	0.031
ıermal Oil Heater #2	9/25/13 9:57	9/25/13 16:04	shutdown	6.116
ıermal Oil Heater #3	9/25/13 11:00	9/25/13 14:21	shutdown	3.348
ıermal Oil Heater #3	9/25/13 14:21	9/25/13 15:59	shutdown	1.630
ıermal Oil Heater #3	9/25/13 18:19	9/25/13 18:21	shutdown	0.029
ryer/RO	9/25/13 18:37	9/25/13 19:02	malfunction	0.426
hermal Oil Heater #2	9/25/13 21:10	9/25/13 21:15	other known causes	0.089
ress/Biofilter	9/25/13 21:13	9/25/13 21:35	malfunction	0.368
hermal Oil Heater #2	9/26/13 14:03	9/26/13 14:04	other known causes	0.019
hermal Oil Heater #2	9/26/13 14:05	9/26/13 14:07	other known causes	0.036
hermal Oil Heater #2	9/26/13 14:09	9/26/13 14:09	other known causes	0.006
hermal Oil Heater #2	9/26/13 20:12	9/26/13 20:17	other known causes	0.077
hermal Oil Heater #2	9/27/13 11:21	9/27/13 11:22	other known causes	0.018
hermal Oil Heater #2	9/27/13 12:55	9/27/13 12:56	other known causes	0.012
hermal Oil Heater #2	9/27/13 13:10	9/27/13 13:10	other known causes	0.002

Affected Process	Date/Time started	Date/Time stopped	SSM event type, routine control device maintenance or other	Duration Hours
Thermal Oil Heater #2	9/27/13 13:13	9/27/13 13:20	other known causes	0.113
Thermal Oil Heater #2	9/27/13 13:24	9/27/13 13:26	other known causes	0.026
Thermal Oil Heater #2	9/27/13 14:07	9/27/13 14:07	other known causes	0.003
Thermal Oil Heater #2	9/27/13 14:10	9/27/13 14:11	other known causes	0.006
Thermal Oil Heater #2	9/27/13 14:13	9/27/13 14:13	other known causes	0.003
Thermal Oil Heater #3	9/27/13 16:31	9/27/13 20:38	shutdown	4.116
Thermal Oil Heater #2	9/27/13 16:31	9/27/13 20:40	shutdown	4.141
Thermal Oil Heater #1	9/27/13 16:31	9/27/13 20:39	shutdown	4.129
Thermal Oil Heater #2	9/28/13 1:14	9/28/13 4:11	shutdown	2.939
Thermal Oil Heater #1	9/28/13 1:16	9/28/13 4:09	shutdown	2.885
Thermal Oil Heater #3	9/28/13 1:23	9/28/13 4:11	shutdown	2.787
Thermal Oil Heater #2	9/28/13 4:11	9/28/13 4:13	shutdown	0.034
Thermal Oil Heater #3	9/28/13 4:11	9/28/13 4:15	shutdown	0.075
Dryer/RO	9/28/13 8:59	9/28/13 9:00	malfunction	0.009
Thermal Oil Heater #1	9/28/13 9:00	9/28/13 9:30	shutdown	0.501
Thermal Oil Heater #3	9/28/13 9:00	9/28/13 9:35	shutdown	0.583

Affected Process	Date/Time started	Date/Time stopped	SSM event type, routine control device maintenance or other	Duration Hours
ıermal Oil Heater #2	9/28/13 9:00	9/28/13 9:34	shutdown	0.571
ryer/RO	9/28/13 9:34	9/28/13 9:38	control system problem	0.053
ıermal Oil Heater #2	9/28/13 16:57	9/28/13 17:09	other known causes	0.191
ıermal Oil Heater #2	9/28/13 17:12	9/28/13 17:13	other known causes	0.011
ıermal Oil Heater #2	9/28/13 21:49	9/28/13 21:50	other known causes	0.004
ıermal Oil Heater #2	9/28/13 21:52	9/28/13 21:52	other known causes	0.002
hermal Oil Heater #2	9/28/13 21:57	9/28/13 22:03	other known causes	0.099
hermal Oil Heater #2	9/28/13 22:18	9/28/13 22:20	other known causes	0.032
hermal Oil Heater #2	9/28/13 22:32	9/28/13 22:40	other known causes	0.126
ress/Biofilter	9/28/13 22:38	9/28/13 22:58	malfunction	0.324
hermal Oil Heater #2	9/29/13 2:31	9/29/13 3:00	other known causes	0.486
hermal Oil Heater #2	9/29/13 9:17	9/29/13 9:17	other known causes	0.000
hermal Oil Heater #2	9/29/13 9:34	9/29/13 9:35	other known causes	0.006
hermal Oil Heater #2	9/29/13 11:17	9/29/13 11:24	other known causes	0.126
hermal Oil Heater #2	9/29/13 11:26	9/29/13 11:28	other known causes	0.021
hermal Oil Heater #2	9/29/13 13:26	9/29/13 13:32	other known causes	0.095
ress/Biofilter	10/1/13 3:45	10/1/13 4:29	malfunction	0.748

Affected Process	Date/Time started	Date/Time stopped	SSM event type, routine control device maintenance or other	Duration Hours
Thermal Oil Heater #2	10/1/13 7:53	10/1/13 7:59	other known causes	0.095
Thermal Oil Heater #2	10/1/13 16:47	10/1/13 16:54	other known causes	0.114
Press/Biofilter	10/1/13 3:45	10/1/13 4:29	malfunction	0.748
Thermal Oil Heater #2	10/1/13 7:53	10/1/13 7:59	malfunction	0.095
Thermal Oil Heater #2	10/1/13 16:47	10/1/13 16:54	other known causes	0.114
Thermal Oil Heater #2	10/2/13 11:22	10/2/13 11:33	other known causes	0.180
Thermal Oil Heater #2	10/2/13 13:58	10/2/13 14:14	other known causes	0.270
Dryer/RO	10/3/13 18:42	10/3/13 18:42	malfunction	0.053
Dryer/RO	10/3/13 18:42	10/3/13 18:47	malfunction	0.076
Dryer/RO	10/3/13 18:42	10/3/13 18:44	malfunction	0.034
Dryer/RO	10/3/13 18:42	10/3/13 18:44	malfunction	0.032
Thermal Oil Heater #2	10/3/13 20:27	10/3/13 20:41	other known causes	0.233
Thermal Oil Heater #2	10/3/13 20:42	10/3/13 20:43	other known causes	0.008
Thermal Oil Heater #2	10/3/13 23:24	10/3/13 23:26	other known causes	0.034
Thermal Oil Heater #2	10/3/13 23:26	10/4/13 0:19	other known causes	0.879
Thermal Oil Heater #2	10/4/13 18:58	10/4/13 19:03	other known causes	0.093
Thermal Oil Heater #2	10/4/13 19:08	10/4/13 19:08	other known causes	0.008

Affected Process	Date/Time started	Date/Time stopped	SSM event type, routine control device maintenance or other	Duration Hours
hermal Oil Heater #2	10/4/13 19:13	10/4/13 19:39	other known causes	0.439
hermal Oil Heater #2	10/4/13 19:41	10/4/13 19:41	other known causes	0.002
hermal Oil Heater #2	10/4/13 19:53	10/4/13 20:00	other known causes	0.109
hermal Oil Heater #2	10/4/13 20:01	10/4/13 20:02	other known causes	0.024
hermal Oil Heater #2	10/4/13 20:04	10/4/13 20:06	other known causes	0.021
hermal Oil Heater #2	10/4/13 20:07	10/4/13 20:18	other known causes	0.176
hermal Oil Heater #2	10/4/13 20:19	10/4/13 20:29	other known causes	0.165
hermal Oil Heater #2	10/4/13 20:35	10/4/13 20:35	other known causes	0.007
hermal Oil Heater #2	10/4/13 20:47	10/4/13 20:48	other known causes	0.012
hermal Oil Heater #2	10/5/13 8:12	10/5/13 8:16	other known causes	0.072
hermal Oil Heater #2	10/5/13 13:36	10/5/13 13:38	other known causes	0.028
hermal Oil Heater #2	10/5/13 13:39	10/5/13 13:39	other known causes	0.004
hermal Oil Heater #2	10/5/13 13:48	10/5/13 13:48	other known causes	0.011
hermal Oil Heater #2	10/5/13 13:50	10/5/13 13:52	other known causes	0.024
hermal Oil Heater #2	10/5/13 13:52	10/5/13 13:55	other known causes	0.040
hermal Oil Heater #2	10/5/13 13:57	10/5/13 13:59	other known causes	0.037
ress/Biofilter	10/5/13 15:35	10/5/13 15:54	malfunction	0.326

Affected Process	Date/Time started	Date/Time stopped	SSM event type, routine control device maintenance or other	Duration Hours
Thermal Oil Heater #2	10/5/13 19:27	10/5/13 19:28	other known causes	0.019
Thermal Oil Heater #2	10/5/13 19:30	10/5/13 19:35	other known causes	0.084
Thermal Oil Heater #2	10/5/13 19:36	10/5/13 19:37	other known causes	0.003
Thermal Oil Heater #2	10/6/13 0:44	10/6/13 0:49	other known causes	0.083
Thermal Oil Heater #2	10/6/13 0:53	10/6/13 0:54	other known causes	0.005
Dryer/RO	10/7/13 12:05	10/7/13 12:05	malfunction	0.035
Dryer/RO	10/7/13 12:06	10/7/13 12:07	malfunction	0.024
Dryer/RO	10/7/13 12:06	10/7/13 12:07	malfunction	0.024
Dryer/RO	10/7/13 12:22	10/7/13 13:22	malfunction	1.024
Dryer/RO	10/7/13 12:41	10/7/13 13:17	malfunction	1.081
Press/Biofilter	10/7/13 16:24	10/7/13 16:46	malfunction	0.366
Press/Biofilter	10/8/13 1:47	10/8/13 1:57	malfunction	0.166
Thermal Oil Heater #2	10/8/13 13:27	10/8/13 16:36	shutdown	3.139
Thermal Oil Heater #2	10/8/13 17:52	10/8/13 17:53	other known causes	0.016
Thermal Oil Heater #2	10/8/13 17:54	10/8/13 17:54	other known causes	0.004
Thermal Oil Heater #2	10/8/13 17:55	10/8/13 18:01	other known causes	0.101
Thermal Oil Heater #2	10/9/13 0:48	10/9/13 0:57	other known causes	0.149

Affected Process	Date/Time started	Date/Time stopped	SSM event type, routine control device maintenance or other	Duration Hours
hermal Oil Heater #2	10/9/13 1:02	10/9/13 1:02	other known causes	0.011
hermal Oil Heater #2	10/9/13 1:03	10/9/13 1:03	other known causes	0.006
hermal Oil Heater #2	10/9/13 1:05	10/9/13 1:06	other known causes	0.011
hermal Oil Heater #2	10/9/13 7:59	10/9/13 8:04	other known causes	0.073
hermal Oil Heater #2	10/10/13 6:55	10/10/13 6:55	shutdown	0.007
hermal Oil Heater #2	10/10/13 10:46	10/10/13 10:51	other known causes	0.081
hermal Oil Heater #2	10/10/13 13:28	10/10/13 13:34	other known causes	0.094
hermal Oil Heater #2	10/10/13 14:49	10/10/13 14:54	other known causes	0.088
hermal Oil Heater #2	10/10/13 14:55	10/10/13 14:55	other known causes	0.001
hermal Oil Heater #2	10/11/13 6:35	10/11/13 6:44	other known causes	0.134
hermal Oil Heater #2	10/11/13 6:57	10/11/13 7:13	other known causes	0.266
hermal Oil Heater #2	10/11/13 7:24	10/11/13 7:34	other known causes	0.170
hermal Oil Heater #2	10/11/13 7:45	10/11/13 8:07	other known causes	0.363
hermal Oil Heater #2	10/11/13 12:51	10/11/13 12:52	other known causes	0.019
hermal Oil Heater #2	10/11/13 20:50	10/11/13 20:50	other known causes	0.004
hermal Oil Heater #2	10/11/13 20:51	10/11/13 20:59	other known causes	0.143
hermal Oil Heater #2	10/11/13 21:10	10/11/13 21:17	other known causes	0.122

Affected Process	Date/Time started	Date/Time stopped	SSM event type, routine control device maintenance or other	Duration Hours
Thermal Oil Heater #2	10/12/13 4:13	10/12/13 4:13	other known causes	0.008
Thermal Oil Heater #2	10/12/13 4:16	10/12/13 4:16	other known causes	0.006
Thermal Oil Heater #2	10/12/13 4:19	10/12/13 4:20	other known causes	0.020
Thermal Oil Heater #2	10/12/13 4:45	10/12/13 5:06	other known causes	0.339
Thermal Oil Heater #2	10/12/13 21:23	10/12/13 21:28	malfunction	0.082
Thermal Oil Heater #2	10/12/13 21:28	10/12/13 21:31	malfunction	0.039
Thermal Oil Heater #2	10/12/13 21:35	10/12/13 21:44	malfunction	0.134
Thermal Oil Heater #2	10/12/13 23:19	10/12/13 23:28	malfunction	0.143
Thermal Oil Heater #2	10/12/13 23:39	10/12/13 23:49	malfunction	0.156
Thermal Oil Heater #2	10/13/13 4:15	10/13/13 4:21	malfunction	0.103
Thermal Oil Heater #2	10/13/13 4:21	10/13/13 4:22	malfunction	0.011
Thermal Oil Heater #2	10/13/13 5:08	10/13/13 5:10	malfunction	0.025
Thermal Oil Heater #2	10/13/13 5:15	10/13/13 5:15	malfunction	0.006
Thermal Oil Heater #2	10/13/13 15:24	10/13/13 15:34	malfunction	0.175
Thermal Oil Heater #2	10/13/13 19:18	10/13/13 19:20	malfunction	0.025
Thermal Oil Heater #2	10/13/13 19:22	10/13/13 19:23	malfunction	0.026

Affected Process	Date/Time started	Date/Time stopped	SSM event type, routine control device maintenance or other	Duration Hours
hermal Oil Heater #2	10/13/13 19:31	10/13/13 19:52	malfunction	0.349
hermal Oil Heater #2	10/13/13 19:58	10/13/13 20:02	malfunction	0.069
hermal Oil Heater #2	10/13/13 20:03	10/13/13 20:05	malfunction	0.036
hermal Oil Heater #2	10/13/13 20:06	10/13/13 20:10	malfunction	0.078
hermal Oil Heater #2	10/13/13 20:34	10/13/13 20:35	malfunction	0.016
hermal Oil Heater #2	10/13/13 20:36	10/13/13 20:40	malfunction	0.073
hermal Oil Heater #2	10/13/13 20:46	10/13/13 20:59	other known causes	0.216
hermal Oil Heater #2	10/14/13 15:28	10/14/13 15:33	other known causes	0.089
hermal Oil Heater #2	10/15/13 7:06	10/15/13 7:11	other known causes	0.083
hermal Oil Heater #2	10/15/13 7:30	10/15/13 7:30	other known causes	0.005
ryer/RO	10/18/13 21:54	10/18/13 21:54	malfunction	0.280
ryer/RO	10/18/13 21:54	10/18/13 22:10	malfunction	0.271
ryer/RO	10/18/13 21:54	10/18/13 22:12	malfunction	0.294
ryer/RO	10/18/13 21:54	10/18/13 22:11	malfunction	0.280
ryer/RO	10/20/13 7:26	10/20/13 7:26	malfunction	0.099
ryer/RO	10/20/13 7:26	10/20/13 7:27	malfunction	0.026
ryer/RO	10/20/13 7:26	10/20/13 7:28	malfunction	0.033

Affected Process	Date/Time started	Date/Time stopped	SSM event type, routine control device maintenance or other	Duration Hours
Dryer/RO	10/20/13 7:26	10/20/13 7:28	malfunction	0.031
Dryer/RO	10/20/13 7:28	10/20/13 7:44	malfunction	0.849
Dryer/RO	10/20/13 7:45	10/20/13 7:45	malfunction	0.011
Dryer/RO	10/20/13 7:45	10/20/13 7:45	malfunction	0.011
Dryer/RO	10/20/13 7:45	10/20/13 7:45	malfunction	0.009
Thermal Oil Heater #2	10/21/13 1:56	10/21/13 1:57	other known causes	0.016
Thermal Oil Heater #2	10/21/13 2:08	10/21/13 2:22	other known causes	0.241
Thermal Oil Heater #2	10/21/13 3:08	10/21/13 3:13	other known causes	0.089
Thermal Oil Heater #2	10/22/13 4:57	10/22/13 5:13	other known causes	0.277
Thermal Oil Heater #2	10/22/13 5:52	10/22/13 6:03	other known causes	0.177
Thermal Oil Heater #2	10/22/13 6:03	10/22/13 6:11	other known causes	0.132
Thermal Oil Heater #2	10/22/13 6:13	10/22/13 6:13	other known causes	0.009
Thermal Oil Heater #2	10/22/13 6:16	10/22/13 6:17	other known causes	0.018
Thermal Oil Heater #3	10/22/13 13:42	10/22/13 16:20	shutdown	2.635
Thermal Oil Heater #2	10/22/13 14:06	10/22/13 16:17	shutdown	2.175
Thermal Oil Heater #1	10/22/13 14:08	10/22/13 16:15	shutdown	2.118

Affected Process	Date/Time started	Date/Time stopped	SSM event type, routine control device maintenance or other	Duration Hours
ıermal Oil Heater #2	10/22/13 16:18	10/22/13 16:19	shutdown	0.012
ıermal Oil Heater #3	10/24/13 7:10	10/24/13 7:10	other known causes	0.001
ıermal Oil Heater #2	10/25/13 7:48	10/25/13 7:54	other known causes	0.098
ıermal Oil Heater #2	10/27/13 9:07	10/27/13 9:12	other known causes	0.086
ıermal Oil Heater #2	10/27/13 20:21	10/27/13 20:22	other known causes	0.021
hermal Oil Heater #2	10/27/13 20:23	10/27/13 20:37	other known causes	0.233
hermal Oil Heater #2	10/27/13 20:38	10/27/13 20:40	other known causes	0.028
hermal Oil Heater #2	10/27/13 20:41	10/27/13 20:54	other known causes	0.227
hermal Oil Heater #2	10/27/13 23:30	10/27/13 23:31	other known causes	0.018
hermal Oil Heater #2	10/27/13 23:32	10/27/13 23:34	other known causes	0.027
hermal Oil Heater #2	10/27/13 23:36	10/27/13 23:36	other known causes	0.000
hermal Oil Heater #2	10/27/13 23:40	10/27/13 23:41	other known causes	0.014
hermal Oil Heater #2	10/27/13 23:41	10/27/13 23:49	other known causes	0.129
hermal Oil Heater #2	10/28/13 4:03	10/28/13 4:11	other known causes	0.123
hermal Oil Heater #2	10/28/13 4:12	10/28/13 4:22	other known causes	0.176
hermal Oil Heater #3	10/28/13 8:18	10/28/13 8:26	other known causes	0.134
hermal Oil Heater #2	10/29/13 8:13	10/29/13 8:33	other known causes	0.330

Affected Process	Date/Time started	Date/Time stopped	SSM event type, routine control device maintenance or other	Duration Hours
Thermal Oil Heater #2	10/29/13 8:43	10/29/13 8:55	other known causes	0.195
Thermal Oil Heater #2	10/31/13 5:02	10/31/13 5:03	other known causes	0.021
Thermal Oil Heater #2	10/31/13 5:05	10/31/13 5:05	other known causes	0.006
Thermal Oil Heater #2	10/31/13 5:10	10/31/13 5:15	other known causes	0.079
Thermal Oil Heater #2	10/31/13 5:17	10/31/13 5:18	other known causes	0.020
Thermal Oil Heater #2	10/31/13 5:19	10/31/13 5:30	other known causes	0.183
Thermal Oil Heater #2	10/31/13 5:46	10/31/13 5:51	other known causes	0.073
Thermal Oil Heater #2	10/31/13 6:14	10/31/13 6:28	other known causes	0.226
Thermal Oil Heater #2	10/31/13 9:33	10/31/13 9:35	other known causes	0.027
Dryer/RO	10/31/13 9:34	10/31/13 9:34	malfunction	0.586
Dryer/RO	10/31/13 9:34	10/31/13 9:37	malfunction	0.067
Dryer/RO	10/31/13 9:34	10/31/13 9:38	malfunction	0.083
Dryer/RO	10/31/13 9:34	10/31/13 9:37	malfunction	0.101
Thermal Oil Heater #3	10/31/13 9:38	10/31/13 9:55	other known causes	0.283
Thermal Oil Heater #2	10/31/13 9:38	10/31/13 9:55	other known causes	0.282
Thermal Oil Heater #2	11/1/13 1:15	11/1/13 1:16	malfunction	0.021

