LANE REGIONAL AIR PROTECTION AGENCY
TITLE V OPERATING PERMIT
REVIEW REPORT

International Paper Company
Springfield Mill
801 42nd Street
Springfield, Oregon 97478
https://www.internationalpaper.com/

Source Information

Primary SIC	2631
Secondary SIC	4911
Primary NAICS	322130

Secondary NAICS	221117
Source Categories (LRAPA Title 37, Table 1)	B – 60: Pulp Mills

Compliance and Emissions Monitoring Requirements

Unassigned emissions	Y
Emission credits	Y
Compliance schedule	NA
Source test [date(s)]	See permit
COMS	Y

CEMS	Y
CPMS	Lime Kilns, Recovery Furnace, SDTV
Ambient monitoring	NA

Reporting Requirements

Annual report (due date)	March 15
Emission fee report (due date)	March 15
SACC (due date)	August 15
Quarterly (due dates)	See permit

Monthly report (due dates)	30th
Excess emissions report	Immediately
Other reports	Semi-annual, GHG

Air Programs

NSPS (list subparts)	BB, Db
NESHAP (list subparts)	A, S, MM, RR, ZZZZ, DDDDD
CAM	Y
Regional Haze (RH)	Y
Synthetic Minor (SM)	NA
Part 68 Risk Management	Y
Title V	Y

ACDP (SIP)	Y
Major HAP source	Y
Federal major source	Y
New Source Review (NSR)	NA
Prevention of Significant Deterioration (PSD)	NA
Acid Rain	NA
Clean Air Mercury Rule (CAMR)	NA

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ATTACHMENTS

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LIST OF ABBREVIATIONS USED IN THIS REVIEW REPORT

ACDP	Air Contaminant Discharge Permit
ADMT	Air Dried Metric Tons
ADS	Air Density Separator
ADT	Air Dried Tons (same as AD short ton)
ADTP	Air Dried Tons of Pulp
AIA	Aggregate Insignificant Activity
ASB	Aeration Stabilization Basin
ASTM	American Society of Testing and Materials
BART	Best Available Retrofit Technology
BACT	Best Available Control Technology
Batch	For the purposes of sulfur content of fuel oils, batch means one blend tank at the supplier's facility
BDT	Bone Dry Tons
BDU	Bone Dry Units (equal to 2400 bone dry pounds)
BEEU	BART Eligible Emission Unit
BL	Black Liquor
BLS	Black Liquor Solids
BSW	Brown Stock Washer (HVLC Source)
C	Carbon
$CaCO_3$	Lime, lime rock, calcium carbonate
CAM	Compliance Assurance Monitoring
CaO	Calcium Oxide
CCA	Clean Condensate Alternative
CCUP	Containerboard Capacity Utilization Project
CEMS	Continuous Emissions Monitoring System
CFR	Code of Federal Regulations
CMS	Continuous Monitoring System
CNCG	Concentrated Non-Condensible Gases
CO	Carbon Monoxide
CO_2	Carbon Dioxide
CO_2e	Carbon Dioxide Equivalent
COMS	Continuous Opacity Monitoring System
CSD	Condensate Steam Distillation
CSTOP	Condensate Stream Stripping Optimization Project
daa	Daily Arithmetic Average for the 24-hour mill operating period beginning at 7:30 a.m. (local time) [1]
DCS	Dust Collection System
DEQ	Oregon Department of Environmental Quality
Distillate Fuel Oil	Any oil meeting the specifications of ASTM Grade 1 or Grade 2 fuel oils.
DNCG	Dilute Non-Condensible Gases
DP	Differential Pressure
dscf	Dry Standard Cubic Foot
dscfm	Dry Standard Cubic Feet per Minute
DTV	Dissolving Tank Vent
DV	Device
dv	Deciview
EAL	Emission Action Level
ECTS	Effluent Collection & Treatment System
EF	Emission Factor
EPA	US Environmental Protection Agency
ERC	Emission Reduction Credit
ESP	Electrostatic Precipitator
EU	Emissions Unit
FCAA	Federal Clean Air Act
FGR	Flue Gas Recirculation
ft^3	Cubic feet
GHG	Greenhouse Gases
gpm	Gallons Per Minute
g/dscm	Gram per Dry Standard Cubic Meter
gr/dscf	Grain per Dry Standard Cubic Foot
HAP	Hazardous Air Pollutant as defined by LRAPA title 44
Hi-D	High Density
Hr-opr	Hours of Operation
H_2S	Hydrogen Sulfide
HVLC	High Volume Low Concentration
ID	Identification
I&M	Inspection and Maintenance
Kg	Kilogram
lb	Pound
Lo-D	Low Density
LRAPA	Lane Regional Air Protection Agency
LVHC	Low Volume High Concentration

[1] daa (daily arithmetic average) when used in context of periodic source testing, the daa calculation uses the most recent source test to calculate the daa.

LIST OF ABBREVIATIONS, CONTINUED

M	Thousand
MACT	Maximum Achievable Control Technology
MB	Material Balance
MC	Moisture Content
MDTP	Machine Dried Tons of Paper or Pulp
MeOH	Methanol
MM	Million
MMBtu	Million British Thermal Units
Mos	Months
MR	Machine Room
MSP	Monitoring System Performance
NA	Not Applicable
NAAQS	National Ambient Air Quality Standard
NCASI	National Council of the Paper Industry for Air and Stream Improvement, Inc.
NCG	Non-Condensible Gases
NDCE	Non-Direct Contact Evaporator
NESHAP	National Emission Standards for Hazardous Air Pollutants
NG	Natural Gas
ng/J	Nanograms/Joule
NN	Not Needed
NON	Notice of Non-compliance
NO_x	Nitrogen Oxides
NSPS	New Source Performance Standards
NSR	New Source Review
O_2	Oxygen
OAR	Oregon Administrative Rules
OCC	Old Corrugated Container
ODT	Oven Dried Tons
ODP	Oven Dry Pulp
O&M	Operation and Maintenance
ORS	Oregon Revised Statutes
Pb	Lead
PCD	Pollution Control Device
PM	Particulate Matter
PM_{10}	Particulate Matter less than or = to 10 microns in size
$PM_{2.5}$	Particulate Matter less than or = to 2.5 microns in size
ppm	Part Per Million
PSD	Prevention of Significant Deterioration
PSEL	Plant Site Emission Limit
QA	Quality Assurance
QAP	Quality Assurance Plan
QC	Quality control
RATA	Relative Accuracy Test Audit
RH	Regional Haze 2021 Round 2
Reprocessed Oil	Recycled waste oil or fuel oil which satisfies the specifications of ASTM D396 No.6 or OAR 340-111-0020(2)(c) and does not exceed the specifications of 40CFR279.11
Residual Oil	ASTM D 396 grade No. 4 or No. 6 fuel oil
RICE	Reciprocating Internal Combustion Engine
RMP	Risk Management Plan
SAM	Sulfuric Acid Mist
scf	Standard Cubic Foot
scfm	Standard Cubic Feet per Minute
SDT	Smelt Dissolving Tank
SERP	Source Emission Reduction Plan
SFO	Stipulated Final Order
SIC	Standard Industrial Code
SIP	State Implementation Plan
SO_2	Sulfur Dioxide
SSM	Start-up, Shutdown, and/or Malfunction
ST	Source Test
SAFO	Stipulated Agreement and Final Order
SWT	Scale Weight Tons of paper
TBD	To Be Determined
TBLS	Tons of Black Liquor Solids
T CaO	Tons Calcium Oxide (CaO) Lime
TRS	Total Reduced Sulfur
ULSD	Ultra-Low Sulfur Diesel No. 2
VCE	Vapor Compression Evaporator
VE	Visible Emissions
VOC	Volatile Organic Compound
WBL	Weak Black Liquor
WESP	Wet Electrostatic Precipitator

INTRODUCTION

1. The proposed permit is a renewal of an existing Lane Regional Air Protection Agency (LRAPA) Title V Operating Permit No. 208850, which was issued on December 14, 2012, and was originally scheduled to expire on December 14, 2017. Because the permittee filed a complete and timely renewal application on December 12, 2016 (#62175), the current permit, as amended, remains in effect until the renewal is issued. In addition to the initial permit renewal application received on December 12, 2016, the facility submitted a revised application on October 18, 2022 (#68835) to remove obsolete emission units and devices and associated PSELs and permit conditions. The October 2022 revised application also included requests to add permit conditions and revised PSELs resulting from the August 9, 2021 Regional Haze (RH) Round II agreement and incorporate the RH changes into the permit. Also, LRAPA requested additional revisions to the renewal application which included specific updated emission units and device forms and GHG PSEL calculations. The facility submitted the requested application revisions on May 4, 2023 (#69609).

2. The following changes have been made to the permit since the last Title V permit renewal (12/14/12).

   2.a. A minor permit modification (Mod# 59819 - Addendum No. 1) was issued 1/14/15 to reflect changes to the digester feed bin system with condenser (Device FU401-098 Kamyr Chip Bins), the annual VOC PSEL (using internal netting of unassigned PSEL), and the annual VOC source testing requirements for the new digester feed bin system.

   2.b. A minor permit modification (Mod# NC-208850 – Addendum No. 2) was issued 3/7/16 to reflect changes resulting from the installation of the Fines System (Fines Bin with cyclone - Emission Unit EU-330, Device: Fines Bin 330-999) including applicable PM/PM_{10} requirements (condition 165) and monitoring and recordkeeping requirements (condition 186).

   2.c. A significant permit modification (Mod# 60814 – Addendum No. 3) was issued 10/4/16 to incorporate the Construction Air Contaminant Discharge Permit No. 2008850 (issued 7/8/16) for the No. 2 Paper Machine Productivity Project: Lengthening No. 2 Paper Machine Fourdrinier and Upgrade of Paper Machine Systems using Unassigned PSEL for production and related emission increases.

   2.d. An administrative permit amendment (Mod# 61828 – MD904) was issued on 10/4/16 which incorporated the operational, production and PSEL changes contained in the Construction Air Contaminant Discharge Permit No. 2008850 (issued 7/8/16) for the No. 2 Paper Machine Productivity Project into the Title V permit using the enhanced notification and review process.

3. In accordance with OAR 340-218-0120(1)(f), this review report is intended to provide the legal and factual basis for the draft permit conditions. In most cases, the legal basis for a permit condition is included in the permit by citing the applicable regulation. In addition, the factual basis for the requirement may be the same as the legal basis. However, when the regulation is not specific and only provides general requirements, this review report is used to provide a more thorough explanation of the factual basis for the draft permit conditions. **Note**: For a more complete understanding of all the facility changes and permit changes that have occurred since the original TV permit issuance on July 26, 2000, the reader should examine the review reports associated with all prior Title V permit renewals (March 16, 2005 and December 14, 2012), permit addendums and modifications as well as the facility changes/modifications listed in Item 63, Table 1 of this review report.

PERMITEE IDENTIFICATION

4. International Paper - Springfield Mill ("the facility" or IP) manufactures linerboard, primarily from wood chips and recycled old, corrugated containers (OCC) at 801 42nd Street in Springfield, Oregon.

   http://www.internationalpaper.com/products/na/containerboard/packaging-grades/product-detail/liner-na

FACILITY DESCRIPTION

5. The International Paper Springfield Containerboard facility is located in an industrial area of Springfield, Oregon. The plant has produced unbleached paper products since it began operating in 1949. Springfield Containerboard uses the kraft pulping process to convert wood chips into unbleached kraft pulp. The plant is also capable of producing pulp and cooking liquor for sale to others or purchasing pulp and cooking liquor from others for use at the plant. Pulp is used to produce paper products.

6. The mill receives wood chips to supply the Kamyr digester. The cooking liquors contain the pulping chemicals. The chips are cooked (digested) in the Kamyr digester with cooking liquor to produce kraft pulp and black liquor.

7. After washing to remove the black liquor, the kraft pulp is used to supply the #2 Paper Machine, which produces linerboard. The chemicals are recovered for reuse in the recovery and liquor making areas.

8. Secondary fiber is also used in the #2 Paper Machine. Secondary or recycled fiber is supplied by the Old Corrugated Container (OCC) system and the "white office waste" (WOW) Pulper.

9. The primary standard industrial classification (SIC) code for all the equipment in the linerboard mill is 2631 (paperboard mills). A secondary SIC code is 4911 (electrical power generation) from the turbine used to create power for sale from steam produced at the facility.

OPERATING SCENARIO DESCRIPTION

Description of Normal Operations (Base Operating Scenario)

10. In order to describe the processes at the mill in a more detailed manner, the mill is divided into eight (8) process areas. Each area is discussed in the following paragraphs.

Fiber Handling and Storage Area

11. The fiber handling and storage process area is divided into two (2) systems: the fiber transfer system and the wood chip uniformity system.

12. The fiber transfer system receives wood chips by truck. Chip trucks are weighed and the wood chips are unloaded into a hopper then mechanically conveyed to the chip stacker pile. The wood chips are transferred mechanically, via conveyor belts or front-end loader, to different parts of the wood chip storage area. The chips then move through the chip uniformity system in the proportions appropriate for the product being manufactured.

13. Other fiber sources are stored separately at the plant. The wood chip conveying system is used to convey the fiber to the chip uniformity system.

14. The chip uniformity system consists of a set of screens to remove oversized and undersized wood chips. The undersized chips are removed as screen rejects. The oversized chips removed in these screens are processed in an air density separation system; this system rejects grossly oversized chips. Chips accepted from the air density system are pneumatically transferred to the air density separator cyclone and then to the slicers for size reduction.

15. After screening, chips are transferred to staging silos for use in the Kamyr digester.

Kamyr Pulping Process Area

16. The Kamyr pulping process area consists of a fiber pretreatment system, the Kamyr digester, blow tank, and brown stock washers.

17. Wood chips are conveyed from the fiber transfer area into the fiber pretreatment equipment, where the fiber is steamed and mixed with white liquor before entering the Kamyr digester.

18. The Kamyr pulping process area uses wood chips, white liquor and steam to produce kraft pulp. The byproducts of this process are black liquor, condensates and NCGs (which are collected and transported to the liquor-making process area).

19. Pulp from the Kamyr digester is blown to a diffusion washer and then to the blow tank. The pulp is processed in the refiners and primary screens. Brown stock washers are used to remove residual black liquor from the pulp. Pulp is stored in high-density storage tanks before processing in the #2 Paper Machine.

Black Liquor Recovery Process Area

20. The black liquor recovery process area may be further divided into four (4) process systems: black liquor evaporation system, #4 recovery furnace system, condensate steam distillation (CSD) system, and the NCG (non-condensable gas) collection system. Because of the complexity of this process area, these systems are discussed separately in this section.

21. The black liquor recovery process area receives black liquor and condensates from the pulping process area and steam from the power systems process area. Water in the black liquor is evaporated to produce concentrated black liquor using steam from the power systems process area. The #4 recovery furnace uses the concentrated black liquor as fuel, along with natural gas and ultra-low sulfur diesel (ULSD), to produce steam for the power system process area, while the inorganic portion of the black liquor, known as smelt, is collected and transferred to the liquor making process area. Sodium sulfate (salt cake, Na_2SO_4) is added to the black liquor prior to combustion to replace pulping chemicals lost in the process.

22. Condensates from the Kamyr pulp mill are transferred to the condensate steam distillation (CSD) system. NCGs are collected and routed to the liquor making process area.

23. Cooking liquor can also be purchased from others for use at the plant or sold to others for use outside of the plant.

Black Liquor Evaporation System

24. Equipment in the black liquor evaporation process unit includes the vapor compression evaporator (VCE), equipment associated with the multiple effect evaporators, the high solids concentrator, and condensate collection system.

25. The black liquor from the digester area is transferred to weak black liquor tanks. The black liquor is filtered to reclaim residual pulp. The recovered pulp is returned to the Kamyr pulp mill. The filtered black liquor is heated to evaporate water and to concentrate the black liquor for firing in the #4 recovery furnace.

26. Process upsets that require venting are released through the emergency vents in the recovery non-condensable gas (NCG) collection system.

27. Condensates from the evaporation system are pumped to “A”, “B”, and “C” storage tanks, as well as the mill’s hot water makeup in the Kamyr pulping processing area. These condensates are relatively clean of organics. The low-vapor pressure organics (primarily methanol and turpentine) are collected and are piped to the CSD system. The non-condensable fraction is transferred to the NCG collection system. The turpentine is decanted and sent to the turpentine recovery process at the Kamyr pulping process area prior to use as a fuel in the lime kilns.

Recovery Furnace System

28. The recovery furnace system includes equipment for salt cake addition and firing of the black liquor in the #4 Recovery Furnace. In addition to salt cake, other sources of sulfur chemical makeup may be used. Also, natural gas and ultra-low sulfur diesel are fired in the #4 Recovery Furnace. #4 Recovery Furnace exhaust gases are treated in the electrostatic precipitator (ESP) control device to remove particulate matter (PM, etc.) prior venting to atmosphere. Solids removed during flue gas treatment are returned to the process to reclaim the pulping chemicals.

29. Smelt (inorganic material) produced by the #4 Recovery Furnace is dissolved in water to produce green liquor. The green liquor is transferred to the liquor making process area to be converted back into white liquor.

Condensate Steam Distillation Process Unit

30. The condensate steam distillation (CSD) system includes the distillation column, feed tanks and product tanks for the separation of methanol and turpentine from foul condensates generated during the pulping process. Foul condensates are those condensates that have high concentrations of methanol and reduced sulfur compounds.

31. Foul condensates routed to the CSD system are processed to recover product methanol (a mixture of methanol and water) and turpentine. The product methanol is pumped to a lime kiln, where it is used as a fuel.

32. Turpentine from the CSD system is decanted and sent to the Kamyr pulping process area for use in the lime kilns as fuel.

33. The clean condensate product from the CSD system is sewered, or it is used for makeup water in processes such as the brown stock washers.

Non-Condensable Gas (NCG) Collection System in Recovery Process Area

34. The NCG collection system removes condensable material from the vapor phase and scrubber to reclaim pulping materials prior to thermal oxidation of NCGs in one of the lime kilns.

35. The recovery NCG collection system collects NCG gases from the evaporators, concentrators, and CSD. The gases go through a caustic scrubber before being incinerated at the lime kilns.

36. Vapors from the black liquor evaporation system are condensed to remove the condensable fraction, which is primarily turpentine. Vacuum pumps pull the vapors to the NCG scrubber to be treated. Off-gas from the scrubber is condensed to recover additional turpentine. The NCGs are piped to the lime kilns for processing by thermal oxidation.

37. There are two (2) emergency venting locations on the recovery NCG collection system. Venting is tracked with a computer alarming system.

Liquor-Making Process Area

38. The liquor making process area consists of two (2) process systems: causticizing of green liquor to white liquor and lime kiln calcining. The green-to-white liquor process receives green liquor from the recovery process area. The product from the causticizing is white cooking liquor used in the pulping process areas.

39. The lime kilns receive materials from the other process areas for processing by thermal oxidation or for supplemental fuel:

    39.a. Non-Condensable Gases (NCGs) from the Kamyr pulping and recovery process areas are incinerated to recover sulfur and control odor.

    39.b. Turpentine is used as a supplemental fuel.

    39.c. Product methanol is used as a supplemental fuel, and sulfur is recovered as well.

    39.d. Natural gas and/or ULSD is also burned as fuel for the lime kilns.

40. Green liquor from the black liquor recovery process area is pumped to the green liquor clarifiers where undissolved smelt (dregs) are removed. The dregs are washed to reclaim additional pulping chemicals. The green liquor flows from the green liquor clarifiers to the recaustisizing system where reburned lime (calcium oxide, CaO) is slaked to form hydrated lime (calcium hydroxide, $Ca(OH)_2$). Additional lime is added to the system for makeup of calcium oxide required to convert green liquor to white liquor.

41. The calcium hydroxide reacts with the green liquor in the slaker to form calcium carbonate precipitate, which increases the hydroxide concentration in the liquor to form white liquor. The calcium carbonate ($CaCO_3$) precipitate is removed in the white liquor clarifiers. The supernate from the white liquor clarifiers is pumped to the pulping process. Solids from the white liquor clarifier are pumped to the lime kiln area for washing and calcining, to reclaim the calcium oxide for recycling in the kraft lime cycle.

42. The solids are pumped to mud washers to remove soluble constituents. The lime mud is then stored and filtered prior to transfer to the lime kilns. In the lime kilns, calcium carbonate reacts to form calcium oxide. The calcium oxide is then used in the slaker to convert the green liquor into white liquor in the recausticizing process unit.

43. Flue gases from the lime kiln are treated by an ESP (Electrostatic Precipitator) control device to remove particulate matter prior to release to the atmosphere. Solids removed during flue gas treatment are returned to the process to reclaim pulping chemicals. NCGs are injected into the #2 or #3 lime kiln for processing by thermal oxidation.

NCG Collection System in Kamyr Process Area

44. Kamyr digester gas is relieved into chip steaming vessels intermittently and the gases from the steaming vessels are sent to a condenser. The gases coming out of the condenser are non-condensable gases and are sent to the lime kiln to be treated. The gases from the turpentine recovery process in fiber are also collected and combine with the steaming vessel vent condenser gases to be treated in the lime kilns.

Paper Machine Process Area

45. The paper machine process area consists of the #2 Paper Machine. The #2 Paper Machine can use kraft pulp, secondary pulp, or purchased pulp to produce paper.

46. Pulp is supplied by the Kamyr digester, the press pit pulper, the couch pit, the Morden pulper and the secondary OCC (recycled old corrugated containers) brown fiber stock. The pulp is stored in high-density storage tanks.

47. The pulp then flows to a refiner chest, refiners, machine chests, headboxes, and the fourdrinier to form the linerboard sheet. After the sheet is formed, the sheet is transferred to the press and dryer sections where water is removed and the sheet is made into rolls at the calendar area. At this point, trim is removed and pulped for reuse in the paper machine. Cull (product that does not meet the specification) is sent to cull storage. Product that meets specification is prepared for shipment.

Secondary (Recycled) Pulp Production Process Area

48. There are three (3) separate process systems at the facility to produce secondary pulp. These include the following:

    48.a. The Morden inside pulper;

    48.b. The WOW pulper; and

    48.c. The OCC (recycled old corrugated containers) system. This system produces pulp from recycled fiber materials.

49. In addition, #2 Paper Machine has two (2) pulpers internal to the machine area.

50. The potential air emissions from the WOW pulper were included in the discussion of the paper machine process area. Discussion of these systems in this section is limited to a description of these processes to be used in evaluating the overall secondary fiber production capacity at the facility.

Morden Inside Pulper

51. The Morden inside pulper produces pulp generally from broke and trim from the paper machine but could also handle some other fiber sources. Steam and mechanical agitation is used in the pulper.

WOW Pulper

52. The WOW pulper produces pulp from cull produced by the paper machines, and from clippings and brown stock. It uses steam and mechanical agitation to repulp the cull, clippings, or brown stock.

Old Corrugated Containers (OCC) System

53. This process consists of a series of pulping, screening, and cleaning systems, to remove impurities from the OCC and produce secondary pulp.

54. Bales of OCC are delivered to Springfield Containerboard by truck. The bales are pulped in the pulper, and the "accepts" are cleaned and transferred to the coarse screening system. Rejects from the systems are processed through additional operations to separate the light and heavy "rejects". Accepts from the coarse screening system are pumped to the fine screening system. Rejects from this system are reprocessed to clean and accept as much material as possible. Accepts from the fine screening system are pumped to the forward and reverse cleaning systems. Rejects are also reprocessed to clean and accept as much material as possible. Accepts from the cleaning systems are pumped to the thickening system. Rejects are managed in two ways. The heavy rejects and plastics are sent to solid waste to be shipped to a landfill. The fiber in the rejects screw is sent offsite to be used for beneficial reuse as animal bedding or is occasionally sent to a landfill for disposal.

Power System Process Area

55. The Power System Process Area includes the Power Boiler and Package Boiler.

56. The Power Boiler fires either natural gas or ultra-low sulfur diesel to produce steam. The Package Boiler is designed to fire natural gas or ultra-low sulfur diesel to produce steam.

57. Steam produced by the Power Boiler and the Package Boiler is fed to the steam header where, along with the steam produced by the recovery furnace, it is processed to supply steam at reduced pressure to various users.

58. Some of the steam provided by the boilers is expanded through the #4 turbine generator (turbines #1-#3 have been decommissioned) to produce electric power and to supply steam to various users at reduced pressures. The boilers are operated under a continuous blowdown which discharges to the wastewater treatment facility. Electrical power generation is classified as SIC 4911 and is considered a secondary and/or support activity to the paperboard mills classified as SIC 2631. So, while the first two-digit SIC code for electrical power generation is different from the paperboard mill, the two activities are not considered separate 'stationary sources' under the definition in LRAPA title 12. Again, this is due to the electrical power generation being a support activity to linerboard production (i.e., electrical power generation is a 'nested' activity at the source). The electrical power generated at the facility is sold under contract to Eugene Water and Electric Board (EWEB). Historically, the turbine(s) have been capable of generating 51.2 megawatts through its steam generator.

Wastewater Treatment Facility

59. The wastewater treatment facility includes primary and secondary treatment of wastewater from the pulping process area, black liquor recovery process area, boiler blowdown, and paper machine process area.

60. Wastewater from the pulping process areas and black liquor recovery process area is fed to a clarifier for primary treatment. Sludge from the primary clarifier is dewatered using a belt press, and the solids are sent to offsite storage for seasonal land application. As a protective measure, high-conductivity streams which enter the treatment system are generally diverted to a lined surge pond where they are metered back into the chemical recovery process.

61. Wastewater from the paper machine process area is fed to a scalping screen. The screened wastewater flows to a flocculation tank and to a flotation clarifier. The floated solids are sent to the fiber reclaim tank and then to the OCC plant as fiber furnish. The wastewater from the flotation clarifier is treated in aerated lagoons. Water flow from the fiber reclaim tank is recycled to the OCC process as makeup.

62. Effluent from both primary treatment units is fed through a lift station and treated in aerated lagoons. The secondary treated wastewater effluent is discharged to the McKenzie River under a NPDES permit (#101081).

FACILITY CHANGES

63. The prior permit was issued/renewed on December 14, 2012. The following changes have been made at the facility since the 2012 Title V permit renewal:

Table 1. Facility Changes Since Previous (2012) Title V Renewal

Application Date	Application Number	Action/Description	Project Completion Date
10/6/2022	NC-208850-A22 (68762) Off permit Change	Kamyr Flash Tank Replacement	10/29/2022
3/1/2021	NC-208850-A21 67030 (MD901)	Lime Kiln #3 Partial Shell Replacement and Kiln Exhaust Stack Replacement	4/8/2021
11/26/2019	NC-208850-A19 (65665)	Installation of Diesel Fire Pump (CI-RICE) & Fresh Water Storage Tank (Clean Water Supply Tank to Mill Fire System)	3/15/2020
8/1/2019	Section 502(b)(10) Change Notification	Alternative Operating Scenario change for the Kamyr Steaming Vessel LVHC equipment upgrades with replacement of Batch Decanter and WX Tank.	9/1/2019
5/9/2017	62836 (MD902 Off-Permit Change)	Installation of Albany Mill Reboiler for clean low-pressure steam for Kamyr Chipper Feed System	8/19/2017

Application Date	Application Number	Action/Description	Project Completion Date
4/14/2016	61456 (MD901 & MD902 Off-Permit Change)	Replacement of No. 2 Paper Machine Headboxes and Steam Shower, Upgrade of Winder Splitter and Roll Handling Equipment	10/19/2016
10/16/15 (Initial), 3/11/16 (Supplemental Info AR101R), 4/14/16 (Application Modification)	60814 (Significant Mod, AQ101, MD901, MD906, ED605) 208850 Construction ACDP (Addendum No.3)	No. 2 Paper Machine Productivity Project: Lengthening No. 2 Paper Machine Fourdrinier and Upgrade of Paper Machine Systems using Unassigned Emissions for Production Increases	11/1/2016
9/2/2015	60708 NC-208850-A15 (MD901, MD905, DV201, CD305, TV Minor Permit Mod), (Addendum No. 2)	Chip Fines Bin (with cyclone) Installation & Handling System (Blower and Piping) Reconfiguration	4/27/2016
9/2/2015	60708 (MD902 Off-Permit Mod)	No. 4 Weak Black Liquor Storage Tank Repair/Replacement	9/1/2016
		High Solids Concentrator System Installation	11/1/2016
		South Green Liquor Clarifier (SGLC) Repair/Replacement	10/1/2015
		Replacement of #4 Recovery Furnace bed bottom and lower walls	11/5/2016
10/23/2014	59819 (MD905-TV Minor Permit Mod. (Addendum No. 1)	Digester Feed Bin System Replacement	11/15/2014
5/15/2014	59456 NC-208850-C14 (MD902 Off-Permit Mod)	Condensate Steam Distillation (CSD) Stripper Column Tray Replacement/Upgrade	11/10/2014
5/15/2014	59456 NC-208850-B14 (MD901&MD902 Off-Permit Change)	Digester Feed Bin System Replacement w/pre-steaming & new turpentine condenser (Part 2/2 of Digester Feed Optimization Project) (see Part 1/2 Kamyr Pulp Rejects Upgrade Off-Permit Mod 2/4/14 (above) & 10/23/14 Minor Permit Mod)	11/17/2014
2/4/2014	59207 (MD902 Off-Permit Change)	CNCG & CNCG Vent Pipe Relocation	3/5/2014
		Kamyr Relief Standpipe Installation for safety valves	3/5/2014
		No. 2 Oxidation Tank Replacement	3/1/2014
		Kamyr Pulp Rejects System Upgrade with new rejects refiner (Part 1 of 2 of Digester Feed Optimization Project)	8/1/2014
		No. 2 Washer Drum Replacement	11/1/2014
		Kamyr Hot Water Tank Replacement	11/1/2014
2/4/2014	NC-208850-A14 (MD901&MD902 Off-Permit Change)	#4 Recovery Furnace Precipitator Rebuild (both east and west chambers) w/plate, discharge electrode & worn part replacement, new AVC & rapping system	11/19/14 East 12/3/14 West

64. Changes in equipment and operations that have occurred since the 1978 baseline period are provided in the Emission Detail Sheets attachment to this review report.

65. A number of changes to the permit are being proposed in this renewal. These include:

65.a. Updated rule references throughout the permit as a result of the comprehensive January 2018 LRAPA rules revisions.

65.b. Revision of NESHAPs Subpart S MACT requirements based on Subpart S rule revisions, 40 CFR 70.7 Title V Operating Permit rule revisions, revision of the "list of mill-specific applicable condensate 'named streams'" to reflect changes to "Condensates from each digester system" with the shutdown and removal of the Batch Digesters (EU-410), and the "Turpentine Recovery System" changes (August 1, 2019, 502(b)(10) notification & August 14, 2019 LRAPA approval letter). The facility also elected to change Subpart S operating scenarios from two scenarios to a single operating scenario. The Subpart S permit conditions were also reorganized to more closely align the NESHAP Subpart S requirements.

65.c. Revision of Subpart MM MACT requirements based on the NESHAP rule revisions. EPA completed the Residual Risk and Technology Review (RTR) for the Pulp and Paper NESHAPs, Subpart MM (rule changes published in October 2017) and these changes have been incorporated into the proposed permit.

65.d. Correction of cross-references due to changes in permit condition numbering.

65.e. Removal of decommissioned emission units (see Item 67 of this review report) and updated devices for the "Other Sources of TRS" units EU-275C and EU-275D.

65.f. Updated/clarified RICE MACT requirements for the facility's five (5) emergency RICE units (all CIA).

65.g. Reorganization of permit conditions to include monitoring requirements for each Emission Unit (EU) directly after the applicable requirements. Minor condition wording to clarify conditions while not changing the stringency of the standard, monitoring, recordkeeping or reporting requirements.

65.h. Addition of Regional Haze Round II requirements from the Stipulated Agreement and Final Order (SAFO) signed in August 2021, with mandated PSEL reductions for NO_x, PM_{10} and SO_2, fuel restrictions for combustion units (Power Boiler, Package Boiler, #4 Recovery Furnace and Lime Kilns) and measurement of NOx emissions from the Power Boiler by installing and operating a NO_x CEM. In addition, the Regional Haze Round I permit conditions have been removed from the permit based on the facility's demonstration that the Round II requirements and restrictions have made the Round I conditions obsolete (see Items 134 and 136 of this review report).