Affected Process	Date/Time started	Date/Time stopped	SSM event type, routine control device maintenance or other	Duration Hours
hermal Oil Heater #2	11/1/13 1:30	11/1/13 1:30	malfunction	0.006
hermal Oil Heater #2	11/1/13 1:31	11/1/13 1:31	malfunction	0.001
hermal Oil Heater #2	11/1/13 1:36	11/1/13 1:36	malfunction	0.007
hermal Oil Heater #2	11/1/13 3:42	11/1/13 3:53	malfunction	0.184
hermal Oil Heater #2	11/1/13 3:53	11/1/13 3:58	malfunction	0.084
hermal Oil Heater #2	11/1/13 4:19	11/1/13 4:19	malfunction	0.012
hermal Oil Heater #2	11/1/13 4:21	11/1/13 4:23	malfunction	0.037
hermal Oil Heater #2	11/1/13 4:24	11/1/13 4:26	malfunction	0.022
hermal Oil Heater #2	11/1/13 4:26	11/1/13 4:31	malfunction	0.084
hermal Oil Heater #1	11/1/13 11:57	11/1/13 13:00	malfunction	1.049
hermal Oil Heater #2	11/1/13 11:57	11/1/13 13:03	malfunction	1.098
hermal Oil Heater #3	11/1/13 11:57	11/1/13 13:08	malfunction	1.183
ryer/RO	11/1/13 13:00	11/1/13 19:06	routine control device maintenance	6.089
hermal Oil Heater #2	11/1/13 13:25	11/1/13 13:33	malfunction	0.142
hermal Oil Heater #2	11/1/13 13:43	11/1/13 13:50	malfunction	0.120
hermal Oil Heater #1	11/1/13 13:48	11/1/13 14:01	malfunction	0.217
hermal Oil Heater #2	11/1/13 14:01	11/1/13 14:08	malfunction	0.122
hermal Oil Heater #2	11/1/13 14:19	11/1/13 15:22	malfunction	1.040

Affected Process	Date/Time started	Date/Time stopped	SSM event type, routine control device maintenance or other	Duration Hours
Thermal Oil Heater #3	11/1/13 14:51	11/1/13 14:58	malfunction	0.116
Thermal Oil Heater #2	11/14/13 4:51	11/14/13 4:59	malfunction	0.199
Thermal Oil Heater #2	11/14/13 10:04	11/14/13 10:39	other known causes	1.856
Thermal Oil Heater #2	11/15/13 2:42	11/15/13 2:42	other known causes	0.022
Thermal Oil Heater #2	11/15/13 4:06	11/15/13 4:07	other known causes	0.070
Thermal Oil Heater #2	11/15/13 7:06	11/15/13 8:10	other known causes	1.179
Thermal Oil Heater #2	11/15/13 8:41	11/15/13 8:43	other known causes	0.028
Thermal Oil Heater #2	11/16/13 13:14	11/16/13 13:15	other known causes	0.704
Thermal Oil Heater #2	11/16/13 21:54	11/16/13 21:58	other known causes	0.069
Dryer/RO	11/18/13 11:04	11/18/13 11:14	shutdown	0.377
Dryer/RO	11/18/13 11:05	11/18/13 11:10	malfunction	0.083
Dryer/RO	11/18/13 11:05	11/18/13 11:10	malfunction	0.082
Dryer/RO	11/18/13 11:17	11/18/13 11:30	shutdown	0.221
Thermal Oil Heater #2	11/18/13 22:14	11/18/13 22:18	other known causes	0.074
Thermal Oil Heater #2	11/18/13 23:14	11/18/13 23:19	other known causes	0.232
Thermal Oil Heater #2	11/19/13 6:35	11/19/13 6:35	shutdown	0.031

Affected Process	Date/Time started	Date/Time stopped	SSM event type, routine control device maintenance or other	Duration Hours
ryer/RO	11/19/13 6:41	11/19/13 6:44	startup	0.071
hermal Oil Heater #3	11/19/13 14:10	11/19/13 16:43	shutdown	2.539
hermal Oil Heater #2	11/19/13 16:17	11/19/13 16:41	shutdown	0.399
hermal Oil Heater #1	11/19/13 16:18	11/19/13 16:40	shutdown	0.368
ryer/RO	11/19/13 16:41	11/20/13 0:09	routine control device maintenance	7.454
hermal Oil Heater #2	11/19/13 19:26	11/19/13 19:46	other known causes	0.349
hermal Oil Heater #2	11/19/13 20:18	11/19/13 20:44	other known causes	0.616
ryer/RO	11/20/13 5:38	11/20/13 6:10	malfunction	2.792
ryer/RO	11/20/13 8:26	11/20/13 9:13	malfunction	0.863
ryer/RO	11/21/13 2:09	11/21/13 2:55	malfunction	0.943
ryer/RO	11/21/13 2:09	11/21/13 2:12	malfunction	0.131
hermal Oil Heater #2	11/21/13 12:53	11/21/13 12:58	shutdown	0.087
ryer/RO	11/22/13 0:00	11/22/13 0:02	malfunction	0.121
ryer/RO	11/22/13 0:03	11/22/13 0:13	malfunction	0.058
hermal Oil Heater #1	11/24/13 3:41	11/24/13 3:44	other known causes	0.162
hermal Oil Heater #3	11/24/13 4:19	11/24/13 4:27	shutdown	0.140
ryer/RO	11/24/13 14:22	11/24/13 14:38	malfunction	0.272
ryer/RO	11/24/13 14:22	11/24/13 14:39	malfunction	0.274

Affected Process	Date/Time started	Date/Time stopped	SSM event type, routine control device maintenance or other	Duration Hours
Thermal Oil Heater #2	11/25/13 2:43	11/25/13 2:44	other known causes	0.140
Thermal Oil Heater #2	11/25/13 7:19	11/25/13 7:24	other known causes	0.231
Thermal Oil Heater #3	11/25/13 7:40	11/25/13 7:43	shutdown	0.046
Thermal Oil Heater #3	11/25/13 7:44	11/25/13 7:44	shutdown	0.003
Thermal Oil Heater #3	11/25/13 7:49	11/25/13 7:55	shutdown	0.108
Thermal Oil Heater #3	11/25/13 8:00	11/25/13 8:06	shutdown	0.097
Thermal Oil Heater #3	11/25/13 8:08	11/25/13 8:10	shutdown	0.027
Thermal Oil Heater #3	11/25/13 8:13	11/25/13 8:26	shutdown	0.227
Thermal Oil Heater #3	11/25/13 8:42	11/25/13 8:45	shutdown	0.051
Thermal Oil Heater #2	11/25/13 12:10	11/25/13 12:16	other known causes	0.208
Thermal Oil Heater #2	11/25/13 17:08	11/25/13 17:14	other known causes	0.225
Thermal Oil Heater #2	11/26/13 1:08	11/26/13 1:17	other known causes	0.166
Thermal Oil Heater #2	11/26/13 1:23	11/26/13 1:29	other known causes	0.091
Thermal Oil Heater #2	11/26/13 7:41	11/26/13 7:41	other known causes	0.004
Thermal Oil Heater #2	11/26/13 8:03	11/26/13 8:08	other known causes	0.081
Dryer/RO	11/27/13 5:23	11/27/13 6:10	malfunction	0.862

Affected Process	Date/Time started	Date/Time stopped	SSM event type, routine control device maintenance or other	Duration Hours
ryer/RO	11/27/13 5:27	11/27/13 5:31	malfunction	0.735
ryer/RO	11/27/13 6:10	11/27/13 6:12	malfunction	0.072
ryer/RO	11/27/13 6:10	11/27/13 6:12	malfunction	0.033
hermal Oil Heater #2	11/27/13 12:36	11/27/13 12:42	shutdown	0.094
hermal Oil Heater #2	11/27/13 13:12	11/27/13 13:23	shutdown	0.194
ryer/RO	11/28/13 10:00	11/28/13 11:06	malfunction	1.047
ryer/RO	11/28/13 10:01	11/28/13 10:02	malfunction	0.024
ryer/RO	11/28/13 10:01	11/28/13 10:02	malfunction	0.023
hermal Oil Heater #2	11/28/13 10:09	11/28/13 10:12	shutdown	0.047
hermal Oil Heater #2	11/28/13 10:40	11/28/13 10:51	shutdown	0.185
hermal Oil Heater #2	11/28/13 13:49	11/28/13 14:02	shutdown	0.209
hermal Oil Heater #2	11/28/13 14:47	11/28/13 14:50	shutdown	0.062
hermal Oil Heater #2	11/28/13 19:55	11/28/13 19:59	other known causes	0.067
hermal Oil Heater #2	11/29/13 3:05	11/29/13 3:12	other known causes	0.116
hermal Oil Heater #2	11/29/13 7:57	11/29/13 7:58	other known causes	0.023
hermal Oil Heater #2	11/29/13 10:06	11/29/13 10:07	other known causes	0.009

Affected Process	Date/Time started	Date/Time stopped	SSM event type, routine control device maintenance or other	Duration Hours
Thermal Oil Heater #2	11/29/13 10:16	11/29/13 10:21	other known causes	0.095
Thermal Oil Heater #2	11/29/13 10:26	11/29/13 10:31	other known causes	0.078
Thermal Oil Heater #2	11/29/13 11:22	11/29/13 11:25	other known causes	0.150
Press/Biofilter	11/30/13 5:36	11/30/13 5:54	malfunction	0.307
Thermal Oil Heater #2	11/30/13 7:49	11/30/13 7:50	other known causes	0.089
Thermal Oil Heater #2	11/30/13 12:00	11/30/13 12:03	other known causes	0.136
Dryer/RO	11/30/13 12:01	11/30/13 12:07	shutdown	0.049
Dryer/RO	11/30/13 12:02	11/30/13 12:04	malfunction	0.049
Dryer/RO	11/30/13 12:02	11/30/13 12:05	malfunction	0.048
Thermal Oil Heater #2	11/30/13 12:22	11/30/13 12:27	other known causes	0.082
Thermal Oil Heater #2	11/30/13 14:32	11/30/13 14:45	other known causes	0.226
Thermal Oil Heater #2	11/30/13 20:26	11/30/13 20:27	other known causes	0.340
Dryer/RO	12/1/13 0:39	12/1/13 4:34	malfunction	3.921
Dryer/RO	12/1/13 0:40	12/1/13 0:43	malfunction	0.396
Thermal Oil Heater #2	12/1/13 13:36	12/1/13 13:40	other known causes	0.071
Thermal Oil Heater #2	12/1/13 15:06	12/1/13 15:10	other known causes	0.067

Affected Process	Date/Time started	Date/Time stopped	SSM event type, routine control device maintenance or other	Duration Hours
ryer/RO Excess Emissions by cause		Hours	%	
artup		0.071	0.002%	
utdown		0.779	0.019%	
alfunction		24.245	0.580%	
ontrol system problems (RO logic; plc)		0.053	0.001%	
ontrol device maintenance (RME)		13.542	0.324%	
rocess problems		0.000	0.000%	
ther known causes		0.000	0.000%	
ther unknown causes		0.000	0.000%	
otal		38.689	0.926%	
ress/Biofilter Excess Emissions by cause		Hours	%	
artup		0.000	0.000%	
utdown		0.000	0.000%	
alfunction		5.251	0.128%	
ontrol system problems (RO logic; plc)		0.000	0.000%	
ontrol device maintenance (RME)		0.000	0.000%	
rocess problems		0.000	0.000%	
ther known causes		0.146	0.004%	
ther unknown causes		0.000	0.000%	
otal		5.397	0.132%	
hermal oil heater #1 Excess Emissions by cause		Hours	%	

Affected Process	Date/Time started	Date/Time stopped	SSM event type, routine control device maintenance or other	Duration Hours
startup		0.000	0.000%	
shutdown		17.911	0.612%	
malfunction		1.266	0.043%	
control system problems (RO logic; plc)		0.000	0.000%	
control device maintenance		0.000	0.000%	
process problems		0.000	0.000%	
other known causes		0.162	0.006%	
other unknown causes		0.000	0.000%	
Total		19.339	0.661%	
Thermal oil heater #2 Excess Emissions by cause		**Hours**	**%**	
startup		0.000	0.00%	
shutdown		43.062	0.99%	
malfunction		4.820	0.11%	
control system problems (RO logic; plc)		0.000	0.00%	
control device maintenance		0.000	0.00%	
process problems		0.000	0.00%	
other known causes		27.110	0.63%	
other unknown causes		0.000	0.00%	
Total		74.993	1.730%	
Thermal oil heater #3 Excess Emissions by cause		**Hours**	**%**	
startup		0.000	0.000%	
shutdown		45.338	1.062%	
malfunction		1.299	0.030%	
control system problems (RO logic; plc)		0.000	0.000%	
control device maintenance		0.000	0.000%	
process problems		0.000	0.000%	
other known causes		2.523	0.059%	
other unknown causes		0.000	0.000%	
Total		49.161	1.152%	
	check	187.579	4.600%	
	check	187.579	4.600%	

Attachment B
MACT Compliance Reporting - Control Monitoring System

Weyerhaeuser Company
Elkin, NC
Reporting Period: **7/1/13 - 12/31/13**

Count (# incidents)	0
Total Hours:	0.000

Part	Incident No.	Start date/time	End date/time	Duration in hours	Duration in Minutes
Dryer/RO CMS					
			Total	**0.000**	
Press/Biofilter CMS					
No incidents					
			Total	**0.000**	

Attachment C
MACT Compliance Reporting
Weyerhaeuser Company
Elkin, NC
Attachment C - Routine Control Device Maintenance Log
Semiannual Reporting Period: 7/1/13 - 12/31/13

Dryer Total Available Hours	8,129.34
% of available hours	1.73%
Press Total Available Hours	7,980.45
% of available hours	0.02%

Date and time CD shut down for maintenance	Date and time CD restarted:	Processes operating:	Was maintenance included in approved maintenance routine CD exemption plan?	Hours
Dryer / RO				
11/1/13 13:00	11/1/13 19:06	Dryer/RO	yes	6.09
11/19/13 16:41	11/20/13 0:09	Dryer/RO	yes	7.45
12/3/13 18:23	12/4/13 10:27	Dryer/RO	yes	21.49
12/4/13 10:27	12/4/13 19:36	Dryer/RO	yes	9.16
12/5/13 7:04	12/5/13 7:24	Dryer/RO	yes	0.61
1/0/00 0:00	1/0/00 0:00	Dryer/RO	yes	-
			Dryer / RTO total hours	44.80
Press / Biofilter				
1/0/00 0:00	1/0/00 0:00	Press/Biofilter	yes	-
1/0/00 0:00	1/0/00 0:00	Press/Biofilter	yes	-
			Press / Biofilter total hours	-

Routine Maintenance Exemption calculations			
Dryer systems	Operating hours	By-pass hours during routine maintenance	
Current semi-annual period	4,179.76	44.19	Current semi-annual period
Previous semi-annual period	3,949.58	96.66	Previous semi-annual period
Total annual hours	8,129.34	140.85	Total annual by-pass hours
1.73%	Annual % process unit operated with RO off-line for routine maintenance		
Press systems	Operating hours	By-pass hours during routine maintenance	
Current semi-annual period	4,101.38	0.00	Current semi-annual period
Previous semi-annual period	3,879.07	1.33	Previous semi-annual period
Total annual hours	7,980.45	1.33	Total annual by-pass hours
0.02%	Annual % process unit operated with Biofilter off-line for routine maintenance		

Attachment D
MACT Compliance Reporting - Malfunction Log
Weyerhaeuser Company
Elkin, NC

Semiannual Reporting Period: 7/1/13 - 12/31/13

Total number of malfunction events: 124

Affected Process	Date/Time started	Date/Time stopped	Minutes	Duration Hours			Minutes	Nature of Malfunction	Cause of malfunction	Downtime Code	System device code	Malfunction cause code
Press/Biofilter	7/17/13 2:50	7/17/13 3:12	malfunction	0.368			22.08	Biofilter Off line (Biofilter bypassed)	Biofilter - PLC card failed	3	7	3
Dryer/RO	7/17/13 3:35	7/17/13 3:36	malfunction	0.009			0.57	RO Off-line	RO - PLC card failed	3	1	3
Dryer/RO	7/17/13 3:36	7/17/13 3:38	malfunction	0.037			2.20	Dryer #3 ID Fan in Abort	PLC - card failed	3	3	3
Dryer/RO	7/17/13 3:36	7/17/13 3:38	malfunction	0.030			1.78	Dryer #2 ID Fan in Abort	PLC - card failed	3	3	3
Dryer/RO	7/17/13 3:39	7/17/13 4:10	malfunction	0.526			31.55	RO Off-line	RO - PLC card failed	3	1	3
Dryer/RO	7/17/13 12:55	7/17/13 12:55	malfunction	0.009			0.55	RO Off-line	RO - power failure / Duke Energy	3	1	2
Dryer/RO	7/17/13 12:55	7/17/13 13:01	malfunction	0.104			6.25	Dryer #1 ID Fan in Abort	Dryer - Power failure / Duke Energy	3	2	2
Dryer/RO	7/17/13 12:55	7/17/13 13:02	malfunction	0.106			6.37	Dryer #3 ID Fan in Abort	Dryer - Power failure / Duke Energy	3	2	2
Dryer/RO	7/17/13 12:55	7/17/13 13:01	malfunction	0.102			6.13	Dryer #2 ID Fan in Abort	Dryer - Power failure / Duke Energy	3	2	2
Dryer/RO	7/17/13 13:02	7/17/13 13:47	malfunction	0.748			44.88	RO Off-line	RO - power failure / Duke Energy	3	1	2
Press/Biofilter	7/19/13 10:04	7/19/13 10:46	malfunction	0.728			43.70	Biofilter Off line (Biofilter bypassed)	Water system failure - nozzles plugged	3	7	5
Dryer/RO	7/30/13 17:33	7/30/13 18:41	malfunction	1.128			67.65	RO Off-line	RO - thermocouple failed, took RO offline	3	6	3
Dryer/RO	8/7/13 9:37	8/7/13 9:51	malfunction	0.219			13.15	RO Off-line	RO - flame failure	3	1	1
Dryer/RO	8/8/13 16:44	8/8/13 16:45	malfunction	0.011			0.68	RO Off-line	RO - power failure / Duke Energy	3	1	2
Dryer/RO	8/8/13 16:45	8/8/13 17:13	malfunction	0.474			28.45	Dryer #3 ID Fan in Abort	Dryer - Power failure / Duke Energy	3	2	2
Dryer/RO	8/8/13 16:45	8/8/13 17:09	malfunction	0.407			24.43	Dryer #1 ID Fan in Abort	Dryer - Power failure / Duke Energy	3	2	2
Dryer/RO	8/8/13 16:45	8/8/13 17:13	malfunction	0.468			28.08	Dryer #2 ID Fan in Abort	Dryer - Power failure / Duke Energy	3	2	2
Dryer/RO	8/8/13 17:10	8/8/13 17:20	malfunction	0.156			9.37	RO Off-line	RO - power failure / Duke Energy	3	1	2
Dryer/RO	8/21/13 18:41	8/21/13 18:46	malfunction	0.070			4.18	RO Off-line	Dryer - Thermocouple @ dryer failure; dryer stuck in firemode; aborted dryer	3	4	3
Dryer/RO	8/22/13 8:39	8/22/13 8:48	malfunction	0.141			8.48	RO Off-line	Dryer - Thermocouple @ dryer failure; dryer stuck in firemode; aborted dryer	3	4	3
Dryer/RO	9/4/13 7:58	9/4/13 8:24	malfunction	0.431			25.88	RO Off-line	Dryer - cyclone plug	3	2	7
Dryer/RO	9/4/13 7:58	9/4/13 8:00	malfunction	0.027			1.62	Dryer #3 ID Fan in Abort	Dryer - cyclone plug	3	2	7
Press/Biofilter	9/4/13 19:40	9/4/13 19:54	malfunction	0.241			14.43	Biofilter Off line (Biofilter bypassed)	Thermocouple failure	3	7	3