65.i. For a detailed accounting of the "condition by condition" changes to the facility's TV permit, see Item 91.

DESCRIPTION OF EMISSION UNITS AND CONTROL DEVICES

Emission Units and Pollution Control Devices Currently in Operation

66. A description of each operating emissions unit and associated pollution control devices is provided in the table below. The following descriptions are based on typical operation of each emission unit and are not intended to limit the operational flexibility of any unit.

Table 2. Emissions Unit (EU), Pollution Control Device (PCD), and EU Device Identification (ID)

Emission Unit Name & Description	PCD ID	PCD Description	EU Device ID	Device Description	Notes
EU-150A (PS150-001): Power Boiler					
The Power Boiler, installed in 1965, is a Combustion Engineering boiler rated at 400,000 pounds of steam (875 psig with 82 °F of superheat) per hour with a maximum heat input capacity of 544 MMBtu/hr. It primarily uses natural gas but, with the Aug 2021 Regional Haze (RH) SAFO, is permitted to use only ULSD No.2 fuel oil as a back-up fuel. The sulfur content of the ULSD No. 2 fuel oil is limited to 0.0015% by weight. There are no pollution control devices. The compliance demonstration point is the Power Boiler Stack (PR150-008)	NA	NA	NA	NA	As part of the August 2021 Regional Haze (RH) SAFO, the facility was required to install, certify, and operate a NOx CEM on the Power Boiler no later than May 31, 2023. By January 31, 2025, NOx emissions will be limited to 0.25 lb NOx per MMBtu on a 7-day rolling average. As of Dec.31, 2025, the power boiler is limited to 179 tons NOx/yr as a 12-month rolling average. Only natural gas may be combusted in the Power Boiler except that the boiler may operate on ULSD No. 2 fuel oil for 48 hours per year and when needed during natural gas curtailment.
EU-150B (PS150-300): Package Boiler					
The Package Boiler, installed Feb. 1993, is an Indek/Zurn boiler rated at 250,000 pounds of steam (600 psig) per hour with a maximum heat input capacity of 340 MMBtu/hr. The boiler is considered a high release rate boiler based on the manufacturer's specifications. The tangentially-fired Package Boiler primarily uses natural gas but, with the Aug 2021 Regional Haze (RH) SAFO, is permitted to use only ULSD No.2 fuel oil as a back-up fuel.	EQ150-304	Package Boiler Low NOx Burner (LNB): The design of this burner incorporates a swirl with a vortex that draws combustion products back into the flame, which lowers flame temperature and reduces NOx. Installed Feb 1993.	EQ150-304	See PCD description	As part of the August 2021 Regional Haze (RH) SAFO, only natural gas may be combusted in the Package Boiler except that the boiler may operate on ULSD No. 2 fuel oil for 48 hours per year and when needed during natural gas curtailment.

Emission Unit Name & Description	PCD ID	PCD Description	EU Device ID	Device Description	Notes
EU-150B (PS150-300): Package Boiler, CONTINUED					
The sulfur content of the ULSD No. 2 fuel oil is limited to 0.0015% by weight. It is equipped with a low-NOx burner and flue gas recirculation (FGR) to reduce the generation of nitrogen oxides. The compliance demonstration points are the Package Boiler Stack (EQ150-301) and the flue gas recirculation fan (FA150-306)	EU150-306	Package Boiler Flue Gas Recirculation (FGR): The fan and duct recirculate flue gas from the boiler back to combustion air to control NOx. Installed Feb 1993.	EU150-306	See PCD Description	
EU-185: Effluent Collection & Treatment System					
The Effluent Collection and Treatment (EC&T) emission unit, installed prior to 1970, has eight (8) emission devices. The original device, ID FU185-000, was divided into four (4) (in **bold**) specific component devices (emission sources) with the current renewal. There are no pollution control devices associated with this unit.	NA	NA	**FU185-299**	**West ASB (Aeration Stabilization Basin)**	**Device added w/renewal**
			FU185-500	**East ASB**	**Device added w/renewal**
			FU185-801 & TA185-126	**Clarifier & Surge Pond**	**Device added w/renewal**
			TA185-177	**Flotator**	**Device added w/renewal**
			TA185-182	Sulfuric Acid tank	AIA device
			TA185-061	Bulk Nutrient tank	AIA device
			TA185-063	Bulk Defoamer tank	AIA device
			FU180-999F	#2 MR Effluent Collect Sys	AIA device
EU-275A: Unpaved Road Fugitives					
Unpaved Road Fugitives	NA	NA	FU275-999D	Containerboard on-site unpaved roads	Paved roads in the Urban Growth Boundary ('UGB') are considered Categorically Insignificant Activities (CIA) under the definition of CIA in LRAPA's title 12. Most on-site roads are paved.

Emission Unit Name & Description	PCD ID	PCD Description	EU Device ID	Device Description	Notes
EU-275C: Other Sources of TRS (Original)					
The "Other Sources" of TRS unit (EU-275C) is based on the "Original" (prior to 1998) LRAPA/DEQ "Other TRS Sources" rule interpretation. There are no pollution control devices associated with EU-275C.	NA	NA	PS420-999	Kamyr Brown Stock Washer (BSW) System	Includes BSW #1 & #2, Diffuser Washer and Foam Tower
			EQ420-047	BSW #1 Hood vent fan-East	Includes BSW #1 and repulper
			EQ420-018	Brown Stock Washer #1	Vents by fan to #1 hood
			EQ420-046	BSW #2 Hood vent fan-West	Includes BSW #2 and repulper
			EQ420-020	Brown Stock Washer #2	Vents by fan to #2 hood
			PS420-107	Diffuser Washer	Included in BSW System
			TA420-096	Kamyr Foam Tower	Included in BSW System TRS Foam Tower vents to spiral condenser
			FU401-098	Kamyr Chip Bin	Controlled & Uncontrolled emissions
			TA186-120	VCE Compressor Fugitives	Compressor bottom drain
			TA440-003	#3 Weak black liquor tank	Vents to atmosphere
			TA440-004	#4 Weak black liquor tank	Vents to atmosphere
			TA440-130	Multi-purpose tank	Tank installed in 2013 for black liquor storage
			TA445-300	#7 Strong black liquor tank	Vents to atmosphere
			PR440-074	Fiber Filter	AIA device
			TA440-072	Fiber Filter Supply tank	AIA device
			TA440-075	Dregs Storage tank	AIA device (vents to Fiber Filter Supply tank)
			TA440-090	#7 Strong black liquor surge tank	AIA device
			TA186-162	VCE seal water tank	AIA device

Emission Unit Name & Description	PCD ID	PCD Description	EU Device ID	Device Description	Notes
EU-275D: Other Sources of TRS (Additional with Title V)					
The Additional "Other Sources" of TRS unit (EU-275D) is based on the 1998 expanded list of "Other TRS Sources" rule interpretation by LRAPA/DEQ. There are no pollution control devices associated with EU-275D.	NA	NA	EQ420-070	Kamyr 480 Bauer Refiner Chest vent	
			TA420-014	Recaust Hot Water Tank	VCE condensates emissions
			TA455-012	#5 Causticizer	1st in series of 5 causticizers
			TA456-010	#6 Causticizer	2nd in series of 5 causticizers
			TA456-015	#3 Causticizer	3rd in series of 5 causticizers, AIA device
			TA445-013	#2 Causticizer	4th in series of 5 causticizers, AIA device
			TA445-011	#1 Causticizer	5th in series of 5 causticizers (off-line), AIA device
			TA420-035	Contaminated hot water tank	AIA for TRS device
			TA455-127	#4 slaker	AIA device
			TA455-165	New Dregs Filter	AIA device
EU-310: Chip Bin Handling and Screening					
The Chip Handling & Screening System was installed/updated in 1989. Other than process cyclones for PM control, there are no pollution control devices associated with EU-310.	NA	NA	FU310-999	Chip Handling system	Includes all devices handling or moving wood chips
			FU310-999E	Chip Handling belts	Fugitive dust from chip conveyance
			TA310-127	#1 chip silo	No PM, cyclone controlled, low VOCs
			TA310-128	#2 chip silo	No PM, cyclone controlled, low VOCs
			TA310-226	#1 Gyratory screen bin	Infeed to unscreened chip bin
			TA310-232	ADS Cyclone #1	Screened chips fed to ADS Cyclone #1
			TA310-237	#2 Gyratory screen bin	Infeed to unscreened chip bin
			TA310-243	ADS Cyclone #2	Screened chips fed to ADS Cyclone #2
			TA310-248	#3 Gyratory screen bin	Infeed to unscreened chip bin
			TA310-254	ADS Cyclone #3	Screened chips fed to ADS Cyclone #3
			TA315-148	Red Rocket blower	Chip conveyor
			TA310-133	Kamyr Belt Sump	AIA device
			TA310-274	#3 silo sump pump tank	AIA device
			TA310-999A	Misc. totes for additives	AIA device
			TA310-999B	ADS Rejects (ADS trash conveyor/belt)	AIA device

Emission Unit Name & Description	PCD ID	PCD Description	EU Device ID	Device Description	Notes
EU-320: Chip Storage					
The Chip Storage unit, EU-320, was established prior to 1970 and includes the chip storage combined system (Main Pile & the Chip Truck unloading piles. The system was modernized in 2005 (NC-208850-F05). The separate fir & pine chip piles and blower systems and the cafeteria pile devices were removed with the current renewal.	NA	NA	FU320-999	Chip storage system	All chip storage combine system
			FU320-999A	Main chip pile	Large chip pile south of mill
			EQ310-164	Truck dumps	Chip truck unload to piles
EU-330: Fines System					
The Fines System was installed in 2015 (NC-208850-A15 & NC-208850-B15). Prior to installing the Fines System, fines were blown via piping to the Sierra Pine Particleboard Mill which closed in 2014. Collected fines are now sold offsite. Other than the process cyclone for PM control, there are no pollution control devices associated with EU-330.	NA	NA	FU330-999	Fines Bin Cyclone	Fines segregated from EU-310 are routed to the cyclone-controlled fines bin. Closed conveyance - Blown
			FU401-098	Fines Bin	Clam-shell type doors on the bottom of fines bin open to load trucks with fines, which are transported offsite and sold as a by-product.
EU-420: Kamyr Digester					
The Kamyr Digester unit, EU-420, has ten (10) devices and, except for TA401-098, all devices were installed prior to 1970. Other than the process condenser on the chip bin, there are no pollution control devices associated with EU-420.	NA	NA	TA420-037	Spill tank (minus TRS)	Tank vents to atmosphere. Device AIA for TRS.
			TA420-109	Diffuser Filtrate tank (minus TRS)	Tank vents to atmosphere. Device AIA for TRS.
			TA420-059	Reject tank (minus TRS)	Device AIA for TRS
			TA-420-014	Recaust Hot water tank (minus TRS)	Device AIA for TRS
			TA401-098	Combined Emissions from Kamyr Chip Bins (controlled and uncontrolled)	Installed in 2014 along with the chip bin condenser (NC-208850-B14).
			TA401-069	Kamyr Screen Room roof exhaust fan	AIA device

Emission Unit Name & Description	PCD ID	PCD Description	EU Device ID	Device Description	Notes
EU-420: Kamyr Digester, CONTINUED					
See EU Description above	NA	NA	TA420-035	Cont. hot water tank (minus TRS)	Tank vents to atmosphere. AIA device
			TA420-061	Bulk defoamer tank	AIA device
			TA401-017	Kamyr Blow tank	AIA device
			TA420-999	Misc. Totes for additives	AIA device
EU-440: Evaporation/Recovery Tanks & Steam System					
Evaporation/Recovery Tanks & Steam System is composed of six (6) devices. There are no pollution control devices associated with EU-440.	NA	NA	TA445-300	#7 Strong black liquor storage tank (minus TRS)	Installed in 2001
			FU441-999	Chemical & Makeup Handling fugitives	Installed prior to 1970 and includes salt cake rail & truck unloading and several other chemical handling, unloading&/or storages devices.
			TA440-130	Multi-purpose tank (minus TRS)	Installed in March 2014 as replacement to the #2 Oxidation tank; See NC-208850-A14
			TA155-040C	Caustic storage tank	Installed in 1975. AIA device
			TA155-050	Sulfuric acid tank	Previously used as a phosphoric acid tank. AIA device
			TA440-999	Misc. totes for additives	AIA device

Emission Unit Name & Description	PCD ID	PCD Description	EU Device ID	Device Description	Notes
EU-445C: #4 Recovery Furnace NDCE					
The #4 Recovery Furnace, installed in 1970 and rebuilt in 2005, is a Combustion Engineering NDCE recovery furnace rated at 130,000 pounds of black liquor solids (BLS) per hour. It primarily burns BLS and natural gas but, with the Aug 2021 Regional Haze (RH) SAFO, is permitted to use only ULSD No.2 fuel oil as a back-up fuel. The sulfur content of the ULSD No. 2 fuel oil is limited to 0.0015% by weight. The compliance demonstration point is the ESP stack. The #4 Recovery Furnace (EU-445C0 has two (2) devices, including one (1) control device.	CD445-480	The #4 Recovery Furnace Dry 6-field ESP (Electrostatic Precipitator) has a 98% PM control efficiency (CE) rating. The ESP was manufactured by Wheelabrator Frye and was installed in 1982.	EQ445-321	See EU-445C Unit description and notes.	The #4 Recovery Furnace Relief Project in 2005 extended the useful life of the furnace and it became subject to NSPS Subpart BB. (See NC-208850-F04 construction file for more info.) The #4 Recovery Furnace Steam and Mud Drum Replacement project was approved and completed in 2009 to repair the cracked steam and mud drum (See NC-208850-09 construction file for more info.)
EU-445D: #4 Recovery Smelt Dissolving Tank Vent (SDVT)					
The #4 Recovery Furnace Smelt Dissolving Tank Vent (DTV), installed in 1970 (prior to 1970?? In DV201), includes 5 devices and a wet scrubber control device.	CD445-447	The #4 Recovery Furnace DTV Venturi Wet Scrubber was manufactured by Joy Turbulaire D and installed in 1970. The wet scrubber has a 95% PM collection efficiency (CE) rating and an estimated design water flow of 35 gpm.	TA445-350	#4 Dissolving tank	
			TA445-348	Smelt Spout cooling water surge tank on #4 Rec.	AIA device
			TA445-675	#4 Recovery salt cake storage silo	AIA device
			TA445-563	#4 Precipitator Ash Mix Tank	This device used to be part of EU-275C (“Other Sources’ of TRS but is permanently vented to the SDT scrubber inlet. AIA device
			TA445-336	Economizer Ash Mix Tank	This device used to be part of EU-275C (“Other Sources’ of TRS but is permanently vented to the SDT scrubber inlet. AIA device

Emission Unit Name & Description	PCD ID	PCD Description	EU Device ID	Device Description	Notes
EU-445 (PS455-999): Lime Kilns #2 & #3					
The Lime Kilns (EU-455) consists of Kiln #2 and #3 which serve as both thermal oxidation control devices for destruction of NCGs and process devices for converting lime mud to CaO as part of the kraft lime cycle. Emissions from both kilns are vented to a combined stack and exhausted to a single ESP for particulate control. The kiln ESP exhausts from the single ESP stack. In 2006, the permit was modified to allow burning of pet coke in the kilns. With the Regional Haze SAFO, burning of pet coke in the kilns is prohibited and the facility may only burn natural gas, ULSD #2 oil and product methanol & turpentine.	CD456-110	The Lime Kilns ESP Dry 8-field ESP (Electrostatic Precipitator) has a 98% PM control efficiency (CE) rating. The ESP was manufactured by Environmental Elements and was installed in 1976. With the 2006 pet coke permit mod, a Continuous Opacity Monitor (COM) was installed on the ESP exhaust stack.	EQ455-033	Lime Kiln #2 has a maximum lime mud calcining capacity of ~15,400 lbs $CaCO_3$/hr and a maximum fuel capacity of 45 MMBtu/hr. Lime Kiln #2, manufactured by Traylor and installed in 1953, is permitted to only burn NG & ULSD #2 oil.	Lime Kiln #2 converts (calcines) lime mud ($CaCO_3$) into calcium oxide (CaO) for use in regeneration of white liquor for the Kraft chip pulping process. Lime Kiln #2 also serves as an NCG thermal oxidation control device.
			EQ455-062	Lime Kiln #3, the primary kiln, has a maximum lime mud calcining capacity of ~43,750 lbs $CaCO_3$/hr & a maximum fuel capacity of 100 MMBtu/hr. Lime Kiln #3, manufactured by Traylor and installed in 1964, is permitted to burn NG, ULSD #2 oil, product methanol & turpentine.	Lime Kiln #3 converts (calcines) lime mud ($CaCO_3$) into calcium oxide (CaO) for use in regeneration of white liquor for the kraft chip pulping process. Lime Kiln #3 also serves as an NCG thermal oxidation control device.

Emission Unit Name & Description	PCD ID	PCD Description	EU Device ID	Device Description	Notes
EU-445 (PS455-999): Lime Kilns #2 & #3, CONTINUED					
See EU Description above	CD186-193	The Steam Eductor & Lime Kiln Noncondensable Gas (NCG) Collection & Thermal Oxidation System's rated destruction efficiency is 99% at >1200ºF. The NCG system was manufactured by Lundberg Associates & was installed in 1990.	EQ455-033	Lime Kiln #2 serves as NCG destruction device. The NCG stream is introduced into the flame zone of the kiln and incinerated at >1200ºF for a minimum of >0.3 seconds residence time.	The NCG system collects NCGs from the Condensation Steam Distillation (CSD) vacuum pump, the evaporators, the Kamyr chip steaming vessels and misc. small sources for eduction into either #2 or #3 kilns (each kiln serves as a back-up to the other). NCGs are incinerated/ thermally oxidized in the kilns to recover sulfur and control odor. This system includes the Dilute NCG system which was added in 2004. This consists of the Kamyr chip steaming vessels. The turpentine storage and surge tank were added to the DNCG system in 2019.
			EQ455-062	Lime Kiln #3 serves as NCG destruction device. The NCG stream is introduced into the flame zone of the kiln & incinerated at >1200ºF for a minimum of >0.3 seconds residence time.	
	NA	NA	FA454-176	Lime Kiln Dust Collection Fan to ESP	
	NA	NA	EQ455-067	#3 Reburn Lime Drag Chain	
	NA	NA	GE455-068	#3 Reburn Elevator	
	NA	NA	TA455-069	#3 Reburn Lime Tank	
	NA	NA	TA455-072	Fresh Lime Tank	

Emission Unit Name & Description	PCD ID	PCD Description	EU Device ID	Device Description	Notes
EU-456: Recaust Systems					
The Recaust Systems include 25 devices used to convert green liquor and lime to white liquor. Most of the component devices were installed prior to 1970 except for device replacements detailed in the note column. There are no pollution control devices associated with EU-456. See EU Description above	NA	NA	FU455-999A	Grits Pile	Fugitive PM emissions AIA device
			FU456-999B	Lime rock makeup storage pile & rock handling	Lime rock is makeup to kilns, ($CaCO_3$). Front end loader scoops up from rock pile & loads into elevator hopper, then elevator conveys rock up to rock bin on #2 kiln or #3 kiln above mud filters. AIA Device
			TA454-122	#2 kiln rock storage	Fugitive Emissions
			TA455-084	#3 kiln rock storage	Fugitive Emissions
			FU455-999A	Grits Pile	AIA for PM
			FU456-999B	Lime cycle chemical handling fugitives	Includes handling and storage of rock, grits, chemical totes, reburn and other materials. AIA for PM
			GE454-052	#2 mud filter (minus TRS)	PM Fugitives, AIA for TRS
			GE455-153	#3 mud filter hood fan (plus fugitives #3 filter minus TRS)	Includes #3 Mud filter, AIA Device for TRS
			PR455-053	# 3 mud filter (replacement)	Replaced in 1994; Fugitive PM Emissions
			PU455-056	Mud filter vacuum pump vapor (#3) (minus TRS)	Replaced in 1994 AIA device for TRS
			TA454-016	#2 mud filter sump (minus TRS)	(#2 lime kiln sump) small source open lid tank
			PU454-009	Mud Filter vacuum pump vapor (#2)	AIA Device
			TA455-001	S. Green Liquor Clarifier (minus TRS)	Vents to Atmosphere, AIA Device for TRS
			TA455-012	#5 causticizer (minus TRS)	Vents to Atmosphere

Emission Unit Name & Description	PCD ID	PCD Description	EU Device ID	Device Description	Notes
EU-456: Recaust Systems, CONTINUED					
See EU Description above	NA	NA	TA456-010	#6 Causticizer (minus TRS)	Vents to Atmosphere
			TA455-018	S. white liquor clarifier	Vents to Atmosphere
			TA455-025	South mud washer	Fugitive Emissions
			TA455-050	S. lime mud storage	Fugitive Emissions AIA
			TA455-158	Jet condenser seal tank (minus TRS)	80% noncontact steam, 20% seal water potential emissions New #3 mud filter, direct contact intercooler for filter vacuum pump 3'x 5'diam open lid tank, AIA device for TRS
			TA456-001	N. green liquor clarifier (minus TRS)	Replaced in 1977; Vents to Atmosphere; AIA device for TRS
			TA456-015	#3 causticizer (minus TRS)	AIA device for TRS
			TA456-020	N. white liquor clarifier	Replaced in 1977; Vents to Atmosphere
			TA456-028	N. lime mud washer	Replaced in 1977; Fugitive Emissions
			TA456-036	North mud storage	Replaced in 1977; Fugitive Emissions
			TA456-128	Precipitator slurry tank (minus TRS)	Replaced in 2011; AIA for TRS
EU-600: Paper Recycling Systems					
Paper Recycling Systems include six (6) devices from three (3) sources of secondary pulp used at the mill (pulp from recycled Old Corrugated Containers (OCC), pulp from White Office Waste (WOW) and Morden pulp (trim & broke from the paper machine). All secondary pulp devices in Paper Recycling Systems were installed in 1993. There are no control devices associated with EU-600	NA	NA	FA601-121	#1 thickener exhaust fan	EF are from North Bend, Secondary Fiber Emissions Data
			FA601-255	Pulper exhaust fan	EF are from North Bend, Secondary Fiber Emissions Data
			TA601-003	#1 Pulper at OCC	Installed 1993

Emission Unit Name & Description	PCD ID	PCD Description	EU Device ID	Device Description	Notes
EU-600: Paper Recycling Systems, CONTINUED					
See EU Description avbove	NA	NA	TA601-167	OCC clarifier	Includes operation similar to flotator at clarifier. May strip small amount of VOCs by adding air to float fines to surface for skimming. Most of air attaches to fines at surface of clarifier. EF are from North Bend, Secondary Fiber Emissions Data
			TA601-012	Dump chest vent	VOCs
			TA601-031	OCC Primary stock rejects chest vent	AIA Device
			TA601-134	#9 hi-d storage tank	VOC emissions should be lower than VOCs from virgin pulp H.D.s
EU-715A: Machine Room (MR) Wet End Systems					
The No. 2 MR Wet End System includes 42 devices used in the storage, refining and transporting of pulp to the fourdrinier to form linerboard at the wet end of No.2 paper machine (EU-715A). Most of the wet-end devices were installed prior to 1970 except for device replacements detailed in the note column. There are no pollution control devices associated with EU-715A.	NA	NA	TA705-002	#3 hi-d tank	Contains broke from #2 Machine, works in conjunction with #5 and #8
			TA705-003	#4 hi-d tank	Contents varies widely
			TA705-093	#5 hi-d storage tank	Broke from #2 Machine, works in conjunction with #3 and #8
			TA705-094	#6 hi-d storage tank	Kamyr stock
			TA705-130	#7 hi-d storage tank	Kamyr stock
			TA705-208	#8 hi-d storage tank	Contains broke from #2 Machine. Works in conjunction with #3 and #5; Installed in 1977
			TA705-999	#10 hi-d storage tank	Installed May 2006 (NC-208850-C05)
			TA705-215	#8 lo-d chest	Installed in 1977

Emission Unit Name & Description	PCD ID	PCD Description	EU Device ID	Device Description	Notes
EU-715A: Machine Room (MR) Wet End Systems, CONTINUED					
See EU Description above	CD710-715A	Baghouse (associated with FU710-999, rated 99% PM Control Efficiency)	FA705-032	Drum saveall hood exhaust fan	The drum Saveall is the decker on top of #8 H.D. broke tank. It is a decker, for stock thickening and is explicitly not qualified for exemption under CIA reason code ccc. The exhaust fan is listed as the source device and the actual drum Saveall is listed; but shown as a see other referred to the exhaust fan.
			EQ705-018	Drum saveall	Emissions included in Drum Saveall exhaust fan
			FA705-107	WOW pulper hood exhaust	EF are from North Bend, Secondary Fiber Emissions Data
			TA705-020	WOW pulper	
			FA705-174	Morden pulper hood exhaust fan	Includes fan, trim conveying system, NB PM pulpers, per RJA
			FA730-026	Fan, trim conveying system	East and west trim blower in basement backside behind conveyor belts. Get some odor on paper machine dry end if this fan doesn't work, suspect some VOCs, probably from Morden Pulper Fan blows trim to Morden pulper. There's also a vent that blows outside and up side bldg.
			TA705-134	Morden pulper tub	Not CIA
			FU710-999	No. 2 MR additive chem. handling fugitives	Includes storage and chemical handling fugitives from No. 2 Paper Machine chemical additives including but not limited to Clay, Starch, Alum and Caustic for both dry solid and solid slurry handling and storage.
			FA715-221	Clay & starch exhaust fan -	Mezzanine clay and starch fugitives

Emission Unit Name & Description	PCD ID	PCD Description	EU Device ID	Device Description	Notes
EU-715A: Machine Room (MR) Wet End Systems, CONTINUED					
See EU Description above	NA	NA	TA710-013	Cooked starch storage	MSDS #49 (provide updated SDS) appears to be free from PM.
			TA710-031	Retention aid tank	AIA device
			TA710-036	Overflow EZE 465C tank	AIA device
			TA710-063	Defoamer Tank	AIA device
			TA710-082	Alum storage tank	MSDS #57 (provide updated SDS), 26.8% alum, ambient temp.
			TA710-085	AMRES 8870 tank	AIA device
			TA710-093	PFP-50 Tank	AIA device
			TA710-154	PC-142 Tank	AIA device
			TA710-176	Concentrated Sulfuric Acid Tank	AIA device
			TA710-179	Dilute Sulfuric Acid Tank	AIA device
			TA710-190	HUBERFIL Tank	AIA device
			PS715-999A	Paper #2 total wet end vent emissions	Installed in 1983
			FA715-034	Primary bel bond lead-in box fan	Like ortho w/air bleed for vac. control; Installed in 1991
			FA715-035	Primary bel bond auto-slice fan	Like ortho w/air bleed for vac. control; Installed in 1991
			FA715-036	Secondary bel bond lead-in box fan #1	Like ortho w/air bleed for vac. control; Installed in 1993
			FA715-037	Secondary bel bond auto-slice fan	Like ortho w/air bleed for vac. control; Installed in 1993
			FA715-076	Secondary bel bond lead-in box fan #2	Like ortho w/air bleed for vac. control; Installed in 1993
			FA715-280	Saveall exhaust -	ON ROOF
			FA715-281	Machine room roof exhaust #5	ON ROOF

Emission Unit Name & Description	PCD ID	PCD Description	EU Device ID	Device Description	Notes
EU-715A: Machine Room (MR) Wet End Systems, CONTINUED					
See EU Description above	NA	NA	FA715-283	False ceiling exhaust #4	ON ROOF
			FA715-284	North pulse drainage module fan #1	Pulse drainage module very small source analogous to fans some MeOH possible from WW,@ 140 F, 1-2" vacuum pulled on fourdrinier table elements ; Installed in 1993
			FA715-285	South pulse drainage module (PDM) fan #2	Pulse drainage module very small source analogous to fans some MeOH possible from WW,@ 140 F, 1-2" vacuum pulled on fourdrinier table elements ; Installed in 1993
			FA715-320	False ceiling exhaust #3 -	ON ROOF
			FA715-352	False ceiling exhaust #8 -	ON ROOF
			FA715-353	False ceiling exhaust #9 -	ON ROOF
			FA715-354	False ceiling exhaust #10	ON ROOF
			FA715-355	False ceiling exhaust #7 -	ON ROOF
			FA715-356	False ceiling exhaust #6 -	ON ROOF
			PS715-436	#2 MR combined vacuum flume vent stack	By outside pumper sewer and vacuum pumps east side MR#2 inside and outside vent stack includes vac pump 715-{038, 039, 040, 044, 402, 403, 404, 405}
			PS715-534	#2 ENP vacuum flume vent stack	Includes vacuum pump 715-532, 715-533; Installed in 1983
			TA705-066	Wire pit tank	(White water collection vents inside bldg. from fourdrinier area of MR. roof ventilation from vents to atmosphere.
			FA715-358	Primary Bel Bond Mist Elimination Fan	Installed in 2000

Emission Unit Name & Description	PCD ID	PCD Description	EU Device ID	Device Description	Notes
EU-715A: Machine Room (MR) Wet End Systems, CONTINUED					
See EU Description above	NA	NA	FA715-359	Secondary Bel Bond Mist Elimination Fan	Installed in 2000
			TA705-078	Flotation saveall	Small source of emissions due to air stripping VOCs; Vents thru duct to saveall exhaust fan on roof #2MR
EU-715B: Machine Room (MR) Dry End Systems					
The No. 2 MR Dry End System includes 18 devices used to press, dewater and form rolls of the linerboard at the dry end of No.2 Paper Machine (EU-715B). The dry-end devices were installed prior to 1970. There are no pollution control devices associated with EU-715B.	CD730-105	Baghouse (associated with FA710-104,)	FA730-104	Dust collection exhauster	Baghouse rated at 99% control efficiency for PM
			PS715-999B	Paper #2 total dry end vent emissions	
			FA715-122	Mach. hood exhaust	1st Section - Mezzanine
			FA715-123	Mach. hood exhaust	1st Section - Mezzanine
			FA715-130	Mach. hood exhaust	1st Section - Mezzanine
			FA715-131	Mach. hood exhaust	1st Section - Mezzanine
			FA715-138	3rd sec. n. end mach. hood e.	1st Section - Mezzanine
			FA715-139	3rd sec. s. end mr hood exhaust	1st Section - Mezzanine
			FA715-146	4th sec. machine hood exhaust	1st Section - Mezzanine
			FA715-276	Machine room roof exhaust #1	ON ROOF
			FA715-277	Machine room roof exhaust #2	
			FA715-278	Machine room roof exhaust #3	ON ROOF
			FA715-279	Machine room roof exhaust #4	ON ROOF
			FA715-321	#2 calender hood exhaust	Mezzanine south end
			FA715-340	3rd dryer roof exhaust	Center - mezzanine east wall
			FA715-343	4th dryer roof exhaust	On mezzanine.
			FA715-491	3rd hood exhaust fan	Mezzanine between 3rd & 4th sect.
			TA715-500	MR#2 Dry End Fugitives	AIA device

Emission Unit Name & Description	PCD ID	PCD Description	EU Device ID	Device Description	Notes
EU-715B: Machine Room (MR) Dry End Systems, CONTINUED					
See EU Description above	NA	NA	VA730-025	#2 MR diverter valve trim conveying system	Vents to the air approximately six (6) times per year for two (2) days each; 15 times the Winder Dust Collection Exhauster, per Russ Ayers -former facility supervisor (since in only a total of 12 days/year it will be half the winder)
EU-AIA: Aggregate Insignificant Activities					
Aggregate Insignificant Activities (AIA) 54 devices (See Item 68, below)			See below - 54 device IDs		

Decommissioned Emission Units Removed from Permit with 2023 Renewal

67. The following emission units (and associated devices) have been removed from the permit (reasons for removal are also provided):

EU ID/Device ID	Description	Ceased Operation or Decommissioned Date
EU-315A	Topwood Log Processing (TOPs)	2009
EU-402	New Fiber Line (NFL) Pulping	Never installed
EU-410	Batch Digesters	2001, Demolished 2018
EU-445A	No.3 Recovery Furnace	2008, Decommissioned. 2018
EU-445B	No. 3 Recovery Furnace Smelt Dissolving Tanks Vents (SDTV) East and West	2008, Decommissioned with No.3 Recovery Furnace

67.a. EU-315A Topwood Log Processing (TOPs): The TOPs emission unit was removed from the TV permit as part of the April 7, 2009 Significant Permit Modification. The TOPs system (EU-315A) was not included in the sale of the paper mill to IP in May of 2008; TOPs currently operates under Weyerhaeuser NR Co. ACDP #208953. References to this emission unit are being removed from this review report with current permit renewal.