Affected Process	Date/Time started	Date/Time stopped	Minutes	Duration Hours			Minutes	Nature of Malfunction	Cause of malfunction	Downtime Code	System device code	Malfunction cause code
Press/Biofilter	9/4/13 20:12	9/4/13 20:17	malfunction	0.081			4.85	Biofilter Off line (Biofilter bypassed)	Thermocouple failure	3	7	3
Press/Biofilter	9/5/13 3:55	9/5/13 4:14	malfunction	0.322			19.32	Biofilter Off line (Biofilter bypassed)	Water system failure - nozzles plugged	3	7	5
Dryer/RO	9/11/13 23:23	9/11/13 23:24	malfunction	0.011			0.67	RO Off-line	RO - pressure fault	3	1	7
Dryer/RO	9/13/13 9:08	9/13/13 9:12	malfunction	0.057			3.43	RO Off-line	Dryer - fire	3	4	4
Press/Biofilter	9/16/13 12:53	9/16/13 13:03	malfunction	0.158			9.48	Biofilter Off line (Biofilter bypassed)	Thermocouple failure	3	7	3
Dryer/RO	9/17/13 0:39	9/17/13 0:40	malfunction	0.294			17.65	RO Off-line	Dryer - fire	3	4	4
Dryer/RO	9/25/13 18:37	9/25/13 19:02	malfunction	0.426			25.59	RO Off-line	RO - high temperature limit, emergency shutdown	3	1	8
Press/Biofilter	9/25/13 21:13	9/25/13 21:35	malfunction	0.368			22.08	Biofilter Off line (Biofilter bypassed)	Thermocouple failure	3	7	3
Dryer/RO	9/28/13 8:59	9/28/13 9:00	malfunction	0.009			0.57	RO Off-line	Press - fire	3	4	4
Press/Biofilter	9/28/13 22:38	9/28/13 22:58	malfunction	0.324			19.47	Biofilter Off line (Biofilter bypassed)	Water system failure - nozzles plugged	3	7	5
Press/Biofilter	10/1/13 3:45	10/1/13 4:29	malfunction	0.748			44.90	Biofilter Off line (Biofilter bypassed)	Water system failure - nozzles plugged	3	7	5
Press/Biofilter	10/1/13 3:45	10/1/13 4:29	malfunction	0.748			44.90	Biofilter Off line (Biofilter bypassed)	Water system failure - nozzles plugged	3	7	5
Thermal Oil Heater #2	10/1/13 7:53	10/1/13 7:59	malfunction	0.095			5.72	Wellons2GasToAtmos	WESP - water system failure	3	3	5
Dryer/RO	10/3/13 18:42	10/3/13 18:42	malfunction	0.053			3.16	RO Off-line	Dryer - fire	3	4	4
Dryer/RO	10/3/13 18:42	10/3/13 18:47	malfunction	0.076			4.55	Dryer #1 ID Fan in Abort	Dryer - fire	3	4	4
Dryer/RO	10/3/13 18:42	10/3/13 18:44	malfunction	0.034			2.07	Dryer #3 ID Fan in Abort	Dryer - fire	3	4	4
Dryer/RO	10/3/13 18:42	10/3/13 18:44	malfunction	0.032			1.92	Dryer #2 ID Fan in Abort	Dryer - fire	3	4	4
Press/Biofilter	10/5/13 15:35	10/5/13 15:54	malfunction	0.326			19.53	Biofilter Off line (Biofilter bypassed)	Water system failure - nozzles plugged	3	7	5
Dryer/RO	10/7/13 12:05	10/7/13 12:05	malfunction	0.035			2.12	Dryer #1 ID Fan in Abort	Dryer - fire	3	4	4
Dryer/RO	10/7/13 12:06	10/7/13 12:07	malfunction	0.024			1.45	Dryer #3 ID Fan in Abort	Dryer - fire	3	4	4
Dryer/RO	10/7/13 12:06	10/7/13 12:07	malfunction	0.024			1.42	Dryer #2 ID Fan in Abort	Dryer - fire	3	4	4
Dryer/RO	10/7/13 12:22	10/7/13 13:22	malfunction	1.024			61.42	RO Off-line	Dryer - abort gate failed, electrical	3	4	2
Dryer/RO	10/7/13 12:41	10/7/13 13:17	malfunction	1.081			64.85	Dryer #1 ID Fan in Abort	Dryer - fire	3	4	4
Press/Biofilter	10/7/13 16:24	10/7/13 16:46	malfunction	0.366			21.93	Biofilter Off line (Biofilter bypassed)	Water system failure - nozzles plugged	3	7	5

Affected Process	Date/Time started	Date/Time stopped	Minutes	Duration Hours			Minutes	Nature of Malfunction	Cause of malfunction	Downtime Code	System device code	Malfunction cause code
Press/Biofilter	10/8/13 1:47	10/8/13 1:57	malfunction	0.166			9.98	Biofilter Off line (Biofilter bypassed)	Water system failure - nozzles plugged	3	7	5
Thermal Oil Heater #2	10/12/13 21:23	10/12/13 21:28	malfunction	0.082			4.93	Wellons2GasToAtmos	WESP - water system failure	3	3	5
Thermal Oil Heater #2	10/12/13 21:28	10/12/13 21:31	malfunction	0.039			2.37	Wellons2GasToAtmos	WESP - water system failure	3	3	5
Thermal Oil Heater #2	10/12/13 21:35	10/12/13 21:44	malfunction	0.134			8.05	Wellons2GasToAtmos	WESP - water system failure	3	3	5
Thermal Oil Heater #2	10/12/13 23:19	10/12/13 23:28	malfunction	0.143			8.55	Wellons2GasToAtmos	WESP - water system failure	3	3	5
Thermal Oil Heater #2	10/12/13 23:39	10/12/13 23:49	malfunction	0.156			9.38	Wellons2GasToAtmos	WESP - water system failure	3	3	5
Thermal Oil Heater #2	10/13/13 4:15	10/13/13 4:21	malfunction	0.103			6.20	Wellons2GasToAtmos	WESP - water system failure	3	3	5
Thermal Oil Heater #2	10/13/13 4:21	10/13/13 4:22	malfunction	0.011			0.65	Wellons2GasToAtmos	WESP - water system failure	3	3	5
Thermal Oil Heater #2	10/13/13 5:08	10/13/13 5:10	malfunction	0.025			1.52	Wellons2GasToAtmos	WESP - water system failure	3	3	5
Thermal Oil Heater #2	10/13/13 5:15	10/13/13 5:15	malfunction	0.006			0.35	Wellons2GasToAtmos	WESP - water system failure	3	3	5
Thermal Oil Heater #2	10/13/13 15:24	10/13/13 15:34	malfunction	0.175			10.48	Wellons2GasToAtmos	WESP - water system failure	3	3	5
Thermal Oil Heater #2	10/13/13 19:18	10/13/13 19:20	malfunction	0.025			1.52	Wellons2GasToAtmos	WESP - water system failure	3	3	5
Thermal Oil Heater #2	10/13/13 19:22	10/13/13 19:23	malfunction	0.026			1.57	Wellons2GasToAtmos	WESP - water system failure	3	3	5
Thermal Oil Heater #2	10/13/13 19:31	10/13/13 19:52	malfunction	0.349			20.97	Wellons2GasToAtmos	WESP - water system failure	3	3	5
Thermal Oil Heater #2	10/13/13 19:58	10/13/13 20:02	malfunction	0.069			4.13	Wellons2GasToAtmos	WESP - water system failure	3	3	5
Thermal Oil Heater #2	10/13/13 20:03	10/13/13 20:05	malfunction	0.036			2.13	Wellons2GasToAtmos	WESP - water system failure	3	3	5
Thermal Oil Heater #2	10/13/13 20:06	10/13/13 20:10	malfunction	0.078			4.65	Wellons2GasToAtmos	WESP - water system failure	3	3	5
Thermal Oil Heater #2	10/13/13 20:34	10/13/13 20:35	malfunction	0.016			0.98	Wellons2GasToAtmos	WESP - water system failure	3	3	5
Thermal Oil Heater #2	10/13/13 20:36	10/13/13 20:40	malfunction	0.073			4.35	Wellons2GasToAtmos	WESP - water system failure	3	3	5
Dryer/RO	10/18/13 21:54	10/18/13 21:54	malfunction	0.280			16.80	RO Off-line	Dryer - fire	3	4	4
Dryer/RO	10/18/13 21:54	10/18/13 22:10	malfunction	0.271			16.27	Dryer #1 ID Fan in Abort	Dryer - fire	3	4	4
Dryer/RO	10/18/13 21:54	10/18/13 22:12	malfunction	0.294			17.62	Dryer #3 ID Fan in Abort	Dryer - fire	3	4	4
Dryer/RO	10/18/13 21:54	10/18/13 22:11	malfunction	0.280			16.80	Dryer #2 ID Fan in Abort	Dryer - fire	3	4	4
Dryer/RO	10/20/13 7:26	10/20/13 7:26	malfunction	0.099			5.96	RO Off-line	RO - poppet valve failure	3	1	1
Dryer/RO	10/20/13 7:26	10/20/13 7:27	malfunction	0.026			1.55	Dryer #1 ID Fan in Abort	RO - poppet valve failure	3	1	1
Dryer/RO	10/20/13 7:26	10/20/13 7:28	malfunction	0.033			1.97	Dryer #3 ID Fan in Abort	RO - poppet valve failure	3	1	1
Dryer/RO	10/20/13 7:26	10/20/13 7:28	malfunction	0.031			1.87	Dryer #2 ID Fan in Abort	RO - poppet valve failure	3	1	1

Affected Process	Date/Time started	Date/Time stopped	Minutes	Duration Hours			Minutes	Nature of Malfunction	Cause of malfunction	Downtime Code	System device code	Malfunction cause code
Dryer/RO	10/20/13 7:28	10/20/13 7:44	malfunction	0.849			50.92	RO Off-line	RO - poppet valve failure	3	1	1
Dryer/RO	10/20/13 7:45	10/20/13 7:45	malfunction	0.011			0.65	Dryer #1 ID Fan in Abort	RO - poppet valve failure	3	1	1
Dryer/RO	10/20/13 7:45	10/20/13 7:45	malfunction	0.011			0.67	Dryer #3 ID Fan in Abort	RO - poppet valve failure	3	1	1
Dryer/RO	10/20/13 7:45	10/20/13 7:45	malfunction	0.009			0.53	Dryer #2 ID Fan in Abort	RO - poppet valve failure	3	1	1
Dryer/RO	10/31/13 9:34	10/31/13 9:34	malfunction	0.586			35.14	RO Off-line	Dryer - fire	3	4	4
Dryer/RO	10/31/13 9:34	10/31/13 9:37	malfunction	0.067			4.03	Dryer #1 ID Fan in Abort	Dryer - fire	3	4	4
Dryer/RO	10/31/13 9:34	10/31/13 9:38	malfunction	0.083			5.00	Dryer #3 ID Fan in Abort	Dryer - ID fan tripped aborting dryers	3	4	2
Dryer/RO	10/31/13 9:34	10/31/13 9:37	malfunction	0.101			6.06	Dryer #2 ID Fan in Abort	Dryer - ID fan tripped aborting dryers	3	4	2
Thermal Oil Heater #2	11/1/13 1:15	11/1/13 1:16	malfunction	0.021			1.25	Wellons2GasToAtmos	WESP - water system failure	3	3	5
Thermal Oil Heater #2	11/1/13 1:30	11/1/13 1:30	malfunction	0.006			0.37	Wellons2GasToAtmos	WESP - water system failure	3	3	5
Thermal Oil Heater #2	11/1/13 1:31	11/1/13 1:31	malfunction	0.001			0.08	Wellons2GasToAtmos	WESP - water system failure	3	3	5
Thermal Oil Heater #2	11/1/13 1:36	11/1/13 1:36	malfunction	0.007			0.40	Wellons2GasToAtmos	WESP - water system failure	3	3	5
Thermal Oil Heater #2	11/1/13 3:42	11/1/13 3:53	malfunction	0.184			11.05	Wellons2GasToAtmos	WESP - water system failure	3	3	5
Thermal Oil Heater #2	11/1/13 3:53	11/1/13 3:58	malfunction	0.084			5.07	Wellons2GasToAtmos	WESP - water system failure	3	3	5
Thermal Oil Heater #2	11/1/13 4:19	11/1/13 4:19	malfunction	0.012			0.73	Wellons2GasToAtmos	WESP - water system failure	3	3	5
Thermal Oil Heater #2	11/1/13 4:21	11/1/13 4:23	malfunction	0.037			2.20	Wellons2GasToAtmos	WESP - water system failure	3	3	5
Thermal Oil Heater #2	11/1/13 4:24	11/1/13 4:26	malfunction	0.022			1.32	Wellons2GasToAtmos	WESP - water system failure	3	3	5
Thermal Oil Heater #2	11/1/13 4:26	11/1/13 4:31	malfunction	0.084			5.03	Wellons2GasToAtmos	WESP - water system failure	3	3	5
Thermal Oil Heater #1	11/1/13 11:57	11/1/13 13:00	malfunction	1.049			62.95	Wellons1GasToAtmos	WESP - water system failure	3	3	5
Thermal Oil Heater #2	11/1/13 11:57	11/1/13 13:03	malfunction	1.098			65.85	Wellons2GasToAtmos	WESP - water system failure	3	3	5
Thermal Oil Heater #3	11/1/13 11:57	11/1/13 13:08	malfunction	1.183			71.00	Wellons3GasToAtmos	WESP - water system failure	3	3	5
Thermal Oil Heater #2	11/1/13 13:25	11/1/13 13:33	malfunction	0.142			8.52	Wellons2GasToAtmos	WESP - water system failure	3	3	5
Thermal Oil Heater #2	11/1/13 13:43	11/1/13 13:50	malfunction	0.120			7.20	Wellons2GasToAtmos	WESP - water system failure	3	3	5
Thermal Oil Heater #1	11/1/13 13:48	11/1/13 14:01	malfunction	0.217			13.03	Wellons1GasToAtmos	WESP - water system failure	3	3	5
Thermal Oil Heater #2	11/1/13 14:01	11/1/13 14:08	malfunction	0.122			7.30	Wellons2GasToAtmos	WESP - water system failure	3	3	5

Affected Process	Date/Time started	Date/Time stopped	Minutes	Duration Hours			Minutes	Nature of Malfunction	Cause of malfunction	Downtime Code	System device code	Malfunction cause code
Thermal Oil Heater #2	11/1/13 14:19	11/1/13 15:22	malfunction	1.040			62.38	Wellons2GasToAtmos	WESP - water system failure	3	3	5
Thermal Oil Heater #3	11/1/13 14:51	11/1/13 14:58	malfunction	0.116			6.95	Wellons3GasToAtmos	WESP - water system failure	3	3	5
Dryer/RO	11/27/13 6:10	11/27/13 6:12	malfunction	0.072			4.34	Dryer #1 ID Fan in Abort	Dryer - abort gate failed; switch	3	4	2
Dryer/RO	11/27/13 5:23	11/27/13 6:10	malfunction	0.862			51.70	Dryer #2 ID Fan in Abort	Dryer - abort gate failed; switch	3	4	2
Dryer/RO	12/1/13 0:39	12/1/13 4:34	malfunction	3.921			235.25	Dryer #2 ID Fan in Abort	Dryer - abort gate failed; switch	3	4	2
Dryer/RO	11/12/13 0:27	11/12/13 1:12	malfunction	1.738			104.26	RO Off-line	Dryer - abort gate failed; switch	3	4	2
Dryer/RO	11/27/13 5:27	11/27/13 5:31	malfunction	0.735			44.12	RO Off-line	Dryer - abort gate failed; switch	3	4	2
Dryer/RO	12/1/13 0:40	12/1/13 0:43	malfunction	0.396			23.76	RO Off-line	Dryer - abort gate failed; switch	3	4	2
Dryer/RO	11/18/13 11:05	11/18/13 11:10	malfunction	0.083			4.97	Dryer #1 ID Fan in Abort	Dryer - fire	3	4	2
Dryer/RO	11/30/13 12:02	11/30/13 12:04	malfunction	0.049			2.92	Dryer #1 ID Fan in Abort	Dryer - fire	3	4	4
Dryer/RO	11/28/13 10:01	11/28/13 10:02	malfunction	0.023			1.35	Dryer #2 ID Fan in Abort	Dryer - fire	3	4	4
Dryer/RO	11/30/13 12:02	11/30/13 12:05	malfunction	0.048			2.87	Dryer #2 ID Fan in Abort	Dryer - fire	3	4	4
Thermal Oil Heater #2	11/14/13 4:51	11/14/13 4:59	malfunction	0.199			11.95	Wellons2GasToAtmos	Metering bin bridged/plugged	3	5	8
Press/Biofilter	11/30/13 5:36	11/30/13 5:54	malfunction	0.307			18.40	Biofilter Off line (Biofilter bypassed)	Pressure switch failure - shut system down	3	7	3
Dryer/RO	11/21/13 2:09	11/21/13 2:12	malfunction	0.131			7.86	Dryer #1 ID Fan in Abort	RO - drive failure	3	1	2
Dryer/RO	11/24/13 14:22	11/24/13 14:38	malfunction	0.272			16.33	Dryer #1 ID Fan in Abort	RO - drive failure	3	1	2
Dryer/RO	11/22/13 0:00	11/22/13 0:02	malfunction	0.121			7.25	Dryer #2 ID Fan in Abort	RO - drive failure	3	1	2
Dryer/RO	11/20/13 5:38	11/20/13 6:10	malfunction	2.792			167.49	RO Off-line	RO - drive failure	3	1	2
Dryer/RO	11/21/13 2:09	11/21/13 2:55	malfunction	0.943			56.60	RO Off-line	RO - drive failure	3	1	2
Dryer/RO	11/22/13 0:03	11/22/13 0:13	malfunction	0.058			3.50	RO Off-line	RO - drive failure	3	1	2
Dryer/RO	11/24/13 14:22	11/24/13 14:38	malfunction	0.272			16.33	Dryer #1 ID Fan in Abort	RO - drive failure	3	1	2
Dryer/RO	11/24/13 14:22	11/24/13 14:39	malfunction	0.274			16.47	Dryer #2 ID Fan in Abort	RO - pressure fault while connecting	3	1	7
Dryer/RO	11/27/13 5:23	11/27/13 6:10	malfunction	0.862			51.70	Dryer #2 ID Fan in Abort	Dryer - abort gate failed; switch	3	4	2
Dryer/RO	11/27/13 5:27	11/27/13 5:31	malfunction	0.735			44.12	RO Off-line	Dryer - abort gate failed; switch	3	4	2
Dryer/RO	11/27/13 6:10	11/27/13 6:12	malfunction	0.072			4.34	Dryer #1 ID Fan in Abort	Dryer - abort gate failed; switch	3	4	2
Dryer/RO	11/27/13 6:10	11/27/13 6:12	malfunction	0.033			1.98	Dryer #3 ID Fan in Abort	RO - pressure fault while connecting	3	1	7

Affected Process	Date/Time started	Date/Time stopped	Minutes	Duration Hours			Minutes	Nature of Malfunction	Cause of malfunction	Downtime Code	System device code	Malfunction cause code
Dryer/RO	11/28/13 10:00	11/28/13 11:06	malfunction	1.047			62.81	RO Off-line	RO - poppet valve failure	3	1	1
Dryer/RO	11/28/13 10:01	11/28/13 10:02	malfunction	0.024			1.47	Dryer #1 ID Fan in Abort	RO - pressure fault while connecting	3	1	7
Dryer/RO	11/28/13 10:01	11/28/13 10:02	malfunction	0.023			1.35	Dryer #2 ID Fan in Abort	Dryer - fire	3	4	4
Press/Biofilter	11/30/13 5:36	11/30/13 5:54	malfunction	0.307			18.40	Biofilter Off line (Biofilter bypassed)	Pressure switch failure - shut system down	3	7	3
Dryer/RO	12/1/13 0:39	12/1/13 4:34	malfunction	3.921			235.25	Dryer #2 ID Fan in Abort	Dryer - abort gate failed; switch	3	4	2
Dryer/RO	12/1/13 0:40	12/1/13 0:43	malfunction	0.396			23.76	RO Off-line	Dryer - abort gate failed; switch	3	4	2
Press/Biofilter	12/7/13 15:11	12/7/13 15:34	malfunction	0.386			23.18	Biofilter Off line (Biofilter bypassed)	Water system failure - nozzles plugged	3	7	5
Press/Biofilter	12/8/13 17:57	12/8/13 18:19	malfunction	0.371			22.28	Biofilter Off line (Biofilter bypassed)	Water system failure - nozzles plugged	3	7	5
Dryer/RO	12/5/13 7:04	12/5/13 7:05	malfunction	0.056			3.38	Dryer #1 ID Fan in Abort	RO - pressure fault; bad switch @ abort gate	3	1	2
Dryer/RO	12/17/13 17:30	12/17/13 17:34	malfunction	0.172			10.33	Dryer #1 ID Fan in Abort	WESP - water system failure	3	3	5
Dryer/RO	12/27/13 5:46	12/27/13 5:50	malfunction	0.057			3.40	Dryer #1 ID Fan in Abort	RO - pressure fault; bad switch @ abort gate	3	1	2
Dryer/RO	12/1/13 0:39	12/1/13 4:34	malfunction	3.921			235.25	Dryer #2 ID Fan in Abort	RO - pressure fault; bad switch @ abort gate	3	1	2
Dryer/RO	12/5/13 8:40	12/5/13 8:41	malfunction	0.022			1.33	Dryer #2 ID Fan in Abort	RO - pressure fault; bad switch @ abort gate	3	1	2
Dryer/RO	12/17/13 17:30	12/17/13 17:34	malfunction	0.167			10.03	Dryer #2 ID Fan in Abort	WESP - water system failure	3	3	5
Dryer/RO	12/17/13 17:30	12/17/13 17:34	malfunction	0.195			11.72	Dryer #3 ID Fan in Abort	WESP - water system failure	3	3	5
Dryer/RO	12/1/13 0:40	12/1/13 0:43	malfunction	0.052			3.10	RO Off-line	Dryer - abort gate failed, electrical	3	4	2
Dryer/RO	12/1/13 0:55	12/1/13 1:11	malfunction	0.266			15.95	RO Off-line	Dryer - abort gate failed, electrical	3	4	2
Dryer/RO	12/1/13 1:20	12/1/13 1:21	malfunction	0.008			0.50	RO Off-line	Dryer - abort gate failed, electrical	3	4	2
Dryer/RO	12/1/13 1:44	12/1/13 1:45	malfunction	0.016			0.98	RO Off-line	Dryer - abort gate failed, electrical	3	4	2
Dryer/RO	12/1/13 1:51	12/1/13 1:51	malfunction	0.004			0.27	RO Off-line	Dryer - abort gate failed, electrical	3	4	2
Dryer/RO	12/1/13 2:18	12/1/13 2:18	malfunction	0.005			0.30	RO Off-line	Dryer - abort gate failed, electrical	3	4	2
Dryer/RO	12/1/13 2:53	12/1/13 2:53	malfunction	0.005			0.32	RO Off-line	Dryer - abort gate failed, electrical	3	4	2
Dryer/RO	12/1/13 3:19	12/1/13 3:20	malfunction	0.013			0.77	RO Off-line	Dryer - abort gate failed, electrical	3	4	2
Dryer/RO	12/1/13 4:34	12/1/13 4:35	malfunction	0.026			1.57	RO Off-line	Dryer - abort gate failed, electrical	3	4	2

Affected Process	Date/Time started	Date/Time stopped	Minutes	Duration Hours			Minutes	Nature of Malfunction	Cause of malfunction	Downtime Code	System device code	Malfunction cause code
Dryer/RO	12/17/13 6:44	12/17/13 6:47	malfunction	0.098			5.88	RO Off-line	RO - pressure fault when dryer shutdown; cyclone plug / fire	3	4	4
Dryer/RO	12/25/13 3:58	12/25/13 4:01	malfunction	0.038			2.25	RO Off-line	RO - pressure fault when dryer shutdown; cyclone plug / fire	3	4	4
Dryer/RO	12/27/13 5:46	12/27/13 5:46	malfunction	0.025			1.48	RO Off-line	RO - pressure fault when dryer shutdown; cyclone plug / fire	3	4	4
			total	**50.166**								
			check (sum of groups)	**50.166**								
			Total events	**152**								
			check (sum of groups)	**152**								
System device code												
1 = RO malfunctions		**Number of type**	**Total duration (hours)**									
Mechanical		**10**	**2.334**									
Power / Electrical		**15**	**9.570**									
Instrumentation Failure		**2**	**0.535**									
Fire		**0**	**0.000**									
water		**0**	**0.000**									
Media		**0**	**0.000**									
Process		**4**	**0.343**									
Other		**1**	**0.426**									
Temp control problem		**0**	**0.000**									
Total		**32**	**13.209**									
System device code												
2 = Dryer emission collection system malfunctions		**Number of type**	**Total duration (hours)**									
Mechanical		**0**	**0.000**									
Power / Electrical		**6**	**1.662**									
Instrumentation Failure		**0**	**0.000**									
Fire		**0**	**0.000**									
Process		**2**	**0.458**									
Other		**0**	**0.000**									
Total		**8**	**2.120**									
System device code												
3 = WESP malfunctions		**Number of type**	**Total duration (hours)**									
Mechanical		**0**	**0.000**									
Power / Electrical		**0**	**0.000**									
Instrumentation Failure		**2**	**0.066**									
Fire		**0**	**0.000**									
Water		**41**	**7.721**									
Process		**0**	**0.000**									
Other		**0**	**0.000**									
Total		**43**	**7.788**									

Affected Process	Date/Time started	Date/Time stopped	Minutes	Duration Hours			Minutes	Nature of Malfunction	Cause of malfunction	Downtime Code	System device code	Malfunction cause code
System device code												
4 = Dryer malfunctions		Number of type	Total duration (hours)									
Mechanical		0	0.000									
Power / Electrical		24	15.397									
Instrumentation Failure		2	0.211									
Fire		24	3.799									
Process		0	0.000									
Other		0	0.000									
Total		50	19.407									
System device code												
5 = Thermal oil Heater #1 malfunctions		Number of type	Total duration (hours)									
Mechanical		0	0.000									
Power / Electrical		0	0.000									
Instrumentation Failure		0	0.000									
Fire		0	0.000									
Process		0	0.000									
Other		0	0.000									
Total		0	0.000									
System device code												
5 = Thermal oil Heater #2 malfunctions		Number of type	Total duration (hours)									
Mechanical		0	0.000									
Power / Electrical		0	0.000									
Instrumentation Failure		0	0.000									
Fire		0	0.000									
Process		0	0.000									
Other		1	0.199									
Total		1	0.199									
System device code												
5 = Thermal Oil Heater #3 malfunctions		Number of type	Total duration (hours)									
Mechanical		0	0.000									
Power / Electrical		0	0.000									
Instrumentation Failure		0	0.000									
Fire		0	0.000									
Process		0	0.000									
Other		0	0.000									
Total		0	0.000									
System device code												
6 = Dryer/RO Monitoring system malfunction		Number of type	Total duration (hours)									
Mechanical		0	0.000									
Power / Electrical		0	0.000									
Instrumentation Failure		1	1.128									
Fire		0	0.000									

Affected Process	Date/Time started	Date/Time stopped	Minutes	Duration Hours			Minutes	Nature of Malfunction	Cause of malfunction	Downtime Code	System device code	Malfunction cause code
Process		0	0.000									
Other		0	0.000									
Total		1	1.128									

PRESS SYSTEM

System device code

7 - Biofilter malfunctions	Number of type	Total duration (hours)
Mechanical	0	0.000
Power / Electrical	0	0.000
Instrumentation Failure	7	1.829
Fire	0	0.000
Water	10	4.487
Media	0	0.000
Process	0	0.000
Other	0	0.000
Temp control problem	0	0.000
Total	17	6.316

Press Enclosure issues (inspection checklists)	Number of type	Total duration (hours)
Mechanical	0	0.000
Power / Electrical	0	0.000
Instrumentation Failure	0	0.000
Fire	0	0.000
Water	0	0.000
Media	0	0.000
Process	0	0.000
Other	0	0.000
Temp control problem	0	0.000
Total	0	0.000

System device code

Press malfunctions	Number of type	Total duration (hours)
Mechanical	0	0.000
Power / Electrical	0	0.000
Instrumentation Failure	0	0.000
Fire	0	0.000
Water	0	0.000
Media	0	0.000
Process	0	0.000
Other	0	0.000
Temp control problem	0	0.000
Total	0	0.000

System device code

Affected Process	Date/Time started	Date/Time stopped	Minutes	Duration Hours			Minutes	Nature of Malfunction	Cause of malfunction	Downtime Code	System device code	Malfunction cause code
Press/Biofilter Monitoring system malfunction 6 = Monitoring system malfunctions		Number of type	Total duration (hours)									
Mechanical		0	0.000									
Power / Electrical		0	0.000									
Instrumentation Failure		0	0.000									
Fire		0	0.000									
Process		0	0.000									
Other		0	0.000									
Total		0	0.000									

2.0 RESULTS

This section presents a summary of the THC sampling. Detailed sampling results and example calculations for the test program can be found in Appendix A. Field data sheets and sample recovery documentation are presented in Appendix B.

2.1 SUMMARY OF RESULTS

The table below represents a synopsis of the THC sampling conducted at the RTO. Runs 1, 2, 3, and 4 were used to generate an average emission rate and destruction removed efficiency.

Table 2- Summary of Results

Total Hydrocarbons (THC) Concentrations and Loading Rates - WESP Inlet	Run 1	Run 2	Run 3	Run 4	Average
THC Concentration, ppm *1 as propane (wet)	270.8	384.3	352.2	262.8	317.5
Methane Concentration, ppm as propane (wet)	3.53	2.86	3.57	4.03	3.50
Non-Methane THC Conc., ppm as propane (wet)	267.3	381.4	348.6	258.8	314.0
Non-Methane THC Conc., ppm as carbon (dry)	1,054.1	1,490.4	1,295.0	1,027.9	1,216.9
Non-Methane THC Conc., gr/dscf *2 as carbon	0.23	0.33	0.28	0.22	0.27
THC Loading Rate without methane, lbs/hr *3	199.8	283.5	282.8	203.0	242.3

Total Hydrocarbons (THC) Concentrations and Emission Rates - RTO Outlet	Run 1	Run 2	Run 3	Run 4	Average
THC Concentration, ppm as propane (wet)	31.1	34.8	38.2	27.9	33.0
Methane Concentration, ppm as propane (wet)	10.6	13.3	14.1	10.2	12.0
Non-Methane THC Conc., ppm as propane (wet)	20.5	21.5	24.1	17.7	20.9
Non-Methane THC Conc., ppm as carbon (dry)	82.1	84.8	95.1	70.6	83.2
Non-Methane THC Conc., gr/dscf as carbon	0.018	0.018	0.021	0.015	0.018
THC Loading Rate without methane, lbs/hr	19.1	20.1	22.2	16.1	19.4
Destruction Removal Efficiency, Percent % *4	90.4	92.9	92.1	92.1	92.0

*1 ppm = parts per million concentration

*2 gr/dscf = grains per dry standard cubic foot

*3 lbs/hr = pounds per hour

*4 Destruction Efficiency based on the following equation: ((RCO Inlet lbs/hr - RCO Outlet lbs/hr) / RCO Inlet lbs/hr) X 100

Weyerhaeuser Elkin, NC

CEC Project No. 130-701 WESP Inlet

SUMMARY OF RESULTS
EPA METHOD 25A
Determination of Total VOC Concentrations and Emission Rates

	Run Number	1	2	3	4	Average
	Sample Identification	122479-01	122479-02	122479-03	122479-07	—
	Date:	5/29/2013	5/29/2013	5/30/2013	5/30/2013	—
θ	Net Time of Test, minutes	60.0	60.0	60.0	60.0	—
	Sample Time, 24-hour clock	1316-1416	1739-1839	0957-1057	1250-1350	—
P_{bar}	Barometric Pressure, in. Hg	29.12	29.06	29.18	29.15	29.13
P_g	Static Pressure, in. H_2O	3.50	3.40	3.20	3.10	3.300
P_s	Stack Pressure, Absolute, in. Hg	29.377	29.310	29.415	29.378	29.370
V_M	Actual Meter Volume Sampled, cu. ft.	46.810	46.745	46.344	46.705	46.651
ΔH	Avg. Delta H, in. H_2O	1.90	1.90	1.90	1.90	1.90
T_M	Avg. Gas Meter Temp., Deg. F	95.4	98.6	92.7	94.8	95.4
$V_{m(std)}$	Volume Sampled at Stand. Cond., cu. ft.	42.777	42.389	42.649	42.777	42.648
V_c	Volume of Water Collected, ml	271.0	260.6	200.4	278.2	252.6
$V_{wc(std)}$	Volume of Water Vapor at Std. Cond., SCF	12.75	12.26	9.43	13.09	11.89
W_{sg}	Volume of Water Collected in Silica Gel, g	15.00	11.80	15.40	16.40	14.65
$V_{wsg(std)}$	Vol. of Water Vapor in Silica Gel at Std. Cond., SCF	0.71	0.56	0.73	0.77	0.69
B_{wsat}	Moisture Content of Gas Stream	0.239	0.232	0.192	0.245	0.227
P_{MVI}	Calculated Percent Moisture in Stack	23.9	23.2	19.2	24.5	22.7
P_{MVIS}	Saturated Percent Moisture in Stack	100.0	100.0	100.0	100.0	100.0
P_{MVIR}	Reported Percent Moisture in Stack	23.9	23.2	19.2	24.5	22.7
M_{fd}	Mole Fraction of Dry Gas	0.761	0.768	0.808	0.755	0.773
$\%O_2$	Percent Oxygen, Dry	15.80	17.53	16.19	17.62	16.79
$\%CO_2$	Percent Carbon Dioxide, Dry	4.65	3.93	4.31	3.97	4.22
%CO	Percent Carbon Monoxide, Dry	0.00	0.00	0.00	0.00	0.00
M_d	Mole. Wt. Stack Gas, Dry Basis, lb/lb mole	29.376	29.330	29.337	29.340	29.346
M_s	Mole. Wt. Stack Gas, Wet Basis, lb/lb mole	26.653	26.699	27.157	26.564	26.768
Cp	Pitot Tube Coefficient	0.84	0.84	0.84	0.84	0.84
$\sqrt{\Delta PS}$	Avg. Sqrt. Delta P, in. H20	0.784	0.781	0.840	0.817	0.805
T_s	Avg. Stack Temp., Deg. F	264.1	264.1	233.8	258.6	254.6
V_s	Avg. Stack Velocity, ft/sec	54.1	53.9	55.2	56.2	55.1
A	Area Stack, ft^2	57.303	57.303	57.303	57.303	57.303

Weyerhaeuser Elkin, NC
WESP Inlet

CEC Project No. 130-701

SUMMARY OF RESULTS
EPA METHOD 25A
Determination of Total VOC Concentrations and Emission Rates

Run Number		1	2	3	4	Average
Q_{sd}	Gas Volume Flow, Dry Std. Cond. CFM	101,369	101,705	118,750	105,615	106,360
Q_A	Actual Gas Volume Flow, CFM	186,127	185,433	193,208	193,293	189,515
Q_{sw}	Gas Volume Flow, Wet Std. Cond., CFM	133,266	132,465	144,554	139,848	137,533
Mb #	Meter Box Number	300.388	300.388	300.388	300.388	—
ΔH@	ΔH@ of Meter Box @ 0.75 SCFM	1.886	1.886	1.886	1.886	—
Y_{qa}	Alt. Mthd 6 Posttest Calibration (ALT-009)	0.995	1.001	1.002	0.996	0.998
Y	Meter Calibration Factor	0.983	0.983	0.983	0.983	—

Weyerhaeuser Elkin, NC
WESP Inlet

CEC Project No. 130-701

Summary of Results
EPA Method 25A
Determination of Total VOC Concentrations and Emission Rates

Run Number		1	2	3	4	Average
	Sample Identification	122479-01	122479-02	122479-03	122479-07	
	Date:	05/29/13	05/29/13	05/30/13	05/30/13	
θ	Net Time of Test, minutes	60	60	60	60	
	Sample Time, 24-hour clock	1316-1418	1739-1839	0957-1057	1250-1350	
Total Gaseous Organic (TGO) with Methane Substraction Concentrations and Emission Rates						
M_{wc}	Mole Weight of Carbon, g/mole	12.011	12.011	12.011	12.011	12.011
C_{meas}	TGO, ppm as propane (wet)	270.8	384.3	352.2	262.8	317.5
C_{meas2}	Methane, ppm as propane (wet)	3.53	2.86	3.57	4.03	3.50
C_{mT}	TGO as propane w/subtraction (wet)	267.3	381.4	348.6	258.8	314.0
C_{mTd}	TGO Conc., ppm as propane (dry)	351.4	496.8	431.7	342.6	405.6
C_c	TGO Conc., ppm as carbon (wet)	801.8	1,144.3	1,045.9	776.3	942.1
C_d	TGO Conc., ppm as carbon (dry)	1,054.1	1,490.4	1,295.0	1,027.9	1,216.9
C_{CN}	TGO Conc., mg/dscm as carbon	526.3	744.2	646.6	513.2	607.6
C_{AN}	TGO Conc., gr/dscf as carbon	0.23	0.33	0.28	0.22	0.27
C_{AW}	TGO Emission Rate, lbs/hr as carbon	199.8	283.5	282.8	203.0	242.3

Summary of Results
EPA Method 25A

Determination of Total VOC Concentrations and Emission Rates

Example Calculations Run 1

Stack Pressure, Absolute, in. Hg $P_S = P_{bar} + (P_g / 13.6) =$	29.377
Volume Sampled at Stand. Cond., cu. ft. $Vm(std) = (Vm * Y * (Pbar + DH / 13.6) * Tstd) / (Pstd * (Tm + 460)) =$	42.777
Method 4 Calculations: Volume of Water Vapor at Std. Cond., SCF $V_{WC(std)} = 0.04706 * V_C =$	12.75
Vol. of Water Vapor in Silica Gel at Std. Cond., SCF $V_{wsg(std)} = 0.04715 * W_C =$	0.71
Moisture Content of Gas Stream $B_{WS1} = (V_{WC(std)} + V_{wsg(std)}) / (V_{m(std)} + V_{WC(std)} + V_{wsg(std)}) =$	0.239
Percent Moisture in Stack $P_{MV1} = 100 * (V_{WC(std)} + V_{wsg(std)}) / (V_{m(std)} + V_{WC(std)} + V_{wsg(std)}) =$	23.9
Saturated Stack Moisture using Stack Temperature (°F): Note if $\%S_{VP} > 100\% = 100\%$ $P_{MV1S} = \%S_{VP} = (100/Ps) * 10^{(6.6921 (3144/(T+390.86)))}$	100.0
Reported Stack Moisture according to Method 4 Section 12.1.7 In saturated or moisture laden gas streams, the lower Bws (PMV1 or PMV1S) is considered correct	23.9
Mole Fraction of Dry Gas $M_{FD1} = (100 - P_{MV}) / 100 =$	0.761
Mole. Wt. Stack Gas, Dry Basis, lb/lb mole $Md = 0.44 * \%CO2 + 0.32 * \%O2 + 0.28 * (100 - \%CO2 - \%O2) =$	29.376
Mole. Wt. Stack Gas, Wet Basis, lb/lb mole $M_S = M_d * (1 - B_{ws}) + 18.0 * B_{ws} =$	26.653
Avg. Stack Velocity, ft/sec $VS = 85.49 * CP * \sqrt{DPavg} * \sqrt{(TS + 460) / (PS * MS)} =$	54.1
Gas Volume Flow, Dry Std. Cond. CFM $Q_{SD} = (60 \text{ sec/min} * (1-B_{ws}) * V_s * A * ((T_{std} * P_s) / (T_{s(abs)} * P_{std}))$	101,369
Actual Gas Volume Flow, CFM $Q_A = V_s * A * 60 \text{ sec/min} =$	186,127
Gas Volume Flow, Wet Std. Cond., CFM $Q_{SW} = Q_{SD} * [1/(1-B_{WS})] =$	133,266

Summary of Results
EPA Method 25A

Determination of Total VOC Concentrations and Emission Rates

Example Calculations Run 1

Alternative Method 5 Posttest Calibration (ALT-009) Criteria: (Y± 0.05)

$Yqa = (\theta/Vm) * ((0.319*Tm)/(\Delta H@*(Pb+(\Delta H_{avg}/13.6)))*(29/Md))^{\wedge 1/2} * (\Delta H_{avg})^{\wedge 1/2} =$ 0.995

Total Gaseous Organic (TGO) Concentrations and Emission Rates

TGO, ppm as propane (dry)

$C_{m(dry)} = m_h / (1 - B_{ws}) =$ 356.0

TGO Conc., ppm as carbon (wet)

$C_c = C_{meas} * 3 =$ 812.4

TGO Conc., ppm as carbon (dry)

$C_d = Ccorrected / (1 - B_{ws}) =$ 1,068.0

TGO Conc., mg/dscm as carbon

$C_{ON} = C_d * M_{wc} / 24.055 =$ 533.3

TGO Conc., gr/dscf as carbon

$C_{an} = C_{ON} * (0.015432358 \text{ grain}/1 \text{ mg}) * (1 \text{cm} / 35.314666721 \text{ cft}) =$ 0.2