67.b. EU-402 New Fiber Line (NFL) Pulping: The NFL Pulping Project was first proposed (NC-208850-A95) and added to the ACDP #208850 issued January 10, 1996 when the facility was owned by the Weyerhaeuser Company. The proposed production scale New Fiber Line was never constructed/installed by Weyerhaeuser or by International Paper after IP purchased the facility in 2008. The New Fiber Line (NFL) system has never operated and is being removed from the permit as an emission unit (along with its13 associated emission devices) with the current (2023) TV permit renewal. References to the NFL EU-402 as an emission unit have also been removed in this review report as well (see revised renewal Application #68835, October 18, 2022).

67.c. EU-410 Batch Digesters: The Batch Digesters (and associated five (5) devices) ceased operation in 2001 and were demolished in 2018. The Batch Digester system is being removed as an emission unit from the permit and review report with the current renewal (see revised renewal Application #68835, October 18, 2022).

67.d. EU-445A No. 3 Recovery Furnace: The No. 3 Recovery Furnace (and associated 4 devices) ceased operation in 2008 and was decommissioned in 2018. The furnace (EU-445A and its associated smelt dissolving tanks (EU-445B – SDTV) are being removed as emission units from the permit and review report with the current renewal (see revised renewal Application #68835, October 18, 2022).

67.e. EU-445B No. 3 Recovery Furnace Smelt Dissolving Tanks Vents (SDTV) East and West: Operation of the No. 3 SDTVs (East & West) ceased in 2008 with the permanent shutdown of the No. 3 Recovery Furnace (decommissioned in 2018). EU-445B along with the No. 3 East & West SDTVs wet scrubbers are being removed as emission units & controls from the permit and review report with the current renewal (see revised renewal Application #68835, October 18, 2022).

AGGREGATE INSIGNIFICANT ACTIVITES

68. Aggregate insignificant emissions from activities identified by the permittee are detailed in the following table:

Table 3. Aggregate Insignificant Activities (AIA) and Emissions

EU ID	Device ID	Device Name	Annual Emissions (lbs/yr)										
			PM	PM_{10}	$PM_{2.5}$	SO_2	CO	VOC	NO_X	SAM	TRS	HAPs	MeOH
EU-420	FA401-069	Kamyr screen room roof exhaust fan	70.75	7.08	7.08	0	0	0	0	0	0	0	0
EU-420	TA420-061	Bulk defoamer tank	0	0	0	0	0	0	0	0	0	0	0
EU-420	TA420-999	Misc Totes for additives	70.75	7.08	7.08	0	0	0	0	0	0	0	0
EU-715	TA710-036	Overflow EZE 465C tank	0	0	0	0	0	60.13	0	0	0	0	0
EU-715	TA710-031	Retention Aid Tank	0	0	0	0	0	60.13	0	0	0	0	0
EU-715	TA710-085	AMRES 8870 Tank	0	0	0	0	0	60.13	0	0	0	0	0
EU-715	TA710-190	HUBERFIL Tank	60.13	6.01	6.01	0	0	0	0	0	0	0	0
EU-715	TA710-063	Defoamer tank	0	0	0	0	0	60.13	0	0	0	0	0
EU-715	TA710-093	PFP-50 Tank	0	0	0	0	0	60.13	0	0	0	0	0
EU-715	TA710-154	PC-142	0	0	0	0	0	60.13	0	0	0	0	0
EU-715	TA710-176	Conc. sulfuric acid tank	0	0	0	0	0	0	0	0	0	60.13	0
EU-715	TA710-179	Dilute acid use tank	0	0	0	0	0	0	0	0	0	60.13	0

EU ID	Device ID	Device Name	Annual Emissions (lbs/yr)										
			PM	PM_{10}	$PM_{2.5}$	SO_2	CO	VOC	NO_X	SAM	TRS	HAPs	MeOH
EU-445C	TA445-348	Smelt spout cooling water surge tank on #4 Rec	70.75	7.08	7.08	70.75	0	0	0	0	1.42	0	0
EU-440	TA440-999	Misc Totes for additives	70.75	7.08	7.08	0	0	0	0	0	0	0	0
EU-275C	TA186-162	VCE seal water tank	0	0	0	0	0	0.11	0	0	0.03	0.11	0.11
EU-310	TA310-133	Kamyr belt sump	37.81	3.78	3.78	0	0	0	0	0	0	0	0
EU-310	TA310-274	#3 silo sump pump tank	37.81	3.78	3.78	0	0	0	0	0	0	0	0
EU-310	FU315-999B	ADS Rejects (ADS trash conveyor/belt)	37.81	3.78	3.78	0	0	0	0	0	0	0	0
EU-310	TA310-999A	Misc Totes for additives	37.81	3.78	3.78	0	0	0	0	0	0	0	0
EU-440	TA155-015	Sulfuric acid tank	0	0	0	0	0	0	0	0	0	70.75	0
EU-440	TA155-040	Caustic storage tank	0	0	0	0	0	0	0	0	0	70.75	0
EU-185	TA185-061	Bulk Nutrient Tank	70.753	7.075	7.075	0	0	0	0	0	0	0	0
EU-185	TA185-063	Bulk Defoamer Tank											
EU-185	TA185-182	Sulfuric acid tank	0	0	0	0	0	0	0	0	0	60.13	0
EU-275C	PR440-074	Fiber Filter	0	0	0	0	0	0.05	0	0	0.18	0.22	0.22
EU-275C	TA440-072	Fiber Filter Supply Tank	0	0	0	0	0	0.05	0	0	0.18	0.22	0.22
EU-275C	TA440-075	Dregs Storage Tank (included with Fiber Filter Tank)											
EU-420	TA401-017	Kamyr blow tank (#3)	0	0	0	0	0	98.55	0	0	2.43	7.06	6.48
EU-275C	TA440-090	Strong Black Liquor Surge Tank	0	0	0	0	0	58.3	0	0	51.68	52.94	42.93
EU-715 MR2	TA715-500	MR#2 Dry End Fugitives	28.86	14.43	14.43	0	0	0	0	0	0	0	0
EU-456	PU454-009	Mud Filter vacuum pump vapor #2	0	0	0	0	0	92.16	0	0	0.37	244	218.95
EU-185	FU180-999F	#2 MR Effluent Collection System	0	0	0	0	0	47.1	0	0	0	23.57	21.13
EU-600	TA601-031	OCC Primary stock rejects chest vent	0	0	0	0	0	33.63	0	0	0	0	0

EU ID	Device ID	Device Name	Annual Emissions (lbs/yr)										
			PM	PM_{10}	$PM_{2.5}$	SO_2	CO	VOC	NO_X	SAM	TRS	HAPs	MeOH
EU-456	FU456-999	Lime kiln ESP dry ash off-handling fugitives (see related FU455-999A & EU456-999B)	18.16	8.72	8.72	0	0	0	0	0	0	0	0
EU-275D & EU-456	TA455-127	#4 Slaker (NC-A00)	0	0	0	0	0	0	0	0	0	0	0
EU-275D & EU-456	TA455-165	New Dregs Filter	3.78	1.51	1.51	0	0	3.80	0	0	0.13	0	0
EU-445C	TA445-675	#4 Recovery saltcake handling system (silo vents to No. 4 Precipitator after year 2005 simplification project NC-B05 and emissions included with the #4Recovery Furnace) BUT, per NC-B09, due to vent line plugs, now vents to atmosphere.	707.53	353.77	353.77	0	0	0	0	0	0	0	0
EU-445D	TA445-336	No. 4 Recovery boiler and economizer ash mix tank (vented to SDTV4 scrubber inlet, with emissions included there).	0	0	0	0	0	0	0	0	0	0	0
EU-445D	TA445-563	No. 4 Recovery Precipitator ash mix tank (vented to SDTV4 scrubber inlet, with emissions included there).	0	0	0	0	0	0	0	0	0	0	0
The following devices are AIA for TRS only:													
EU-420	TA420-059	Kamyr Screened Rejects Pulp Tank									25.2		
EU-420	TA420-037	Kamyr Filtrate Spill Tank									24.13		
EU-420	TA420-109	Kamyr Diffuser Filtrate tank									12.06		
EU-456	GE455-153	#3 mud filter hood fan (plus fugitives from filter)									90.12		
EU-275D & EU-456	TA455-001	South green liquor clarifier									12.88		
EU-275D & EU-456	TA456-001	North green liquor clarifier									11.02		
EU-275D & EU-456	TA456-015	#3 Causticizer (3rd in series of 5)									204.58		
EU-275D & EU-456	GE454-052	#2 Mud filter									6.2		
EU-275D & EU-456	TA455-013	#2 Causticizer (4th in series of 5)									154.23		
EU-275D & EU-456	TA455-011	#1 Causticizer (5th in series of 5, off-line)									0		

EU ID	Device ID	Device Name	Annual Emissions (lbs/yr)										
			PM	**PM_{10}**	**$PM_{2.5}$**	**SO_2**	**CO**	**VOC**	**NO_X**	**SAM**	**TRS**	**HAPs**	**MeOH**
EU-275D & EU-456	PU455-056	Mud filter vacuum pump vapor (#3)									2.35		
EU-275D & EU-456	TA456-128	Precipitator Slurry Tank									1.48		
EU-275D & EU-456	TA455-158	Jet condenser seal tank									0.31		
		Grand Total pounds per year	*1,323.49*	*434.94*	*434.94*	*70.75*	*0*	*694.56*	*0*	*0*	*600.99*	*650.03*	*290.02*
		Grand Total tons per year	*0.662*	*0.217*	*0.217*	*0.035*	*0.002*	*0.345*	*02*	*0*	*0.300*	*0.325*	*0.145*
		AIA Upper Limit, pounds per year	**2,000**	**2,000** [A]	**2,000** [A]	**2,000**	**2,000**	**2,000**	**2,000**	**2,000**	**2,000**	**5,000**	**1,000**

[A] Note: 2000 pounds per year is the limit for PM_{10} attainment areas. Eugene/Springfield is in attainment for PM_{10} and is designated as a Maintenance Area for PM_{10}. For the purposes of AIA, it is assumed all the PM_{10} is $PM_{2.5}$.

CATEGORCIALLY INSIGNIFICANT ACTIVITIES

69. The permittee has the following categorically insignificant activities onsite:

- Constituents of a chemical mixture present at less than 1 percent by weight of any chemical or compound regulated under OAR Chapter 340, divisions 218 and 220, and LRAPA titles 12 through 51 or less than 0.1percent by weight of any carcinogen listed in the U.S. Department of Health and Human Service's Annual Report on Carcinogens when usage of the chemical mixture is less than 100,000 pounds/year;
- Evaporative and tail pipe emissions from on-site motor vehicle operation;
- Distillate oil, kerosene, gasoline, natural gas or propane burning equipment, provided the aggregate expected actual emissions of the equipment identified as categorically insignificant do not exceed the de minimis level for any regulated pollutant, based on the expected maximum annual operation of the equipment. If a source's expected emissions from all such equipment exceed the de minimis levels, then the source may identify a subgroup of such equipment as categorically insignificant with the remainder not categorically insignificant. The following equipment may never be included as categorically insignificant:
    A. Any individual distillate oil, kerosene or gasoline burning equipment with a rating greater than 0.4 million Btu/hour;
    B. Any individual natural gas or propane burning equipment with a rating greater than 2.0 million Btu/hour.
- Distillate oil, kerosene, gasoline, natural gas or propane burning equipment brought on site for six months or less for maintenance, construction or similar purposes, such as but not limited to generators, pumps, hot water pressure washers and space heaters, provided that any such equipment that performs the same function as the permanent equipment, must be operated within the source's existing PSEL;
- Office activities;
- Food service activities;
- Janitorial activities;
- Personal care activities;
- Groundskeeping activities including, but not limited to building painting and road and parking lot maintenance;
- On-site laundry activities;
- On-site recreation facilities;
- Instrument calibration;
- Maintenance and repair shop;
- Automotive repair shops or storage garages;
- Air cooling or ventilating equipment not designed to remove air contaminants generated by or released from associated equipment;
- Refrigeration systems with less than 50 pounds of charge of ozone depleting substances regulated under Title VI, including pressure tanks used in refrigeration systems but excluding any combustion equipment associated with such systems;
- Bench scale laboratory equipment and laboratory equipment used exclusively for chemical and physical analysis, including associated vacuum producing devices but excluding research and development facilities;
- Temporary construction activities;
- Warehouse activities;
- Accidental fires;
- Air vents from air compressors;
- Air purification systems;
- Continuous emissions monitoring vent lines;
- De-mineralized water tanks;
- Pretreatment of municipal water, including use of deionized water purification systems;
- Electrical charging stations;
- Instrument air dryers and distribution;
- Process raw water filtration systems;
- Fire Suppression;
- Blueprint making;

- Routine maintenance, repair, and replacement such as anticipated activities most often associated with and performed during regularly scheduled equipment outages to maintain a plant and its equipment in good operating condition, including but not limited to steam cleaning, abrasive use, and woodworking;
- Electric motors;
- Storage tanks, reservoirs, transfer and lubricating equipment used for ASTM grade distillate or residual fuels, lubricants, and hydraulic fluids;
- On-site storage tanks not subject to any New Source Performance Standards (NSPS), including underground storage tanks (UST), storing gasoline or diesel used exclusively for fueling of the facility's fleet of vehicles;
- Natural gas, propane, and liquefied petroleum gas (LPG) storage tanks and transfer equipment;
- Pressurized tanks containing gaseous compounds;
- Emissions from wastewater discharges to publicly owned treatment works (POTW) provided the source is authorized to discharge to the POTW, not including on-site wastewater treatment and/or holding facilities;
- Storm water settling basins
- Fire suppression and training;
- Paved roads and paved parking lots within an urban growth boundary;
- Health, safety, and emergency response activities;
- Emergency generators and pumps used only during loss of primary equipment or utility service due to circumstances beyond the reasonable control of the owner or operator, or to address a power emergency, provided that the aggregate horsepower rating of all stationary emergency generator and pump engines is not more than 3,000 horsepower. If the aggregate horsepower rating of all stationary emergency generator and pump engines is more than 3,000 horsepower, then no emergency generators and pumps at the source may be considered categorically insignificant;
- Non-contact steam vents and leaks and safety and relief valves for boiler steam distribution system;
- Non-contact steam condensate flash tanks;
- Non-contact steam vents on condensate receivers, deaerators and similar equipment;
- Boiler blow down tanks;
- Industrial cooling towers that do not use chromium-based water treatment chemicals;
- Uncontrolled oil/water separators in effluent treatment systems, excluding systems with a throughput of more than 400,000 gallons per year of effluent located at the following sources:
  - A. Petroleum refineries;
  - B. Sources that perform petroleum refining and re-refining of lubricating oils and greases including asphalt production by distillation and the reprocessing of oils and/or solvents for fuels; or
  - C. Bulk gasoline plants, bulk gasoline terminals, and pipeline facilities.
- Combustion source flame safety purging on startup;
- Broke beaters, pulp and repulping tanks, stock chests and pulp handling equipment, excluding thickening; equipment and repulpers;
- Stock cleaning and pressurized pulp washing, excluding open stock washing systems; and
- White water storage tanks.

Reciprocating Internal Combustion Engine (RICE) NESHAP

70. The facility currently has five (5) Reciprocating Internal Combustion Engines (RICEs) that are considered existing stationary emergency-use engines under 40 CFR 63 Subpart ZZZZ and are categorized as Categorically Insignificant Activities (CIA). A table containing information on the RICE units is provided below:

Table 4. RICE Unit Descriptions.

RICE Unit/Device ID	Device Name	Date Installed	Manufacturer	Combustion Device Type	Fuel Type	Heat Input Design Capacity (Btu/hr)	Max Hourly Firing Rate (gallons/hr)	Rated Design Capacity (horsepower/hr)
FP808-052	Emergency Fire Pump	Jan-85	Cummins, Model NT38015	Compression Ignition	Diesel	970,000	17 gal/hr Max	380 hp

RICE Unit/Device ID	Device Name	Date Installed	Manufacturer	Combustion Device Type	Fuel Type	Heat Input Design Capacity (Btu/hr)	Max Hourly Firing Rate (gallons/hr)	Rated Design Capacity (horsepower/hr)
LK2-454-032	#2 Lime Kiln Emergency Backup Drive	Jun-51	International Harvester, Model U4	Spark Ignition	Gasoline	81,000	2 gal/hr Max	32 hp
LK3-455-063	#3 Lime Kiln Emergency Backup Drive	Nov-01	Cummins, Model 3.3	Compression Ignition	Diesel	220,000	4 gal/hr Max	85 hp
RP140-126	Emergency River Pump Generator	Mar-94	Caterpillar, Model 3306	Compression Ignition	Diesel	800,000 (230 kW-hr)	4 gal/hr Max	314 hp
NFP195-003	Emergency Fire Pump	Dec-19	Clarke Detroit (John Deere), 6068HF485T	Compression Ignition	Diesel	EPA Power Category 130- 560 kW	4 gal/hr Max	312 hp
Aggregate Facility RICE Units (5) Horsepower Total qualifying as CIA (<3,000 hp):								1,123 hp

71. The permit includes requirements for these engines to be maintained as emergency use including the requirement that the following:

    71.a. Maintenance checks and readiness testing of each unit is limited to 100 hours per year.

    71.b. The permittee may operate each emergency stationary RICE up to 50 hours per year in non-emergency situations, but those 50 hours are counted towards the 100 hours per year provided for maintenance and testing.

EMISSION LIMITS AND STANDARDS, TESTING, MONITORING AND RECORDKEEPING

72. The facility is subject to LRAPA fugitive emission and nuisance rules and is required to maintain a complaint log.

73. The facility is not subject to the EPA Risk Management rules in 40 CFR Part 68 and is not required to maintain a Risk Management Plan to comply with those rules.

74. The facility is subject to the fuel sulfur limit of 0.0015% by weight for Ultra Low Sulfur Diesel (ULSD) per LRAPA Title 32 rules for combustion sources.

75. The #4 Recovery Furnace (EU-445C) is subject to LRAPA Title 33 Kraft Pulp Mill rules (with emission limits for opacity, TRS, PM, and SO_2), NSPS Subpart BB rules (with emission limits for opacity, TRS and PM), as well as the NESHAP for Chemical Recovery Combustion Sources at Kraft Pulp Mills (Subpart MM), with a rule revision for the EPA Residual Risk and Technology Review (RTR) that was published October 11, 2017. Compliance requirements include the following:

    75.a. Operation of a COMS for opacity monitoring (LRAPA title 33, NSPS Subpart BB and NESHAP Subpart MM);

    75.b. Operation of a CEMS for TRS and SO_2 monitoring. (LRAPA title 33, NSPS Subpart BB);

75.c. Quarterly or semi-annual source tests for PM (LRAPA title 33) and every five years (NSPS Subpart BB and NESHAP Subpart MM); and

75.d. NESHAP Subpart MM rule changes include a revision for the opacity exceedance allowance from 6% to 2% of the semi-annual operating period that can exceed the emission limit of 35% opacity, a requirement for a COMS operated in accordance with Performance Specification 1, and addition of ESP proper operation of automatic voltage control (AVC), with operating limits set through source testing.

75.e. NESHAP Subpart MM rule changes resulting from the EPA RTR, eliminated the Startup, Shutdown and Malfunction (SSM) Plan requirements.

76. The Lime Kilns #2 and #3 (EU-455) are subject to LRAPA Title 33 - Kraft Pulp Mill rules (with emission limits for opacity, TRS and PM) and the NESHAP for Chemical Recovery Combustion Sources at Kraft Pulp Mills (Subpart MM) with PM and opacity limits), with a rule revision for the Residual Risk and Technology Review (RTR) that was published October 11, 2017. Compliance requirements include the following:

76.a. Operation of a COMS for opacity monitoring (LRAPA title 33 and NESHAP Subpart MM);

76.b. Operation of a CEMS for TRS monitoring. (LRAPA title 33);

76.c. Semi-annual source tests for PM (LRAPA title 33) and every five years (NESHAP Subpart MM);

76.d. NESHAP Subpart MM rule changes include a revision for the kiln opacity-exceedance allowance from 6% to 3% of the semi-annual operating period that can exceed the emission limit of 35% opacity limit, a requirement for a COMS operated in accordance with Performance Specification 1, and addition of ESP proper operation of automatic voltage control (AVC), with operating limits set through source testing.

76.e. NESHAP Subpart MM rule changes resulting from the EPA RTR, eliminated the Startup, Shutdown and Malfunction (SSM) Plan requirements.

77. The #4 Smelt Dissolving Tank (#4 SDT, EU-445D) is subject to LRAPA title 33 - Kraft Pulp Mill rules, LRAPA title 32 rules for Visible Emissions, as well as the NESHAP for Chemical Recovery Combustion Sources at Kraft Pulp Mills (Subpart MM), with a rule revision for the Residual Risk and Technology Review (RTR) that was published October 11, 2017. Requirements include the following:

77.a. LRAPA Title 33 - Kraft Pulp Mill rules include emission limits for opacity, TRS and PM;

77.b. Quarterly or semi-annual source tests for PM and TRS (LRAPA title 33) and every five (5) years for PM (NESHAP Subpart MM);

77.c. The revised NESHAP Subpart MM includes alternative parameter monitoring using fan amperage monitoring for scrubbers operating at ambient pressure but the #4 SDT wet scrubber control doesn't operate at ambient pressure. The #4 SDT wet scrubber continuous parameter monitoring system (CPMS) tracks scrubber pressure drop and liquid flow rate for compliance with Subpart MM and monitors scrubber pressure drop, pH and liquid flow rate for compliance with LRAPA title 32 O&M Emission Action Levels requirements;

77.d. NESHAP Subpart MM rule changes resulting from the EPA RTR, eliminated the Startup, Shutdown and Malfunction (SSM) Plan requirements;

77.e. The #4 SDT is not subject to the NSPS for Kraft Pulp Mills (Subpart BB) because this emission unit was installed prior to the effective date of the NSPS (September 24, 1976).

77.f. Miscellaneous TRS emissions units (EU-275C & EU-275D), including the Kamyr Kraft Digester, brownstock, black, white and green liquor handling systems, are subject to LRAPA Title 33 - Kraft Pulp Mill rules TRS and opacity limits, with semi-annual visible emissions monitoring required for compliance verification. Annual TRS source testing is required for individual EU-275C and EU-275D devices that are greater than 3% of the TRS limit or greater than 10% of the limit for aggregate average TRS emissions rates. TRS source testing is required for any new sources of TRS added to the Miscellaneous TRS units.

77.g. The Lime Kilns (EU-455) (or the #4 Recovery Furnace, if used), as control devices for incineration of the non-condensible gases (NCGs)/digester gases, must be operated at a minimum combustion

temperature of 1200°F and a residence time of 0.5 seconds. The permittee has opted to route kraft digester gases to one of the kilns with the #4 Recovery Furnace serving as a back-up incineration device in the event of the kilns are unavailable. Permit conditions include temperature monitoring and excess emissions reporting of any deviations of the combustion temperature below the minimum of 1200°F in accordance with LRAPA Title 33 - Kraft Pulp Mill TRS rules and NESHAP Subpart S requirements.

77.h. The Power Boiler (EU-150A) and the Package Boiler (EU-150B) are subject to LRAPA title 32 Visible Emission rules for opacity and PM emissions from combustion sources. Because the boilers combust only natural gas (as required by Regional Haze SAFO) no opacity monitoring is required unless the boilers operate on ULSD during maintenance or during period(s) of natural gas curtailment. In the event the boilers operate on ULSD No. 2 fuel oil, opacity monitoring conditions would apply. PM source testing is not required for the boilers for natural gas combustion but is required once per permit term for ULSD combustion.

77.i. The Power Boiler (EU-150A) and the Package Boiler (EU-150B) are subject to the Boiler NESHAP (40 CFR Part 63 Subpart DDDDD) but only have a requirement for tune-ups every five (5) years because they only use natural gas (operate as "Gas I" units) and each boiler has an O_2 trim system. Initial compliance included one-time energy assessments on each boiler. The facility is required to complete notifications, recordkeeping and reporting (including EPA's CEDRI reporting).

77.j. The Package Boiler (EU-150B) is subject to the NSPS for Industrial Steam Generating Units (Subpart Db) with a NO_x emission limit of 0.2 lb/MMBtu and a requirement to operate a NO_x CEMS. Although the boiler is subject to NSPS Subpart Db for PM and SO_2, the emission limits in that standard do not apply to natural gas combustion devices, so no additional requirements apply to the Package Boiler.

77.k. All other point sources are subject to LRAPA title 32 for Visible Emissions rules with a 20% opacity limit and the PM emission limits for non-combustion sources. Fugitive emissions emission units are subject to LRAPA title 48 for control of fugitives, off-site deposition and nuisance.

77.l. Multiple emission points are subject to the Pulp and Paper Industry NESHAP (Subpart S), including Low Volume, High Concentration (LVHC) vents from the pulping operations, and specific pulping condensates. For the High-Volume Low Concentration (HVLC) sources, the facility uses the Clean Condensate Alternative (CCA). These rules include requirements for closed vent monitoring and emissions from specific drains (NESHAP Subpart RR)

77.l.i. A rule revision for the EPA Residual Risk and Technology Review (RTR) was published on September 12, 2012, with 5-year repeat emissions testing for selected process equipment and revisions to the SSM exemptions.

77.l.ii. Specific requirements include capture and control of process vent emissions from pulping processes, annual leak detection and repair for closed vent systems and control of condensate drain emissions.

77.m. 40 CFR Part 63 Subpart MM National Emission Standards for Hazardous Air Pollutants for Chemical Recovery Combustion Sources at Kraft, Soda, Sulfite, and Stand-Alone Semi-chemical Pulp Mills is applicable to the facility. This NESHAP applies to the #4 Recovery Furnace (EU-445C), the #4 Smelt Dissolving Tank (EU-445D), and the Lime Kilns (EU-455).

77.n. The facility is required to retain all records of monitoring for at least five (5) years. These records must be made available to LRAPA inspectors upon request.

77.o. The facility is required to continuously measure and monitor the Kamyr Digester (EU-420) pulp production in ADT (air-dried tons), quantities of natural gas and ULSD (in MMBtus) combusted in each combustion unit (EU-150A, EU-150B, EU-445C and EU-455), quantities of daily and annually tons of Black Liquor Solids (TBLS) combusted in the Recovery Furnace and Dissolving Tank (EU-445C & EU-445D) and tons of lime/CaO produced in the Kilns (EU-455) to demonstrate compliance with the PSELs. In addition, the facility must install, calibrate, maintain, and operate the continuous monitoring devices recording the pulp production (in ADT) and fuel use (in MMBtus, flow rates, etc.) at each combustion unit in accordance with the manufacturer's specifications.

COMPLIANCE ASSURANCE MONITORING (CAM) REQUIREMENTS

78. The Compliance Assurance Monitoring (CAM) rules (40 CFR Part 64) are intended to ensure that add-on control devices operate properly and thereby provide a reasonable assurance of compliance with emission limits. CAM requirements are applicable to all Title V sources for each pollutant-specific emission unit (PSEU) which has: 1) an emission limit or standard for a regulated pollutant; 2) a control device used to meet the limit or standard; and 3) and a PSEU which has **pre-control** emissions greater than the major source threshold of 100 tons per year. The pollutant-specific emission unit can be further categorized as a large PSEU if its post-control emissions are greater than the major source threshold (>100 tpy) or as a small PSEU if post-control emissions are less than major source thresholds. If CAM is not applicable to a PSEU, then periodic emissions monitoring may be applicable to the emissions unit. CAM is **not** applicable to a pollutant from an emissions unit if the TV permit requires continuous emissions monitoring (CEMs) or an NSPS or NESHAP addressing that pollutant has been promulgated for the unit after 11/15/1990. Improvements and clarification in emission estimates do not trigger the applicability of CAM, and CAM provisions were incorporated into the permit with the 2012 renewal.

Although a number of applicable LRAPA, DEQ and federal rules already provide for continuous or periodic monitoring of emission units at the facility in the existing Title V permit, an analysis of the CAM and periodic monitoring applicability and requirements was done for all PSEUs at the facility. As shown in the analysis summary below in Table 8, the only units to which CAM applies are PM emissions from the #4 Recovery Furnace (EU-445C), #4 Smelt Dissolving Tank (EU-445D) and Lime Kilns #2 & #3 (EU-455) for LRAPA Title 33 - Kraft Pulp Mills PM emission limits and opacity requirements. In each of these cases, NESHAP Part 63 Subpart MM also requires control of PM as a surrogate for HAPs. Subpart MM requires continuous emission monitoring of opacity (COMs) and monitoring of secondary voltage for the #4 Recovery Furnace ESP and Lime Kilns ESP as well as continuous monitoring of the #4 Smelt Dissolving Tank wet scrubber differential pressure and water flowrate. Because the federal rules include quality control requirements for the monitoring devices, and compliance is regularly verified with source testing, these monitoring systems are considered sufficient to meet CAM requirements. No additional monitoring is required for CAM for the #4 Recovery Furnace and Lime Kiln ESPs. For the #4 Smelt Dissolving Tank Vent (SDTV) scrubber, however, the facility identified (in the 2004 renewal application) that the scrubber was subject to CAM to demonstrate continuous compliance with LRAPA's 'Highest and Best' rules in title 32. In addition to the monitoring of the wet scrubber differential pressure and water flowrate (required under Subpart MM), the facility proposed (and LRAPA accepted) monitoring of the pH of scrubber liquid. The recommended pH minimum, based on the study of TRS emissions concentration versus scrubber liquid pH on the #4 Smelt Dissolving Tank wet scrubber is pH >10.4 on a 3-hour average basis. Below this pH, the scrubber could exceed the TRS limit of 0.33 lb/ton BLS as H_2S. The facility determined that they generally needed to operate at a pH >10.7 to minimize TRS emissions. To demonstrate continuous compliance with the LRAPA's 'Highest and Best" rules and ensure continuous TRS compliance on the SDTV scrubber, the facility developed Emission Action Levels (EALs, see EAL monitoring discussion in Item 81) for CAM on the scrubber. The facility continuously monitors scrubber liquid pH and an alarm is triggered whenever the pH falls below 10.4. In addition, the facility maintains a log of the causes of scrubber liquid pH excursions as well as the corrective actions taken to return the scrubber liquid to the minimum scrubber liquid pH of 10.4.