TGO Loading Rate, lbs/hr as carbon

$C_{AW} = 60 \text{ min/hr} / 7000 \text{ grain/lb} * C_{AN} * Q_{sd} =$ 202.5

Standard Conditions 68 Deg. F, 29.92 in. Hg
Pstd = 29.92 in. Hg
Tstd = 528 °R

Weyerhaeuser Elkin, NC
RTO Outlet

CEC Project No. 130-701

SUMMARY OF RESULTS
EPA METHOD 25A
Determination of Total VOC Concentrations and Emission Rates

Run Number		1	2	3	4	Average
	Sample Identification	122479-04	122479-05	122479-06	122479-08	—
	Date:	5/29/2013	5/29/2013	5/30/2013	5/30/2013	—
θ	Net Time of Test, minutes	60.0	60.0	60.0	60.0	—
	Sample Time, 24-hour clock	1316-1416	1739-1839	0957-1057	1250-1350	—
P_{bar}	Barometric Pressure, in. Hg	29.12	29.06	29.18	29.15	29.13
P_g	Static Pressure, in. H_2O	-0.800	-0.770	-0.790	-0.780	-0.785
P_s	Stack Pressure, Absolute, in. Hg	29.061	29.003	29.122	29.093	29.070
V_m	Actual Meter Volume Sampled, cu. ft.	46.134	46.221	45.751	43.207	45.328
ΔH	Avg. Delta H, in. H_2O	1.90	1.90	1.90	1.70	1.85
T_m	Avg. Gas Meter Temp., Deg. F	96.0	104.9	78.7	94.7	93.6
$V_{m(STD)}$	Volume Sampled at Stand. Cond., cu. ft.	42.415	41.740	43.506	39.840	41.875
V_c	Volume of Water Collected, ml	292.8	266.0	282.1	267.6	277.1
$V_{wc(std)}$	Volume of Water Vapor at Std. Cond. SCF	13.78	12.52	13.28	12.59	13.04
W_c	Volume of Water Collected in Silica Gel, g	12.60	11.70	10.80	9.70	11.20
$V_{wsg(std)}$	Vol. of Water Vapor in Silica Gel at Std. Cond., SCF	0.59	0.55	0.51	0.46	0.53
B_{WS1}	Moisture Content of Gas Stream	0.253	0.238	0.241	0.247	0.245
P_{MV1}	Calculated Percent Moisture in Stack	25.3	23.8	24.1	24.7	24.5
P_{MV1S}	Saturated Percent Moisture in Stack	100.0	100.0	100.0	100.0	100.0
P_{MV1R}	Reported Percent Moisture in Stack	25.3	23.8	24.1	24.7	24.5
M_{FDT}	Mole Fraction of Dry Gas	0.747	0.762	0.759	0.753	0.755
$\%O_2$	Percent Oxygen, Dry	16.08	16.55	16.10	16.49	16.31
$\%CO_2$	Percent Carbon Dioxide, Dry	4.29	3.87	4.25	3.92	4.08
%CO	Percent Carbon Monoxide, Dry	0.00	0.00	0.00	0.00	0.00
M_d	Mole. Wt. Stack Gas, Dry Basis, lb/lb mole	29.330	29.281	29.324	29.287	29.305
M_s	Mole. Wt. Stack Gas, Wet Basis, lb/lb mole	26.462	26.591	26.599	26.502	26.539
Cp	Pitot Tube Coefficient	0.84	0.84	0.84	0.84	0.84
ΔPS	Avg. Sqrt. Delta P, in. H20	0.934	0.938	0.924	0.906	0.925
T_s	Avg. Stack Temp., Deg. F	234.6	234.4	233.3	234.9	234.3
V_s	Avg. Stack Velocity, ft/sec	63.7	63.9	62.8	61.8	63.0
A	Area Stack, ft^2	58.992	58.992	58.992	58.992	58.992

Weyerhaeuser Elkin, NC

CEC Project No. 130-701 RTO Outlet

SUMMARY OF RESULTS
EPA METHOD 25A
Determination of Total VOC Concentrations and Emission Rates

Run Number		1	2	3	4	Average
Q_{so}	Gas Volume Flow, Dry Std. Cond. CFM	124,371	126,924	125,035	121,725	124514
Q_A	Actual Gas Volume Flow, CFM	225,531	226,118	222,124	218,728	223125
Q_{sw}	Gas Volume Flow, Wet Std. Cond., CFM	166,516	166,666	164,652	161,599	164858
Mb #	Meter Box Number	300.392	300.392	300.392	300.392	---
ΔH@	ΔH@ of Meter Box @ 0.75 SCFM	1.912	1.912	1.912	1.912	---
Y_{qa}	Alt. Mthd 5 Posttest Calibration (ALT-009)	1.004	1.012	0.995	1.013	1.006
Y	Meter Calibration Factor	0.990	0.990	0.990	0.990	---

Weyerhaeuser Elkin, NC
RTO Outlet

CEC Project No. 130-701

Summary of Results
EPA Method 25A
Determination of Total VOC Concentrations and Emission Rates

Run Number		1	2	3	4	Average
	Sample Identification	122479-04	122479-05	122479-06	122479-08	
	Date:	05/29/13	05/29/13	05/30/13	05/30/13	
θ	Net Time of Test, minutes	60	60	60	60	
	Sample Time, 24-hour clock	1316-1416	1739-1839	0957-1057	1250-1350	
Total Gaseous Organic (TGO) with Methane Substraction Concentrations and Emission Rates						
M_{WC}	Mole Weight of Carbon, g/mole	12.011	12.011	12.011	12.011	12.011
C_{mwas}	TGO, ppm as propane (wet)	31.1	34.8	38.2	27.9	33.0
C_{mas12}	Methane, ppm as propane (wet)	10.6	13.3	14.1	10.2	12.0
C_{mT}	TGO as propane w/subtraction (wet)	20.5	21.5	24.1	17.7	20.9
C_{mTd}	TGO Conc., ppm as propane (dry)	27.4	28.3	31.7	23.5	27.7
C_c	TGO Conc., ppm as carbon (wet)	61.4	64.6	72.3	53.2	62.8
C_d	TGO Conc., ppm as carbon (dry)	82.1	84.8	95.1	70.6	83.2
C_{CN}	TGO Conc., mg/dscm as carbon	41.0	42.3	47.5	35.3	41.5
C_{AN}	TGO Conc., gr/dscf as carbon	0.018	0.018	0.021	0.015	0.018
C_{AW}	TGO Emission Rate, lbs/hr as carbon	19.1	20.1	22.2	16.1	19.4

APPENDIX B

FIELD DATA SHEETS

2.0 RESULTS

This section presents a summary of the NCASI 98.01 sampling performed on May 31, 2013. Detailed sampling results and example calculations for the test program can be found in Appendix A. Field data sheets and sample recovery documentation are presented in Appendix B.

2.1 SUMMARY OF RESULTS

The table below represents a synopsis of the formaldehyde sampling conducted at the Biofilter Inlet and Outlet locations.

Table 3 - Summary of Results

	Run 1	Run 2	Run 3*	Avg.
Biofilter Inlet				
Gas Volume Flow, Dry Std. Cond. CFM	81,890	85,557	84,755	84,067
Formaldehyde Loading Rate, lbs/hr	4.71	5.31	5.43	5.15
Biofilter Outlet				
Gas Volume Flow, Dry Std. Cond. CFM	79,755	79,393	79,860	79,669
Formaldehyde Emission Rate, lbs/hr	J 0.048	J 0.075	J 0.087	J 0.070
Destruction Efficiency for Formaldehyde Emissions, (based on lbs/hr dry emission rates)	99.0%	98.6%	98.4%	98.6%

J- The value is between the method detection limit and the limit of quantification. The laboratory can positively identify the analyte of interest as present, but the value should be considered an estimate.

2.2 DISCUSSION

Weyerhaeuser has been issued Title V Operating Permit No. 05678T38 by the NC DENR. The results from this test program show that the biofilter, under high bed temperatures maintains removal efficiency above 90%.

Weyerhaeuser Elkin, North Carolina

Biofilter Inlet Duct — CEC Project No. 121-952

SUMMARY OF RESULTS
METHOD NCASI 98.01
Determination of Formaldehyde Concentrations and Emission Rates

Run Number		1	2	3	Average
	Sample Identification	121952-08	121952-09	121952-10	---
	Date:	5/31/2013	5/31/2013	5/31/2013	---
θ	Net Time of Test, minutes	90	90	90	---
	Sample Time, 24-hour clock	1002-1135	1253-1425	1525-1655	---
P_{bar}	Barometric Pressure, in. Hg	29.12	29.12	29.12	29.12
P_g	Static Pressure, in. Hg	0.110	0.074	0.081	0.088
P_s	Stack Pressure, Absolute, in. Hg	29.230	29.194	29.201	29.208
V_m	Actual Meter Volume Sampled, cu. ft.	70.766	71.521	73.005	71.764
ΔH	Avg. Delta H, in. H_2O	1.90	1.90	1.90	1.90
T_M	Avg. Gas Meter Temp., Deg. F	102.3	96.3	95.0	97.9
$V_{m(std)}$	Volume Sampled at Stand. Cond., cu. ft.	63.875	65.252	66.766	65.298
V_c	Volume of Water Collected, ml	33.9	25.1	34.2	31.1
$V_{wc(std)}$	Volume of Water Vapor at Std. Cond.,SCF	1.60	1.18	1.61	1.46
W_{sc}	Volume of Water Collected in Silica Gel, g	12.90	13.20	10.30	12.13
$V_{wsg(std)}$	Vol. of Water Vapor in Silica Gel at Std. Cond., SCF	0.61	0.62	0.49	0.57
B_{wsf}	Moisture Content of Gas Stream	0.033	0.027	0.030	0.030
P_{MVI}	Calculated Percent Moisture in Stack	3.3	2.7	3.0	3.0
P_{MVIS}	Saturated Percent Moisture in Stack	17.5	18.9	21.5	19.3
P_{MVIR}	Reported Percent Moisture in Stack	3.3	2.7	3.0	3.0
M_{FDI}	Mole Fraction of Dry Gas	0.967	0.973	0.970	0.970
M_d	Mole. Wt. Stack Gas, Dry Basis, lb/lb mole	29.0	29.0	29.0	29.0
M_s	Mole. Wt. Stack Gas, Wet Basis, lb/lb mole	28.633	28.704	28.665	28.668
Cp	Pitot Tube Constant	0.84	0.84	0.84	0.84
ΔPS	Avg. Sqrt. Delta P, in. H20	1.601	1.669	1.664	1.645
T_s	Avg. Stack Temp., Deg. F	134.8	137.7	142.7	138.4
V_s	Avg. Stack Velocity, ft/sec	96.9	101.2	101.4	99.8
A	Area Stack, ft^2	16.80	16.80	16.80	16.80
Q_{SD}	Gas Volume Flow, Dry Std. Cond. CFM	81,890	85,557	84,755	84,067
Q_A	Actual Gas Volume Flow, CFM	97,677	102,000	102,233	100,637
Q_{SW}	Gas Volume Flow, Wet Std. Cond., CFM	84,715	87,922	87,414	86,684
Run Number		1	2	3	Average
Mb #	Meter Box Number	300.388	300.388	300.388	300.388
$\Delta H@$	$\Delta H@$ of Meter Box	1.886	1.886	1.886	1.886
Y_{qi}	Alt. Mthd 5 Posttest Calibration (ALT-009)	0.999	0.984	0.963	0.982
Y	Meter Factor	0.983	0.983	0.983	0.983

Weyerhaeuser Elkin, North Carolina

Biofilter Inlet Duct — CEC Project No. 121-952

SUMMARY OF RESULTS
METHOD NCASI 98.01
Determination of Formaldehyde Concentrations and Emission Rates

Analyte NCASI 98.01 Concentration and Loading Rates

Run Number		1	2	3	Average
θ	Net Time of Test, minutes	90.0	90.0	90.0	—
	Sample Time, 24-hour clock	1002-1135	1253-1425	1525-1655	—
	Sample Identification #, Sample	121952-08	121952.1	121952-10	—
Mb #	Meter Box Number	8005257	8005257	8005257	—
Y	Meter Factor	1.000	1.000	1.000	—
V_{M1}	Actual Meter Volume Sampled, Liters	36.204	36.450	36.213	36.289
T_{M1}	Meter Temperature, Deg. F	101.9	101.2	100.6	101.2
V_{STDL}	Volume Sampled at Stand. Cond., Liters	33.109	33.378	33.196	33.228
V_{STDcf}	Volume Sampled at Stand. Cond., cu. ft.	1.169	1.179	1.172	1.173
V_{STDcm}	Volume Sampled at Stand. Cond., cu. m.	0.033	0.033	0.033	0.033
m_{fc}	Formaldehyde Catch, ug	508	537	568	538
C	Formaldehyde Conc., gr/dscf	0.0067	0.0070	0.0075	0.0071
C_s	Formaldehyde Conc., ug/dscm	15,343	16,088	17,110	16,181
C_{AW}	Formaldehyde Loading Rate, lbs/hr	4.71	5.16	5.43	5.10
QC Run Number		Spike	DUP		—
	Sample Identification #, Spike	121952-08	121952.1		—
Mb #	Meter Box Number	8005258	8005258		—
Y	Meter Factor	1.000	1.000		—
V_{M1}	Actual Meter Volume Sampled, Liters	36.262	36.520		24.261
T_{M1}	Meter Temperature, Deg. F	101.9	101.6		67.8
V_{STDL}	Volume Sampled at Stand. Cond., Liters	33.162	33.418		22.193
V_{STDcf}	Volume Sampled at Stand. Cond., cu. ft.	1.171	1.180		0.784
V_{STDcm}	Volume Sampled at Stand. Cond., cu. m.	0.033	0.033		0.022
m_{fc}	Formaldehyde Catch, ug	700	569		—
C_D	Formaldehyde Conc., gr/dscf	0.0092	0.0074		—
C_{sD}	Formaldehyde Conc., ug/dscm	21,108	17,027		—
C_{AWD}	Formaldehyde Loading Rate, lbs/hr	6.47	5.46		—
	Quality Assurance				
RD	Duplicate % Difference		5.67		—
	Results of the duplicate sample analysis are reported with the sample results. There are no acceptance criteria for the analytical results of the field duplicates.				
C_{rec}	Calculation of Measured Spike, ug/dscm	5,765			—
Sp	Formaldehyde Spike Concentration ug	171			—
C_{rec}	Calculation of Spike, ug/dscm	5,157			—
R	Spike Recovery,%	112			—

Weyerhaeuser Elkin, North Carolina

Biofilter Inlet Duct

CEC Project No. 121-952

SUMMARY OF RESULTS
METHOD NCASI 98.01
Determination of Formaldehyde Concentrations and Emission Rates

A criterion for field spike recovery of 70% to 130% is used to determine the validity of the sampling effort.
For calculating the DUP with a non-detect value, zero was used for the non-detect value.

Average Emission Rate

C	Formaldehyde Conc., gr/dscf	0.0067	0.0072	0.0075	0.0071
C_s	Formaldehyde Conc., ug/dscm	15,343	16,557	17,110	16,337
C_{aw}	Formaldehyde Loading Rate, lbs/hr	4.71	5.31	5.43	5.15

Comments: For the duplicate sampling runs the average of the two runs is reported as the run average as per NCASI 98.01.

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SUMMARY OF RESULTS
METHOD NCASI 98.01
Determination of Formaldehyde Concentrations and Emission Rates

Example Calculations Run 1

Stack Pressure, Absolute, in. Hg
$P_S = P_{bar} + P_g =$ 29.230

Volume Sampled at Stand. Cond., cu. ft.
$V_{m(std)} = (V_m * Y * (P_{bar} + \Delta H / 13.6) * T_{std}) / (P_{std} * (T_m + 460)) =$ 63.875

Method 4 Calculations:
Volume of Water Vapor at Std. Cond.,SCF
$V_{WC(std)} = 0.04706 * V_C =$ 1.60

Vol. of Water Vapor in Silica Gel at Std. Cond., SCF
$V_{wsg(std)} = 0.04715 * W_C =$ 0.61

Moisture Content of Gas Stream
$B_{WS1} = (V_{WC(std)} + V_{wsg(std)}) / (V_{m(std)} + V_{WC(std)} + V_{wsg(std)}) =$ 0.033

Percent Moisture in Stack
$P_{MV1} = 100 * (V_{WC(std)} + V_{wsg(std)}) / (V_{m(std)} + V_{WC(std)} + V_{wsg(std)}) =$ 3.3

Saturated Stack Moisture using Stack Temperature (°F): Note if $\%S_{VP} > 100\% = 100\%$
$P_{MV1S} = \%S_{VP} = (100/Ps) * 10^{(6.6921-(3144/(T+390.86)))}$ 17.5

Reported Stack Moisture according to Method 4 Section 12.1.7
In saturated or moisture laden gas streams, the lower Bws (PMV1 or PMV1S) is considered correct 3.3

Mole Fraction of Dry Gas
$M_{FD1} = (100 - P_{MV}) / 100 =$ 0.967

Mole. Wt. Stack Gas, Dry Basis, lb/lb mole
Md is assigned a value per EPA Method 2, Section 8.6 = 29.0

Mole. Wt. Stack Gas, Wet Basis, lb/lb mole
$M_S = M_d * (1 - B_{ws}) + 18.0 * B_{ws} =$ 28.633

Avg. Stack Velocity, ft/sec
$V_S = 85.49 * C_P * \sqrt{\Delta P_{avg}} * \sqrt{(TS + 460) / (P_S * M_S)} =$ 96.9

Gas Volume Flow, Dry Std. Cond. CFM
$Q_{SD} = (60\ sec/min * (1-B_{ws}) * V_s * A * ((T_{std} * P_s) / (T_{s(abs)} * P_{std}))$ 81,890

Actual Gas Volume Flow, CFM
$Q_A = V_S * A * 60\ sec/min =$ 97,677

Gas Volume Flow, Wet Std. Cond., CFM
$Q_{SW} = Q_{SD} * [1/(1-B_{WS})] =$ 84,715

Alternative Method 5 Posttest Calibration (ALT-009) Criteria: (Y± 0.05)
$Yqa = (\theta/Vm) * ((0.319*Tm)/(\Delta H@*(Pb+(\Delta H_{avg}/13.6)))*(29/Md))^{1/2} * (\Delta H_{avg})^{1/2} =$ 0.999

Weyerhaeuser Elkin, North Carolina

Biofilter Inlet Duct — CEC Project No. 121-952

SUMMARY OF RESULTS
METHOD NCASI 98.01
Determination of Formaldehyde Concentrations and Emission Rates

Method NCASI Example Calculations for Run No. 1

Volume Sampled at Stand. Cond., L $V_{m(std)L} = (V_m * Y * P_{bar} * T_{std}) / (P_{std} * (T_m + 460)) =$	33.109
Volume Sampled at Stand. Cond., cu. ft $V_{m(std)cf} = V_{m(std)L} * 0.035314667$ cu. ft/L =	1.169
Volume Sampled at Stand. Cond., cu. m. $V_{m(std)cm} = V_{m(std)cf} * 0.028316847$ cu. ft/cu. m. =	0.033
Formaldehyde Conc., gr/dscf $C_S = m_n * 1$ mg / 1000000 ng * 0.015432358 grain/ 1 mg / V_{STD} =	0.0067
Formaldehyde Conc., ug/dscm $C = m_n / V_{m(std)cm}$ =	15,343
Formaldehyde Loading Rate, lbs/hr $C_{AW} = C_s * Q_{SD}$ / (7000 grains/lb) * (60 mins/hr) =	4.71
Duplicate % Difference $RD = ((C_s - C_{sD}) / ((C_s + C_{SD})/2)) * 100$	5.67
Calculation of Measured Spike, ug/dscm $Crec = (m_{n(spike\ train)}) / Vm_{std(spike\ train)} - (m_n) / Vm_{std}$	5,765
Spiked Hg Recovery, % $R = (C_{rec} * Vm_{std\ (Spike\ train)}) / m_{spiked} * 100$	112

Standard Conditions 68 Deg. F, 29.92 in. Hg.

Weyerhaeuser Elkin, North Carolina

Biofilter Outlet Duct — CEC Project No. 121-952

SUMMARY OF RESULTS
METHOD NCASI 98.01
Determination of Formaldehyde Concentrations and Emission Rates

	Run Number	1	2	3	Average
	Sample Identification	121952-11	121952.12	121952-13	---
	Date:	5/31/2013	5/31/2013	5/31/2013	---
θ	Net Time of Test, minutes	90	90	90	---
	Sample Time, 24-hour clock	1003-1134	1253-1425	1525-1655	---
P_{bar}	Barometric Pressure, in. Hg	29.12	29.12	29.08	29.10
P_g	Static Pressure, in. Hg	-0.070	-0.065	-0.064	-0.066
P_s	Stack Pressure, Absolute, in. Hg	29.050	29.055	28.996	29.034
V_M	Actual Meter Volume Sampled, cu. ft.	70.116	71.160	70.528	70.601
ΔH	Avg. Delta H, in. H_2O	1.90	1.90	1.90	1.90
T_M	Avg. Gas Meter Temp., Deg. F	98.8	97.3	99.6	98.5
$V_{m(STD)}$	Volume Sampled at Stand. Cond., cu. ft.	64.144	65.272	64.299	64.571
V_C	Volume of Water Collected, ml	58.8	62.7	64.2	61.9
$V_{wc(std)}$	Volume of Water Vapor at Std. Cond. SCF	2.77	2.95	3.02	2.91
W_G	Volume of Water Collected in Silica Gel, g	12.60	13.30	11.20	12.37
$V_{wsg(std)}$	Vol. of Water Vapor in Silica Gel at Std. Cond., SCF	0.59	0.63	0.53	0.58
B_{WS1}	Moisture Content of Gas Stream	0.050	0.052	0.052	0.051
P_{MV1}	Calculated Percent Moisture in Stack	5.0	5.2	5.2	5.1
P_{MV1S}	Saturated Percent Moisture in Stack	5.6	6.0	6.0	5.9
P_{MV1R}	Reported Percent Moisture in Stack	5.0	5.2	5.2	5.1
M_{FD1}	Mole Fraction of Dry Gas	0.950	0.948	0.948	0.949
M_d	Mole. Wt. Stack Gas, Dry Basis, lb/lb mole	29.0	29.0	29.0	29.0
M_s	Mole. Wt. Stack Gas, Wet Basis, lb/lb mole	28.452	28.428	28.425	28.435
Cp	Pitot Tube Constant	0.84	0.84	0.84	0.84
ΔPS	Avg. Sqrt. Delta P, in. H20	1.095	1.094	1.102	1.097
T_s	Avg. Stack Temp., Deg. F	94.1	96.6	96.5	95.7
V_s	Avg. Stack Velocity, ft/sec	64.4	64.5	65.0	64.6
A	Area Stack, ft^2	23.49	23.49	23.49	23.49
Q_{SD}	Gas Volume Flow, Dry Std. Cond. CFM	79,755	79,393	79,860	79,669
Q_A	Actual Gas Volume Flow, CFM	90,721	90,910	91,648	91,093
Q_{SW}	Gas Volume Flow, Wet Std. Cond., CFM	83,935	83,744	84,269	83,983
	Run Number	1	2	3	Average
Mb #	Meter Box Number	300.392	300.392	300.392	300.392
$\Delta H@$	$\Delta H@$ of Meter Box	1.912	1.912	1.912	1.912
Y_{qa}	Alt. Mthd 5 Posttest Calibration (ALT-009)	0.999	0.983	0.995	0.992
Y	Meter Factor	0.990	0.990	0.990	0.990

Weyerhaeuser Elkin, North Carolina

Biofilter Outlet Duct — CEC Project No. 121-952

SUMMARY OF RESULTS
METHOD NCASI 98.01
Determination of Formaldehyde Concentrations and Emission Rates

Analyte By NCASI 98.01 Concentration and Emission Rates

Run Number		1	2	3	Average
θ	Net Time of Test, minutes	90.0	90.0	90.0	---
	Sample Time, 24-hour clock	1003-1134	1253-1425	1525-1655	---
	Sample Identification #, Sample	121952-11	121952-1	121952-13	---
Mb #	Meter Box Number	8005235	8005235	8005235	---
Y	Meter Factor	1.000	1.000	1.000	---
V_M	Actual Meter Volume Sampled, Liters	37.031	37.196	37.059	37.095
T_M	Meter Temperature, Deg. F	89.0	88.6	90.3	89.3
V_{STDL}	Volume Sampled at Stand. Cond., Liters	34.662	34.842	34.535	34.680
V_{STDcf}	Volume Sampled at Stand. Cond., cu. ft.	1.224	1.230	1.220	1.225
V_{STDcm}	Volume Sampled at Stand. Cond., cu. m.	0.035	0.035	0.035	0.035
m_n	Formaldehyde Catch, ug	J 5.60	J 9.51	J 10.10	8.40
C	Formaldehyde Conc., gr/dscf	J 0.00007	J 0.00012	J 0.00013	0.00011
C_s	Formaldehyde Conc., ug/dscm	J 162	J 273	J 292	242
C_{AW}	Formaldehyde Emission Rate, lbs/hr	J 0.048	J 0.081	J 0.087	0.072
QC Run Number		Spike	DUP		---
	Sample Identification #, Spike	121952-11	121952-1		---
Mb #	Meter Box Number	8005236	8005236		---
Y	Meter Factor	1.000	1.000		---
V_M	Actual Meter Volume Sampled, Liters	37.010	37.202		24.737
T_M	Meter Temperature, Deg. F	90.8	90.6		60.5
V_{STDL}	Volume Sampled at Stand. Cond., Liters	34.529	34.721		23.084
V_{STDcf}	Volume Sampled at Stand. Cond., cu. ft.	1.219	1.226		0.815
V_{STDcm}	Volume Sampled at Stand. Cond., cu. m.	0.035	0.035		0.023
m_{nQ}	Formaldehyde Catch, ug	60.20	J 8.15		---
C_Q	Formaldehyde Conc., gr/dscf	0.00076	J 0.00010		---
C_{sQ}	Formaldehyde Conc., ug/dscm	1,743	J 235		---
C_{AWQ}	Formaldehyde Emission Rate, lbs/hr	0.521	J 0.070		---
	Quality Assurance				
RD	Duplicate % Difference		15.1		---
	Results of the duplicate sample analysis are reported with the sample results. There are no acceptance criteria for the analytical results of the field duplicates.				
C_{rec}	Calculation of Measured Spike, ug/dscm	1,582			---
Sp	Formaldehyde Spike Concentration ug	50.4			---
C_{rec}	Calculation of Spike, ug/dscm	1,460			---
R	Spike Recovery, %	108			---

Weyerhaeuser Elkin, North Carolina

Biofilter Outlet Duct

CEC Project No. 121-952

SUMMARY OF RESULTS
METHOD NCASI 98.01
Determination of Formaldehyde Concentrations and Emission Rates

A criterion for field spike recovery of 70% to 130% is used to determine the validity of the sampling effort.
For calculating the DUP with a non-detect value, zero was used for the non-detect value.

Average Emission Rate

C	Formaldehyde Conc., gr/dscf	J 0.00007	J 0.00011	J 0.00013	J 0.00010
C_s	Formaldehyde Conc., ug/dscm	J 162	J 254	J 292	J 236
C_{AW}	Formaldehyde Emission Rate, lbs/hr	J 0.048	J 0.075	J 0.087	J 0.070

Comments: For the duplicate sampling runs the average of the two runs is reported as the run average as per NCASI 98.01.
J = The value is between the method detection limit and the limit of quantification. The laboratory can positively identify the analyte of interest as present, but the value should be considered an estimate.

Weyerhaeuser Elkin, North Carolina

Biofilter Outlet Duct CEC Project No. 121-952

SUMMARY OF RESULTS
METHOD NCASI 98.01
Determination of Formaldehyde Concentrations and Emission Rates

Example Calculations Run 1

Stack Pressure, Absolute, in. Hg
$P_S = P_{bar} + P_g =$ 29.050

Volume Sampled at Stand. Cond., cu. ft.
$V_{m(std)} = (V_m * Y * (P_{bar} + \Delta H / 13.6) * T_{std}) / (P_{std} * (T_m + 460)) =$ 64.144

Method 4 Calculations:
Volume of Water Vapor at Std. Cond.,SCF
$V_{WC(std)} = 0.04706 * V_C =$ 2.77

Vol. of Water Vapor in Silica Gel at Std. Cond., SCF
$V_{wsg(std)} = 0.04715 * W_C =$ 0.59

Moisture Content of Gas Stream
$B_{WS1} = (V_{WC(std)} + V_{wsg(std)}) / (V_{m(std)} + V_{WC(std)} + V_{wsg(std)}) =$ 0.050

Percent Moisture in Stack
$P_{MV1} = 100 * (V_{WC(std)} + V_{wsg(std)}) / (V_{m(std)} + V_{WC(std)} + V_{wsg(std)}) =$ 5.0

Saturated Stack Moisture using Stack Temperature (°F): Note If $\%S_{VP} > 100\% = 100\%$
$P_{MV1S} = \%S_{VP} = (100/Ps) * 10^{(8.6921-(3144/(T+390.86)))}$ 5.6

Reported Stack Moisture according to Method 4 Section 12.1.7
In saturated or moisture laden gas streams, the lower Bws (PMV1 or PMV1S) is considered correct 5.0

Mole Fraction of Dry Gas
$M_{FD1} = (100 - P_{MV}) / 100 =$ 0.950

Mole. Wt. Stack Gas, Dry Basis, lb/lb mole
Md is assigned a value per EPA Method 2, Section 8.6 = 29.0

Mole. Wt. Stack Gas, Wet Basis, lb/lb mole
$M_S = M_d * (1 - B_{ws}) + 18.0 * B_{ws} =$ 28.452

Avg. Stack Velocity, ft/sec
$V_S = 85.49 * C_P * \sqrt{\Delta P_{avg}} * \sqrt{(TS + 460) / (P_S * M_S)} =$ 64.4

Gas Volume Flow, Dry Std. Cond. CFM
$Q_{SD} = (60 \text{ sec/min} * (1-B_{ws}) * V_s * A * ((T_{std} * P_s) / (T_{s(abs)} * P_{std}))$ 79,755

Actual Gas Volume Flow, CFM
$Q_A = V_S * A * 60 \text{ sec/min} =$ 90,721

Gas Volume Flow, Wet Std. Cond., CFM
$Q_{SW} = Q_{SD} * [1/(1-B_{WS})] =$ 83,935

Alternative Method 5 Postlest Calibration (ALT-009) Criteria: (Y± 0.05)
$Yqa = (\theta/Vm) * ((0.319*Tm)/(\Delta H@*(Pb+(\Delta H_{avg}/13.6)))*(29/Md))^{\wedge 1/2} * (\Delta H_{avg})^{\wedge 1/2} =$ 0.999

Weyerhaeuser Elkin, North Carolina

Biofilter Outlet Duct — CEC Project No. 121-952

SUMMARY OF RESULTS
METHOD NCASI 98.01
Determination of Formaldehyde Concentrations and Emission Rates

Method NCASI Example Calculations for Run No. 1

Volume Sampled at Stand. Cond., L. $V_{m(std)L} = (V_m * Y * P_{bar} * T_{std}) / (P_{std} * (T_m + 460)) =$	34.662
Volume Sampled at Stand. Cond., cu. ft $V_{m(std)cft} = V_{m(std)L} * 0.035314667$ cu. ft/L =	1.224
Volume Sampled at Stand. Cond., cu. m. $V_{m(std)cm} = V_{m(std)cft} * 0.028316847$ cu. ft/cu. m. =	0.035
Formaldehyde Conc., gr/dscf $C_S = m_n * 1$ mg / 1000000 ng * 0.015432358 grain/ 1 mg / V_{STD} =	J 0.00007
Formaldehyde Conc., ug/dscm $C = m_n / V_{m(std)cm}$ =	J 162
Formaldehyde Emission Rate, lbs/hr $C_{AW} = C_s * Q_{SO}$ / (7000 grains/lb) * (60 mins/hr) =	J 0.048
Duplicate % Difference $RD = ((C_s - C_{SO}) / ((C_s + C_{SO})/2)) * 100$	15.1
Calculation of Measured Spike, ug/dscm $Crec = (m_{n(spike\ train)}) / Vm_{std(spike\ train)} - (m_n) / Vm_{std}$	1,582
Spiked Hg Recovery, % $R = (C_{rec} * Vm_{std\ (Spike\ train)}) / m_{spiked} * 100$	108

Standard Conditions 68 Deg. F, 29.92 in. Hg

4.0 RESULTS

This section presents a summary of the NCASI 98.01 sampling performed on January 8th, 2010. Detailed sampling results and example calculations for the test program can be found in Appendix A. Field data sheets and sample recovery documentation are presented in Appendix B.

4.1 Summary of Results

The table below represents a synopsis of the formaldehyde sampling conducted at the Biofilter Inlet and Outlet locations.

Table 4- Summary of Results	Run 1	Run 2	Run 3	Avg.
Biofilter Inlet				
Gas Volume Flow, Dry Std. Cond. CFM	93504	94409	95981	94631
Formaldehyde Concentration, micrograms (ug)	108	124	101	111
Formaldehyde Loading Rate, lbs/hr	1.67	1.76	1.58	1.67
*Corrected Formaldehyde Concentration, ug	89	102	83	91
*Corrected Formaldehyde Loading Rate, lbs/hr	1.37	1.44	1.29	1.37
Biofilter Outlet				
Gas Volume Flow, Dry Std. Cond. CFM	90405	90399	90468	90424
Formaldehyde Concentration, micrograms	5.0 ND	5.0 ND	4.20 ND	4.73 ND
Formaldehyde Emission Rate, lbs/hr	0.074 ND	0.071 ND	0.058 ND	0.068 ND
Destruction Efficiency for Formaldehyde Emissions, (based on lbs/hr dry emission rates)	95.6%	96.0%	96.3%	95.9%
Destruction Efficiency for Formaldehyde Emissions, (based on lbs/hr dry using inlet corrected concentrations and emission rates)	94.6%	95.1%	95.5%	95.0%

ND- Non detectable concentrations used for the formaldehyde emission rates at the Biofilter Outlet Stack.

* As stated in Section 3.3, the inlet laboratory concentrations were corrected or reduced 18% due to high inlet spike recovery of 148%.

4.2 Discussion

Weyerhaeuser has been issued Title V Operating Permit No. 05678 issued by the NC DENR. The results from this test program will be provided to NC DENR to determine compliance with the applicable air quality regulations.

Weyerhaeuser NR Company Elkin, North Carolina

Biofilter Inlet Duct — Kleinfelder Project No. 107195

SUMMARY OF RESULTS
NCASI 98.01
MEASUREMENT OF GASEOUS ORGANICS COMPOUNDS

		1	2	3	Average
Run Number		1	2	3	Average
Sample Identification		107195-01	107195-03	107195-04	—
Date:		01/08/10	01/08/10	01/08/10	—
θ	Net Time of Test, minutes	60	60	60	—
	Sample Time, 24-hour clock	1212-1313	1435-1535	1621-1721	—
Pbar	Barometric Pressure, in. Hg †	29.03	29.03	29.03	29.03
Pg	Static Pressure, in. Hg †	0.038	0.038	0.037	0.038
PS	Stack Pressure, Absolute, in. Hg	29.068	29.068	29.067	29.068
WB	Wet Bulb Temp., Deg. °F	65.5	66.0	65.0	65.5
DB	Dry Bulb Temp., Deg. °F	105.0	107.0	107.0	106.3
$\%S_{vw}$	Vapor Pressure of Water at Saturation, in. Hg	2.18	2.22	2.14	2.18
B_{ws}	Moisture Content of Gas Stream	0.017	0.018	0.017	0.017
P_{wv}	Percent Moisture in Stack	1.7	1.8	1.7	1.7
M_{FD}	Mole Fraction of Dry Gas	0.983	0.982	0.983	0.983
Md	Mole. Wt. Stack Gas, Dry Basis, lb/lb mole	29.0	29.0	29.0	29.0
MS	Mole. Wt. Stack Gas, Wet Basis, lb/lb mole	28.808	28.805	28.815	28.809
Cp	Pitot Tube Constant	0.84	0.84	0.84	0.84
ΔPS	Avg. Sqrt. Delta P, in. H20 †	1.764	1.784	1.812	1.787
TS	Avg. Stack Temp., Deg. °F †	105.9	107.3	107.0	106.7
VS	Avg. Stack Velocity, ft/sec	104.2	105.4	107.1	105.6
A	Area Stack, ft2	16.80	16.80	16.80	16.80
QSd	Gas Volume Flow, Dry Std. Cond. CFM	93504	94409	95981	94631
QA	Actual Gas Volume Flow, CFM	104991	106285	107913	106396
QSW	Gas Volume Flow, Wet Std. Cond., CFM	95169	96111	97626	96302
V_M	Actual Meter Volume Sampled, Liters	21.9	24.0	22.0	22.6
T_M	Meter Temperature, Deg. F	34.0	33.5	30.5	32.7
$Y_{M18pump}$	Meter Box Coefficient	1.0	1.0	1.0	1.0
$V_{STDM18pump}$	Method 18 Volume Sampled at Stand. Cond., cu. ft.	0.802	0.880	0.812	0.831
Formaldehyde Concentrations and Loading Rates					
M_{wfd}	Mole Weight of Formaldehyde, g/mole	30.03	30.03	30.03	30.03
C_{mass}	Formaldehyde Concentration, ug	108	124	101	111
C_{dsm}	Formaldehyde Concentration, mg/dscm	4.76	4.98	4.39	4.71
C_{AN}	Formaldehyde Concentration, gr/dscf	0.0021	0.0022	0.0019	0.0021
C_{AW}	Formaldehyde Loading Rate, lbs/hr	1.67	1.76	1.58	1.67

Weyerhaeuser NR Company Elkin, North Carolina

Biofilter Inlet Duct — Kleinfelder Project No. 107195

SUMMARY OF RESULTS
NCASI 98.01 Concentrations and Emission Rates Corrected For High Spike
MEASUREMENT OF GASEOUS ORGANICS COMPOUNDS

Run Number		1	2	3	Average
Sample Identification		107195-01	107195-03	107195-04	—
Date:		01/08/10	01/08/10	01/08/10	—
θ	Net Time of Test, minutes	60	60	60	—
	Sample Time, 24-hour clock	1212-1313	1435-1535	1621-1721	—
Pbar	Barometric Pressure, in. Hg †	29.03	29.03	29.03	29.03
Pg	Static Pressure, in. Hg †	0.038	0.038	0.037	0.038
PS	Stack Pressure, Absolute, in. Hg	29.068	29.068	29.067	29.068
WB	Wet Bulb Temp., Deg. °F	65.5	66.0	65.0	65.5
DB	Dry Bulb Temp., Deg. °F	105.0	107.0	107.0	106.3
$\%S_{VP}$	Vapor Pressure of Water at Saturation, in. Hg	2.18	2.22	2.14	2.18
B_{WS}	Moisture Content of Gas Stream	0.017	0.018	0.017	0.017
P_{MV}	Percent Moisture in Stack	1.7	1.8	1.7	1.7
M_{FD}	Mole Fraction of Dry Gas	0.983	0.982	0.983	0.983
Md	Mole. Wt. Stack Gas, Dry Basis, lb/lb mole	29.0	29.0	29.0	29.0
MS	Mole. Wt. Stack Gas, Wet Basis, lb/lb mole	28.808	28.805	28.815	28.809
Cp	Pitot Tube Constant	0.84	0.84	0.84	0.84
ΔPS	Avg. Sqrt. Delta P, in. H20 †	1.764	1.784	1.812	1.787
TS	Avg. Stack Temp., Deg. °F †	105.9	107.3	107.0	106.7
VS	Avg. Stack Velocity, ft/sec	104.2	105.4	107.1	105.6
A	Area Stack, ft2	16.80	16.80	16.80	16.80
QSd	Gas Volume Flow, Dry Std. Cond. CFM	93504	94409	95981	94631
QA	Actual Gas Volume Flow, CFM	104991	106285	107913	106396
QSW	Gas Volume Flow, Wet Std. Cond., CFM	95169	96111	97626	96302
V_M	Actual Meter Volume Sampled, Liters	21.9	24.0	22.0	22.6
T_M	Meter Temperature, Deg. F	34.0	33.5	30.5	32.7
$Y_{M18pump}$	Meter Box Coefficient	1.0	1.0	1.0	1.0
$V_{STDM18Pump}$	Method 18 Volume Sampled at Stand. Cond., cu. ft.	0.802	0.880	0.812	0.831
Formaldehyde Concentrations and Loading Rates					
M_{wc}	Mole Weight of Formaldehyde, g/mole	30.03	30.03	30.03	30.03
C_{mass}	Formaldehyde Concentration, ug *1	89	102	83	91
C_{CN}	Formaldehyde Concentration, mg/dscm	3.90	4.08	3.60	3.86
C_{AN}	Formaldehyde Concentration, gr/dscf	0.0017	0.0018	0.0016	0.0017
C_{AW}	Formaldehyde Loading Rate, lbs/hr	1.37	1.44	1.29	1.37

*1: The laboratory concentration of the inlet was reduced by 18% to compensate for the spike recovery being 18% higher than the 130% upper end of an acceptable NCASI 98.01 spike recovery.