Table 5. Facility-wide CAM Applicability Summary

EU ID	Emission Point	Pollutant	Limit or Standard	Exempt From CAM?	Control Device Used?	PTE >100 T/Y Pre-control?	CAM Required	TPE T/Y Post-control	CAM monitoring
EU-150A	Power Boiler	PM	Y	N	N		N		
		CO	N				N		
		NO_x	N	Y CEMS			N		RH NO_x CEM
		SO_2	N				N		
		VOC	N				N		
EU-150B	Package Boiler	PM	Y-NSPS	N	N		N		
		CO	N				N		

EU ID	Emission Point	Pollutant	Limit or Standard	Exempt From CAM?	Control Device Used?	PTE >100 T/Y Pre-control?	CAM Required	TPE T/Y Post-control	CAM monitoring
		NO_x	Y-NSPS	Y-NSPS	LNB w/FGR		N		
		SO_2	Y-NSPS	N	N		N		
		VOC	N				N		
EU-185	Effluent Collect & Treat	TRS	N				N		
		VOC	N				N		
EU-275A	Road Fugitives	PM	N				N		
EU-275C	"Other Sources" of TRS	PM	Y	N	N		N		
		TRS	Y	N	N		N		
		VOC	N				N		
EU-275D	"Additional Sources" of TRS	PM	Y	N	N		N		
		TRS	Y	N	N		N		
		VOC	N				N		
EU-310	Chip Handling & Screening	PM	Y	N	N		N		
		VOC	N				N		
EU-320	Chip Storage	PM	Y	N	N		N		
		VOC	N				N		
EU-330	Chip Fines	PM	Y	N	N		N		
		VOC	N				N		
EU-420	Kamyr Digester	VOC	N				N		
EU-440	Evap & Recovery	PM	Y	N	N		N		
		VOC	N				N		
EU-445C	#4 Recovery Furnace	PM	Y	Y – NESHAP (PM/HAP)	Y	Y	N	145.9	COMS, ESP voltage monitoring
				N –gr/dscf &lb/ADTP			Y		
				N -opacity			N-COMS		
		CO	N				N		
		NO_x	N				N		
		SO_2	Y	Y Kraft Mill rule CEM	N		N		SO_2 CEM
		TRS	Y	Y-NSPS BB	N		N		TRS CEM
		VOC	N	N	Y	N	N		
EU-445D	#4 Smelt Dissolving Tank	PM	Y	Y – NESHAP (PM/HAP)	Y (Wet Scrubber)	Y	N	42.4	Continuous scrubber differential pressure and water flow rate
				N –gr/dscf &lb/ADTP			Y		
				N -opacity			Y		
		CO	N				N		
		NO_x	N				N		
		SO_2	N				N		

EU ID	Emission Point	Pollutant	Limit or Standard	Exempt From CAM?	Control Device Used?	PTE >100 T/Y Pre-control?	CAM Required	TPE T/Y Post-control	CAM monitoring
		TRS	Y	H&B Eff.	Y	Y	Y	23.7	Continuous scrubber liquid pH monitoring
		VOC	N				N		
EU-455	Lime Kilns	PM	Y	Y–NESHAP	Y	Y	N	19.1	COMS, ESP voltage monitoring
				N- gr/dscf			Y		
				N- opacity			N-COMS		
		CO	N				N		
		NO_x	N				N		
		SO_2	N				N		CEMS
		TRS	Y	Y --CEMS	Y	N	N		
		VOC	N				N		
EU-456	Recaust Systems	PM	Y	N	N		N		
		VOC	N				N		
EU-600	Paper Recycling Systems	TRS	N				N		
		VOC	N				N		
EU-715A	Wet-end #2 Paper Machine	PM	Y	N	Y	N	N		
		TRS	N				N		
		VOC	N				N		
EU-715B	Dry-end #2 Paper Machine	PM	Y	N	Y	N	N		
		TRS	N				N		
		VOC	N				N		

Emission Action Levels (EALs)

79. The initial Title V Operating Permit issued in 2000 included Emission Action Levels (EALs) for devices which LRAPA has determined that O & M or work practice requirements may not be sufficient to ensure that air pollution control equipment or an emission reduction process is operated at the highest reasonable efficiency and effectiveness to minimize emissions. In 2000 this was based on past and recent performance observed by LRAPA and documented by the permittee in periodic emission reports required by LRAPA and permit reporting requirements.

80. For devices which LRAPA has determined that O & M or work practice requirements for opacity alarming, periodic testing, monthly reporting and existing internal facility pulp mill maintenance requirements and schedules are sufficient to ensure highest reasonable efficiency and effectiveness to minimize emissions, EALs are not required.

81. In the 2005 Title V Renewal permit, the initial 2000 LRAPA EAL on SDTV scrubber liquid flow was replaced by a redundant EAL requirement for SDTV scrubber liquid from federal MACT II requirements. In addition to the flow EAL, MACT II added a scrubber differential pressure (DP) EAL. The MACT II liquid flow and dP EALs are intended to control PM emissions from the SDTV scrubbers. The renewal application CAM review added another EAL for SDTV scrubber pH for TRS control.

REPORTING REQUIREMENTS

82. The facility is required to submit Title V compliance certification reports to LRAPA semiannually. The semi-annual reports are for certifying compliance with all the terms and conditions of the permit. The report must include a list of all permit deviations, the probable cause, and the corrective action as a result of the deviation.

In addition, the annual report must include considerable production information and estimates of actual emissions as well as the annual emissions fee report.

83. Monthly reports, as required by the pulp mill regulations (LRAPA 33-070), in addition to the semi-annual monitoring reports and annual monitoring reports, are required to be submitted within 30 days of the end of each calendar month.

84. The facility is also required to submit annual compliance reports for the Subpart S, MM and DDDDD MACT requirements.

85. The facility must submit semiannual NSPS reports required for the Package Boiler (Subpart Db) and the #4 Recovery Furnace (Subpart BB).

86. The facility is subject to annual Greenhouse Gas (GHG) reporting under OAR 340 division 215.

87. In addition, the facility is required to notify LRAPA before each source test and submit summaries or complete source tests reports after each test.

88. The facility is subject to immediate (within one (1) hour) reporting of excess emissions.

89. As identified earlier in this Review Report, this facility has insignificant emission units (IEUs) that include categorically insignificant activities (CIA) and aggregate insignificant activities (AIA), as defined in LRAPA title 12. For the most part, the standards that apply to IEUs are opacity and particulate matter (PM). LRAPA does not consider it likely that IEUs could exceed an applicable emissions limit or standard because IEUs are generally equipment or activities that do not have emission controls (e.g., small propane space heaters) and do not typically have visible emissions. Since there are no controls, no visible emissions, and the emissions are less than one ton per year, LRAPA does not believe monitoring, recordkeeping, or reporting is necessary for assuring compliance with the standards, except for monitoring and recordkeeping requirements in the permit for the emergency RICE IEUs with the NESHAP Subpart ZZZZ applicability.

90. Unless otherwise notified, all reports must be sent to:

Lane Regional Air Protection Agency
1010 Main Street
Springfield, OR 97477

REVISED OR RESCINDED CONDITIONS

91. The following is a list of condition-by-condition changes between the previous 2012 permit and the proposed permit:

Table 6. Condition Change Accounting for Revised or Rescinded Conditions

New Permit Condition Number	Old Permit Condition Number	Description of Change(s)	Reason for Change(s)
Most	Most	Updated and corrected rule citations. Change "shall" to "must." Reorganized most monitoring requirements conditions to follow applicable requirements consistent with current TV permitting practices	LRAPA rule changes, typos, etc., monitoring requirements reorganized to follow applicable requirements per current TV permitting practices
Cover Page	Cover Page	Updated facility mailing address (outdated P.O. Box) and facility contact, added application revisions dates.	Update and for permit consistency.
List of Abbreviations	List of Abbreviations	Added several abbreviations, deleted fuels prohibited by Regional Haze requirements.	Update and for permit consistency.
TOC & TOT	TOC & TOT	Both TOC and TOT updated for permit reorganization	Update and for permit consistency.
1	1	No change.	NA
Table 1	Table 1	Updated EU and PCD control info, added all devices associated with each EU and removed decommissioned EUs	Update and for permit consistency.
2, 2.a-c	2, 2.a-c	Updated LRAPA-only and federally enforceable conditions based on EU removals, clarified applicable conditions by EU and pollutant, updated cross references	Updated for clarity and for permit consistency.
none	2.d	Deleted reference to attachments, EU Table added to permit as Table 1 (2.d.i), Subpart S averaging	Condition no longer appropriate

New Permit Condition Number	Old Permit Condition Number	Description of Change(s)	Reason for Change(s)
		period (2.d.ii) added to Review Report (RR), emission detail sheets (2.d.iii) attached to RR.	
3	3	Incorporated devices associated with each emission unit into Table 1. Removed New Fiber Line Pulping (EU-402), Batch Digesters (EU-410), No. 3 Recovery Furnace (EU-445A) and associated control devices (CD440-067, CD441-050, CD445-183), No.3 Recovery DTV East/West (EU-445B) and associated control devices (CD445-162, 164)	Construction and permit changes.
23	4	Subpart S Operating Scenario 4.I moved to Subpart S section, Operating Scenario 4.II deleted by request by the facility (May 4, 2023 AR404 change request)	Update consistent with permit reorganization and facility request
Table 2	Table 2	Removed requirements for ASTM Grade No. 4 and 6 Fuel Oil, Distillate Fuel Oil - ASTM Grade 1 and 2 Distillate Fuel Oil, Reprocessed Fuel Oil, and Used Oil, and replaced with requirements for ULSD No. 2 ASTM Grade 2-D S15 Fuel Oil based on Regional Haze Round II restrictions, added notification requirements for becoming subject to 40 CFR Part 68	Fuels no longer allowed to be used as a result of Regional Haze SAFO restrictions, clarity in notification requirements for Accidental Release & Risk Mgmt.
4 + 4.a-4.g	5	Fugitive condition updated to include all fugitive precautions (added 4.a -4.g) along with updated rule citations	Updated with rule provisions and citations and for permit consistency.
NA	6	Removed condition regarding ASTM Grade No. 4 and No. 6 fuel oil.	Fuels no longer allowed as a result of Regional Haze SAFO restrictions
NA	7	Removed condition regarding ASTM Grade 1 distillate fuel oil.	Fuels no longer allowed as a result of Regional Haze SAFO restrictions
NA	8	Removed condition regarding ASTM Grade 2 distillate fuel oil.	Fuels no longer allowed as a result of Regional Haze SAFO restrictions
NA	9	Removed condition regarding reprocessed fuel oil, used oil, or oil blends.	Fuels no longer allowed as a result of Regional Haze SAFO restrictions
5, 5.a-5.e	NA	Added weekly fugitive emission survey monitoring requirements, consistent w/DEQ guidance. Reference applicable fugitive units	Standard permit template language.
13	10	Moved condition as a result of permit reorganization	Updated for clarity and for permit consistency.
14, 14.a-14.c	11, 11.a -11c	Moved & renumbered SERP condition as a result of permit reorganization, conditions updated for current emission units and fuels allowed by RH SAFO	Updated for clarity and for permit consistency.
15	20	Moved & renumbered SERP monitoring condition for maintaining log of SERP-required actions and reduction to follow SERP applicable requirements	Updated for clarity and for permit consistency.
7, 7.a & 7.b	12	Moved & renumbered nuisance condition as a result of permit reorganization, rule citation updated, added LRAPA 32-090(2) as Condition 7.b (water vapor causing injury).	Updated for clarity and for permit consistency.
6	13	Moved & renumbered nuisance condition as a result of permit reorganization, rule citation updated	Updated for clarity and for permit consistency.
8	21	Moved & updated nuisance and complaint monitoring recordkeeping requirements w/current TV language and citations	Updated for clarity and for permit consistency.
9	14	Moved & renumbered nuisance PM deposition condition as a result of permit reorganization, rule citation updated	Updated for clarity and for permit consistency.
10	NA	Added VE fugitive monitoring requirement for PM deposition condition for new permit condition 9	Updated for clarity and for permit consistency.
G5	15	Masking nuisance condition added to the General Conditions as Condition G5, consistent with current TV permitting practices	Updated for clarity and for permit consistency.
16	16	Removed use of presto logs in open barrels for emergency heating; practice no longer used at mill (AR404 Request)	Updated for clarity and for permit consistency.

New Permit Condition Number	Old Permit Condition Number	Description of Change(s)	Reason for Change(s)
17, 17.a-17.k	17, 17.a-17.k, Tables 3, 4 & 5	Updated VE monitoring requirements and current associated devices, removed VE Schedule Tables 3, 4 & 5 and replaced with updated schedule language based on RH fuel restrictions, removed obsolete EUs and devices	Updated for clarity and for permit consistency.
none	18, 18.a-18.b	Removed No. 6, No. 4 & No.2 batch oil monitoring conditions and requirements, fuels no longer allowed per RH SAFO fuel restrictions	Fuels no longer allowed as a result of Regional Haze SAFO restrictions
none	19, 19.a-19.c	Removed reprocessed and used oil monitoring conditions and requirements, fuel no longer allowed per RH SAFO fuel restrictions	Fuels no longer allowed as a result of Regional Haze SAFO restrictions
15	20	Moved & renumbered SERP monitoring condition for maintaining log of SERP-required actions and reduction to follow SERP applicable requirements	Updated for clarity and for permit consistency.
8	21	Moved & updated nuisance and complaint monitoring recordkeeping requirements w/current TV language and citations	Updated for clarity and for permit consistency.
188	22	QAP CEMS & COMS plans condition moved to Facility-Specific monitoring requirements as a result of permit reorganization	Updated for clarity and for permit consistency.
18, Table 3	23, Table 6	Subpart S applicability condition 18 and Subpart S requirements summary Table updated for rule revisions, renumbered, and table cross-references updated. Entire Subpart S section reorganized to follow federal rule order.	Updated for Subpart S revisions, Conditions modified for consistency with other OR kraft mills
21.a-21.kk	24.a-24.q	Subpart S definitions were alphabetized, several definitions were added and the NCG sources were updated	Updated for Subpart S revisions, clarity and for permit consistency.
G4.c, 22	25	Condition referred to applicable requirements that become effective during the permit term require the facility to meet those requirements. This condition has been removed as it is covered in the General Conditions G4.c for all new applicable requirements. Condition 22 was added which allows LRAPA to reopen the permit for revisions to Subpart A and/or S	Updated for Subpart S revisions, clarity and for permit consistency.
33, 33.a-33.b & 34, 34.a-34.g	26, 26.a-26.b & 27, 27.a-27.e	Clarified that Subpart A CMS applicability and monitoring requirements for Subpart S apply to the Steam Stripper, moved to the monitoring section after the standards section. Added 34.c and 34.f consistent with Subpart A CMS requirements	Updated for Subpart S revisions, clarity and for permit consistency.
43	28	Moved Subpart A and S reporting requirements to follow recordkeeping section to align with sequential order of federal regulation, no changes to condition language	Updated for Subpart S revisions, clarity and for permit consistency.
23	4	Subpart S Operating Scenario 4.I moved to Subpart S section, Operating Scenario 4.II deleted by request by the facility (May 4, 2023 AR404 change request)	Updated for Subpart S revisions, clarity and for permit consistency.
24	NA	Updated and added lists of current specific LVHC and HVLC equipment and devices for clarity and as requested by the facility (May 4, 2023 AR404 change request)	Updated for Subpart S revisions, clarity and for permit consistency.
25	29	Updated language to clarify the facility was using only the CCA option for HVLC sources and added date CAA approach was approved by LRAPA (Nov. 2004), clarified and updated applicable HVLC equipment and devices	Updated for Subpart S revisions, clarity and for permit consistency.
26	30	Clarified that the HVLC collection system uses the CCA alternative and deleted reference to "future" HVLC sources in Condition 26.b.iv (old 30.b.iv)	Updated for Subpart S revisions, clarity and for permit consistency.
26.a-26.e	30.a-30.g	Updated "mill-specific" named streams and removed reference to Scenario I (only one scenario per May 4, 2023 AR404 request) in Condition 26.c (old 30.c), also updated language to include combined general collection requirements (old 30.f (moved 30.g to monitoring section)) with treatment requirements in condition 26.c, updated "named" condensate streams in Conditions 26.c.i -26.c.vi (old 30.c.i-30.c.iv) per AR4040 request	Updated for Subpart S revisions, clarity and for permit consistency.

New Permit Condition Number	Old Permit Condition Number	Description of Change(s)	Reason for Change(s)
27, 27.a-27.b.ii	31, 31.a-31.b.ii	Renumbered, no change to language, updated cross-references	Updated for Subpart S revisions, clarity and for permit consistency.
28, 28.a-28.c	32, 32.a-32.c	Renumbered, no change to language, updated cross-references	Updated for Subpart S revisions, clarity and for permit consistency.
29	33	Renumbered, language added to clarify excess emissions (combined old Conditions 33 & 34), updated cross-references	Updated for Subpart S revisions, clarity and for permit consistency.
NA	34	Language added to Condition 29 (see above), consolidated old Conditions 33 and 34 for clarity and to follow federal rule language	Updated for Subpart S revisions, clarity and for permit consistency.
30, 30.a-30.c	35, 35.a-35.c	Renumbered, no change to language, updated cross-references	Updated for Subpart S revisions, clarity and for permit consistency.
30.d	35.d and 35.e	Updated to include references that 1993 baseline CAA determinations (old 35.d and 35.f) had been met and LRAPA approval of CCA baseline	Updated for Subpart S revisions, clarity and for permit consistency.
30.f	35.f	Renumbered, no change to language, updated cross-references	Updated for Subpart S revisions, clarity and for permit consistency.
30.g	35.g	Renumbered, updated language to indicate all "control strategy" reports and updates had been submitted as required	Updated for Subpart S revisions, clarity and for permit consistency.
30.h-30.j.ii	35.h-35.j.iii	Renumbered, updated language to indicate the dates CCA projects for compliance demonstration had been completed	Updated for Subpart S revisions, clarity and for permit consistency.
30.k.i-k.iii	35.k.i-k.iii	Renumbered, no change to language, updated cross-references	Updated for Subpart S revisions, clarity and for permit consistency.
30.k.iv	35.k.iv	Renumbered and removed obsolete language about the Recovery Hot Water System and SDTV wet scrubber liquid makeup which was modified in 2014	Updated for Subpart S revisions, clarity and for permit consistency.
30.k.v	35.k.v.i	Renumbered, removed language that source "may test sources or additional liquid samples", updated cross-references	The facility may always do additional testing (not an applicable requirement), updated for clarity and permit consistency.
NA	35.k.vi and 35.k.v.ii	Removed conditions and language, #3 Recovery and SDTVs, both EU-445A and EU-445B decommissioned in 2008 and removed from permit in 2023 renewal	Updated for Subpart S revisions, clarity and for permit consistency.
30.k.vi-30.k.vii	35.k.viii-35.k.ix	Renumbered, no change to language, updated cross-references	Updated for Subpart S revisions, clarity and for permit consistency.
31, 31.a-31.d	36, 36.a-36.d	Renumbered, no change to language, updated cross-references	Updated for Subpart S revisions, clarity and for permit consistency.
32, 32.a-32.b	37, 37.a-37.b	Renumbered, no change to language, updated cross-references	Updated for Subpart S revisions, clarity and for permit consistency.
33, 33.a-33.b & 34, 34.a-34.g	26, 26.a-26.b & 27, 27.a-27.e	Clarified that Subpart A CMS applicability and monitoring requirements for Subpart S apply to the Steam Stripper, moved to the monitoring section after the standards section. Added 34.c and 34.f consistent with Subpart A CMS requirements	Updated for Subpart S revisions, clarity and for permit consistency.
35, 35.a-35.e	38, 38.a-38.d & 40, 40.a-40.e	Old Conditions 38 & 40 combined in new Condition 35 to reduce redundancy, updated cross-references	Updated for Subpart S revisions, clarity and for permit consistency.
none	39	Condition removed, referred to wastewater treatment testing option which the facility does not use/practice. The facility has a CMS to measure methanol treated on a continuous basis.	Updated for Subpart S revisions, clarity and for permit consistency.
39.j	39.a	Moved **initial** stripper efficiency testing results condition as a result of permit reorganization and to align with the sequential order of the federal regulation	Updated for Subpart S revisions, clarity and for permit consistency.

New Permit Condition Number	Old Permit Condition Number	Description of Change(s)	Reason for Change(s)
39.i	39.b	Moved Changing operating CPMS condition as a result of permit reorganization and to align with the sequential order of the federal regulation	Updated for Subpart S revisions, clarity and for permit consistency.
39.j	39.c	Moved **initial** stripper efficiency testing results condition as a result of permit reorganization and to align with the sequential order of the federal regulation	Updated for Subpart S revisions, clarity and for permit consistency.
40	40.f	Renumbered, no change to language, updated cross-references	Updated for Subpart S revisions, clarity and for permit consistency.
37, 37.a-37.c.vii	41, 41.a-41.c.vii	Renumbered, removed language referring to "Scenario I" in 41 & 41.a otherwise, no changes, updated cross-references	Updated for Subpart S revisions, clarity and for permit consistency.
37.d	NA	New condition 37.d gives the facility the option to install methanol density meters on A & B feed tanks in lieu of annual stripper testing	Updated for Subpart S revisions, clarity and for permit consistency.
39, 39.a-39.h	42, 42.a-42.h	Renumbered, no change to language, updated cross-references	Updated for Subpart S revisions, clarity and for permit consistency.
41, 41.a-41.d.ii	42.i-42.i.iv.B	Renumbered, no change to language, updated cross-references	Updated for Subpart S revisions, clarity and for permit consistency.
42, 42.a-42.e.ii	43, 43.a-43.e.ii	Renumbered, no change to language, updated cross-references	Updated for Subpart S revisions, clarity and for permit consistency.
43	28	Moved Subpart A and S reporting requirements to follow recordkeeping section to align with sequential order of federal regulation, no changes to condition language	Updated for Subpart S revisions, clarity and for permit consistency.
45	44	Renumbered, no change to language, updated cross-references	Updated for Subpart S revisions, clarity and for permit consistency.
46	45	Renumbered, no change to language, updated cross-references	Updated for Subpart S revisions, clarity and for permit consistency.
47	46	Renumbered, no change to language, updated cross-references	Updated for Subpart S revisions, clarity and for permit consistency.
47.a-47.d	none	New reporting requirement condition 47.a-47.d added in accordance with Sept. 2012 Subpart S RTR revisions	Updated for Subpart S revisions, clarity and for permit consistency.
49, 49.a-49.k	47, 47.a-47.k	Renumbered, no change to language except to add date initial performance test completed, updated cross-references	Updated for Subpart S revisions, clarity and for permit consistency.
48	48	RESERVED: condition 48 (to keep numbering intact) replaced with Affirmative Defense language form 40 CFR 63.456 language resulting from the Subpart Sept. 2012 RTR revisions	Updated for Subpart S revisions, clarity and for permit consistency.
50, 50.a-e & 50.h	49, 49.a-e & 49.h	Renumbered, no change to language, updated cross-references	Updated for Subpart S revisions, clarity and for permit consistency.
51	50	Renumbered, no change to language, updated cross-references	Updated for Subpart S revisions, clarity and for permit consistency.
52	NA	Insert General Provision Highest & Best provision resulting from Oct 2017 Subpart MM RTR revisions	Updated for Subpart MM revisions, clarity and for permit consistency.
Subpart MM Summary Table 6	Subpart MM Summary Table 9	Updated table cross-references, added General Provision, excess emission report, electronic reporting, deleted reference to SSM plan and quarterly reporting	Updated for Subpart MM revisions, clarity and for permit consistency.
53	51	Renumbered, no change to language, updated cross-references	Updated for Subpart MM revisions, clarity and for permit consistency.
54	52	Renumbered, no change to language, updated cross-references	Updated for Subpart MM revisions, clarity and for permit consistency.

New Permit Condition Number	Old Permit Condition Number	Description of Change(s)	Reason for Change(s)
63 & 64	53 & 54	Renumbered and clarified that Subpart A CMS applicability and monitoring requirements for Subpart MM CMS apply to the COMS on the #4 recovery and kiln EPS and the SDTV scrubber CPMS, moved to the monitoring section after the standards section.	Updated for Subpart MM revisions, clarity and for permit consistency.
74, 74.a-74.e 75	55-58.g.iii.C	Renumbered and moved entire section to follow recordkeeping requirements, removed references to SSM plan and quarterly reporting, and added excess emissions & electronic reporting (Condition 75) requirements consistent with the Oct 2017 Subpart MM RTR revisions	Updated for Subpart MM revisions, clarity and for permit consistency.
Subpart MM Appl Req. Summary Table 7	Subpart MM Appl Req. Summary Table 10	Updated table cross-references, added updated MM standards for opacity, PM HAP, Corrective Action & Violation of Standards criteria	Updated for Subpart MM revisions, clarity and for permit consistency.
NA	Subpart MM Affected Units Table 11	Deleted Table 11, affected units listed in new Condition 55	Updated for Subpart MM revisions, clarity and for permit consistency.
55	59	Removed Table 11 which old condition 59 referenced Table 11, new condition 59 lists the affected sources	Updated for Subpart MM revisions, clarity and for permit consistency.
56	60	Renumbered, removed "alternative" language as facility only has one operating scenario	Updated for Subpart MM revisions, clarity and for permit consistency.
58,58.a.i-58.a.iv	61, 61.a.i-61.a.iv	Renumbered and updated #4 recovery, SDTV and kilns PM HAP limits	Updated for Subpart MM revisions, clarity and for permit consistency.
59	62	Renumbered & added updated #4 Rec & Lime Kiln ESPs corrective action requirements based on Oct 2017 Subpart MM RTR revisions	Updated for Subpart MM revisions, clarity and for permit consistency.
60	63	Renumbered & added updated #4 Rec SDTV scrubber corrective action requirements based on Oct 2017 Subpart MM RTR revisions	Updated for Subpart MM revisions, clarity and for permit consistency.
61	64	Renumbered & Added updated Violation of Std language "when spent pulping liquor or lime mud is fed" based on Oct 2017 Subpart MM RTR revisions	Updated for Subpart MM revisions, clarity and for permit consistency.
61.a	64.a	Renumbered & added updated #4 Rec w/ESP opacity limit (>35% for 2% operating time) based on Oct 2017 Subpart MM RTR revisions	Updated for Subpart MM revisions, clarity and for permit consistency.
61.b	64.b	Renumbered & Added updated Lime kilns w/ESP opacity limit (>20% for 3% operating time) based on Oct 2017 Subpart MM RTR revisions	Updated for Subpart MM revisions, clarity and for permit consistency.
61.c-61.d	65, 65.a-65.d	Renumbered & combined old condition 65 w/61.c and 61.d, added updated #4 Rec SDTV w/scrubber std (scrubber parameters fall below minimum operating limits in any 6-month period) based on Oct 2017 Subpart MM RTR revisions	Updated for Subpart MM revisions, clarity and for permit consistency.
62	NA	New condition added to clarify reporting requirements	Updated for Subpart MM revisions, clarity and for permit consistency.
65-65.k.xxv	66-66.i.xxv	Renumbered and updated ESP Unit Monitoring based on Oct 2017 Subpart MM RTR revisions	Updated for Subpart MM revisions, clarity and for permit consistency.
66-66.g.ii	67-67.h.xxi	Renumbered and updated Unit w/CPMS Monitoring based on Oct 2017 Subpart MM RTR revisions	Updated for Subpart MM revisions, clarity and for permit consistency.
NA	68-69	On-going testing language removed, testing requirements for PM HAP specified in new conditions 70-71.d	Updated for Subpart MM revisions, clarity and for permit consistency.
70-71.d	70-72.d	Renumbered & added updated testing requirements based on Oct 2017 Subpart MM RTR revisions to 63.865	Updated for Subpart MM revisions, clarity and for permit consistency.
Table 8	Table 12	Subpart A provisions that apply to Subpart MM Table updated for Oct 2017 Subpart MM RTR revisions, and updated cross-references and citations+K1	Updated for Subpart MM revisions, clarity and for permit consistency.

New Permit Condition Number	Old Permit Condition Number	Description of Change(s)	Reason for Change(s)
72 & 73	NA	Subpart A & MM recordkeeping requirements (63.866(b)&(c) added with updated Oct 2017 Subpart MM RTR revisions	Updated for Subpart MM revisions, clarity and for permit consistency.
74, 74.a-74.e 75.d	55-58.g.iii.C	Renumbered and moved entire section to follow recordkeeping requirements, removed references to SSM plan and quarterly reporting, and added excess emissions & electronic reporting (Condition 75) requirements consistent with the Oct 2017 Subpart MM RTR revisions	Updated for Subpart MM revisions, clarity and for permit consistency.
NA	73-87 & Table13	Removed all conditions and language for #3 Recovery (EU-445A) which was decomissioned in 2008 and removed from permit in 2023 renewal	Updated for clarity and for permit consistency.
Table 9	Table 14	Updated table cross-references, standards, added summary of Subpart MM requirements and links and Regional Haze fuel use restrictions and updated cross-references and citations	Updated for clarity and for permit consistency.
76	88	Renumbered, no change to language, updated cross-references and citations	Updated for clarity and for permit consistency.
77	89	Renumbered, TRS std adjusted to 0.15**0** lbs/ADT, updated cross-references and citation	Updated for clarity and for permit consistency.
78	90	Renumbered, PM stds adjusted to 1.0**0** kg/ADMT (2.0**0**.lbs/ADT, updated cross-references and citation	Updated for clarity and for permit consistency.
79	91	Renumbered, no change to language, updated cross-references and citations	Updated for clarity and for permit consistency.
80, 80.a-80.ciii	92, 92.a-92.c	Renumbered, removed reference to #3 Recovery in Condition 92, added COMS audit frequency option (Condition 80.ciii) updated cross-references and citations	Updated for clarity and for permit consistency.
81	93	Renumbered, added reference to ULSD and RH SAFO language, updated cross-references and citations	Updated for clarity and for permit consistency.
82	94	Renumbered, no change to language, updated cross-references and citations	Updated for clarity and for permit consistency.
83	95	Renumbered, removed use of distillate fuel oils and/or No.6 fuel oil and added ULSD (RH SAFO required), updated cross-references and citations	Updated for clarity and for permit consistency.
84, 84.a-84.i.iii	96, 96.a-96.i.iii	Renumbered, no change to language, updated cross-references and citations	Updated for clarity and for permit consistency.
85, 85.a-85.c.iv	97, 97.a-97.c.iv	Renumbered, updated new 85.c.iv for ULSD fuel BTU value and removed reference to # Recover, updated cross-references and citations	Updated for clarity and for permit consistency.
86, 86.a-86.e	98, 98.a-98.e	Renumbered, no change to language, updated cross-references and citations	Updated for clarity and for permit consistency.
NA	99	Removed condition, not an applicable requirement but an option, combined stack correlation with #3 Recovery shutdown no longer valid	Updated for clarity and for permit consistency.
87, 87.a-87.f	100	Renumbered, removed reference to "combined stack" with #3 Rec shutdown, added COMS monitoring conditions 87.a-87.e (previously included with #3 Recovery (old conditions 85-85.f), updated cross-references and citations	Updated for clarity and for permit consistency.
88, 88.a-88.d	101.a-101.d	Renumbered, no change to language, updated cross-references and citations	Updated for clarity and for permit consistency.
89	102	Renumbered, no change to language, updated cross-references and citations	Updated for clarity and for permit consistency.
90	103	Renumbered, no change to language	Updated for clarity and for permit consistency.
91	104	Renumbered, no change to language	Updated for clarity and for permit consistency.
92	105	Renumbered, no change to language, updated cross-references	Updated for clarity and for permit consistency.
93	106	Renumbered, no change to language, updated cross-references	Updated for clarity and for permit consistency.
94	107	Renumbered, no change to language	Updated for clarity and for permit consistency.
95	108	Renumbered, no change to language, updated cross-references	Updated for clarity and for permit consistency.