Weyerhaeuser NR Company Elkin, North Carolina

Biofilter Inlet Duct — Kleinfelder Project No. 107195

SUMMARY OF RESULTS
NCASI 98.01
MEASUREMENT OF GASEOUS ORGANICS COMPOUNDS

		1	2	3	Average
Run Number		1	2	3	Average
Sample Identification		107195-01	107195-03	107195-04	—
Date:		01/08/10	01/08/10	01/08/10	—
θ	Net Time of Test, minutes	60	60	60	—
	Sample Time, 24-hour clock	1212-1313	1435-1535	1621-1721	—
Pbar	Barometric Pressure, in. Hg †	29.03	29.03	29.03	29.03
Pg	Static Pressure, in. Hg †	0.038	0.038	0.037	0.038
PS	Stack Pressure, Absolute, in. Hg	29.068	29.068	29.067	29.068
WB	Wet Bulb Temp., Deg. °F	65.5	66.0	65.0	65.5
DB	Dry Bulb Temp., Deg. °F	105.0	107.0	107.0	106.3
$\%S_{vp}$	Vapor Pressure of Water at Saturation, in. Hg	2.18	2.22	2.14	2.18
B_{ws}	Moisture Content of Gas Stream	0.017	0.018	0.017	0.017
P_{MV}	Percent Moisture in Stack	1.7	1.8	1.7	1.7
M_{fd}	Mole Fraction of Dry Gas	0.983	0.982	0.983	0.983
Md	Mole. Wt. Stack Gas, Dry Basis, lb/lb mole	29.0	29.0	29.0	29.0
MS	Mole. Wt. Stack Gas, Wet Basis, lb/lb mole	28.808	28.805	28.815	28.809
Cp	Pitot Tube Constant	0.84	0.84	0.84	0.84
ΔPS	Avg. Sqrt. Delta P, in. H20 †	1.764	1.784	1.812	1.787
TS	Avg. Stack Temp., Deg. °F †	105.9	107.3	107.0	106.7
VS	Avg. Stack Velocity, ft/sec	104.2	105.4	107.1	105.6
A	Area Stack, ft2	16.80	16.80	16.80	16.80
QSd	Gas Volume Flow, Dry Std. Cond. CFM	93504	94409	95981	94631
QA	Actual Gas Volume Flow, CFM	104991	106285	107913	106396
QSW	Gas Volume Flow, Wet Std. Cond., CFM	95169	96111	97626	96302
V_M	Actual Meter Volume Sampled, Liters	21.9	24.0	22.0	22.6
T_M	Meter Temperature, Deg. F	34.0	33.5	30.5	32.7
$Y_{M18temp}$	Meter Box Coefficient	1.0	1.0	1.0	1.0
$V_{STDM18Temp}$	Method 18 Volume Sampled at Stand. Cond., cu. ft.	0.802	0.880	0.812	0.831
Formaldehyde Concentrations and Loading Rates					
M_{HC}	Mole Weight of Formaldehyde, g/mole	30.03	30.03	30.03	30.03
C_{HCM}	Formaldehyde Concentration, ug	108	124	101	111
C_{HC}	Formaldehyde Concentration, mg/dscm	4.76	4.98	4.39	4.71
C_{HC}	Formaldehyde Concentration, gr/dscf	0.0021	0.0022	0.0019	0.0021
C_{HC}	Formaldehyde Loading Rate, lbs/hr	1.67	1.76	1.58	1.67

SUMMARY OF RESULTS
NCASI 98.01
MEASUREMENT OF GASEOUS ORGANICS COMPOUNDS

Example Calculations Run 1

Stack Pressure, Absolute, in. Hg

$P_S = P_{bar} + P_g =$ 29.068

Wet Bulb/Dry Bulb Calculations
Vapor Pressure of Water at Saturation, in. Hg

$S_{vp} = 10^{(6.6911 - (3144 / WB) + 390.86) * (100 / Ps)}$ 2.18

Moisture Content of Gas Stream

$B_{ws} = (S_{vp} - (0.000367 * P_s * (DB - WB) * (1 - (WB - 32) / 1571))))$ 0.017

Percent Moisture in Stack

$P_{mv} = B_{ws} * 100$ 1.7

Mole Fraction of Dry Gas

$M_{FD} = (100 - P_{mv}) / 100$ 0.983

Mole. Wt. Stack Gas, Dry Basis, lb/lb mole

$M_d = 0.44 * \%CO_2 + 0.32 * \%O_2 + 0.28 * (100 - \%CO_2 - \%O_2) =$ 29.0

Mole. Wt. Stack Gas, Wet Basis, lb/lb mole

$M_S = M_d * (1 - B_{ws}) + 18.0 * B_{ws} =$ 28.808

Avg. Stack Velocity, ft/sec

$V_S = 85.49 * C_P * \Delta PS * \sqrt{(TS + 460) / (PS * Ms)} =$ 104.16

Gas Volume Flow, Dry Std. Cond. CFM

$Q_{SD} = (1058.82 * VS * A * PS * (1 - Bws)) / (TS + 460) =$ 93504

Actual Gas Volume Flow, CFM

$Q_A = V_S * A * 60 =$ 104991

Gas Volume Flow, Wet Std. Cond., CFM

$Q_{SW} = Q_{SD} * [1/(1-B_{WS})] =$ 95169

SUMMARY OF RESULTS
NCASI 98.01
MEASUREMENT OF GASEOUS ORGANICS COMPOUNDS

Method 18 Volume Sampled at Stand. Cond., cu. ft.

$V_{STD} = (17.647 * V_M * Y * (0.03531467\ ft^3/L) * P_{bar}) / (T_{MM18Pump} + 460) =$ 0.802

Formaldehyde Concentration, mg/dscm

$C_{ON} = (C_{Meas} / (1000\ ug/mg)) / (V_{STDM18} * (0.02831685\ m^3/ft^3)) =$ 4.76

Formaldehyde Concentration, gr/dscf

$C_{an} = C_{ON} * 0.0004371 =$ 0.0021

Formaldehyde Loading Rate, lbs/hr

$C_{AW} = 60 / 7000 * C_{AN} * Q_{Std} =$ 1.57

† Values Represent Beginning and Ending Run Averages

Standard Conditions 68 Deg. F, 29.92 in. Hg

Weyerhaeuser NR Company Elkin, North Carolina

Biofilter Inlet Duct — Kleinfelder Project No. 107195

SUMMARY OF RESULTS
NCASI 98.01 Concentrations and Emission Rates Corrected For High Spike
MEASUREMENT OF GASEOUS ORGANICS COMPOUNDS

Run Number		1	2	3	Average
Sample Identification		107195-01	107195-03	107195-04	—
Date:		01/08/10	01/08/10	01/08/10	—
θ	Net Time of Test, minutes	60	60	60	—
	Sample Time, 24-hour clock	1212-1313	1435-1535	1621-1721	—
Pbar	Barometric Pressure, in. Hg †	29.03	29.03	29.03	29.03
Pg	Static Pressure, in. Hg †	0.038	0.038	0.037	0.038
PS	Stack Pressure, Absolute, in. Hg	29.068	29.068	29.067	29.068
WB	Wet Bulb Temp., Deg. °F	65.5	66.0	65.0	65.5
DB	Dry Bulb Temp., Deg. °F	105.0	107.0	107.0	106.3
$\%S_{VP}$	Vapor Pressure of Water at Saturation, in. Hg	2.18	2.22	2.14	2.18
B_{WS}	Moisture Content of Gas Stream	0.017	0.018	0.017	0.017
P_{MV}	Percent Moisture in Stack	1.7	1.8	1.7	1.7
M_{FD}	Mole Fraction of Dry Gas	0.983	0.982	0.983	0.983
Md	Mole. Wt. Stack Gas, Dry Basis, lb/lb mole	29.0	29.0	29.0	29.0
MS	Mole. Wt. Stack Gas, Wet Basis, lb/lb mole	28.808	28.805	28.815	28.809
Cp	Pitot Tube Constant	0.84	0.84	0.84	0.84
ΔPS	Avg. Sqrt. Delta P, in. H20 †	1.764	1.784	1.812	1.787
TS	Avg. Stack Temp., Deg. °F †	105.9	107.3	107.0	106.7
VS	Avg. Stack Velocity, ft/sec	104.2	105.4	107.1	105.6
A	Area Stack, ft2	16.80	16.80	16.80	16.80
QSd	Gas Volume Flow, Dry Std. Cond. CFM	93504	94409	95981	94631
QA	Actual Gas Volume Flow, CFM	104991	106285	107913	106396
QSW	Gas Volume Flow, Wet Std. Cond., CFM	95169	96111	97626	96302
V_M	Actual Meter Volume Sampled, Liters	21.9	24.0	22.0	22.6
T_M	Meter Temperature, Deg. F	34.0	33.5	30.5	32.7
$Y_{M18pump}$	Meter Box Coefficient	1.0	1.0	1.0	1.0
$V_{STDM18Pump}$	Method 18 Volume Sampled at Stand. Cond., cu. ft.	0.802	0.880	0.812	0.831
Formaldehyde Concentrations and Loading Rates					
M_{WC}	Mole Weight of Formaldehyde, g/mole	30.03	30.03	30.03	30.03
C_{mass}	Formaldehyde Concentration, ug *1	89	102	83	91
C_{GN}	Formaldehyde Concentration, mg/dscm	3.90	4.08	3.60	3.86
C_{AN}	Formaldehyde Concentration, gr/dscf	0.0017	0.0018	0.0016	0.0017
C_{AW}	Formaldehyde Loading Rate, lbs/hr	1.37	1.44	1.29	1.37

*1: The laboratory concentration of the inlet was reduced by 18% to compensate for the spike recovery being 18% higher than the 130% upper end of an acceptable NCASI 98.01 spike recovery.

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Biofilter Inlet Duct — Kleinfelder Project No. 107195

SUMMARY OF RESULTS
NCASI 98.01 Concentrations and Emission Rates Corrected For High Spike
MEASUREMENT OF GASEOUS ORGANICS COMPOUNDS

Example Calculations Run 1

Stack Pressure, Absolute, in. Hg

$P_S = P_{bar} + P_g =$ 29.068

Wet Bulb/Dry Bulb Calculations
Vapor Pressure of Water at Saturation, in. Hg

$S_{vp} = 10^{(6.6911 - (3144 / WB) + 390.86) * (100 / Ps)}$ 2.18

Moisture Content of Gas Stream

$B_{ws} = (S_{vp} - (0.000367 * P_s * (DB - WB) * (1 - (WB - 32) / 1571))))$ 0.017

Percent Moisture in Stack

$P_{mv} = B_{ws} * 100$ 1.7

Mole Fraction of Dry Gas

$M_{FD} = (100 - P_{mv}) / 100$ 0.983

Mole. Wt. Stack Gas, Dry Basis, lb/lb mole

$M_d = 0.44 * \%CO_2 + 0.32 * \%O_2 + 0.28 * (100 - \%CO_2 - \%O_2) =$ 29.0

Mole. Wt. Stack Gas, Wet Basis, lb/lb mole

$M_S = M_d * (1 - B_{ws}) + 18.0 * B_{ws} =$ 28.808

Avg. Stack Velocity, ft/sec

$V_S = 85.49 * C_P * \Delta PS * \sqrt{(TS + 460) / (PS * Ms)} =$ 104.16

Gas Volume Flow, Dry Std. Cond. CFM

$Q_{SD} = (1058.82 * VS * A * PS * (1 - Bws)) / (TS + 460) =$ 93504

Actual Gas Volume Flow, CFM

$Q_A = V_S * A * 60 =$ 104991

Gas Volume Flow, Wet Std. Cond., CFM

$Q_{SW} = Q_{SD} * [1/(1-B_{WS})] =$ 95169

SUMMARY OF RESULTS
NCASI 98.01 Concentrations and Emission Rates Corrected For High Spike
MEASUREMENT OF GASEOUS ORGANICS COMPOUNDS

Method 18 Volume Sampled at Stand. Cond., cu. ft.

$V_{STD} = (17.647 * V_M * Y * (0.03531467\ ft^3/L) * P_{bar}) / (T_{MM18Pump} + 460) =$ 0.802

Formaldehyde Concentration, mg/dscm

$C_{ON} = (C_{Meas} / (1000\ ug/mg)) / (V_{STDM18} * (0.02831685\ m^3/ft^3)) =$ 3.90

Formaldehyde Concentration, gr/dscf

$C_{an} = C_{ON} * 0.0004371 =$ 0.0017

Formaldehyde Loading Rate, lbs/hr

$C_{AW} = 60 / 7000 * C_{AN} * Q_{Sd} =$ 1.37

[1] Values Represent Beginning and Ending Run Averages

Standard Conditions 68 Deg. F, 29.92 in. Hg

Weyerhaeuser NR Company Elkin, North Carolina

Biofilter Outlet Stack — Kleinfelder Project No. 107195

SUMMARY OF RESULTS
NCASI 98.01
MEASUREMENT OF GASEOUS ORGANICS COMPOUNDS

		1	2	3	Average
Run Number		1	2	3	Average
Sample Identification		107195-06	107195-08	107195-09	—
Date:		01/08/10	01/08/10	01/08/10	—
θ	Net Time of Test, minutes	60	60	60	—
	Sample Time, 24-hour clock	1212-1313	1435-1535	1621-1722	—
Pbar	Barometric Pressure, in. Hg †	29.03	29.03	29.03	29.03
Pg	Static Pressure, in. Hg †	-0.073	-0.081	-0.081	-0.078
PS	Stack Pressure, Absolute, in. Hg	28.957	28.949	28.949	28.952
WB	Wet Bulb Temp., Deg. °F	59.0	62.0	63.0	61.3
DB	Dry Bulb Temp., Deg. °F	59.5	63.0	64.0	62.2
$\%S_{vp}$	Vapor Pressure of Water at Saturation, in. Hg	1.74	1.94	2.01	1.89
B_{wo}	Moisture Content of Gas Stream	0.017	0.019	0.020	0.019
P_{MV}	Percent Moisture in Stack	1.7	1.9	2.0	1.9
M_{fd}	Mole Fraction of Dry Gas	0.983	0.981	0.980	0.981
Md	Mole. Wt. Stack Gas, Dry Basis, lb/lb mole	29.0	29.0	29.0	29.0
MS	Mole. Wt. Stack Gas, Wet Basis, lb/lb mole	28.809	28.788	28.781	28.793
Cp	Pitot Tube Constant	0.84	0.84	0.84	0.84
ΔPS	Avg. Sqrt. Delta P, in. H20 †	1.174	1.180	1.182	1.179
TS	Avg. Stack Temp., Deg. °F †	60.1	63.7	64.4	62.7
VS	Avg. Stack Velocity, ft/sec	66.6	67.2	67.4	67.0
A	Area Stack, ft2	23.45	23.45	23.45	23.45
QSd	Gas Volume Flow, Dry Std. Cond. CFM	90405	90399	90468	90424
QA	Actual Gas Volume Flow, CFM	93629	94490	94756	94292
QSW	Gas Volume Flow, Wet Std. Cond., CFM	92001	92174	92310	92162
V_M	Actual Meter Volume Sampled, Liters	21.6	22.5	23.0	22.3
T_M	Meter Temperature, Deg. F	21.0	22.0	20.0	21.0
$Y_{M18pump}$	Meter Box Coefficient	1.0	1.0	1.0	1.0
$V_{STDM18pump}$	Method 18 Volume Sampled at Stand. Cond., cu. ft.	0.812	0.843	0.865	0.840
Formaldehyde Concentrations and Emission Rates					
M_{wt}	Mole Weight of Formaldehyde, g/mole	30.03	30.03	30.03	30.03
C_{mass}	Formaldehyde Concentration, ug	ND 5.00	ND 5.00	ND 4.20	ND 4.73
C_{CH}	Formaldehyde Concentration, mg/dscm	ND 0.22	ND 0.21	ND 0.17	ND 0.20
C_{AN}	Formaldehyde Concentration, gr/dscf	ND 0.000095	ND 0.000092	ND 0.000075	ND 0.000087
C_{AW}	Formaldehyde Emission Rate, lbs/hr	ND 0.074	ND 0.071	ND 0.058	ND 0.068

SUMMARY OF RESULTS
NCASI 98.01
MEASUREMENT OF GASEOUS ORGANICS COMPOUNDS

Example Calculations Run 1

Stack Pressure, Absolute, in. Hg

$P_S = P_{bar} + P_g =$ 28.957

Wet Bulb/Dry Bulb Calculations
Vapor Pressure of Water at Saturation, in. Hg

$S_{vp} = 10^{(6.6911 - (3144 / WB) + 390.86) * (100 / Ps)}$ 1.74

Moisture Content of Gas Stream

$B_{ws} = (S_{vp} - (0.000367 * P_s * (DB - WB) * (1 - (WB - 32) / 1571))))$ 0.017

Percent Moisture in Stack

$P_{mv} = B_{ws} * 100$ 1.7

Mole Fraction of Dry Gas

$M_{FD} = (100 - P_{mv}) / 100$ 0.983

Mole. Wt. Stack Gas, Dry Basis, lb/lb mole

$M_d = 0.44 * \%CO_2 + 0.32 * \%O_2 + 0.28 * (100 - \%CO_2 - \%O_2) =$ 29.0

Mole. Wt. Stack Gas, Wet Basis, lb/lb mole

$M_S = M_d * (1 - B_{ws}) + 18.0 * B_{ws} =$ 28.809

Avg. Stack Velocity, ft/sec

$V_S = 85.49 * C_P * \Delta PS * \sqrt{(TS + 460) / (PS * Ms)} =$ 66.56

Gas Volume Flow, Dry Std. Cond. CFM

$Q_{SD} = (1058.82 * VS * A * PS * (1 - Bws)) / (TS + 460) =$ 90405

Actual Gas Volume Flow, CFM

$Q_A = V_S * A * 60 =$ 93629

Gas Volume Flow, Wet Std. Cond., CFM

$Q_{SW} = Q_{SD} * [1/(1-B_{WS})] =$ 92001

Weyerhaeuser NR Company Elkin, North Carolina

Biofilter Outlet Stack — Kleinfelder Project No. 107195

SUMMARY OF RESULTS
NCASI 98.01
MEASUREMENT OF GASEOUS ORGANICS COMPOUNDS

Method 18 Volume Sampled at Stand. Cond., cu. ft.

$V_{STD} = (17.647 * V_M * Y * (0.03531467\ ft^3/L) * P_{bar}) / (T_{MM18Pump} + 460) =$ 0.812

Formaldehyde Concentration, mg/dscm

$C_{ON} = (C_{Meas} / (1000\ ug/mg)) / (V_{STDM18} * (0.02831685\ m^3/ft^3)) =$ ND 0.22

Formaldehyde Concentration, gr/dscf

$C_{an} = C_{ON} * 0.0004371 =$ ND 0.000095

Formaldehyde Emission Rate, lbs/hr

$C_{AW} = 60 / 7000 * C_{AN} * Q_{Sd} =$ ND 0.074

† Values Represent Beginning and Ending Run Averages

Standard Conditions 68 Deg. F, 29.92 in. Hg

RCVD FEB 10 2014

Lockheed Martin Aeronautics Company
86 South Cobb Drive Marietta, GA 30063
Telephone 770-494-3760
E-mail: david.m.miska@lmco.com

LOCKHEED MARTIN

David M. Miska
Senior Manager of Environment, Safety and Health

Shipped VIA
Federal Express

March 19, 2014

Mr. Michael Odom
Manager, Air Toxics Unit
Stationary Source Compliance Program
Air Protection Branch
Georgia Environmental Protection Division
4244 International Parkway, Suite 120
Atlanta, GA 30354

Re: Boiler Start-up Notification
Permit No. 3721-067-0027-V-07-1
Lockheed Martin Aeronautics Company
Marietta, Georgia

Dear Mr. Odom:

Per permit condition 6.2.50, Lockheed Martin Aeronautics Company is submitting this notification that the actual startup of Boiler EUID# 2846 was performed on March 18, 2014. The following information and this notification satisfies the requirements of 40 CFR 60.48(c) (for NSPS – 40 CFR 60 Subpart Dc) and 40 CFR 63 Subpart DDDDD (Boiler MACT).

Emission Unit ID: 2846
Emission Unit Description: Large boiler subject to 40 CFR 60 Subpart Dc and Georgia Rule (III) and capable of firing distillate #2 fuel oil.
Boiler Manufacturer: Babcock and Wilcox Power Generation Group, Inc. (B&W)
Boiler Model Number: FM 10-66
Heat Input Capacity (MMBtu/Hr): 60.34 MMBtu/Hr
Fuels Used: Natural gas, with #2 fuel oil backup.
Anticipated Annual Capacity Factor: Natural gas will be used exclusively, with the exception of times of curtailment, when #2 fuel oil backup will be used. We will not use #2 fuel oil backup greater than 10% of the annual capacity.
Date of Construction: N/A (Packaged Unit)
Date of Actual Startup: March 18, 2014

LOCKHEED MARTIN

As described in the Title V Permit condition 6.1.7 (b) xvii, no fuel containing more than 0.5% sulfur by weight will be used. Fuel supplier certification records will be maintained on-file, and submitted with the Title V Semiannual Report as required.