New Permit Condition Number	Old Permit Condition Number	Description of Change(s)	Reason for Change(s)
96	109	Renumbered, no change to language	Updated for clarity and for permit consistency.
97	110	Renumbered, no change to language	Updated for clarity and for permit consistency.
98	111	Renumbered, no change to language	Updated for clarity and for permit consistency.
99	112	Renumbered, no change to language	Updated for clarity and for permit consistency.
Table 10	Table 15	Updated table cross-references, standards, added summary of Subpart MM requirements and links and Regional Haze fuel use restrictions	Updated for clarity and for permit consistency.
100	113	Renumbered, no change to language, updated cross-references and citations	Updated for clarity and for permit consistency.
101-101.a	114-114.a	Renumbered, no change to language, updated cross-references and citations	Updated for clarity and for permit consistency.
102	115	Renumbered, clarified emission unit and device identification, added language about LVHC NCG sources, updated cross-references and citations	Updated for clarity and for permit consistency.
103	116,116.a-116.c	Renumbered, removed reference to #3 Rec, updated cross-references and citations	Updated for clarity and for permit consistency.
104	117	Renumbered, no change to language	Updated for clarity and for permit consistency.
105	118	Renumbered, no change to language, updated cross-references and citations	Updated for clarity and for permit consistency.
106	119	Renumbered, no change to language, updated cross-references and citations	Updated for clarity and for permit consistency.
107	120	Renumbered, removed reference to pet coke storage (pet coke not allowed per RH SAFO) and "excluding uncombined water", added "while kilns operating", updated cross-references and citations	Updated for clarity and for permit consistency.
108	121	Renumbered, removed use of petroleum coke, distillate, No.6 fuel oil, used or reprocessed fuel oil and/or blends of these oils, added ULSD (RH SAFO required), updated cross-references and citations	Updated for clarity and for permit consistency.
109	122	Renumbered, no change to language, updated cross-references and citations	Updated for clarity and for permit consistency.
110	123	Renumbered, removed references to pet coke, added SO_2 reference value to be used for RATA, updated cross-references and citations	Updated for clarity and for permit consistency.
111,111.a-111.d.iii	124, 124a-124.d.iii	Renumbered, no change to language, updated cross-references and citations	Updated for clarity and for permit consistency.
112,112.a-112.c.iv	125, 125.a-125.c.iv	Renumbered, removed references to batch digesters (permanently shutdown in 2001) condition 112.c.i, updated cross-references and citations	Updated for clarity and for permit consistency.
113,113.a-113.b	126, 126.a-126.b	Renumbered, removed references to #3 Recovery (permanently shutdown in 2008) conditions 113 and 113.b, updated cross-references and citations	Updated for clarity and for permit consistency.
114,114.a-114.d.iv	127, 127.a-127.d.iv	Renumbered, no change to language, updated cross-references and citations	Updated for clarity and for permit consistency.
115	128	Renumbered, added annual recordkeeping of $CaCO_3$ makeup to language, updated cross-references and citations	Updated for clarity and for permit consistency.
116, 116.a-116.c	129, 129.a-129.c	Renumbered, no change to language, updated cross-references and citations	Updated for clarity and for permit consistency.
117	130	Renumbered, no change to language, updated cross-references and citations	Updated for clarity and for permit consistency.
118	131	Renumbered, removed reference to Reburn Elevator Device (GE454-029), updated cross-references and citations	Updated for clarity and for permit consistency.
Table 11	Table 16	Table renumbered, updated TRS limit, added summary of Subpart MM requirements and links and updated cross-references and citations	
119	132	Renumbered, updated TRS limit, removed language to ESP ash mix tank and economizer ash mix tank (both tanks permanently vented to #4 SDTV scrubber inlet), updated cross-references and citations	Updated for clarity and for permit consistency.

New Permit Condition Number	Old Permit Condition Number	Description of Change(s)	Reason for Change(s)
120	133	Renumbered, removed reference to EU-445B (#3 SDTV permanently shutdown in 2008), updated cross-references and citations	Updated for clarity and for permit consistency.
121	134	Renumbered, removed reference to EU-445B (#3 SDTV permanently shutdown in 2008) and "excluding uncombined water", updated cross-references and citations	Updated for clarity and for permit consistency.
122, 122.a-122.e	135, 135.a-135.e	Renumbered, removed reference to EU-445B scrubbers (#3 SDTV permanently shutdown in 2008) updated 122.a liquid flow to 59.3 gpm and 122.c dP to 7.6" water based on Oct 2020 test, updated cross-references and citations	Updated for clarity and for permit consistency.
123, 123.a-123.e	136, 136.a-136.e	Renumbered, removed reference to EU-445B (#3 SDTV permanently shutdown in 2008), reduced TRS retesting results values by one half in Condition 123.a (#4 SDTV no longer an explosion hazard with 2004 #4 Rec Relife project, updated cross-references and citations	Updated for clarity and for permit consistency.
124, 124.a-124.b	137, 137.a-137.b	Renumbered, removed reference to EU-445B scrubbers (#3 SDTV permanently shutdown in 2008), updated cross-references and citations	Updated for clarity and for permit consistency.
125, 125.a-125.f	138, 138.a-138.e	Renumbered, removed reference to EU-445B scrubbers (#3 SDTV permanently shutdown in 2008), added condition 125.f that ESP ash mix tank and economizer ash mix tank shall be permanently vented to #4 SDTV scrubber inlet, updated cross-references and citations	Updated for clarity and for permit consistency.
Table 12	Table 17	Table renumbered, removed grain loading standard for #1 and #3 slakers which were replaced by ventless #4 slaker, updated cross-references and citations	Updated for clarity and for permit consistency.
126	139	Renumbered, references to #1 & #3 slakers removed, updated cross-references and citations	Updated for clarity and for permit consistency.
Table 13	Table 18 & 19	Tables 17 & 18 combined and renumbered, Table 13 updated with current EU-275C and 275D devices	Updated for clarity and for permit consistency.
127	140	Renumbered, removed language related to ESP ash mix tank and economizer ash mix tank (both tanks permanently vented to #4 SDTV scrubber inlet), updated cross-references and citations	Updated for clarity and for permit consistency.
128,128.a-128.h	141, 141.a-141.f	Renumbered, added Conditions 128.g & 128.h for clarity, updated cross-references and citations	Updated for clarity and for permit consistency.
Table 14	Table 20	Table renumbered and updated for RH SAFO conditions 131 (fuel restrictions), 132 (NOx CEMS) and 133 (PSEL limit), updated cross-references and citations	Updated for clarity and for permit consistency.
129	142	Renumbered, no change to language, updated cross-references and citations	Updated for clarity and for permit consistency.
130	143	Renumbered, no change to language, updated cross-references and citations	Updated for clarity and for permit consistency.
131	144	Renumbered, removed No. 2, 4, &6 fuel oil and used or reprocessed fuel oil as a result of RH SAFO fuel restrictions, updated cross-references and citations	Updated for clarity and for permit consistency.
132	NA	Added new condition 132 for RH SAFO NOx CEMS requirements	Updated for clarity and for permit consistency.
133	NA	Added new condition 133 for RH SAFO PSEL	Updated for clarity and for permit consistency.
134	145	Renumbered, no change to language, updated cross-references and citations	
135, 135.a-135.h	146, 146.a-146.h	Renumbered, no change to language, updated cross-references and citations	Updated for clarity and for permit consistency.
Table 15	Table 21	Table renumbered and updated for RH SAFO conditions 140 and 144 (fuel restrictions), updated cross-references and citations	Updated for clarity and for permit consistency.
136	147	Renumbered, no change to language, updated cross-references and citations	Updated for clarity and for permit consistency.

New Permit Condition Number	Old Permit Condition Number	Description of Change(s)	Reason for Change(s)
137	148	Renumbered, removed "excluding uncombined water" language, updated cross-references and citations	Updated for clarity and for permit consistency.
138	149	Renumbered, grain loading std updated, updated cross-references and citations	Updated for clarity and for permit consistency.
139	150	Renumbered, no change to language, updated cross-references and citations	Updated for clarity and for permit consistency.
141	151	Renumbered, no change to language, updated cross-references and citations	Updated for clarity and for permit consistency.
140	152	Renumbered and language added to condition 140 for allowable RH SAFO ULSD % sulfur	Updated for clarity and for permit consistency.
142	153	Renumbered, no change to language, updated cross-references and citations	Updated for clarity and for permit consistency.
143	154	Renumbered, no change to language, updated cross-references and citations	Updated for clarity and for permit consistency.
144	155	Renumbered, added RH SAFO NG & ULSD fuel limits, updated cross-references and citations	Updated for clarity and for permit consistency.
146	156	Renumbered, no change to language, updated cross-references and citations	Updated for clarity and for permit consistency.
145	157	Renumbered, no change to language, updated cross-references and citations	Updated for clarity and for permit consistency.
147, 147a.-147.c	158, 158.a-158.c	Renumbered, minor edits to references, updated cross-references and citations	Updated for clarity and for permit consistency.
148, 148.a-148.d.iv	159.a-159.d.iv	Renumbered, no change to language, updated cross-references and citations	Updated for clarity and for permit consistency.
149	160	Renumbered, added RH SAFO ULSD fuel language, updated cross-references and citations	Updated for clarity and for permit consistency.
150, 150.a-150.g	161, 161.a-161.g	Renumbered, no change to language, updated cross-references and citations	Updated for clarity and for permit consistency.
151	162	Renumbered, no change to language, updated cross-references and citations	Updated for clarity and for permit consistency.
152	163	Renumbered, no change to language, updated cross-references and citations	Updated for clarity and for permit consistency.
153	201	Moved old Package Boiler Reporting condition 201 to after monitoring condition 152 at request of IP	
Table 16	Table 22	Table renumbered, removed all references to EU-NFL (NFL = New Fiber Line Project, Weyerhaeuser Co); The NFL project was not pursued by IP. IP's Oct. 18, 2022 AR404 requested removal of EU-NFL and all applicable requirements, updated cross-references and citations	Updated for clarity and for permit consistency.
154	164	Renumbered, no change to language, updated cross-references and citations	Updated for clarity and for permit consistency.
155	165	Renumbered, no change to language, updated cross-references and citations	Updated for clarity and for permit consistency.
156	166	Renumbered, updated grain loading std for Paper Machine modification, updated cross-references and citations	Updated for clarity and for permit consistency.
NA	167-169	Removed all three conditions with removal of EU-NFL	Updated for clarity and for permit consistency.
157	170	Renumbered, no change to language, updated cross-references and citations	Updated for clarity and for permit consistency.
NA	Table 23	Table 23 "Process Weight Rule" deleted and associated condition 171 was renumbered to new Condition 158 and added to "Other Emissions Unit"	Updated for clarity and for permit consistency.
158	171	Renumbered, no change to language, updated cross-references and citations	Updated for clarity and for permit consistency.
159	172	Process Weight Rule renumbered, no change to language, updated cross-references and citations	Updated for clarity and for permit consistency.
NA	173-175	Removed all three conditions with removal of EU-NFL	Updated for clarity and for permit consistency.
160	176	Renumbered, no change to language, updated cross-references and citations	Updated for clarity and for permit consistency.
Table 17	Table 24	Table renumbered, added IEUs general applicable requirements, updated cross-references and citations	Updated for clarity and for permit consistency.
161	NA	Added LRAPA statement about IEUs and general applicable requirements	Updated for clarity and for permit consistency.

New Permit Condition Number	Old Permit Condition Number	Description of Change(s)	Reason for Change(s)
162	177	Renumbered, no change to language, updated cross-references and citations	Updated for clarity and for permit consistency.
163	178	Renumbered, update grain-loading std to 0.1**0** gr/dscf, updated cross-references and citations	Updated for clarity and for permit consistency.
164	179	Renumbered, update grain-loading std to 0.1**0** gr/dscf, updated cross-references and citations	Updated for clarity and for permit consistency.
165	180	Renumbered, no change to language, updated cross-references and citations	Updated for clarity and for permit consistency.
166	NA	Added new monitoring condition 166: no additional testing, monitoring or recordkeeping for EIUs, EU310 or EU-715 A or B	Updated for clarity and for permit consistency.
167,167,a-167.d	181, 181.a-181.c	Renumbered, added condition 167.d (RICE monitoring), updated cross-references and citations	Updated for clarity and for permit consistency.
168, 168.a-168.e	NA	Added RICE O&M conditions	Updated for clarity and for permit consistency.
169, 169.a-169.d	NA	Added RICE Monitoring and Recordkeeping conditions	Updated for clarity and for permit consistency.
170-176	NA	Added RH Round II conditions based on SAFO	Updated for clarity and for permit consistency.
NA	182	Condition removed (not provided for by rules), source testing requirements based on DEQ guidance document & PTE of unit	Updated for clarity and for permit consistency.
184, 184.a-184.e	183, 183.a-183.e	General Testing conditions updated with current language, but new conditions are essentially the same as the old conditions, updated cross-references and citations	Updated for clarity and for permit consistency.
NA	184 & Table 25	Old condition 184 and Table 25 removed (outdated) because any testing would require following DEQ's Source Sampling Manual as stated in new Condition 184	Updated for clarity and for permit consistency.
178	185	Renumbered, removed outdated October 2008 rule change language, updated citations	Updated for clarity and for permit consistency.
178.a-178.c	185.a-185.c	Renumbered and updated PSEL explanations based on current renewal	Updated for clarity and for permit consistency.
Table 18	Table 26	Table renumbered, updated and revised based on current PSELs, Unassigned Emissions and Regional Haze SAFO restrictions, updated cross-references and citations	Updated for clarity and for permit consistency.
178, 178.a	186, 186.a	Renumbered, no change to language, updated cross-references	Updated for clarity and for permit consistency.
Table 19	Table 27	Table renumbered, updated entire table for current units and devices, emission factors and testing and RH Round II requirements, updated cross-references	Updated for clarity and for permit consistency.
178.b-178.d	186.b-186d	Renumbered, no change to language except deleted reference to EU-445A (#3 Recovery Furnace) in new condition 178.d, updated cross-references	Updated for clarity and for permit consistency.
178.e	186.e	Renumbered, added EU-150A (Power Boiler) for new NO_x CEM data, updated cross-references	Updated for clarity and for permit consistency.
178.f	186.f	Renumbered, deleted reference to EU-445A (#3 Recovery Furnace) in new condition 178.f for SO2 CEM data, updated cross-references	Updated for clarity and for permit consistency.
NA	186.g	Condition deleted, no longer use CPMS formula with SAFO required NOx CEMS	Updated for clarity and for permit consistency.
179,179.a-179.c.iv	187,187.a-187.c.iv,	Renumbered, no change to language, updated cross-references	Updated for clarity and for permit consistency.
NA	187.d	PSEL EF Verification Testing on EU-150A and EU-150B not required when burning ULSD, condition removed with current renewal	Updated for clarity and for permit consistency.
179.d-179.e.v	187.e-187.f.v	Renumbered, no change to language, updated cross-references	Updated for clarity and for permit consistency.
180	188	Renumbered, no change to language, updated cross-references	Updated for clarity and for permit consistency.
181	189	Renumbered, no change to language, updated cross-references	Updated for clarity and for permit consistency.
182	NA	New condition 182 (Emission Fees based on PSEL added consistent with permit updates	Updated for clarity and for permit consistency.
183	190	SAFO compliance schedule added	Updated for clarity and for permit consistency.

New Permit Condition Number	Old Permit Condition Number	Description of Change(s)	Reason for Change(s)
191,191.a-191.g	191,191.a-191.g	No changes	Updated for clarity and for permit consistency.
190, 190.a-190.n	192.a-192.bbb	Monitoring Conditions renumbered and reorganized based on emission units with all obsolete units removed, updated cross-references	Updated for clarity and for permit consistency.
192	193	Renumbered, no change to language, updated citations	Updated for clarity and for permit consistency.
193	194	Renumbered, no change to language	Updated for clarity and for permit consistency.
194, 194.a-194.f	195, 195.a-195.f	Renumbered, no change to language except for updating the OER system name in new condition 194.c	Updated for clarity and for permit consistency.
195	196	Renumbered, no change to language, updated cross-references	Updated for clarity and for permit consistency.
196, 196.a-196.g	197, 197.a-197.f & 197.h	Renumbered, no change to language except to remove EU-445A from new conditions 196 a, b, c and e	Updated for clarity and for permit consistency.
NA	197.g and 197.i	Regional Haze Round I monthly reporting conditions removed with removal of old Round I conditions 207-209	Updated for clarity and for permit consistency.
196.h & 196.i	NA	Regional Haze Round II monthly reporting conditions for RH PSEL and Power Boiler CEM NOx data added	Updated for clarity and for permit consistency.
197, 197.a-197.b	198, 198.a-198.b	Renumbered, no change to language, updated cross-references	Updated for clarity and for permit consistency.
198, 198.a-198.d	199, 199.a.i-199.a.v	Renumbered and reformatted, no change to language except deleting extraneous old condition 199.a.v, updated cross-references	Updated for clarity and for permit consistency.
199	200	Renumbered, no change to language	Updated for clarity and for permit consistency.
153, 153.a-153.h	201, 201.a-201.g.i	Moved old Package Boiler Reporting condition 201 to after monitoring condition 152 at request of IP, old condition 201.g.i changed to new condition 153.h	Updated for clarity and for permit consistency.
200, 200.a-200.e	202, 202.a.i-202.a.xvii	Annual Reporting Conditions renumbered and reorganized based on emission units with all obsolete units removed, updated cross-references	Updated for clarity and for permit consistency.
201, 201.a-201.b	203, 203.a-203.b	Renumbered, no change to language, updated cross-references	Updated for clarity and for permit consistency.
202	204	Renumbered, language added to clarify that the annual GHG report is due by March 31 of each year	Updated for clarity and for permit consistency.
203	205	Renumbered, language updated to include "any application, report or compliance certification" must be signed by a responsible official	Updated for clarity and for permit consistency.
205	206	Renumbered, EPA address updated.	Updated for clarity and for permit consistency.
NA	207-209	Regional Haze Round I conditions removed with LRAPA's approval of IP request for removal (Feb 24, 2023) after the facility demonstrated that the Round I daily limits could not be exceeded given the Round II restrictions	Updated for clarity and for permit consistency.
G1-G29	G1-G28	General Conditions replaced with current Title V General Conditions	Updated for clarity and for permit consistency.

PLANT SITE EMISSION LIMIT (PSEL) INFORMATION

92. The baseline emission rate, netting basis, current and proposed emission limits are shown in the following table. Emission calculations, fuel use, production rates and anticipated emission rates for individual emission units and devices at the proposed operation levels are found in Attachment 1 to this review report.

Table 7. Annual PSELs

Pollutant	Baseline Emission Rate (BER)(tons/yr)	Netting Basis		Plant Site Emission Limit (PSEL)			
		Previous (tons/yr)	Proposed (tons/yr)	Previous PSEL (tons/yr)	Proposed PSEL (tons/yr)	PSEL increase over netting basis (tons/yr)	SER (tons/yr)
CO	9,797	1,148	691	1,048	591	-100	100
NOx	2,053	1,732	1002	1,692	962	-40	40
Pb	0.2	0.83	NA	0.23	NA	NA	NA
PM	2,265	798	225	773	200	-25	25
PM_{10}	1,960	765	208	750	193	-15	15
$PM_{2.5}$	NA	341	180	331	170	-10	10
SAM	47	47	18	47	18	0	7
SO_2	2,462	1,561	193	1,521	153	-40	40
TRS	209	143	63	133	53	-10	10
VOC	2,147	1,448	1309	1,418	1269	-40	40
GHG_{anthro}	306,284	NA	306,284	468,501	540,750		75,000
$GHG_{anthro+biogenic}$	1,169,323	1,227,934	1,169,323	1,227,934	1,269,532	100,210	75,000

93. The baseline period is the 1978 calendar year for all pollutants, except GHGs. The baseline emission production rates and PSELs were "frozen" in prior permitting actions and no changes are proposed, except for changes to the GHG PSEL and Netting Basis (NB) (GHG Baseline year = April 2000 -March 2001) and removal of the Pb (lead) PSEL. A baseline emission rate is not required for $PM_{2.5}$ in accordance with LRAPA 42-0048(3). In accordance with LRAPA 42-0046, the GHG and $PM_{2.5}$ PSEL and netting bases were established with the 2012 renewal but the GHG PSEL and netting basis have been revised with this renewal as describe in Items 94 and 95, below.

94. The proposed netting bases (NB) were calculated based on reductions required under LRAPA's Netting Basis rule (42-0046(3)(a)&(b)). The Regional Haze Round II order required PSEL reductions for all combustion units based on fuel limitations and stipulated PSELs for NOx, PM_{10}, and SO_2 – the Regional Haze affected pollutants. Also, LRAPA's Unassigned Emissions rule (42-0055(5)) requires that unassigned emissions be reduced to no more than the Significant Emission Rate (SER) with the current renewal (see Review Report Item 108). Table 8 of the Review Report and Items 105 – 108 provide a history of changes to unassigned emissions since the 2012 permit renewal, including PSEL reductions required under the Regional Haze order as well as reductions to the proposed netting bases. Per LRAPA's Netting Basis rule (42-0046(3)(a)(E)), the netting bases were required to be reduced based on the difference between the previous netting bases and the proposed netting bases (reductions required by rule and/or order) and are equal to reductions in the proposed PSELs plus the unassigned emissions reductions.

The GHG Netting Basis (NB) was recalculated as discussed in Item 95, below. Although the total GHG PSEL is greater than the SER above the netting basis period, the increase is due to utilizing capacity in the lime kilns that existed in the baseline period (April 2000 to March 2001). For changes to the GHG Baseline, GHG Netting Basis and proposed GHG PSEL, see the explanation in Item 95 and the Significant Emission Rate Analysis in Items 109 and 111.

95. The initial anthropogenic baseline emission rate for greenhouse gases (GHGs) was established with the 2012 renewal and was based on actual combustion emissions during the consecutive 12-month period from April

2000 to March 2001, as requested by the facility. The initial baseline did not include GHG emissions from the combustion of biomass because EPA had deferred regulation of CO_2 from biomass (Recovery Furnace BLS (black liquor solids)). However, the GHG biomass deferral was vacated on July 24, 2015 with the U.S. Court of Appeals ruling. The vacated GHG rule resulted in the establishment of two GHG baselines and two (2) PSELs (one BER and PSEL based on the anthropogenic emission rate, excluding biomass emissions and a separate baseline and PSEL that includes both anthropogenic and biomass emissions). In addition, the baseline and PSELs were recalculated with updated emission factors from 40 CFR 98 Subparts C & AA and Global Warming Potential (GWP) factors and with corrections to the initial anthropogenic emission calculations. Additional information is included in the detail sheets in Attachment 2 to this review report. The PSEL is set above the Netting Basis and, therefore, there are no unassigned emissions for GHGs. The PTE/PSEL for GHGs, based on the Regional Haze PSEL and fuel restrictions, was evaluated with this renewal. Changes to the April 2000 to March 2001 baseline and proposed PSELs are detailed in the attachments to this review report. Actual anthropogenic GHG emissions for calendar year 2022 were 111,265 tons (100,938 metric tons) and the combined actual anthropogenic plus biogenic GHG emissions were 668,402 tons (557,137 metric tons) and are representative of current emission levels.

96. For the 2016 Construction ACDP action, the netting basis was increased for CO, NOx, PM, PM_{10}, $PM_{2.5}$, TRS and VOC through use of unassigned emissions in accordance with LRAPA 42-0055(4)(a) (For an accounting of the use and history of unassigned emissions and Emission Reduction Credits since the 2012 renewal, see Item 104, below). With the Construction ACDP, the annual pulp production rates for several emission units were increased from 475,000 adt to 530,000 adt and paper production was increased from 869,500 adt to 924,500 adt; and, Power Boiler (EU-150A) #6 oil annual combustion was reduced from 1,355,845 MMBtu to 373,000 MMbtu. The increased annual production and throughput rates used to calculate the PSELs, including the Regional Haze Round II fuel limitations, are provided in Attachment 1 to this review report.

97. In accordance with LRAPA42-0041(2), the proposed PSELs are being set at the source's potential to emit (PTE) for all pollutants (except for Pb), based on the Regional Haze Round II fuel and PSEL limitations. Due to the Regional Haze SAFO fuel limitations, the facility no longer has the capacity to emit Pb (lead) above the PSEL de minimis level of 0.1 TPY lead (defined in LRAPA title 12). As a result, a PSEL is no longer required for Pb.

98. The changes in the PSELs for all pollutants from the last permit renewal (2012) reflect the Regional Haze Round II fuel and PSEL limitations, emission factor changes based on better data, source tests (Jan. 2017 – Dec 2022) and CEM results (Jan. 2017 – Dec 2022) since the ACDP Construction permit was issued in July 2016. VOC emissions were converted from an "as carbon" basis to a propane basis with the 2012 permit renewal. Note: the VOC emissions factors for the Power Boiler (EU-150A) and the Package Boiler (EU-150B) were corrected from the previous "VOC as propane" factors because the factors, derived from AP-42, already represent emissions on "as VOC" and did not require a correction to "as propane." For more information on VOC emissions, see Item 138, LRAPA Response 4 to public notice Comment 4.

99. There have been no physical modifications at the facility that would have required New Source Review or have met the LRAPA definition of a major modification since the baseline period.

100. The PSEL is a federally enforceable limit on the facility's potential to emit.

101. The facility currently operates on a nominal schedule of 24 hours per day, seven (7) days per week, and 52 weeks per year. The operation schedule is the same for all operating scenarios (Subpart S and MM) established in the Title V permit.

102. Attachment 1 – PSEL Details and Summary contain more information on the throughputs, emission factors and references for each emission unit (EU). The facility's ED605 forms (on file) included in the renewal applications contain even more emission details. As a result of comments received during the Public Notice period, the PSEL emission factors (EFs) for the #4 Recovery Furnace (EU-445C) and Smelt Dissolving Tank (EU-445D) were converted from a lbs. pollutant/ADT basis to a lbs. pollutant/TBLS basis. Also, the Lime Kilns (EU-455) EFs were converted from a lbs. pollutant/ADT basis to a lbs. pollutant/T CaO basis. In addition, the PM, PM_{10}, and $PM_{2.5}$ EFs for EU-445C ,EU-445D and EU-455 were updated based on facility source tests from Jan. 2017 through Dec. 2022. The TRS and SO_2 EFs for EU-445C and EU-455 were updated based on CEM data from Jan. 2017 through Dec. 2022.

103. The following table compares the facility's the actual emissions (based on the facility's 2016-2022 Annual Reports), with both the 2016 Plant Site Emission Limits (PSELs) and the PSELs proposed with the 2023 permit renewal:

Comparison of Plant Site Emissions Limits (PSELs) to Actual Emissions 2016-2022									
Pollutant	**2016 PSEL**	2016 Actual Tons	2017 Actual Tons	2018 Actual Tons	2019 Actual Tons	2020 Actual Tons	2021 Actual Tons	2022 Actual Tons	**Proposed 2023 PSEL**
CO	**1,048**	284	308	284	317	311	326	332	**591**
NO_x	**1,692**	652	724	642	733	522	539	508	**962**
PM	**773**	174	189	174	171	168	178	180	**200**
PM_{10}	**750**	168	182	167	164	163	161	162	**193**
$PM_{2.5}$	**331**	148	161	147	145	143	141	143	**170**
SAM	**47**	13	14	13	12	12	13	13	**18**
SO_2	**1,521**	48	69	32	45	44	47	48	**153**
TRS	**133**	34	43	40	38	36	38	38	**53**
VOC	**1,418**	884	979	921	910	808	935	946	**1,269**
GHG	**1,227,934**	665,551	740,016	689,212	638,581	627,633	641,917	668,402	**1,269,532**

Unassigned Emissions and ERC History

104. A history of changes to the facility's Unassigned Emissions and Emissions Reduction Credits is shown below.

Table 8. Unassigned Emissions & Emission Reduction Credit (ERC) Summary

Pollutant	Dec. 14, 2012 TV Permit Renewal		July 24, 2015 Expiration of all ERC		July 8, 2016 - ACDP Construction Permit		Proposed 2023 Renewal		
	Unassigned Emissions (tons/year)	Emission Reduction Credits (ERC) (tons/year)	Unassigned Emissions (tons/year)	Emission Reduction Credits (ERC) (tons/year)	Unassigned Emissions (tons/year)	Emission Reduction Credits (ERC) (tons/year)	Unassigned Emissions Reduced to SER (tons/year)	Proposed PSEL (Regional Haze Round II Limits)	Proposed Netting Basis
PM	25	101	126	0	103	0	25	200	225
PM_{10}	15	96	111	0	88	0	15	193	208
$PM_{2.5}$	10	92	102	0	81	0	10	170	180
CO	100	2,286	2,386	0	2,350	0	100	591	691
NO_x	40	203	243	0	193	0	40	962	1002
SO_2	40	0	40	0	40	0	40	153	193
SAM (H_2SO_4 Mist)	0	0	0	0	0	0	0	18	18
TRS	10	59	69	0	56	0	10	53	63
VOC	40	521	561	0	329	0	40	1,269	1,309
Pb	0.6	0.6	0.6	0	0.6	0	0.6	None	NA
GHG (CO_2e)	0	0	0	0	0	0	0	1,269,530	1,169323

105. Prior to the 2012 permit renewal, the ERCs for PM and PM_{10} were reduced by 50 tons for the sale of 50 tons of PM_{10} credits to Seneca Sustainable Energy in December 2011. The credits were originally established in May 2002 and were scheduled to expire after 10 years but were extended during the 2005 permit renewal until July 25, 2015. In 2008, the ERC rules were changed and included a requirement that the ERCs expire after 10 years of banking with no allowance for extension.

106. The ERCs expired on July 25, 2015 and reverted back to the facility as unassigned emissions in accordance with LRAPA 41-0030.

107. On October 16, 2015, the facility applied to use unassigned emissions to allow for the emission increases associated with the production increases resulting from the lengthening of the fourdrinier in the No. 2 Paper Machine. The $PM_{2.5}$ ERC was established as part of the facility 2016 Construction ACDP application to increase #2 Paper Machine productivity and subsequently converted to unassigned emissions for internal netting to allow for emission increases associated with the #2 Paper Machine productivity project.

108. In accordance with LRAPA 42-0055, the unassigned emissions established with the 2016 Construction ACDP issuance (and subsequently established with the associated Title V Significant Modification Addendum), have been reduced with current permit renewal to no more than the SER for each pollutant.

Significant Emission Rate (SER) Analysis

Table 9. SER Analysis

109. The proposed PSEL for GHGs is greater than the proposed netting basis, as shown below:

Pollutant	SER (tons/year)	Requested increase over netting basis	Increase due to utilizing capacity that existed in the netting basis period	2016 ACDP Construction: increases due to physical changes or changes in the method of operation (tons/yr)	Increase due to use of generic PSEL level
PM	25	0	0	23	NA
PM_{10}	15	0	0	23	NA
$PM_{2.5}$	10	0	0	21	NA
CO	100	0	0	36	NA
NO_x	40	0	0	50	NA
SO_2	40	0	0	0	NA
SAM (H_2SO_4)	7	0	0	0	NA
TRS	10	0	0	13	NA
VOC	40	0	0	232	NA
Pb	0.6	0	0	0	NA
GHG (CO_2e)	75,000	100,210	100,210	0	NA

110. The facility utilized unassigned emissions to allow for internal netting of the emission increases associated with 2016 ACDP Construction permit. All increases were offset by reduction of unassigned emissions for PM, PM_{10}, $PM_{2.5}$, CO, NO_x, TRS and VOC and by decreasing the amount of #6 oil allowed to be burned in the Power Boiler to accommodate the increases in SO_2 and SAM. Increases above the SER for PM_{10}, $PM_{2.5}$, NO_x, TRS and VOC, therefore, were not subject to the Preventions of Significant Deterioration rules in LRAPA 38-0070.

111. Although the total GHG PSEL is greater than the SER above the netting basis, the increase is due to utilizing capacity (Lime Kilns) that existed in the GHG baseline period (April 2000 – March 2001). Therefore, the GHG increase is not subject to the Preventions of Significant Deterioration rules in LRAPA 38-0070. Because there is no ambient standard for GHGs and GHGs are a "global" pollutant, no modeling or air quality analysis can be performed under LRAPA Title 37 and Title 40.

HAZARDOUS AIR POLLUTANTS

112. Under the Cleaner Air Oregon (CAO) program, only existing sources that have been notified by LRAPA and new sources are required to perform risk assessments. This facility has not yet been formally notified by LRAPA and is, therefore, not yet required to perform a risk assessment or report annual emissions of toxic air contaminants.

LRAPA required reporting of approximately 600 toxic air contaminants in 2016 and again in 2020 and regulates approximately 260 toxic air contaminants that have Risked Based Concentrations (RBCs) established by rule (OAR 340 division 245). All 187 hazardous air pollutants (HAPs) are on the list of approximately 600 toxic air contaminants (TAC). The hazardous air pollutants listed below were reported by the source in 2020 and were verified by LRAPA. After the source is notified by LRAPA, they must update their inventory and perform a risk assessment to see if they must reduce risk from their toxic air contaminant emissions. Until then, the source will be required to report toxic air contaminant emissions triennially.

HAPs Inventory-Facility-Wide

113. The facility is a major source of Hazardous Air Pollutants (HAP) (defined as a source with the potential to emit (PTE) ten or more tons per year of any individual HAP or 25 tons or more per of any combination of HAPs). The 2016 HAP "potential to emit" (PTE) estimates are listed in Table 10, below, along with 2020 actual HAP emission estimates. The 2020 HAP estimates below include the updates to the HAPs emission inventory submitted with 2016 TV renewal application and the HAPs reported in the 2020 Air Toxics Emission Inventory (ATEI). Total estimated HAP actual emissions were 195 tons/year in 2020 which included 153 tons/year of methanol (the highest single HAP). For comparison, the total 2016 HAP emission potential to emit (PTE) estimates were 1111 tons/year and 279 tons of methanol. The 2016 HAP PTE is largely based on worst-case emissions from combusting No.6 fuel oils. With Regional Haze Round II fuel restrictions (only combust NG and ULSD), the facility's PTE is expected to decrease. A new PTE will be determined when the facility goes through the Cleaner Air Oregon (CAO) program.

Table 10. HAP 2016 Potential to Emit (PTE) Annual Emissions & 2020 Actual HAP Emissions

CAS Code	Hazardous Air Pollutant Name	2016 HAP PTE (tons/yr)	2020 Facility Wide Total (tons/yr)
71-55-6	1,1,1-Trichloroethane (methyl chloroform)	5.938E-01	3.58E-01
79-00-5	1,1,2-Trichloroethane (vinyl trichloride)	6.280E-01	4.22E-01
75-34-3	1,1-Dichloroethane (ethylidene dichloride)	2.846E-03	1.87E-03
67562-39-4	1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF)	3.500E-07	5.67E-09
35822-46-9	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD)	1.042E-06	5.04E-08
55673-89-7	1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF)	4.930E-09	4.42E-09
70648-26-9	1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF)	1.659E-07	4.88E-09
39227-28-6	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	1.311E-07	1.55E-09
57117-44-9	1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF)	7.670E-08	2.31E-09
57653-85-7	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	1.394E-07	1.86E-09
72918-21-9	1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF)	1.616E-09	1.22E-09
19408-74-3	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD)	1.675E-07	4.93E-09
57117-41-6	1,2,3,7,8-Pentachlorodibenzofuran (PeCDF)	1.342E-07	1.91E-09
40321-76-4	1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD)	5.059E-08	5.65E-10
120-82-1	1,2,4-Trichlorobenzene	2.10	1.38E+00
106-99-0	1,3-Butadiene	7.763E-03	3.37E-03
540-84-1	2,2,4-Trimethylpentane (Iso-octane)	9.436E-04	8.92E-04
60851-34-5	2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF)	5.633E-08	3.36E-09
57117-31-4	2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)	1.046E-07	2.46E-09
51207-31-9	2,3,7,8-Tetrachlorodibenzofuran (TcDF)	1.450E-08	6.29E-09
91-57-6	2-Methyl naphthalene	8.688E-03	2.77E-03
56-49-5	3-Methylcholanthrene	3.965E-04	3.76E-04
57-97-6	7,12-Dimethylbenz[a]anthracene	1.961E-05	1.86E-05

CAS Code	Hazardous Air Pollutant Name	2016 HAP PTE (tons/yr)	2020 Facility Wide Total (tons/yr)
83-32-9	Acenaphthene	5.369E-03	2.36E-04
208-96-8	Acenaphthylene	3.263E-02	3.09E-02
75-07-0	Acetaldehyde	15.11	8.99E+00
98-86-2	Acetophenone	2.331E-01	1.71E-01
107-02-8	Acrolein	2.65	1.73E+00
120-12-7	Anthracene	9.945E-03	9.17E-03
7440-36-0	Antimony and compounds	1.53	2.65E-04
7440-38-2	Arsenic and compounds	4.95E-01	5.34E-04
56-55-3	Benz[a]anthracene	2.089E-03	1.06E-03
71-43-2	Benzene	1.04	3.40E-01
50-32-8	Benzo[a]pyrene	9.388-05	9.01E-05
205-99-2	Benzo[b]fluoranthene	7.011E-04	3.25E-04
192-97-2	Benzo[e]pyrene	3.916E-04	1.62E-04
191-24-2	Benzo[g,h,i]perylene	1.016E-03	3.71E-04
207-08-9	Benzo[k]fluoranthene	4.651E-04	1.97E-04
7440-41-7	Beryllium and compounds	2.094E-02	1.68E-04
92-52-4	Biphenyl	8.172E-02	5.87E-02
117-81-7	bis(2-Ethylhexyl) phthalate (DEHP)	2.236E-03	2.12E-03
74-83-9	Bromomethane (methyl bromide)	2.907E-03	2.76E-03
7440-43-9	Cadmium and compounds	4.166E-01	2.10E-03
75-15-0	Carbon disulfide	1.01	5.03E-01
56-23-5	Carbon tetrachloride	2.611E-02	3.61E-02
463-58-1	Carbonyl sulfide	1.05E-01	5.26E-02
7782-50-5	Chlorine	2.43E-07	1.81E-07
108-90-7	Chlorobenzene	2.433E-01	1.57E-01
67-66-3	Chloroform	2.380E-01	2.36E-01
74-87-3	Chloromethane (methyl chloride)	2.871E-01	1.11E-01
126-99-8	Chloroprene	4.025E-03	3.82E-03
18540-29-9	Chromium VI, chromate and dichromate particulate	8.418E-01	4.24E-03
218-01-9	Chrysene (Benzo(A)phenanthrene)	5.694E-03	5.46E-03
7440-48-4	Cobalt and compounds	1.88	9.06E-04
1319-77-3	Cresols (mixture), including m-cresol, o-cresol, p-cresol	3.508E-01	2.87E-01
53-70-3	Dibenz[a,h]anthracene	4.156E-01	9.79E-06
84-74-2	Dibutyl phthalate	5.478E-02	5.18E-02
75-09-2	Dichloromethane (methylene chloride)	1.50	9.88E-01
100-41-4	Ethyl benzene	3.041E-02	6.17E-03
107-06-2	Ethylene dichloride (EDC, 1,2-dichloroethane)	1.368E-03	2.16E-03
110-71-4	Ethylene glycol dimethyl ether	7.120E-02	3.56E-02
206-44-0	Fluoranthene (Benzo(J,K)fluorene)	2.450E-02	2.14E-02
86-73-7	Fluorene	4.119E-03	2.31E-03

CAS Code	Hazardous Air Pollutant Name	2016 HAP PTE (tons/yr)	2020 Facility Wide Total (tons/yr)
50-00-0	Formaldehyde	29.67	2.86
118-74-1	Hexachlorobenzene	3.144E-09	2.99E-09
110-54-3	Hexane	434.47	1.50
7647-01-0	Hydrochloric acid	284.13	12.8
193-39-5	Indeno[1,2,3-cd]pyrene	5.561E-04	3.49E-05
98-82-8	Isopropylbenzene (cumene)	1.098E-01	6.90E-02
7439-92-1	Lead and compounds	7.657E-01	7.76E-03
7439-96-5	Manganese and compounds	1.09	1.89E-02
7439-97-6	Mercury and compounds	9.973E-02	1.76E-03
67-56-1	Methanol	278.56	153.0
108-10-1	Methyl isobutyl ketone (MIBK, hexone)	1.27	8.00E-01
1634-04-4	Methyl tert-butyl ether	1.64E-06	8.19E-07
108-38-3	m-Xylene	7.849E-01	1.96E-06
91-20-3	Naphthalene	5.509E-01	1.90E-01
7440-02-0	Nickel and compounds	26.75	1.01E-02
365	Nickel compounds, insoluble	1.677E-03	6.30E-07
39001-02-0	Octachlorodibenzofuran (OCDF)	4.345E-08	2.42E-08
3268-87-9	Octachlorodibenzo-p-dioxin (OCDD)	4.667E-06	1.85E-07
95-47-6	o-Xylene	8.349E-01	4.10E-03
198-55-0	Perylene	1.900E-05	1.81E-05
85-01-8	Phenanthrene	8.008E-02	6.97E-02
108-95-2	Phenol	1.07	2.61
401	Polycyclic aromatic hydrocarbons (PAHs)	1.66E-04	8.29E-05
123-38-6	Propionaldehyde	3.24	2.39
129-00-0	Pyrene	1.992E-02	1.28E-02
7782-49-2	Selenium and compounds	2.382E-01	9.48E-04
100-42-5	Styrene	7.784E-01	4.70E-01
127-18-4	Tetrachloroethene (perchloroethylene)	1.91	1.34
108-88-3	Toluene	3.20	6.15E-01
79-01-6	Trichloroethene (TCE, trichloroethylene)	1.15	7.61E-01
108-05-4	Vinyl acetate	9.839E-03	9.35E-03
75-01-4	Vinyl chloride	7.447E-02	5.46E-02
1330-20-7	Xylene (mixture), including m-xylene, o-xylene, p-xylene	3.005E-01	1.03E-01
	Total Facility-wide HAP Emissions	**1111.01**	**195.32**

CLEANER AIR OREGON

114. The International Paper Company - Springfield Mill has been prioritized by LRAPA in Group 1 under the Cleaner Air Oregon (CAO) program. Updated program status for this source, including emission inventory development and risk assessment information can be found on the following website:

https://www.lrapa.org/air-quality-protection/permitting-lane-county-sources/cleaner-air-oregon/cao-international-paper-springfield-mill/

TOXIC RELEASE INVENTORY

115. The Toxics Release Inventory (TRI) is a federal program that tracks the management of certain toxic chemicals that may pose a threat to human health and the environment, over which LRAPA has no regulatory authority. It is a resource for learning about toxic chemical releases and pollution prevention activities reported by certain industrial facilities. Section 313 of the Emergency Planning and Community Right-to-Know Act (EPCRA) created the TRI Program. In general, chemicals covered by the TRI Program are those that cause:

115.a. Cancer or other chronic human health effects;

115.b. Significant adverse acute human health effects; or

115.c. Significant adverse environmental effects.

116. There are currently over 650 chemicals covered by the TRI program. Facilities that manufacture, process, or otherwise use these chemicals in amounts above established thresholds must submit annual TRI reports on each chemical.

117. The International Paper Company - Springfield Mill reported the release of the following TRI-listed chemicals for the year 2021:

Table 11. TRI Reported Air Emissions for Reporting Year 2021

Chemical	Fugitive Air Emissions (lb/yr)	Point Source Air Emissions (lb/yr)
Acetaldehyde	3,860	14,071
Ammonia	500	70,800
Catechol	0	0
Dioxin and dioxin-like compounds	0	0
Formaldehyde	49	5,729
Hydrochloric acid (acid aerosols including mists, vapors, gas, fog, and other airborne forms of any particle size)	0	26,600
Hydrogen sulfide	588	7,590
Lead compounds	0	16
Manganese compounds	5	39
Mercury compounds	0	3
Methanol	18,500	286,000
Nitrate compounds (water dissociable; reportable only when in aqueous solution)	0	0
Phenol	55	5,302
Sulfuric acid (acid aerosols including mists, vapors, gas, fog, and other airborne forms of any particle size)	0	26,100

118. LRAPA has copied this information from the EPA's TRI website and does not guarantee the accuracy of this information.

GENERAL BACKGROUND INFORMATION

119. The facility treats its wastewater on site and discharges it to the McKenzie River. The facility holds an individual WPCF/NPDES discharge permit (#101081) issued by ODEQ.

120. Following the last renewal of the facility's Air Contaminant Discharge Permit (ACDP) in 1995, the first Title V permit was issued to the facility on July 26, 2000. The facility's Title V permit was subsequently renewed and reissued June 30, 2005 and then again on December 14, 2012. The facility was issued an ACDP

Construction permit for the #2 paper machine lengthening project on July 8, 2016. The ACDP Construction permit was incorporated into the Title V permit as Addendum No. 3 on October 4, 2016. The facility submitted a timely and complete Title V renewal application on December 12, 2016. The permit expired on December 14, 2017 but remained valid until this permit renewal (2023) is issued. This facility is classified as a Title V facility and the current permit is a Title V Air Operating Permit (No. 208850).

121. This facility is located in an area (Eugene-Springfield) that is in attainment for all pollutants and has a "maintenance area" status for CO and PM_{10}.

122. The facility is located within 100 kilometers of the following four (4) Class I Federal Wilderness areas:

122.a. Three Sisters Wilderness;

122.b. Diamond Peak Wilderness;

122.c. Mount Washington Wilderness; and

122.d. Mount Jefferson Wilderness.

COMPLIANCE HISTORY

123. Since the Title V permit issuance of December 14, 2012, the facility was inspected by LRAPA on the dates listed in the table below. The inspections, highlighted in **bold**, were comprehensive **Full Compliance Evaluations (FCE)**. The compliance audits/inspections include approximately 35 on-site inspections. Other audits include semi and annual Title V report review and emissions unit stack test results review. LRAPA also routinely receives and reviews excess emissions reports and facility monthly air reports.

Table 12. Compliance History Since Previous (2012) Renewal

Inspection Date	Inspection Type	Result
8/9/2013	**Full Compliance Evaluation FCE**	**In Compliance – All Permit Conditions**
4/14/2015	Compliance Maintenance	In Compliance – Recordkeeping & EF Verification
5/8/2015	Source Test Observation	In Compliance – Procedural Requirements
6/19/2015	Source Test Results Evaluation	In Compliance – Emission Standards, Procedural & Performance Requirements
8/21/2015	Informational Inspection	In Compliance – Maintenance of Process Data
9/18/2015	Source Test Results Evaluation	In Compliance – Emission Standards
9/23/2015	Source Test Observation	In Compliance – Procedural Requirements
9/24/2015	**Full Compliance Evaluation FCE**	**In Compliance – Recordkeeping & Source Testing Requirements**
10/15/2015	Maintenance of Compliance	In Compliance -Reporting Requirements
3/23/2016	Maintenance of Compliance	In Compliance -Annual Reporting Requirements
4/14/2016	Comprehensive Compliance & Source Test Observation	In Compliance – Procedural Requirements
5/16/2016	Source Test Results Evaluation	In Compliance – Emission Standards
5/23/2016	Source Test Results Evaluation	In Compliance – Emission Standards
5/25/2016	Source Test Results Evaluation	In Compliance – Performance, Monitoring & Reporting Requirements
7/25/2016	Source Test Results Evaluation	In Compliance – Procedural Requirements & Emission Standards
8/15/2016	Source Test Results Evaluation	In Compliance – Procedural Requirements & Emission Standards
8/19/2016	Maintenance of Compliance	In Compliance -Monitoring & Reporting Requirements
9/13/2016	Source Test Observation	In Compliance – Procedural Requirements
11/23/2016	Source Test Results Evaluation	In Compliance – Procedural & Performance Requirements
12/7/2016	Source Test Results Evaluation	In Compliance – Procedural Requirements & Emission Standards
4/7/2017	Maintenance of Compliance	In Compliance -Annual Reporting Requirements
5/31/2017	Source Test Observation	In Compliance – Procedural Requirements
6/2/2017	Source Test Observation	In Compliance – Procedural Requirements
7/13/2017	Informational Inspection	In Compliance – Permit Emission Limits
7/19/2017	Informational Inspection	In Compliance – Permit Emission Limits
8/18/2017	Maintenance of Compliance	In Compliance -Semi-Annual Reporting Requirements
8/31/2017	Source Test Results Evaluation	In Compliance – Permit Emission Limits

Inspection Date	Inspection Type	Result
9/7/2017	Source Test Observation	In Compliance – Procedural Requirements
9/13/2017	Source Test Observation	In Compliance – Recordkeeping
9/28/2017	Source Test Observation	In Compliance – Procedural Requirements
9/29/2017	Source Test Observation	In Compliance – Procedural Requirements
9/29/2017	**Full Compliance Evaluation FCE**	**In Compliance – All Permit Conditions**
11/20/2017	Source Test Results Evaluation	In Compliance – Permit Emission Limits
12/4/2017	Source Test Results Evaluation	In Compliance – Procedural Requirements
12/29/2017	Source Test Results Evaluation	In Compliance – Procedural & Performance Requirements & Permit Emission Standards
4/03/2018	Maintenance of Compliance	In Compliance -Annual Reporting Requirements
4/17/2018	Response to Complaint	In Compliance – Procedural Requirements
7/23/2018	Source Test Results Evaluation	In Compliance – Permit Emission Limits
9/11/2018	Maintenance of Compliance	In Compliance - Monitoring and Reporting
9/28/2018	Informational Inspection	In Compliance – Recordkeeping
10/01/2018	Source Test Observation	In Compliance – Recordkeeping and Reporting
10/03/2018	Source Test Observation	In Compliance – Procedural Requirements
12/14/2018	Source Test Results Evaluation	In Compliance – Performance Requirements
1/17/2019	Source Test Results Evaluation	In Compliance – Emission Standards
1/17/2019	Source Test Results Evaluation	In Compliance – Performance Requirements, RATA
1/22/2019	Source Test Results Evaluation	In Compliance – Performance Requirements
1/22/2019	Source Test Results Evaluation	In Compliance – Procedural Requirements
2/04/2019	Source Test Results Evaluation	In Compliance – Emission Standards
3/26/2019	Source Test Observation	In Compliance – Procedural Requirements
3/27/2019	Source Test Observation	In Compliance – Procedural Requirements
3/28/2019	Source Test Observation	In Compliance – Procedural Requirements
5/01/2019	Maintenance of Compliance	In Compliance – Recordkeeping and Reporting
6/21/2019	Informational Inspection	In Compliance – Procedural Requirements
7/12/2019	Informational Inspection	In Compliance – Permit Emission Limits
7/15/2019	Source Test Results Evaluation	In Compliance – Emission Standards
8/19/2019	Maintenance of Compliance	In Compliance -Monitoring and Reporting Requirements
9/09/2019	Source Test Observation	In Compliance – Procedural Requirements
9/10/2019	Source Test Observation	In Compliance – Procedural Requirements
9/11/2019	Source Test Observation	In Compliance – Procedural Requirements
9/12/2019	Source Test Observation	In Compliance – Procedural Requirements
9/30/2019	**Full Compliance Evaluation FCE**	**In Compliance – All Requirements and Permit Conditions**
12/19/2019	Source Test Results Evaluation	In Compliance – Procedural Requirements
12/24/2019	Source Test Results Evaluation	In Compliance – Permit Emission Limits
2/16/2020	Source Test Results Evaluation	In Compliance – Permit Emission Limits
5/12/2020	Maintenance of Compliance	In Compliance - Monitoring and Reporting
5/28/2020	Source Test Observation	In Compliance – Procedural Requirements
9/16/2020	Maintenance of Compliance	In Compliance - Monitoring and Reporting
9/28/2020	Source Test Results Evaluation	In Compliance – Emission Standards
1/19/2021	Source Test Results Evaluation	In Compliance – Emission Standards
3/24/2021	Source Test Results Evaluation	In Compliance – Emission Standards
3/26/2021	Source Test Results Evaluation	In Compliance – Emission Standards
3/30/2021	Source Test Results Evaluation	In Compliance – Performance Requirements
5/12/2021	Source Test Observation	In Compliance – Procedural Requirements
5/14/2021	Maintenance of Compliance	In Compliance -Monitoring and Reporting Requirements
6/22/2021	Response to Complaint	In Compliance – Complaint Recordkeeping and Response
9/17/2021	Source Test Observation	In Compliance – Procedural Requirements
9/21/2021	Source Test Observation	In Compliance – Procedural Requirements

Inspection Date	Inspection Type	Result
9/23/2021	Source Test Observation	In Compliance – Procedural Requirements
9/23/2021	Comprehensive Compliance Status Inspection	In Compliance - Monitoring and Reporting
9/23/2021	Source Test Results Evaluation	In Compliance – Performance Requirements & Emission Standards
10/06/2021	Maintenance of Compliance	In Compliance -Monitoring and Reporting Requirements
10/11/2021	Source Test Results Evaluation	In Compliance – Performance Requirements
10/12/2021	**EPA Audit Inspection & FCE**	**In Compliance: All Permit Conditions**
10/12/2021	Annual Report Review	In Compliance: All Permit Conditions
12/08/2021	Source Test Results Evaluation	Not in Compliance – Source Test Requirements, Retest Required (Completed 12/22/2021)
12/22/2021	Source Test Results Evaluation	In Compliance – Emission Standards
12/29/2021	Source Test Results Evaluation	In Compliance – Performance Requirements
1/14/2022	Source Test Results Evaluation	In Compliance – Performance Requirements
1/20/2022	Source Test Results Evaluation	In Compliance – Emission Standards
1/21/2022	Source Test Results Evaluation	In Compliance – Emission Standards
3/17/2022	Source Test Results Evaluation	In Compliance – Emission Standards
5/9/2022	Annual Report Review	In Compliance: All Permit Conditions
9/22/2022	Source Test Results Evaluation	In Compliance – Performance Requirements
10/13/2022	Semi-annual Report Review	In Compliance -Monitoring and Reporting Requirements
3/22/2023	Source Test Results Evaluation	In Compliance – Permit Emission Limits
4/6/2023	Source Test Results Evaluation	In Compliance – Emission Standards
4/14/2023	Source Test Results Evaluation	In Compliance – Emission Standards

124. Since International Paper purchased the facility in 2008 only one (1) enforcement action has been taken against this facility. On June 5, 2012, a Notice of Non-Compliance (NON) No. 3375 was issued for failure to conduct Power Boiler (EU-150) CO emission factor verification testing required once per permit term (by June 2010). The facility conducted the emission factor verification testing on 05/08/2012 (same date as the date of discovery) and the NON No. 3375 was closed 07/03/2012.

COMPLAINTS AND COMPLAINT RESPONSES

125. Complaints from the public regarding the facility are received by LRAPA and by the facility. Since mid-1997, LRAPA has been actively working, with the cooperation of the facility, to investigate complaints when callers claim that the facility was the source of the complaint. Virtually all of these complaints are odor related. Other possible sources of odor in the Eugene/Springfield urban area include: other pulp mills north of Eugene/Springfield, municipal waste treatment process activities near River Road, the Glenwood solid waste facility, and general agricultural product processing including the North River Road Waste-handling Pond. After looking at data including wind direction and other sources of odor in the community, less than half of the complaints perceived to be facility-related since mid-1997 have been identified as possibly due to the facility. The facility has indicated that they continue to make voluntary improvements to reduce their odor impact in the community.

ADDITIONAL REGULATORY REQUIREMENTS

PREVENTION OF SIGNIFICANT DETERIORATION (PSD) REVIEW

126. This source is not currently subject to federal regulations for Prevention of Significant Deterioration (PSD). The facility (then owned by Weyerhaeuser) submitted a historical PSD Review Report to LRAPA in December 1994. After thorough review and LRAPA agreement with the baseline emissions calculations in Title V application, the issues identified in the historical PSD review report were resolved by issuance of the initial Title V Federal Operating Permit on July 26, 2000.

112(r) ACCIDENTAL RELEASE APPLICABILITY

127. The federal 112(r) Accidental Release provisions are not currently applicable to the facility and the facility has indicated that they have not triggered the requirements to submit an Accidental Release or Risk Management

Plan. The facility has indicated that some of their prior SARA 312 reports show that they could have triggered for chemicals like chlorine or propane. But the facility has substituted a safer chemical for their chlorine-based mill water system. The facility has also indicated that they do not have any single process propane storage quantities that trigger the accidental release requirements.

NSPS SOURCES

128. This source is currently subject to two (2) federal regulations for New Source Performance Standards, as follows:

128.a. The No. 4 Recovery Relife Project,(completed in 2005) triggered NSPS Subpart BB (Standards of Performance for Kraft Mills) for the #4 Recovery Boiler. Because the hourly instantaneous peak production rate of the furnace increased from 3.2 to 3.5 MMPPDAF (million pounds per day black liquor solids as fired), the No. 4 Recovery Furnace was determined to have been "modified" as per 40 CFR 60.14 and thus subject to the NSPS Subpart BB. For additional information about the No. 4 Recovery Furnace, see Items 66 (Unit Description) and 75 (Emission Standards) of this review report.

128.b. The Package Boiler (EU-150B) is subject to NSPS Subpart Db (Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units) because it was constructed after June 19, 1984 (installed in 1993) and has a heat input capacity of greater than 100 MMBtu/hr. The Package Boiler maximum heat input capacity is 340 MMBtu/hr. The Package Boiler is subject to the high release rate NOx limit of 0.02 lb NOx/MMBtu under 40 CFR 60.40b(a)(ii) because the boiler's high release rate is greater than 70,000 Btu/hr-ft^3. The boiler's high release rate, based on the boiler dimensions specified in the manufacturer's specification sheets, is calculated to be 107,966 Btu/hr-ft^3. In addition, the manufacturer's specification sheets specify a boiler furnace liberation value of 109,548.2 Btu/hr-ft^3. Because both the calculated release rate and the liberation boiler specification values are greater than the 70,000 Btu/hr-ft^3, the boiler is subject to the 0.02 lb NOx/MMBtu limit under 40 CFR 60.40b(a)(ii) of NSPS Subpart Db. For additional information about the Package Boiler, see Items 66, Table 2 (Unit Description) and 77.j (Emission Standards) of this review report

129. The following NSPS regulations are **not** applicable to the emission units at the facility for the reasons provided below:

129.a. The power boiler (EU-150A) is not currently subject to either 40 CFR 60 subpart D – Standards of Performance for Fossil-Fuel-Fired Steam Generators or 40 CFR 60 subpart Db – Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units. This emission unit was constructed prior to the applicability dates for either of these two regulations. This emission unit has not been reconstructed as defined under 40 CFR 60.15. The repairs and maintenance performed on this emission unit and reviewed by LRAPA are not considered modifications under 40 CFR 60.14 because they have not resulted in an increase in the emission rate to the atmosphere of any pollutant to which a standard applies (expressed as lb/hr) or the modifications have met the requirements under 40 CFR 60.14(e).

129.b. The #4 Recovery Furnace ((EU-445C) is not currently subject to either 40 CFR 60 subpart D – Standards of Performance for Fossil-Fuel-Fired Steam Generators or 40 CFR 60 subpart Db – Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units. This emission unit was constructed prior to the applicability dates for either of these two regulations. This emission unit has not been reconstructed as defined under 40 CFR 60.15. According to information submitted as part of the #4 Recovery Relife Project, the fixed capital cost of the new components to repair the emission unit was 19 percent of the cost of a comparable entirely new emission unit, which does not exceed the 50 percent reconstruction threshold. The repairs and maintenance performed on this emission unit and reviewed by LRAPA are not considered modifications under 40 CFR 60.14 because they have not resulted in an increase in the emission rate to the atmosphere of any pollutant to which a standard applies (expressed as lb/hr) or the modifications have met the requirements under 40 CFR 60.14(e).

129.c. None of the emission units at this facility are subject to the incineration rules under section 129 of the Clean Air Act. The power boiler (EU-150A) and the package boiler (EU-150B) are limited by permit to combusting only natural gas and ultra-low sulfur diesel (ULSD), which do not meet the definition of solid waste under 40 CFR 258.2. The #4 recovery furnace (EU-445C) is limited by permit to combusting natural gas, ultra-low sulfur diesel, and black liquor solids. As discussed above, natural

gas and ultra-low sulfur diesel are not considered solid waste. While black liquor solids would appear to meet the definition of solid waste, EPA has specifically excluded this material from the definition of solid waste. Under 40 CFR 261.4(a)(6), pulping liquors (*i.e.,* black liquor) that are reclaimed in a pulping liquor recovery furnace and then reused in the pulping process are excluded from the definition of solid waste unless the pulping liquors are accumulated speculatively as defined in 40 CFR 261.1(c). The lime kilns (EU-455) are limited by permit to combusting natural gas, ultra-low sulfur diesel, product turpentine, and product methanol. As discussed above, natural gas and ultra-low sulfur diesel are not considered solid waste. While product turpentine and product methanol would appear to meet the definition of solid waste, EPA has specifically excluded these materials from the definition of solid waste. Under 40 CFR 261.4(a)(15), condensates derived from the overhead gases from kraft mill steam strippers that are used to comply with 40 CFR 63.446(e) are excluded from the definition of solid waste if the mill generating the condensates if combusting these materials.

129.d. 40 CFR 60 subpart BBa – Standards of Performance for Kraft Pulp Mill Affected Sources for Which Construction, Reconstruction, or Modification Commenced After May 23, 2013 is potentially applicable to the following affected facilities in kraft pulp mills: digester system, brown stock washer system, multiple-effect evaporator system, recovery furnace, smelt dissolving tank, lime kiln and condensate stripper system. LRAPA has evaluated the projects listed in Item 63, Table 1 of the review report and determined this New Source Performance Standard (NSPS) is not applicable for the reasons shown in the table below:

Application Date	Application Number	Action/Description	Reason NSPS BBa is Inapplicable
10/6/2022	NC-208850-A22 (68762) Off permit Change	Kamyr Flash Tank Replacement	No hourly emissions increase - 40 CFR 60.14(a)
3/1/2021	NC-208850-A21 67030 (MD901)	Lime Kiln #3 Partial Shell Replacement and Kiln Exhaust Stack Replacement	No hourly emissions increase - 40 CFR 60.14(a)
11/26/2019	NC-208850-A19 (65665)	Installation of Diesel Fire Pump (CI-RICE) & Fresh Water Storage Tank (Clean Water Supply Tank to Mill Fire System)	Not a subpart BBa affected unit – 40 CFR 60.280a(a)
8/1/2019	Section 502(b)(10) Change Notification	Alternative Operating Scenario change for the Kamyr Steaming Vessel LVHC equipment upgrades with replacement of Batch Decanter and WX Tank.	No hourly emissions increase - 40 CFR 60.14(a)
5/9/2017	62836 (MD902 Off-Permit Change)	Installation of Albany Mill Reboiler for clean low-pressure steam for Kamyr Chipper Feed System	No hourly emissions increase - 40 CFR 60.14(a)
4/14/2016	61456 (MD901 & MD902 Off-Permit Change)	Replacement of No. 2 Paper Machine Headboxes and Steam Shower, Upgrade of Winder Splitter and Roll Handling Equipment	Not a subpart BBa affected unit – 40 CFR 60.280a(a)
10/16/2015 (Initial), 3/11/2016 (Supplemental)4/ 14/2016 (Application Modification)	60814 (Significant Mod, AQ101, MD901, MD906, ED605) 208850 Construction ACDP (Addendum No.3)	No. 2 Paper Machine Productivity Project: Lengthening No. 2 Paper Machine Fourdrinier and Upgrade of Paper Machine Systems using Unassigned Emissions for Production Increases	Not a subpart BBa affected unit – 40 CFR 60.280a(a)
9/2/2015	60708 NC-208850-A15 (MD901, MD905, DV201, CD305, TV Minor Permit Mod), (Addendum No. 2)	Chip Fines Bin (with cyclone) Installation & Handling System (Blower and Piping) Reconfiguration	Not a subpart BBa affected unit – 40 CFR 60.280a(a)
9/2/2015	60708 (MD902 Off-Permit Mod)	No. 4 Weak Black Liquor Storage Tank Repair/Replacement	No hourly emissions increase - 40 CFR 60.14(a)
		High Solids Concentrator System Installation	No hourly emissions increase - 40 CFR 60.14(a)
		South Green Liquor Clarifier (SGLC) Repair/Replacement	No hourly emissions increase - 40 CFR 60.14(a)

Application Date	Application Number	Action/Description	Reason NSPS BBa is Inapplicable
		Replacement of #4 Recovery Furnace bed bottom and lower walls	No hourly emissions increase - 40 CFR 60.14(a)
10/23/2014	59819 (MD905-TV Minor Permit Mod. (Addendum No. 1)	Digester Feed Bin System Replacement	No hourly emissions increase - 40 CFR 60.14(a)
5/15/2014	59456 NC-208850-C14 (MD902 Off-Permit Mod)	Condensate Steam Distillation (CSD) Stripper Column Tray Replacement/Upgrade	No hourly emissions increase - 40 CFR 60.14(a)
5/15/2014	59456 NC-208850-B14 (MD901&MD902 Off-Permit Change)	Digester Feed Bin System Replacement w/pre-steaming & new turpentine condenser (Part 2/2 of Digester Feed Optimization Project) (see Part 1/2 Kamyr Pulp Rejects Upgrade Off-Permit Mod 2/4/14 (above) & 10/23/14 Minor Permit Mod)	No hourly emissions increase - 40 CFR 60.14(a)
2/4/2014	59207 (MD902 Off-Permit Change)	CNCG & CNCG Vent Pipe Relocation	No hourly emissions increase - 40 CFR 60.14(a)
		Kamyr Relief Standpipe Installation for safety valves	No hourly emissions increase - 40 CFR 60.14(a)
		No. 2 Oxidation Tank Replacement	No hourly emissions increase - 40 CFR 60.14(a)
		Kamyr Pulp Rejects System Upgrade with new rejects refiner (Part 1 of 2 of Digester Feed Optimization Project)	No hourly emissions increase - 40 CFR 60.14(a)
		No. 2 Washer Drum Replacement	No hourly emissions increase - 40 CFR 60.14(a)
		Kamyr Hot Water Tank Replacement	No hourly emissions increase - 40 CFR 60.14(a)
2/4/2014	NC-208850-A14 (MD901&MD902 Off-Permit Change)	#4 Recovery Furnace Precipitator Rebuild (both east and west chambers) w/plate, discharge electrode & worn part replacement, new AVC & rapping system	No hourly emissions increase - 40 CFR 60.14(a)

NESHAP SOURCES

130. This source is subject to six (6) National Emission Standards for Hazardous Air Pollutants (NESHAP).

130.a. The facility is subject to NESHAP Subpart S (Standards for HAPs from the Pulp and Paper Industry), Subpart A (General Provisions) and Subpart RR (Standards for Individual Drain Systems) for multiple emission units and devices. Standards apply to Low-Volume High-Concentration (LVHC) and High-Volume Low-Concentration (HVLC) HAP emission sources from the pulping process and specific Kraft pulping process condensates. Subpart S (also known as Pulp & Paper MACT I) includes requirements for closed-vent system monitoring and for Subpart RR monitoring and emissions from specific individual drains. For additional information about Subpart S requirements, see Items 65.b (Subpart S updates), 77.g and 77.l (Emission Standards), 84 (Reporting) and 130.a.i through 130.a.iii (Summary of Subpart S Phases I & II, below) of this review report

130.a.i. Subpart S, Phase I (MACT I, Phase I): The facility demonstrated compliance with NESHAP Subpart S, Phase I requirements for capture (collection) and control (treatment) of LVHC (Low-Volume High Concentration) foul-condensate HAP sources on April 7, 2001, prior to the April 15, 2001, Subpart S reporting deadline. To demonstrate compliance with Subpart S, Phase I requirements, the facility used/uses a "Steam Stripper System" control device (comprised of a pre-stripping VCE (Vapor Compression Evaporator), a CSD (Condensate Steam Distillation) system and thermo-siphon reboiler) to collect at least 7.2 pounds of methanol (MeOH)/ODTP (oven-dried ton pulp) and treat at least 6.6 pounds of methanol/ODTP in accordance with Subpart S Kraft Pulping Process Condensate (40 CFR 63.446) control options based on methanol as the surrogate HAP. The initial "Steam Stripper System" control efficiency was determined to be 96% (based on three source tests conducted in 1999).