If you have any questions, please call Carl Jacobsen at (770) 494-2631 or Sarah Hibbs at (770) 494-6766.

Sincerely,

David M. Miska
Senior Manager of Environment, Safety and Health

cc: Director
Air, Pesticides and Toxics Management Division
U.S. EPA Region IV
Atlanta Federal Center
61 Forsyth Street, Atlanta, GA 30303–3104

Tammy Martiny
Stationary Source Compliance Program
Air Protection Branch
Georgia Environmental Protection Division
4244 International Parkway, Suite 120
Atlanta, GA 30354

SH/CRJ

From: (770) 494-6766 Origin ID: NCQA
Sarah Hibbs
Lockheed Martin Aeronautics
86 South Cobb Drive
Mail Zone: 0446
Marietta, GA 30063

FedEx. Express

J1410140207032G

Ship Date: 19MAR14
ActWgt: 1.0 LB
CAD: 102117354/INET3490

Delivery Address Bar Code

Ref # B7#7 Boiler Startup Notificati
Invoice #
PO #
Dept #

SHIP TO: (404) 562-9077 BILL SENDER

Director - Air, Pesticides, Toxics
US EPA Region IV
Atlanta Federal Center
61 Forsyth Street
ATLANTA, GA 30303

THU - 20 MAR AA
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0201

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GA-US
ATL

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DCP Midstream
5718 Westheimer, Suite 1900
Houston, TX 77057
713-735-3648
713-735-3112 FAX

February 13, 2014

UPS Tracking No. 1Z75V2910199513499

Mr. Chris Howard
Alabama Dept. of Environmental Management
1400 Coliseum Boulevard
Montgomery, Alabama 36110-2059

Re: DCP Midstream LP
Mobile Bay GP, Facility No.: 503-8085
40 CFR 63 Subpart DDDDD Notification of Compliance Status

Dear Chris Howard:

DCP Midstream LP, pursuant to the requirements of 40 CFR §63.7545(e), is submitting this Notification of Compliance Status for a heater tune-up performed on the Hot Oil Heater located at Mobile Bay GP, in Mobile County near Coden, Alabama. The Mobile Bay GP is a major source of Hazardous Air Pollutants (HAP's). The heater tune-up occurred on December 12, 2013.

40 CFR §63.7545(e)(1)
The Hot Oil heater is not required to conduct an initial compliance demonstration as specified in §63.7530(a). The Hot Oil heater is a 21.76 MMBtu/hr vertical, cylindrical up-fired unit that burns only clean natural gas which is a Gas 1 subcategory.

40 CFR §63.7545(e)(8)(i)
"This facility complies with the required initial tune-up according to the procedures in §63.7540(a)(10)(i) through (vi)."

"I certify that, based on information and belief formed after reasonable inquiry, the statements and information contained in this notification are true, accurate, and complete."

Please feel free to contact Kirt Crawford, Sr. Environmental Specialist by phone at 713-735-3648 or by email at bkcrawford@dcpmidstream.com if you have any questions.

Sincerely,
DCP Midstream, LP

Ron. Trammell

Ronnie Trammell
General Manager Operations

Cc: Air Toxics and Monitoring Branch, U.S. EPA Region 4, 61 Forsyth St SW, Atlanta Federal Center, Atlanta, GA 30303-8930 (UPS Tracking No. 1Z75V2910195449503)

DCPM File Index 1.5.8

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   Take your package to any location of The UPS Store®, UPS Drop Box, UPS Customer Center, UPS Alliances (Office Depot® or Staples®) or Authorized Shipping Outlet near you. Items sent via UPS Return Services(SM) (including via Ground) are also accepted at Drop Boxes. To find the location nearest you, please visit the Resources area of CampusShip and select UPS Locations.

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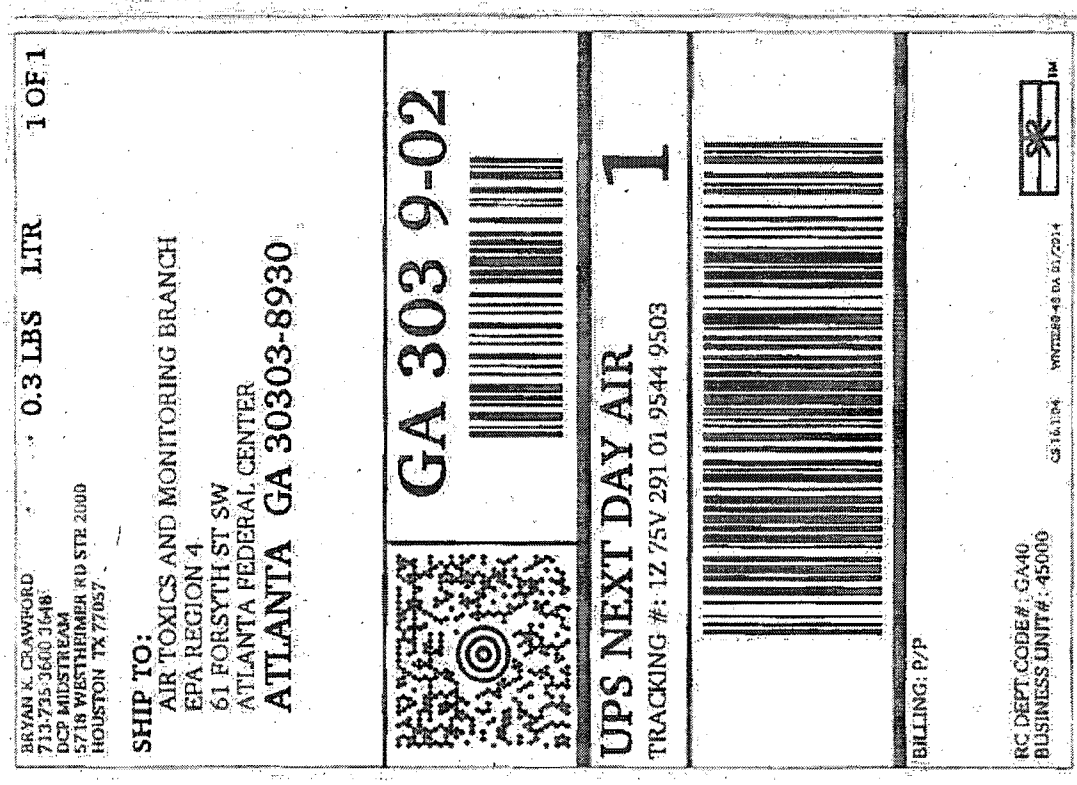

SD

MICHELIN
A better way forward

February 10, 2014

US EPA
Air, Pesticides & Toxics Management Division
61 Forsyth Street
Atlanta, GA 30303-3104

Re: Boiler MACT Revised Notification, Michelin North America, Inc., Starr Facility (Anderson) US8, 1 Bib Way, Starr, SC 29626
Permit # 0200-0150

Dear Sirs:

Operation of reconstructed Boiler 2 (B02) commenced on January 29, 2014. The boiler was converted from a 600 Hp (20.1 MM Btu input) boiler to an 800 Hp (33.6 MMBtu input) boiler. The facility is a major source and had previously submitted their initial notification for 40 CFR 63, Subpart DDDDD, Boiler MACT on May 24, 2013 for this boiler. With the reconstruction of Boiler 2, the boiler will no longer be considered an existing boiler for 40 CFR 63 purposes. Boiler 2 will be a reconstructed source and the anticipated compliance date is upon start-up.

I hereby certify that the information presented herein is correct to the best of my knowledge.

Yours,

John Guest
Plant Manager

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CERTIFIED MAIL RECEIPT NO: 7011 3500 0000 7438 9262

April 22, 2014

Andrew Joslyn
Environmental Administrator
Department of Environmental Protection
160 Governmental Center
Pensacola, FL 32502-5794

RE: National Emission Standard for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters: Initial Notification Pursuant to 40 CFR §§63.9 and 63.7545

Dear Mr. Joslyn:

Please accept this letter as a revision of the September 3, 2011 Initial Notification required under 40 CFR §§63.9 and 63.7545(b) and incorporated by reference in Florida Administrative Code (F.A.C) 62-213.440(4)(b)1. The information specified in §63.9 is as follows:

1. Name and address of the owner or operator:

   Matheson Tri-Gas Inc.
   c/o Ascend Performance Materials Operations, LLC
   P.O. Box 97
   Gonzalez, FL 32560-0097

2. The address (i.e. physical location) of the affected source:

   Ascend Performance Materials Operations, LLC
   3000 Old Chemstrand Road
   Cantonment, FL 32533-8926
   Escambia County, Florida

3. The identification of the relevant standard that is the basis of this notification:

   40 CFR Part 63 Subpart DDDDD, "National Emission Standard for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters"

4. A brief description of the nature, size, design and method of operation of the source and an identification of the types of emission points within the affected source subject to the relevant standard and the types of hazardous air pollutants (HAPs) emitted:

   Ascend Performance Materials Operations, LLC (herein referred to as "Ascend") manufactures nylon and various intermediate chemicals. Ascend operations will be supported by a new hydrogen plant, owned by Matheson Tri Gas Inc. Startup of the new hydrogen plant began on Saturday, August 31, 2013.

   The new hydrogen reformer is rated at greater than 10 MMBtu/hr, has a startup date after January 31, 2013, and is fueled by natural gas and syngas (refinery) gas recycle. This is a reclassification based on communication between Michelle Reese, formerly of Ascend, and Mr. Jim Eddinger of U.S. EPA.

   Previously Ascend believed that the new hydrogen reformer was a process heater regulated as a "New Unit Designed to Burn Other Gas 1 Fuels". As this is no longer the case, Ascend does not intend to demonstrate that the process heater is a "New Unit Designed to Burn Other Gas 1 Fuels" through mercury fuel specification testing required in §§§63.7510(a)(2)(iii), 63.7530(g), and 63.7521(f) through (i).

5. A statement of whether the affected source is a major source or an area source:

   Ascend Performance Materials Operations LLC is a major source for hazardous air pollutants (HAPs) as defined in 40 CFR 63.2. Through a site determination, it has been determined that Ascend Performance Material Operations LLC and Matheson Tri Gas Inc. are under "common control". Therefore the hydrogen reformer is part of a major source for HAPs.

If you have any questions regarding the information provided, please contact Roy Noble at (850) 968-8721 or by electronic mail at rwnobl@ascendmaterials.com.

Sincerely,

Thomas J. Hurst
Pensacola Intermediates Plant Manager

cc: Ms. Beverly H. Bannister, Director
Air & Radiation Technology Branch
Environmental Protection Agency, Region 4
Atlanta Federal Center, 12th Floor
61 Forsyth Street, SW
Atlanta, GA 30303-3104
CERTIFIED MAIL RECEIPT NO. 7011 3500 0000 7438 9279

PPG Industries

PPG Industries Fiber Glass Products
473 New Jersey Church Road
Post Office Box 949
Lexington, North Carolina 27293
Phone: 336-357-8151

April 23, 2014

Director, Air, Pesticides and Toxics Management Division
61 Forsyth Street
Atlanta, GA 30303–3104

Patrick Knowlson
North Carolina Dept. of Environment and Natural Resources
Division of Air Quality
1641 Mail Service Center
Raleigh, North Carolina 27699-1641

RECEIVED
AIR TOXIC MONITORING BRANCH
2014 APR 28 P 12: 46
US EPA REGION #4-ATL.GA

Subject: Air Permit No. 02688T37
PPG Industries Fiber Glass Products, Inc.
Lexington, NC Davidson County

Initial Notification – Boiler and Process Heater MACT Subpart DDDDD

Per 40 CFR 63.9(b)(4) and (5), and Title V permit condition 2.1.1.6.e, we are submitting this initial notification of startup of four new process heaters. The new natural gas ovens were first operated on April 9, 2014. We have used the example initial notification report as provided on EPAs website to provide the required information for these new emissions units. Please reference the attached form for further details.

Please contact me at (336) 357-8151 ext. 3317 if there are any questions regarding this submittal.

Source ID	Description	Heat Input Rating	Fuel Type
ES04	Single lane natural gas oven	1.5 mmBtu/hr	Natural Gas
ES05	Single lane natural gas oven	1.5 mmBtu/hr	Natural Gas
ES06	Single lane natural gas oven	1.5 mmBtu/hr	Natural Gas
ES07	Single lane natural gas oven	1.5 mmBtu/hr	Natural Gas

Sincerely,

Brigette Tinsley

Brigette Tinsley
Environmental Engineer

ecc: Taylor Hartsfield, NCDAQ Winston Salem Region

GP Cellulose
Georgia-Pacific

Leaf River Cellulose, LLC

P.O. Box 329
New Augusta, MS 39462
(601) 964-8411
(601) 964-7107 fax
www.gpcellulose.com

Certified Mail – RRR – 7012 1010 0001 4078 9153

April 25, 2014

United States Environmental Protection Agency – Region 4
Air Toxics and Monitoring Branch
Atlanta Federal Center
61 Forsyth Street, SW
Atlanta, GA 30303-8960

RECEIVED
AIR TOXIC MONITORING BRANCH
2014 APR 28 P 3:39
US EPA REGION #4-ATL.GA.

RE: Boiler MACT Initial Notification – Revised 40 *CFR* Part 63 Subpart DDDDD
Leaf River Cellulose, LLC, Permit No: MS2200-00005

Dear Sir/Madam:

As required by 40 CFR 63.9(b) of the MACT General Provisions and 63.7545 of the reconsidered Boiler MACT rule published in the Federal Register on January 31, 2013, Leaf River Cellulose, LLC (located in New Augusta, Mississippi) submitted a timely Initial Notification (IN) of Maximum Achievable Control Technology (MACT) applicability on May 28th, 2013, addressing applicability under the final Boiler MACT rule at 40 *CFR* Part 63 Subpart DDDDD, published in 76 Fed. Reg. 15608(March 21, 2011) and 78 Fed. Reg. 7138(January 31, 2013). In the course of preparing our Title V renewal application, we recently discovered that we inadvertently omitted a small gas-fired package boiler, which was not covered under the prior 2007 version of the rule, from that Initial Notification. Accordingly, this revised notice adds the facility's North American Boiler, a 10 MM BTU per hour boiler that operates intermittently as a backup. Based on the final regulations published in 2013 this boiler should have also been included in the notification.

If there are any questions on this updated Initial Notification Report, please contact Tommy Key at (601)964-7535.

Sincerely,

Arlis G. Hicks
Vice President/General Manager

Attachment: Amended Initial Notification (IN)

RAS

Initial Notification for Industrial, Commercial, Institutional Boilers and Process Heaters for Major or Area Sources 40 CFR Part 63, Subpart DDDDD and Subpart JJJJJJ

General Information	
Facility Name:	Leaf River Cellulose, LLC
Air Reference/Permit No.	MS-2200-00005
AI ID # (if known)	

Mailing Address		Physical Address	
Street	P.O. Box 329	Street	157 Buck Creek Road
City	New Augusta	City	New Augusta
State	MS	State	MS
Zip	39462	Zip	39462

Contact Information			
Contact Name	Thomas Key	Title	Environmental Engineer
Phone Number	601-964-7535		

Applicability Information

1. Do you own or operate an industrial, commercial, or institutional boiler or process heater that is located at a major source *or* an industrial, commercial, or institutional boiler that is located at an area source of HAPs?

   _X_ Yes (Subpart DDDDD - Major Sources)
   ___ Yes (Subpart JJJJJJ - Area Sources)
   ___ No

NOTE: If you answered "Yes" in question 1 above, the affected unit is subject to the applicable requirements of either 40 CFR 63, Subpart DDDDD or Subpart JJJJJJ unless the equipment is specifically exempted in §63.7491 and §63.11195, respectively. Complete copies of the regulation and more information about the rules can be found at the following web address: http://www.epa.gov/ttn/atw/boiler/boilerpg.html

2. Compliance Date:

   Existing source: x January 31, 2016 (Subpart DDDDD - Major Sources)
   ☐ March 21, 2014 (Subpart JJJJJJ - Area Sources)
   New source: ☐ _____
   (Date of startup)

3. Please complete the table below for each affected source (boiler and/or process heaters) per §63.9(b)(2)(iv).

Emission Unit ID[a]	Emission Unit Name (type, design and manufacturer name)	Rated Heat Input Capacity (mmBtu/hr)[b]	Fuels Used[c]	Subcategory
AA-005	Package Boiler Manufactured by Holman	190 Million BTU/HR.	Natural Gas	Units designed to burn gas 1 fuels
AA-015	Power Boiler; Spreader Stoker, type. Manufactured by Gotaverken Energy Systems.	642 Million BTU/HR.	Wood waste/ bark, Natural Gas	Stokers/sloped grate/other units designed to burn wet biomass/bio-based solid
AA-024	North American Boiler Manufactured By North American	10 Million BTU/HR.	Natural Gas	Units designed to burn gas 1 fuels

[a] If the source has an operating permit, use the IDs that are consistent with those reported in the permit.

[b] mmBtu/hr refers to million British thermal units per hour. Boilers often have a nameplate listing the rated heat input capacity on the unit. This rated capacity may have also been reported to the entity insuring the boiler or the state labor and safety inspector.

[c] Report all fuels used in each of the units subject to the standard (e.g., bituminous coal, #6 fuel oil, #2 fuel oil, natural gas, bark, lumber, etc.).

I hereby certify that the information presented herein is correct to the best of my knowledge.

(Signature) 4/25/14 (Date)

Arlis G. Hicks (Name/title) (601) 964-7317 (Telephone No.)

Example Initial Notification Report

National Emission Standards for Hazardous Air Pollutants for Major Sources:
Industrial, Commercial, and Institutional Boilers and Process Heaters

SECTION I : GENERAL INFORMATION

Operating Permit Number (IF AVAILABLE)[a]: 02688T37

Facility ID Number (IF AVAILABLE)[b]:

Responsible Official's Name: Jeff Smith

Title: Manufacturing Manager

Street Address: 473 New Jersey Church Rd.

City: Lexington

State: NC

ZIP Code: 27292

[a] (e.g., Title V permit number)
[b] (e.g., Air Facility System (AFS) facility ID)

Facility Name: PPG Industries Fiber Glass Products Inc.

Facility Street Address (if different than Responsible Official's Street Address listed above):

Street Address:

City:

State:

ZIP Code:

Facility Local Contact Name: Brigette Tinsley

Title: Environmental Engineer

Actual date of startup: §63.9(b)(4) and (5)

~~Anticipated Compliance Date(s) (mm/dd/yy) (§63.9(b)(2)(iii))[c]~~ April 9, 2014

[c] See instructions on pg. 3 of this form to determine the compliance dates applicable to you.

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SECTION II: SOURCE DESCRIPTION

1. Please complete the table below for each affected boiler and process heater per §63.9(b)(2)(iv).

Emission Unit ID[d]	Emission Unit Name (design and manufacturer name)	Size: Rated Heat Input Capacity (mmBtu/hr)[e]	Fuels Used[f]
E504, E505, E506, E507	Natural Gas Drying Oven (ITS)	1.5 mmBtu/hr, each	Natural Gas

[Add rows to the table for additional boilers, as necessary.]

[d] If the source has an operating permit, use the IDs that are consistent with those reported in the permit.

[e] mmBtu/hr refers to million British thermal units per hour. Boilers often have a nameplate listing the rated heat input capacity on the unit. This rated capacity may have also been reported to the entity insuring the boiler or the state labor and safety inspector.

[f] Report all fuels used in each of the units subject to the standard (e.g., bituminous coal, #6 fuel oil, #2 fuel oil, natural gas, bark, lumber, etc.).

3. Optional: Additional notes

4. My facility is a (please choose one): ☒ Major source ☐ Area source

If your facility is an area source of hazardous air pollutants (HAP), please refer to the National Emission Standards for Hazardous Air Pollutants for Area Sources: Industrial, Commercial, and Institutional Boilers, 40 CFR Part 63 Subpart JJJJJJ at http://www.epa.gov/ttn/atw/boiler/boilerpg.html.

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SECTION III: CERTIFICATION

I hereby certify that the information presented herein is correct to the best of my knowledge.

Jeff Smith Signature	4/21/14 Date
JEFF SMITH MANUFACTURING MGR Name/title	(336) 357-8151 Telephone Number