130.a.ii. In 2000, EPA and LRAPA approved a 60-day averaging period for compliance demonstration with the kraft unbleached pulp mill 7.2 pounds MeOH collection/6.6 pounds MeOH treatment control option. The facility also established an Alternative Operating Scenario (AOS) II (65% methanol collection), as an alternative pulping condensates control option in the Title V permit issued in July of 2000. The AOS II option was never used or implemented. As part of the current renewal, the facility has requested removal of this operating scenario (AOS II) and all references to AOS II have been removed from the proposed permit. The facility has maintained compliance with the MACT I, Phase I requirements during the previous three permit terms (2000 to present).

130.a.iii. Subpart S, Phase II (MACT I, Phase II): The facility demonstrated compliance with NESHAP Subpart S, Phase II requirements for capture (collection) and control (treatment) of HVLC (High-Volume, Low Concentration) foul-condensate HAP sources through implementation of the Clean Condensate Alternative (CCA) (40 CFR 63.447) prior to the April 17, 2006, Subpart S, Phase II reporting deadline. The facility's CCA initial compliance demonstration, with the July 26, 2004 submittal of the "MACT I Phase II Project Report" (dated October 7, 2003), was approved by LRAPA in November 2004. Approval of the facility's CCA plan required installation and continuous operation of a CMS (MeOH density meter) to measure methanol treatment and HAP emission reductions in the pulping process water, three CCA HAP emission reduction projects (relocation and re-piping of the NCG pre-scrubber underflow liquid to the Kamyr Digester (April 2000), replacement of 2 slakers with a new low-emission ventless slaker (May 2000), and replacement of the use of evaporator condensate water in the #4SDTV wet scrubber with clean water makeup from the recovery area (November 2002)), and annual methanol testing on the #4 SDTV wet scrubber, the Kamyr digester washers and select recaust sources to demonstrate compliance with CCA 1.0 pounds MeOH/ODTP limit which assures the facility remains below the 1993 baseline HAP emission rate. The facility has maintained compliance with the MACT I, Phase II requirements during the previous two permit terms (2005 to present).

130.b. The facility is subject to NESHAP Subpart MM (Standards for HAPs for Chemical Recovery Combustion Sources at Kraft Pulp Mills) and Subpart A (General Provisions). Subpart MM (also known as Pulp & Paper MACT II) requirements apply to the #4 Recovery Furnace and the Lime Kilns for opacity (COMs), PM HAP emission standards, monitoring, testing and maintenance of proper operation of each unit's Electrostatic Precipitator (ESP) automatic voltage control as well as PM HAP standards, monitoring and testing for the #4 Smelt Dissolving Tank (SDT) and the SDT's wet scrubber continuous parameter monitoring. For additional information about Subpart MM requirements, see Items 66 (Unit Descriptions), 65.c (Subpart MM updates) and 75 through 77 (Emission Standards), 78 (CAM) and 84 (Reporting) of this review report.

130.c. The Power Boiler and the Package Boiler are both subject to NESHAP Subpart DDDDD (5D) (Standards for HAPs for Major Sources Industrial Boilers) For additional information about Subpart DDDDD requirements see Items 66 (Unit Descriptions), 77.h (Compliance) and 84 (Reporting) of this review report.

130.d. The facility's emergency RICE units are subject to NESHAP ZZZZ (Standards for HAPs for Stationary Reciprocating Internal Combustion Engines (RICE)), For additional information about Subpart ZZZZ requirements, see Items 70 (Unit Descriptions) and 89 (Reporting) of this review report.

REGIONAL HAZE – ROUNDS I & II

Regional Haze Round I - 2009

131. This source is subject to the federal regulations for Regional Haze (RH). A Stipulated Agreement and Final Order requirements (as detailed under the Regional Haze Round II limitations and PSEL reductions, below) have been incorporated in the permit with the current renewal.

132. Regional Haze Round I and Best Available Retrofit Technology (BART) (40 CFR 51.308(e)): Round I (2009) of the Regional Haze Program required the state of Oregon/LRAPA to identify and submit a BART determination for each BART Eligible Emission Unit (BEEU) in Oregon that emits any air pollutant which may reasonably be anticipated to cause or contribute to any impairment of visibility in any mandatory Class I area. Oregon established a 0.5 dv (deciview) "cause-or-contribute" threshold. If visibility impacts in all Class I areas are maintained below the 0.5 dv threshold, then the BEEUs are not considered subject to the requirements to implement BART. The BEEUs identified at the facility, which emitted more than 250 tons per year (2009) of any single visibility-impairing pollutant (NO_x & SO_2), are as follows:

132.a. Power Boiler (EU-150A)

132.b. No. 3 Recovery Furnace (EU-445A)

132.c. No. 3 Recovery Furnace Smelt Dissolving Tank Vents (2) (EU-445B)

132.d. No. 4 Recovery Furnace (EU-445C)

132.e. No. 4 Recovery Furnace Smelt Dissolving Tank Vent (EU-445D)

133. The facility performed visibility impact assessments and concluded that the BEEUs identified above had the potential, in the absence of an enforceable permit limit, to impact Class I areas at or above 0.5 dv (deciview). Therefore, the permittee accepted BART-avoidance federally enforceable permit limits (FEPL) that ensured that visibility impacts remain below the 0.5 dv threshold. The facility-wide NOx PSEL was reduced to 1,790 tons per year (from 2,053 tpy) and SO_2 annual PSEL was reduced to 1,519 tons per year (from 2,462 tpy) based on worst-case BART eligible emission units (BEEUs) short term limits. The facility's Netting Basis (NB) for NOx and SO_2 were reduced by the same amounts as the PSEL reductions. In addition to PSEL and Netting Basis reductions, the facility accepted continuous emission monitoring and reporting conditions and a limit of ≤ 500 lbs/hr on a daily average short-term basis ($1.46*NO_x$ lbs/hr + SO_2 lbs/hr ≤ 500 lbs/hr) to ensure, on a continuous basis, that visibility impacts remain below the 0.5 dv threshold and BART retrofit requirements were not applicable.

134. With the 2020 Regional Haze Round II requirements (PSEL reductions, fuel restrictions (burn only natural gas and ULSD) and the Power Boiler NOx CEM)) and the decommissioning of BEEUs No. 3 Recovery Furnace (EU-445A) and the No. 3 Recovery Furnace Smelt Dissolving Tank Vents (2) (EU-445B), the facility demonstrated that, given the RH Round II limitations, the facility no longer has the potential to exceed the 500

lb/hr short-term limit or exceed the 0.5 deciview threshold for visibility impacts. In January 2023, the facility requested LRAPA's approval of eliminating the Regional Haze Round I conditions. Based on the facility's demonstration that none of the Round I limitations were capable of being exceeded, LRAPA approved the facility's request (letter dated February 24, 2023) and has removed the previous permit Conditions 207 and 208 from the permit. The Regional Haze Round II conditions were added to the permit, as detailed below.

Regional Haze Round II - 2020

135. A Stipulated Agreement and Final Order (SAFO) for NO_x, PM_{10} and SO_2 PSEL reductions, installation of a NOx CEM on the Power Boiler and fuel use restrictions limiting combustion units to burning only natural gas and ULSD (Ultra-Low Sulfur Diesel) No. 2 oil (only during times of natural gas curtailment), was executed and signed by International Paper, LRAPA and DEQ on August 9, 2021.

136. Federally Enforceable Permit Limits (FEPL) conditions, specific to implementation of the Round II SAFO, have been added to the permit with the current renewal as follows:

136.a. The combined PSELs for the Power Boiler, Package Boiler, #4 Recovery Furnace and Lime Kilns are limited to:

136.a.i. 962 tons NO_x per year, as a 12-month rolling average;

136.a.ii. 177 tons PM_{10} per year, as a 12-month rolling average; and

136.a.iii. 237 tons SO_2 per year, as a 12-month rolling average.

136.b. The SAFO fuel use restrictions:

136.b.i. The only fuel that may be combusted in the Power Boiler and Package Boiler is natural gas except ULSD may be combusted during periods of natural gas curtailment;

136.b.ii. The only fuels that may be combusted in the #4 Recovery Furnace are natural gas and Black Liquor Solids (BLS) except ULSD may be combusted during periods of natural gas curtailment;

136.b.iii. The only fuels that may be combusted in the Lime Kilns are natural gas, product turpentine, and product methanol except ULSD may be combusted during periods of natural gas curtailment;

136.c. Power Boiler NOx requirements:

136.c.i. A NO_x CEM must be installed, certified and operational by May 31, 2023, to continuously measure NO_x emissions from the Power Boiler;

136.c.ii. The Power Boiler must meet a limit of 0.25 lb NO_x/MMBtu on a 7-day rolling average; and

136.c.iii. The Power Boiler NOx PSEL is limited to 179 tons per year, as a 12-month rolling average.

136.d. The PSELs reductions resulting from the Regional Haze Round II restrictions and limits are as follows:

Regional Haze Round II-Related PSEL Reductions by Pollutant						
CO (tpy)	**NOx (tpy)**	**PM (tpy)**	**PM_{10} (tpy)**	**$PM_{2.5}$ (tpy)**	**SAM (Sulfuric Acid Mist) (tpy)**	**SO_2 (tpy)**
98	687	104	92	63	31	1281
In addition to the PSEL reductions above, the Lead (Pb) PSEL (0.23 tpy) has been removed from the permit because the facility no longer has the capacity to emit above the de minimus level (0.1 tpy) required for establishing a Pb PSEL. The emission detail sheet in A						

SOURCE TESTING

137. LRAPA has documented a comprehensive history of source testing conducted at the facility (see Attachment 3) for summaries of source test results. As indicated in the periodic monitoring section of this review report, the permit includes extensive periodic monitoring requirements for each applicable requirement condition. These monitoring requirements include periodic source testing, parameter monitoring, and recordkeeping. The information obtained from the monitoring can be used by the permittee to periodically certify compliance with the emissions limits and standards. LRAPA may agree to reduce the testing frequency if testing shows reasonable consistency with the emission factors used to estimate emissions. However, LRAPA may request additional testing or conduct their own testing to independently determine compliance with the emission limits and standards.

PUBLIC NOTICE

138. This permit was on public notice from May 22, 2023 to July 21, 2023. A hearing was held on June 21, 2023. Immediately prior to the hearing on June 21, 2023, LRAPA held a virtual informational session about the facility and the draft permit. Comments were submitted in writing during the comment period and virtually at the public hearing. After the public comment period and hearing, LRAPA reviewed the comments and changed the permit conditions as detailed in Item 139. A proposed permit was sent to EPA on December **7**, 2023 for a 45-day review period. Since substantive comments were received, LRAPA did not request an expedited review by EPA.

If the EPA does not object in writing, any person may petition the EPA within 60 days after the expiration of EPA's 45-day review period to make such objection. Any such petition must be based only on objections to the permit that were raised with reasonable specificity during the public comment period provided for in OAR 340-218-0210, unless the petitioner demonstrates that it was impracticable to raise such objections within such period, or unless the grounds for such objection arose after such period.

Public Hearing Summary

On Wednesday, June 21, 2023, beginning at approximately 6:22 pm, a public hearing was held remotely over Zoom for the renewal of the Title V operating permit for International Paper Company, Springfield Mill (208850), located at 801 42nd Street, Springfield, Oregon, 97478. Fifteen (15) members of the public were virtually in attendance based on a count of Zoom logins.

The LRAPA representatives participating in the public hearing were Steven Dietrich, Director, Travis Knudsen, Public Affairs Manager, Kelly Conlon, Permit Writer, Cassandra Jackson, Compliance Inspector, and Max Hueftle, Operations Manager.

Prior to the public hearing, the LRAPA staff listed above conducted an informational session that discussed the Kraft pulping process, location and purpose of the facility, the types of emission units at the facility, a summary of the emissions from the facility, and a summary of the proposed modifications to the permit. The public hearing was opened by Max Hueftle of LRAPA who provided a summary of the purpose and format of the hearing and presided as the Public Hearing Officer. The rest of the public hearing consisted of a single public comment on the proposed permit from a member of the public.

Public Comments Summary and LRAPA Responses

[All public comments that were received for this permit are a public record and are retained with the public permit review files. For purposes of this summary document, the public comments may have been edited to reduce length or consolidated with similar comments. Public comments that are not related to the review report or draft permit, such as those comments that are statements of fact or express an opinion, are not presented in this document, and do not require a response from LRAPA.]

Comment 1: How are the monitoring devices used in measuring the underlying process inputs (e.g., feed rates associated with fossil fuel, black liquor solids, lime mud) and correlated to the process parameters in Condition 178, Table 19, specified in the permit? In addition, how does the permit assure that these monitoring devices are installed, calibrated, maintained, and operated in accordance with the manufacturer's specifications?

Response 1: In the first question, the commenter is asking for clarification on how the process parameters are derived, tracked, and monitored in Condition 178, Table 19. This facility monitors, among other parameters,

fuel usage and production of pulp in air dried tons (ADT) for the purposes of Condition 178, Table 19. The pulp production is a key financial component for the permittee and is directly measured at the Kamyr digester (EU-420). Fuel usage is monitored at each combustion unit. Recordkeeping requirements for pulp production and fuel usage are identified in Condition 190 and are sufficient to meet the monitoring requirements for PSEL compliance. In addition to the monitoring and recordkeeping requirements, the permittee is required to verify the emission factors used in Condition 178, Table 19 by conducting emission factor verification testing as required by Condition 179 of the proposed permit.

As a result of this comment and discussions with EPA Region 10, LRAPA has re-evaluated the Plant Site Emission Limits (PSELs) and emissions factors (EFs) for the #4 Recovery Furnace, Smelt Dissolving Tank and Lime Kilns, which have historically - since 1973 - been permitted based on emission factors in terms of lbs. of pollutant per air-dried tons (ADT) of unbleached pulp (e.g., Recovery Furnace NOx EF: 1.53 lbs. NOx/ADT).The individual emission units' process inputs, EFs, and resultant PSELs can also be expressed as lbs. of pollutant per ton of black liquor solids (lbs. pollutant/TBLS) for the Recovery Furnace and Smelt Dissolving Tank and as lbs. pollutant per ton of lime (CaO) produced by the Lime Kilns (lbs./Ton CaO). Specifically, LRAPA has converted the emission factors for all criteria pollutants from the historic use of lbs/ADT to lbs/TBLS for the Recovery Furnace and Smelt Dissolving Tank and to lbs/T CaO (lime) produced for the Lime Kilns. The recalculated PSELs for these units are largely the same but, in some instances, the PSELs were lower than those calculated based on lbs./ADT.

In addition, for these same 3 emission units, #4 Recovery Furnace, Dissolving Tank and Lime Kilns, LRAPA updated the EFs for PM, PM_{10} and $PM_{2.5}$ based on source tests conducted from 2017-2022 and the EFs for TRS & SO_2 based on continuous emission monitoring systems (CEMS) data collected from 2017-2022. The resulting reductions in the PSELs are summarized in LRAPA's responses to Comments 8 and 15, below. LRAPA has modified the PSEL Monitoring Table 19 in Condition 178 to include the revised/converted emission factors based on lbs/TBLS for the Recovery Furnace and Dissolving Tank and lbs/T CaO for the Lime Kilns. These new EFs must be used going forward for demonstrating compliance with the PSEL as required by Condition 178. The Review Report and Attachment 1 Emission Detail Sheets have also been amended to document the change in the EFs for the 3 emission units listed above.

To address the commenter's second question, Condition 189 of the draft permit will be modified to include a requirement that all monitoring devices be installed, calibrated, maintained, and operated in accordance with the manufacturer's specifications.

Comment 2: What procedures are specified in the permit to convert the process input monitoring data (e.g., flow rates associated with fuel, black liquor solids, and lime mud) into the process parameters specified in Condition 178, Table 19?

Response 2: Although no conversion of process input monitoring data is necessary for the process parameters specified in Condition 178, Table 19, LRAPA has converted the emission factors parameters for the Recovery Furnace, Smelt Dissolving Tank and the Lime Kilns as described in LRAPA's Response 1, above. The permit, review report and PSEL Emission Detail sheets (Attachment 1 to the review report) have been modified with the updated emission factors, process parameters (TBLS & T CaO), and allowable PSELs. For non-combustion units, the parameters specified in Condition 178, Table 19 are based on pulp production which is directly measured at the Kamyr digester. Pulp production is directly measured and is not derived from other process input(s) that would require a conversion. For the Power Boiler and Package Boiler combustion units, emissions are determined in terms of lbs. per MMBtu of natural gas or ultra-low sulfur diesel (ULSD) combusted. The usage of these fuels is directly measured and monitored at each combustion unit. Therefore, no additional permit conditions are needed other than the existing recordkeeping requirements for pulp production and fuel usage identified in Condition 190 of the proposed permit. Black liquor solids for the Recovery Furnace and Dissolving Tank and lime mud the Lime Kilns have not been used historically but, at EPA Region10 recommendation, LRAPA has converted pulp production to tons BLS and tons CaO (lime) equivalent and are now specified as the process parameters in Condition 178, Table 19 for the recovery furnace, dissolving tank and kilns. The facility has and will continue to monitor, track and maintain daily and annual records of black liquor solids burned and CaO (lime) production as required by permit condition 190. Please see LRAPA Response 1, above for additional information on the changes to the PSEL monitoring required in Condition 178.

Comment 3: How does the permit specify the inclusion of startup, shutdown, and malfunction emissions in the emission calculations demonstrating compliance with the PSELs?

Response 3: International Paper's Plant Site Emission Limits (PSELs) are established based on potential to emit (PTE) which includes the use of pollution control devices and certain operational conditions. Startup and shutdown emissions are emission unit specific, and not all emission units have significant startup and shutdown emissions. LRAPA, in consultation with International Paper, has determined that this facility does not have significant startup and shutdown emissions. The most common sources of startup and shutdown emissions at a paper mill would be from the large combustion units, including the Power Boiler, the Package Boiler, the #4 Recovery Furnace, and the Lime Kilns. As part of Round II of the Regional Haze regulations, the Power Boiler and the Package Boiler are limited to combusting natural gas for normal operation. As such, these units are not expected to have significant startup and shutdown emissions. Similarly, the #4 Recovery Furnace and the Lime Kilns startup and shutdown on natural gas only. The electrostatic precipitators (ESPs) on these emission units are operational prior to the introduction of black liquor solids or calcium carbonate, as applicable. Therefore, these units are not expected to have significant startup and shutdown emissions. LRAPA agrees that the permit does not clearly require the inclusion of malfunction emissions in the emission calculations demonstrating compliance with the PSELs, although the proposed permit does require the facility to quantify excess emissions under Condition 194 of the proposed permit. LRAPA has added language to the PSEL compliance equation in Condition 178.b. of the proposed permit that requires excess emissions to be included in demonstrating compliance with the PSELs.

Comment 4: Per Condition 177, the VOC PSEL is established as VOC "as propane." Can LRAPA explain why VOC as propane is used here? EPA has interpreted that the VOC PSEL emissions must be established based on the total mass of VOCs or on an "as VOC basis" (see Region 10 letter to Oregon DEQ dated December 21, 2000). VOC limits measured "as propane" or "as carbon" must be source-specific and adequately demonstrated to be equivalent to an "as VOC" basis.

Response 4: EPA raises a long-standing issue with the determination and representation of VOC emissions in air quality permitting. Pulp and paper mills are an especially challenging source category to determine VOC emissions on a mass basis due to the complexity of the organics emitted from a given process. In a July 12, 2006, letter from Mr. William Wehrum of EPA to Mr. Timothy Hunt of the American Forest & Paper Association, EPA admitted that more accurate approximations would "be costly and time consuming, and we (EPA) agree that it makes sense to take a phased approach, starting first with the relatively less-complex and variable gas streams from wood products facilities before attempting to better characterize the VOCs emitted by pulp and paper mills." In addition, EPA acknowledges in the same document that "for pulp and paper mills, no immediate interim method is available but upcoming industry research should identify reasonable approaches." LRAPA and International Paper are committed to improving the estimation of VOC emissions from the facility in the next Title V permit cycle.

Similar to other pulp and paper mills in Oregon permitted by DEQ, LRAPA has followed Oregon DEQ's Internal Management Directive: Guidance for Evaluating VOC Emissions from Drying and Hot-Pressing Activities Common to the Wood Products Industry to establish a reasonable approximation of VOC mass emissions from this source. International Paper uses VOC emission factors predominately derived from historical stack testing performed at the facility or at other pulp and paper facilities under the direction of the National Council for Air and Stream Improvement (NCASI). This stack testing was performed using US EPA Method 25 or 25A and expressed "as carbon". According to the Oregon DEQ IMD, Method 25A results expressed "as carbon" should be multiplied by a factor of 1.22 to account for the insensitivity of Method 25A to terpenes to convert to "as VOC". This approach is consistent with EPA's early 2000's enforcement actions in the Wood Products Initiative where EPA quantified VOC emissions with Method 25A data by correcting for a mass-to-carbon ratio of 1.13 (terpenes) and by applying a sample moisture correction factor. LRAPA believes the use of the Oregon IMD provides a reasonable approximation of VOC emissions from this facility.

In support of this assertion, LRAPA reviewed the available speciated data for the top four (largest) sources of VOCs at International Paper:

- Other TRS Sources (EU-275C), which includes the digester softwood brown stock washing, has potential VOC emissions of 524.7 tons per year and terpenes represent approximately 90% of the speciated VOC data.
- Paper Machine Wet End (EU-715A) has potential VOC emissions of 245.1 tons per year and terpenes represent approximately 60% of the speciated VOC data.

- Paper Machine Dry End (EU-715B) has potential VOC emissions of 179.9 tons per year and terpenes represent approximately 50% of the speciated VOC data.
- Chip Handling (EU-310) has potential VOC emissions of 147.7 tons per year and terpenes would be considered the primary VOC species.

In addition, LRAPA reviewed the emission factors associated with the VOC PSEL calculations and corrected several errors. The VOC emission factors for the Power Boiler and the Package Boiler are derived from US EPA AP-42 – Compilation of Air Pollutant Emission Factors. In the absence of additional information, LRAPA assumes that AP-42 emission factors represent emissions "as VOC." As such, the emission factors for these emission units in the proposed permit, review report, and emission detail sheets have been corrected by removing any adjustment factor, as applicable.

Comment 5: Per Condition 176, the Power Boiler (EU-150A) is limited to 179 tons of NOx per year, which appears to be incorporated into the current PSELs. Based on the emission limit of 0.25 lbs of NOx per MMBTU as specified in Condition 175, this would appear to limit the Power Boiler to operating below its potential to emit and reduce the hours of operation from 8,712 hours of operation per year to 2,632 hours of operation when burning natural gas. If this is correct, would this decrease in hours of operation necessitate a corresponding reduction in the other pollutant PSELs (e.g., CO) associated with the Power Boiler?

Response 5: The commenter has highlighted an issue with the presentation of the Power Boiler in the proposed permit based on requirements from the Stipulation Agreement and Final Order (SAFO) for Round II of the Regional Haze regulations. Under the SAFO dated August 9, 2021, the NOx PSEL limitation of 179 TPY (12-month rolling average) for the Power Boiler applies on or after December 31, 2025. Until that date, the Power Boiler is subject to a shared NOx PSEL limitation of 962 TPY (12-month rolling) with the Package Boiler, #4 Recovery Furnace and Lime Kiln emission units. In addition, the SAFO stipulates that the Power Boiler is subject to an emission limit of 0.25 pounds of NOx per MMBtu (7-day rolling) on or after January 31, 2025. Until the Power Boiler is subject to the NOx PSEL limitation of 179 TPY, the boiler is not constrained in operation directly such that the PSEL for other pollutants emitted from this emission unit would also be reduced. To resolve confusion around this issue, LRAPA has added language to the proposed permit to require International Paper to apply for a modification of the permit at least 30 days prior to December 31, 2025. As part of the permit modification, LRAPA has revised the PSEL tables to reflect the 179 TPY limit on the Power Boiler, reduce the PSEL for other pollutants emitted by the Power Boiler, and move the difference between the netting basis and the potential to emit for other pollutants not regulated by Regional Haze into unassigned emissions. To provide further clarification, LRAPA has revised Table 19, Plant Site Emission Limit Monitoring and Testing to reflect that upon issuance of this permit, International Paper must use a NOx CEMS on the Power Boiler as part of demonstrating compliance with the facility-wide NOx PSEL of 976 TPY and the Regional Haze group NOx limit of 962 TPY. On or after January 31, 2025, International Paper must use the NOx CEMS on the Power Boiler as part of demonstrating compliance with these NOx emission limits and the emission limit of 0.25 pounds of NOx per MMBtu (7-day rolling). LRAPA has also revised the emission detail sheets to reflect only the requirements that apply prior to December 31, 2025.

Comment 6: With respect to Conditions 109.b., 122.e., 124.b., and 125.e., why is the exceedance of an action level categorically excluded as a violation of a standard?

Response 6: If the emission units addressed under Conditions 109.b., 122.3., 124.b., and 125.e., were subject to an emission action level, and the emission action level was more stringent than an applicable federal, state, or local emission standard, an exceedance of the emission action level would not be considered a violation of the emission standard under LRAPA 32-007(2)(d) and similar language in OAR 340-226-0120(2)(d). However, upon review, LRAPA has determined that these emission units are not subject to an emission action level as defined in LRAPA 32-007(2) and the referenced conditions have been deleted.

Comment 7: We recommend including references to the application revisions that were subsequently received by LRAPA on October 18, 2022, and May 4, 2023, along with initial reference to the December 12, 2016 renewal application, to clearly state the information relied upon in the review report. Additionally, Region 10 notes that public notice and draft permit indicate an application date of August 31, 2016, while the date in the draft review report is December 12, 2016. Which date is the correct date of the application?

Response 7: LRAPA has modified the review report to add references to the application revisions received on October 18, 2022 (#68835) and May 4, 2023 (#69609) subsequent to the receipt of International Paper's original Title V renewal application on December 12, 2016 (#62175). The proposed permit cover page

incorrectly listed an application date of August 31, 2016 which was a reference to a previous permit action for incorporating the 2016 Construction ACDP into the Title V permit. LRAPA has corrected the permit cover page of the proposed Title V permit with the correct date of December 12, 2016 (#62175) for the Title V renewal application.

Comment 8: We recommend showing how the draft proposed PSELs compare to the actual emissions over the past several years.

Response 8: LRAPA has added the following table to the review report which compares International Paper's actual facility emissions based on the facility's 2016-2022 Annual Reports with the previous and proposed PSEL.

Comparison of Plant Site Emissions Limits (PSELs) to Actual Emissions 2016-2022									
Pollutant	**2016 PSEL**	2016 Actual Tons	2017 Actual Tons	2018 Actual Tons	2019 Actual Tons	2020 Actual Tons	2021 Actual Tons	2022 Actual Tons	**Proposed 2023 PSEL**
CO	**1,048**	284	308	284	317	311	326	332	**591**
NO_x	**1,692**	652	724	642	733	522	539	508	**962**
PM	**773**	174	189	174	171	168	178	180	**200**
PM_{10}	**750**	168	182	167	164	163	161	162	**193**
$PM_{2.5}$	**331**	148	161	147	145	143	141	143	**170**
SAM	**47**	13	14	13	12	12	13	13	**18**
SO_2	**1,521**	48	69	32	45	44	47	48	**153**
TRS	**133**	34	43	40	38	36	38	38	**53**
VOC	**1,418**	884	979	921	910	808	935	946	**1,269**
GHG	**1,227,934**	665,551	740,016	689,212	638,581	627,633	641,917	668,402	**1,269,532**

Comment 9: We recommend a more detailed explanation about how the proposed netting bases and PSELs were calculated, including how any PTE was calculated when used to establish a PSEL. See LRAPA 42-0041.

Response 9: The netting bases were calculated based on reductions required under LRAPA's Netting Basis rule, paragraphs 42-0046(3)(a) and (b). The Regional Haze order required PSEL reductions for all combustion units based on fuel limitations and stipulated PSELs for NO_x, PM_{10} and SO_2 – the Regional Haze affected pollutants. Also, the Unassigned Emission rule required that unassigned emissions be reduced to no more than the Significant Emission Rate with the current renewal (see Review Report Item 107). Table 8 of the Review Report and Items 104 – 107 provide a history of changes to unassigned emissions since the 2012 permit renewal, including PSEL reductions required under the Regional Haze order as well as reductions to the proposed netting bases. Per subparagraph 42-0046(3)(a)(E), the netting bases were required to be reduced based on the difference between the previous netting bases and the proposed netting bases (reductions required by rule and/or order) and are equal to reductions in the proposed PSELs plus the unassigned emissions reductions. LRAPA has added clarifying language on the Netting Basis calculations in the emission detail sheets.

Per Review Report Item 97, the PTE was calculated when used to establish a PSEL based on the Round II Regional Haze order limitations on fuel and stipulated PSEL reductions for the four combustion units and the facility's limit of 530,000 ADT of pulp per year for the non-combustion units. The Round II Regional Haze order also requires an additional NOx PSEL limitation of 179 TPY on the Power Boiler which becomes effective on or after December 31, 2025. As discussed in Response 5, LRAPA has modified the proposed permit to require the submittal of a modification application for adjusting the PSEL limitations to reflect this requirement. LRAPA has added clarifying language in the proposed permit and PSEL calculations in the emission detail sheets.

Comment 10: We recommend including more information on the monitoring devices and systems used with each emission unit and activity to measure the process input data (e.g., fuel, black liquor solids, and lime mud) and how this data is used in demonstrating a correlation to the established process parameters specified in Condition 178, Table 19 (e.g., air dried tons).

Response 10: As indicated in LRAPA's Response to Comment 1 above, at EPA's suggestion, LRAPA has converted the emission factors for the Recovery Furnace and the Smelt Dissolving Tank historically based on

lbs/ADT to lbs/TBLS, and for the Lime Kilns from lbs/ADT to lbs/T CaO (lime). Direct monitoring, tracking, and reporting of daily and annual production of ADT, TBLS and T CaO are already required by the permit. For non-combustion units and devices, the emission factors in lbs/ADT specified in Condition 178, Table 19 are based on pulp production which is directly measured at the Kamyr digester. Pulp production is directly measured and not monitored from other process input(s) that would require a conversion. For combustion units, emissions are expressed in terms of lbs/MMBtu of natural gas or ultra-low sulfur diesel combusted. The usage of these fuels is directly measured for each combustion unit. No additional permit conditions are needed other than the existing recordkeeping requirements for pulp production, black liquor solids (BLS) fired in the Recovery Furnace and Dissolving Tank and lime (CaO) production by the kilns and fuel usage identified in Condition 190 of the proposed permit. For clarification in the Review Report, Item 77.o, has been added to indicate that pulp production (ADT (air-dried tons)), fuel usage (MMBtu NG and/or ULSD combusted), BLS and CaO production are directly measured for demonstrating compliance with the PSELs using the emission factors in the updated Condition 178, Table 19.

Comment 11: Per Items 127.b., the package boiler is subject to NSPS Subpart Db. Permit Condition 142 specifies that the applicable NO_X limit is 0.20 lbs/MMBtu based on 40 CFR 60.44b(a)(1)(ii). However, the applicable NO_X limit under 60.44b(a)(1) is determined based on whether the boiler has a low or high heat release rate. We recommend providing further information to support this determination.

Response 11: Under 40 CFR 60 subpart Db – Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units, heat release rate is defined as the steam generating unit design heat input capacity (in MW or Btu/hr) divided by the furnace volume (in cubic meters or cubic feet). The furnace volume is that volume bounded by the front furnace wall where the burner is located, the furnace side waterwall, and extending to the level just below or in front of the first row of convection pass tubes. According to the boiler manufacturer specification sheets for the Package Boiler, the furnace dimensions are 9'5" by 8'6" by 39'4" and the boiler has a design heat input capacity of 340,000,000 Btu per hour. Under 40 CFR 60 subpart Db, high heat release rate means a heat release rate greater than 70,000 Btu/hr-ft^3. The Package Boiler has a calculated heat release rate of 107,966 Btu/hr- ft^3. This calculation compares favorably with the furnace liberation value of 109,548.2 Btu/hr- ft^3 listed in the boiler manufacturer specification sheets. As such, the Package Boiler is subject to the high release rate NOx limit of 0.20 lb/MMBtu under 40 CFR 60.44b(a)(1)(ii). LRAPA has added this discussion to the review report.

Comment 12: We recommend discussing the inapplicable requirements that may reasonably apply in the review report. Some examples include the inapplicability of NSPS Subparts D and/or Db to the Power Boiler and/or No. 4 Recovery Boiler; the EPA incineration rules to any of the emission units such as the Lime Kiln when its burning liquid turpentine or methanol; or NSPS Subpart BBa based on the various changes that have occurred at the facility as shown in Item 63, Table 1 of the review report.

Response 12: The Power Boiler is not currently subject to either 40 CFR 60 subpart D – Standards of Performance for Fossil-Fuel-Fired Steam Generators or 40 CFR 60 subpart Db – Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units. This emission unit was constructed prior to the applicability dates for either of these two regulations. This emission unit has not been reconstructed as defined under 40 CFR 60.15. The repairs and maintenance performed on this emission unit and reviewed by LRAPA are not considered modifications under 40 CFR 60.14 because they have not resulted in an increase in the emission rate to the atmosphere of any pollutant to which a standard applies (expressed as lbs/hr) or the modifications have met the requirements under 40 CFR 60.14(e). LRAPA has added this discussion to the review report.

The #4 Recovery Furnace is not currently subject to either 40 CFR 60 subpart D – Standards of Performance for Fossil-Fuel-Fired Steam Generators or 40 CFR 60 subpart Db – Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units. This emission unit was constructed prior to the applicability dates for either of these two regulations. This emission unit has not been reconstructed as defined under 40 CFR 60.15. According to information submitted as part of the #4 Recovery Relife Project, the fixed capital cost of the new components to repair the emission unit was 19 percent of the cost of a comparable entirely new emission unit, which does not exceed the 50 percent reconstruction threshold. The repairs and maintenance performed on this emission unit and reviewed by LRAPA are not considered modifications under 40 CFR 60.14 because they have not resulted in an increase in the emission rate to the atmosphere of any pollutant to which a standard applies (expressed as lb/hr) or the modifications have met the requirements under 40 CFR 60.14(e). LRAPA has added this discussion to the review report.

None of the emission units at this facility are subject to the incineration rules under section 129 of the Clean Air Act. The Power Boiler and the Package Boiler are limited by permit to combusting only natural gas and ultra-low sulfur diesel, which do not meet the definition of solid waste under 40 CFR 258.2. The #4 Recovery Furnace is limited by permit to combusting natural gas, ultra-low sulfur diesel, and black liquor solids. As discussed above, natural gas and ultra-low sulfur diesel are not considered solid waste. While black liquor solids would appear to meet the definition of solid waste, EPA has specifically excluded this material from the definition of solid waste. Under 40 CFR 261.4(a)(6), pulping liquors (*i.e.,* black liquor) that are reclaimed in a pulping liquor recovery furnace and then reused in the pulping process are excluded from the definition of solid waste unless the pulping liquors are accumulated speculatively as defined in 40 CFR 261.1(c). The Lime Kilns are limited by permit to combusting natural gas, ultra-low sulfur diesel, product turpentine, and product methanol. As discussed above, natural gas and ultra-low sulfur diesel are not considered solid waste. While product methanol would appear to meet the definition of solid waste, EPA has specifically excluded this material from the definition of solid waste. Under 40 CFR 261.4(a)(15), condensates derived from the overhead gases from kraft mill steam strippers that are used to comply with 40 CFR 63.446(e) are excluded from the definition of solid waste if the mill generating the condensates if combusting these materials. The facility has confirmed that methanol condensate is only derived from the overhead gases from the kraft mill steam stripper. Product turpentine, also known as crude sulfate turpentine, is not a solid waste when burned for energy recovery because it is a commercial chemical product that is also a fuel as discussed in a response from EPA to the American Forest & Paper Association on August 8, 2002, and included in the Hazardous Secondary Material (HSM) Recycling Checklist (EPA 530-R-23-002, January 2023). LRAPA has added this discussion to the review report.

40 CFR 60 subpart BBa – Standards of Performance for Kraft Pulp Mill Affected Sources for Which Construction, Reconstruction, or Modification Commenced After May 23, 2013, is potentially applicable to the following affected facilities in kraft pulp mills: digester system, brown stock washer system, multiple-effect evaporator system, recovery furnace, smelt dissolving tank, lime kiln and condensate stripper system. LRAPA has evaluated the projects listed in Item 63, Table 1 of the review report and determined this New Source Performance Standard (NSPS) is not applicable for the reasons shown in the table below. LRAPA has added this discussion to the review report..

Application Date	Application Number	Action/Description	Reason NSPS BBa is Inapplicable
10/6/2022	NC-208850-A22 (68762) Off permit Change	Kamyr Flash Tank Replacement	No hourly emissions increase - 40 CFR 60.14(a)
3/1/2021	NC-208850-A21 67030 (MD901)	Lime Kiln #3 Partial Shell Replacement and Kiln Exhaust Stack Replacement	No hourly emissions increase - 40 CFR 60.14(a)
11/26/2019	NC-208850-A19 (65665)	Installation of Diesel Fire Pump (CI-RICE) & Fresh Water Storage Tank (Clean Water Supply Tank to Mill Fire System)	Not a subpart BBa affected unit – 40 CFR 60.280a(a)
8/1/2019	Section 502(b)(10) Change Notification	Alternative Operating Scenario change for the Kamyr Steaming Vessel LVHC equipment upgrades with replacement of Batch Decanter and WX Tank.	No hourly emissions increase - 40 CFR 60.14(a)
5/9/2017	62836 (MD902 Off-Permit Change)	Installation of Albany Mill Reboiler for clean low-pressure steam for Kamyr Chipper Feed System	No hourly emissions increase - 40 CFR 60.14(a)
4/14/2016	61456 (MD901 & MD902 Off-Permit Change)	Replacement of No. 2 Paper Machine Headboxes and Steam Shower, Upgrade of Winder Splitter and Roll Handling Equipment	Not a subpart BBa affected unit – 40 CFR 60.280a(a)

Application Date	Application Number	Action/Description	Reason NSPS BBa is Inapplicable
10/16/2015 (Initial), 3/11/2016 (Supplemental) 4/14/2016 (Application Modification)	60814 (Significant Mod, AQ101, MD901, MD906, ED605) 208850 Construction ACDP (Addendum No.3)	No. 2 Paper Machine Productivity Project: Lengthening No. 2 Paper Machine Fourdrinier and Upgrade of Paper Machine Systems using Unassigned Emissions for Production Increases	Not a subpart BBa affected unit – 40 CFR 60.280a(a)
9/2/2015	60708 NC-208850-A15 (MD901, MD905, DV201, CD305, TV Minor Permit Mod), (Addendum No. 2)	Chip Fines Bin (with cyclone) Installation & Handling System (Blower and Piping) Reconfiguration	Not a subpart BBa affected unit – 40 CFR 60.280a(a)
9/2/2015	60708 (MD902 Off-Permit Mod)	No. 4 Weak Black Liquor Storage Tank Repair/Replacement	No hourly emissions increase - 40 CFR 60.14(a)
		High Solids Concentrator System Installation	No hourly emissions increase - 40 CFR 60.14(a)
		South Green Liquor Clarifier (SGLC) Repair/Replacement	No hourly emissions increase - 40 CFR 60.14(a)
		Replacement of #4 Recovery Furnace bed bottom and lower walls	No hourly emissions increase - 40 CFR 60.14(a)
10/23/2014	59819 (MD905-TV Minor Permit Mod. (Addendum No. 1)	Digester Feed Bin System Replacement	No hourly emissions increase - 40 CFR 60.14(a)
5/15/2014	59456 NC-208850-C14 (MD902 Off-Permit Mod)	Condensate Steam Distillation (CSD) Stripper Column Tray Replacement/Upgrade	No hourly emissions increase - 40 CFR 60.14(a)
5/15/2014	59456 NC-208850-B14 (MD901&MD902 Off-Permit Change)	Digester Feed Bin System Replacement w/pre-steaming & new turpentine condenser (Part 2/2 of Digester Feed Optimization Project) (see Part 1/2 Kamyr Pulp Rejects Upgrade Off-Permit Mod 2/4/14 (above) & 10/23/14 Minor Permit Mod)	No hourly emissions increase - 40 CFR 60.14(a)
2/4/2014	59207 (MD902 Off-Permit Change)	CNCG & CNCG Vent Pipe Relocation	No hourly emissions increase - 40 CFR 60.14(a)
		Kamyr Relief Standpipe Installation for safety valves	No hourly emissions increase - 40 CFR 60.14(a)
		No. 2 Oxidation Tank Replacement	No hourly emissions increase - 40 CFR 60.14(a)
		Kamyr Pulp Rejects System Upgrade with new rejects refiner (Part 1 of 2 of Digester Feed Optimization Project)	No hourly emissions increase - 40 CFR 60.14(a)
		No. 2 Washer Drum Replacement	No hourly emissions increase - 40 CFR 60.14(a)
		Kamyr Hot Water Tank Replacement	No hourly emissions increase - 40 CFR 60.14(a)
2/4/2014	NC-208850-A14 (MD901&MD902 Off-Permit Change)	#4 Recovery Furnace Precipitator Rebuild (both east and west chambers) w/plate, discharge electrode & worn part replacement, new AVC & rapping system	No hourly emissions increase - 40 CFR 60.14(a)

Comment 13: LRAPA Should Consider Cumulative Health Impacts of Emissions on Nearby Communities. As Lane County's natural resource agency, LRAPA is responsible for regulating air emission sources and protecting environmental and human health related to air quality. LRAPA has a duty to the citizens of Lane County to prioritize public health in addition to environmental regulations when applying the law and undergoing permit processes. The area immediately surrounding the facility contains several indicators of vulnerable populations. According to the Health Disparities data from the EPA's EJScreen Mapping Tool (version 2.0), the surrounding area adjacent to the International Paper facility faces disproportionately high rates of asthma (in the 90-95%ile) and has a high demographic of persons with disabilities (between the 80-95%ile). The adjacent area is also in the 80-90%ile for both the air toxics respiratory hazard index (summarizing the ratios of ambient air toxics levels to health-based reference concentrations) and toxic releases to air (Risk-Screening Environmental Indicators (RSEI)-modeled toxicity-weighted concentrations in air of Toxics Release Inventory-listed chemicals). Additionally, socioeconomic indicators from the EJ Screen Mapping Tool (version 2.0) show that the area around the facility has a higher rate of low-income residents (70-90%ile), a high rate of unemployment (between 80-95%ile), and an increased number of persons under the age of 5 (95-100%ile). Air permits do not occur in a vacuum; LRAPA should seriously consider existing harms and community realities when reviewing permit applications that will increase harmful emissions in overburdened communities. These considerations must be woven into the Title V Permit and Review Report, both of which set the stage for the upcoming Cleaner Air Oregon review.

Response 13: Although LRAPA is not a public health agency, the environmental regulations developed at the federal and state level that LRAPA implements and enforces incorporate public health considerations. We recognize the concerns of the community and are deeply committed to protecting both environmental and human health, including those in vulnerable populations.

As mentioned by the commenter, Cleaner Air Oregon (CAO) is an air quality program that directly evaluates the potential health risks associated with the emission of Oregon toxic air contaminants from a facility. LRAPA intends to issue a CAO "call in" letter to International Paper on the date that the Title V permit is issued. It would be premature to alter the Title V permit prior to understanding any potential health risks from the CAO risk assessment.

In addition, the allowable emissions from International Paper are not increasing. As discussed in Response 15, the proposed permit PSELs have decreased an average of ~50% from the current permit PSELs through the combined efforts of LRAPA, ODEQ, EPA and the facility. This substantial reduction in permissible emissions aligns with our commitment to reduce potential impacts on overburdened communities.

LRAPA's processes and decisions adhere strictly to existing federal and state environmental regulations, reflecting both legal mandates and our broader commitment to the health and well-being of the communities we serve. We appreciate the public's participation in this process and remain open to continued dialogue and collaboration.

Comment 14: LRAPA Should Require This Facility to Limit Emissions on Poor Air Quality Days. Beyond Toxics also requests that International Paper take real-time air quality into account during operations. On poor air quality days, during extreme weather events (including but not limited to heat dome events), when the air quality index is at 101 or higher (Unhealthy for Sensitive Groups to Unhealthy), or when Particulate Matter (PM) or ozone reaches Moderate levels or higher, LRAPA should require International Paper to reduce production to reduce particulate and other air toxics emissions in our airshed for the public's protection. LRAPA should require that industrial polluters do their part to reduce exposure to air pollution in the same way residents must during poor air quality days.[9]

Response 14: Beyond Toxics and one other commenter requested the facility be required to curtail operations during weather events and on days with poor air quality as indicated by the Air Quality Index (AQI). The AQI is a tool for use by the general public to quickly determine whether there is a health concern for the air quality in their Metropolitan Statistical Area for ground level ozone, particulate pollution, carbon monoxide, sulfur dioxide, and nitrogen dioxide. LRAPA has no regulatory authority to link the operation of any particular facility to the AQI. LRAPA does have regulatory authority to require source emission reductions under LRAPA Title 51 – Air Pollution Emergencies. To activate source emission reduction plans, LRAPA's Director or an appointed representative must declare an air pollution alert, warning, or emergency in accordance with the criteria identified in section 51-010. Different actions are required at the different air pollution levels for International Paper as listed under Condition 14 of the draft permit. Condition 14 pertains to the actions that

must be taken by the permittee in the event of an Air Pollution Alert, Warning, or Emergency Episode in the Eugene/Springfield area, including specific measures such as monitoring equipment for efficiency, preparing to curtail or reduce fuel oil consumption, and adjusting operations to ensure equipment performance. LRAPA believes that, except during air pollution emergencies, industrial and commercial facilities should operate in a manner that does not increase emissions while also minimizing disruptions to economic activity during periods of poor air quality. We acknowledge the concerns raised and remain committed to a balanced approach that prioritizes public health while recognizing the importance of continued economic activity.

Comment 15: LRAPA Should Greatly Reduce This Facility's PSELs to be More Health Protective. While the Plant Site Emissions Limits (PSELs) for this draft permit are significantly lower than the previous permit, they are still disproportionately higher than all other Title V facilities in the county. For example, when comparing International Paper's PSELs for PM, PM10, and PM2.5, this Draft Title V permit was significantly higher than several large, industrial polluters including Kingsford Manufacturing, Jasper Wood Products, Short Mountain Landfill, Rosboro Company, and Swanson Group. As the primary air permitting agency responsible for improving Lane County's air quality, LRAPA can-and should-prioritize public health, community well-being, and the environment. LRAPA can be more protective and take steps to put tighter restrictions on facility emissions to protect the public. PM is a criteria pollutant that has severe health impacts including but not limited to asthma (which the surrounding community already deals with at a disproportionately high level), COPD, cardiovascular and heart disease, chest pain, coughing, shortness of breath, and fatigue. While fine PM (or PM2.5) is the most hazardous, PM of all sizes is harmful and increases health risks and disease. Further, many volatile organic compounds (VOCs) are also federal hazardous air pollutants (FHAPs), known to cause cancer and other serious health impacts. VOCs also have a vast array of short- and long-term health effects and contribute to creating ground-level ozone. Ground-level ozone can worsen asthma, COPD, and emphysema. Allowing such high levels of PM10 and PM2.5 and other harmful pollutants as proposed PSELs in this permit will only add to the existing health problems in the surrounding community. We suggest that LRAPA consider greatly reducing the Draft Permit PSELs to be more protective of human health and the environment. If LRAPA approves the permits as proposed, without modifying the pollution emission levels, LRAPA must explain to the public how public health considerations informed the agency's permitting decision.

Response 15: The commenter is correct in their assertion that International Paper is the single largest emitter The commenter is correct in their assertion that, out of all permitted sources in Lane County, International Paper is the single largest emitter of criteria pollutants. However, the comparison of criteria pollutant emissions among Title V sources is not meaningful as these facilities are not in the same industrial classification. Even for Title V sources within the same industrial classification, a comparison based on emissions would require adjustment based on the capacity of the sources and whether they use the same processes, among other factors. It is crucial to recognize that each facility has unique operational characteristics and is regulated based on specific industrial standards. PSELs are designed to reflect these variations and are set according to the applicable laws and regulations that take both environmental and human health considerations into account.

High concentrations of criteria pollutants in the atmosphere can have serious short and long-term impacts on human health. We understand the concerns regarding the effects of PM, PM_{10}, and $PM_{2.5}$ and their potential implications for asthma, COPD, cardiovascular disease, and other health issues. We also recognize the risks associated with VOCs, which contribute to ground-level ozone and can have severe health impacts. However, through the combined efforts of DEQ, LRAPA, and the facility, significant reductions in the PSELs are proposed in the draft permit as shown in the table below:

Pollutant	Current Permit PSEL (TPY)	Proposed Permit PSEL (TPY)	Percent Change (+ / -)
PM	773	200	-74%
PM_{10}	750	193	-74%
$PM_{2.5}$	331	170	-49%
TRS	133	53	-60%
CO	1,048	591	-44%
NO_x	1,692	962	-43%
SO_2	1,521	153	-90%
H_2SO_4	47	18	-62%
VOC	1,418	1,269	-11%
GHGs (as CO_2 eq.)	1,227,934	1,269,532	3%

Comment 16: LRAPA Should Ensure Meaningful Response to Community Complaints. While the Draft Permit has good language regarding monitoring nuisance and response via community complaint, Beyond Toxics would like to highlight that the agency's practice is not always reflective of permit conditions. LRAPA's timely and meaningful response to community complaints has long been an issue with the surrounding community and county members at large. These historic issues of failing to meaningfully respond to community complaints resulted in an ongoing Title VI Civil Rights Complaint against the agency and years of continued back and forth between community members, Beyond Toxics, LRAPA, and the Environmental Protection Agency (EPA). While we are encouraged by this language in the Draft Permit, we strongly urge LRAPA to meaningfully and timely follow through with this method of monitoring nuisance so that this permit condition will address community health concerns and is not empty language.

Response 16: LRAPA is committed to fulfilling our mandate to safeguard air quality and the environment. LRAPA's air quality complaint intake and response are a service provided to the county to assess and potentially resolve air quality issues.

LRAPA entered into an Informal Resolution Agreement (IRA) with the EPA resolving complaint #10NO-14-R10, which alleged discrimination relating to a permit modification in 2014. The IRA did not constitute an admission by LRAPA of any violation. As part of the IRA, LRAPA agreed to take steps to strengthen our community complaint process, including enhancing our systems for receiving and responding to complaints in languages other than English. Additionally, the IRA required LRAPA to implement various policies and procedures related to nondiscrimination, including designating a Non-Discrimination Coordinator, adopting grievance procedures, and developing plans for meaningful access for limited English proficient and disabled individuals. We have worked diligently to comply with the requirements of the IRA.

While the previous EPA complaint alleged issues with LRAPA's response to community complaints, the IRA itself did not involve findings regarding LRAPA's past complaint response practices. We recognize the concerns raised over our agency's past complaint response practices, and we are continually striving to improve in this area. LRAPA will continue to record, investigate, and respond to air quality complaints submitted to the agency in a timely manner. We welcome continued feedback from the community on how to improve our practices.

Comment 17: LRAPA Should Increase Monitoring for Fugitive Emissions. Instead of only monitoring fugitive emissions through visual surveys, Beyond Toxics recommends that LRAPA adds fugitive emissions monitors to the facility and areas likely to experience fugitive emissions for a more accurate accounting year-round. Purple Air Monitors are a relatively inexpensive way to do this and can offer real-time emissions data. Beyond Toxics would also like clarification on whether there are any existing permanent air monitors close to the facility. If not, we recommend installing them around the facility and making that information publicly available.

Response 17: PurpleAir® monitors, and similar low-cost particulate matter monitors, provide a concentration of the pollutant they measure in the ambient air, typically in units of micrograms per cubic meter. While they offer real-time data, these monitors are not suited for precise accounting of total emissions on an annual basis. Their design lacks the flow measurement needed to convert the concentration to a mass basis over time. The purpose of these low-cost monitors is primarily to provide an indication of real-time air quality and how quickly air quality is changing at specific locations in a community for areas that do not have a particulate matter federal reference monitor nearby.

We acknowledge the concern for increased monitoring, and it's worth noting that historically, International Paper has not been a significant source of fugitive emissions of particulate matter. A review of LRAPA's complaint database for the last 10 years indicates no reports from the public regarding fugitive emissions of particulate matter from this facility. LRAPA's inspector for the facility has not witnessed any fugitive emissions of particulate matter exceeding the standard under LRAPA title 48 since the inspector was assigned to the facility in 2021. Additionally, due to nearby industrial tenants attributing the source of any localized elevated fugitive particulate matter emissions would be complex, challenging, and unfeasible with today's monitoring technology and regulatory framework.

LRAPA expects to establish a temporary air monitoring site at the Food for Lane County youth farm near Gateway, beginning in January 2024. This monitoring site will measure concentrations of various VOCs (including organic hazardous air pollutants), metals, $PM_{2.5}$ and meteorological parameters. The site selection of this monitoring location was partially based on a wind rose analysis conducted by LRAPA which indicated a predominant east-west wind pattern that would help characterize off-site emissions from International Paper.

Comment 18: LRAPA Should Provide Clarification on CMS Measurements and Do More Frequent Monitoring and Testing. Beyond Toxics seeks clarification on what exact emissions are being measured with the Continuous Monitoring System (CMS). The Draft Permit is unclear on whether total Hazardous Air Pollutants (HAPs) or select HAPS (the worst HAPs, for example) are being measured and monitored. Additionally, the Draft Permit relies heavily on monitoring through visible emissions. We request that in addition to that, there be CMS for *all* levels of PM, dioxins/furans, heavy metals, and opacity.

Response 18: Currently, International Paper is required to use CMS for the following emission units, pollutants and Steam Stripper System:

Emission Unit ID	Emission Unit	Pollutant Monitored	Monitoring System
EU-150A	Power Boiler PS150-001	NOx	CEMS (Continuous Emission Monitoring System)
EU-150B	Package Boiler PS150-300	NOx	CEMS
EU-150B	Package Boiler PS150-300	Opacity	COMS (Continuous Opacity Monitoring System)
EU-445C	#4 Recovery Furnace EQ445-321	Opacity	COMS
EU-445C	#4 Recovery Furnace EQ445-321	TRS	CEMS
EU-445C	#4 Recovery Furnace EQ445-321	SO_2	CEMS
EU-455	Lime Kilns #2 and #3 PS455-999	Opacity	COMS
EU-455	Lime Kilns #2 and #3 PS455-999	TRS	CEMS
EU-455	Lime Kilns #2 and #3 PS455-999	SO_2	CEMS
CSD VCE	Steam Stripper System 186-180	Methanol	CMS

The facility only uses a CMS to measure methanol, an organic federal hazardous air pollutant (HAP), as a requirement under 40 CFR 63 subpart S - National Emission Standards for Hazardous Air Pollutants from the Pulp and Paper Industry. Typically, a CMS would be used to monitor and record the criteria or specific HAP pollutants from a large combustion unit, whose emissions may be highly variable, or from a process whose feedstock may produce highly variable emissions, such as a municipal waste incinerator. International Paper uses the kraft pulping process to manufacture linerboard. As such, International Paper is in the industrial category of paper and allied products whose emissions have been a focus of testing and regulation for more than 50 years. The potential emissions of federal HAPs listed in the review report are based on extensive testing conducted at the facility or at similar facilities around the country under the review of federal and state regulatory agencies and national trade organizations. In addition, the facility performs regular compliance source tests on emission sources where continuous monitors are not required. LRAPA believes that the federal HAP emissions from International Paper are well characterized at this time. However, LRAPA reserves the right to require additional site-specific testing to better characterize Oregon toxic air contaminant emissions subject to regulation under Cleaner Air Oregon when the facility is called in to this program.

As the commenter is aware, DEQ has received additional authority to require CMS or continuous sampling under Senate Bill 488 (2023) for municipal solid waste incinerators (MSWI). However, none of the combustion units at the facility qualify as municipal solid waste incinerators as discussed in Response 12. Even if the facility's combustion units qualified as MSWI, under Senate Bill 488, DEQ may only require the monitoring of pollutants listed in the regulation for a period of 12 months. The CMS or continuous sampling is being used to gain emission data under various operational scenarios rather than being used to demonstrate compliance with an emission limitation. DEQ and LRAPA remain committed to ensuring the compliance and monitoring of emissions according to the existing regulatory framework and are prepared to implement additional measures in accordance with evolving legal and technical standards.

Comment 19: LRAPA Should Consider More Pollution Control Technologies for the Facility Sitewide. Finally, Beyond Toxics will note that the International Paper facility is older compared to other facilities in Lane County. Because of its age, Beyond Toxics encourages LRAPA to consider increasing pollution control technologies sitewide. For example, the facility's power boiler (EU- 150A)-which uses either natural gas or sulfur diesel to produce steam-has no pollution control devices at all. This is the case for several emission

units. To be the most health-protective, LRAPA should consider increasing pollution control technologies sitewide.

Response 19: Beyond Toxics and one other commenter requested the facility be required to install more A common theme from public comments is the belief that LRAPA has the authority to unilaterally impose lower limits, require the installation or upgrade of control devices, or otherwise directly control the operation of sources. LRAPA's authority is derived from state statutes and the rules and regulations the agency is allowed to implement. As such, LRAPA cannot require additional controls unless LRAPA's State Implementation Plan (SIP) or other federal and state regulations provide the agency with that authority.

One of the regulations that may provide LRAPA the authority to require additional controls is Cleaner Air Oregon (CAO). LRAPA intends to issue a CAO "call in" letter to International Paper on the date that the Title V permit is issued. We recognize the concerns regarding the absence of pollution control devices at specific units within the facility. These concerns are valid, and while our authority in imposing new controls is limited by law, the CAO process will enable a thorough evaluation of the facility's emissions and potential health risks. While LRAPA cannot predict the results of the CAO risk assessment at this time, CAO does give LRAPA authority to require reductions in the emissions of Oregon toxic air contaminants if the facility emissions exceed certain risk action levels. We understand the public's interest in health protection, and we assure you that we will closely adhere to the regulations that guide us in ensuring that all potential risks are evaluated and appropriately addressed. We appreciate the engagement of Beyond Toxics and other community members in this important matter and will continue to keep the public informed as we move forward.

Comment 20: Implement a dirty wood-stove swap program funded by International Paper (IP) and administered by LRAPA to offer free replacement of old un-certified woodstoves and fireplace inserts with certified wood stoves and/or heat pumps for all residences within Eugene and Springfield's urban growth boundaries.

Response 20: Several commenters requested that International Paper, as a requirement of their Title V permit, implement a program to replace older wood-burning equipment with new certified wood stoves and/or heat pumps. These comments reflect a misunderstanding of the Title V program as enacted under the 1990 federal Clean Air Act Amendments. Title V is a federal program designed to standardize air quality permits and the permitting process for major sources of emissions. These permits are legally enforceable documents designed to improve compliance by clarifying what sources must do to control air pollution. However, Title V permits do not create new obligations for a source, they only consolidate all applicable rules and regulations into one permit document. Currently there is no applicable federal or state rule or regulation that would require any source to implement the program described by the commenters.

We recognize the intention behind this request is to further improve air quality within the Eugene and Springfield areas, a goal we deeply share. The commenters may be referencing the grants LRAPA has received to improve the air quality in the Oakridge, Oregon area. Oakridge was considered a nonattainment area for the PM_{10} and $PM_{2.5}$ National Ambient Air Quality Standards (NAAQS) prior to being reclassed in 2022. The primary reason for the nonattainment designation was home wood heating during the winter months. As part of the effort to improve air quality in the Oakridge area, LRAPA applied for and received grants from US EPA to replace un-certified wood stoves and fireplace inserts, improve home weatherization, and install heat pumps as primary systems. Because the Eugene – Springfield area is currently in attainment for the PM_{10} and $PM_{2.5}$ National Ambient Air Quality Standards, similar grants are not available for these cities at this time. However, we are continually exploring opportunities and partnerships that may enable us to enhance air quality initiatives within Lane County. Your comments and suggestions contribute valuable perspectives as we work towards these goals.

Comment 21: Implement a Title V Emission Permit for International Papers Springfield factory operations where set emission limits are measurable and verifiable. There is no public data presented in real time. IP has complete control over what is reported. There is no public oversight. LRAPA excepts (sic) IP's reports in good faith. Without questioning the reports.

Response 21: A Several commenters expressed concern about how a facility subject to an air permit demonstrates compliance with any applicable air emission limits or other requirements. The proposed Title V permit contains emission limits as required by current rules and regulations. The Title V permit also contains monitoring, recordkeeping and reporting requirements for these applicable rules and regulations. By design, all air permits place the burden of conducting the monitoring, recordkeeping and reporting directly on the source

of the air emissions. In addition, as a Title V source, a responsible official at the facility must certify in writing, to the truth, accuracy, and completeness of any application, report, or compliance certification submitted to LRAPA. Knowingly reporting information other than what the source monitors and records is a violation of the facility's Title V permit and would subject the facility to enforcement actions by LRAPA.

Some commenters may believe this system allows a source to provide false reports of their air emissions. However, there are a number of checks in the process that will typically catch subterfuge and unintentional mistakes. One of the checks in the process is that LRAPA reviews all submittals from a source for completeness and whether the submittal aligns with historical information. This review goes beyond simply accepting reports in good faith, and LRAPA applies stringent criteria to ensure compliance and accuracy.

With the exception of confidential business information (CBI) protected under state statute, the public may request any documentation from LRAPA for any facility. We understand the importance of transparency and public oversight in environmental matters. One of LRAPA's goals is continued improvements to our website so that additional documentation is available for public use. Your concerns are integral to our process, and we are committed to maintaining a system that ensures both accuracy and accessibility.

Comment 22: A number of commenters requested the facility be required to produce a plan to become carbon neutral by 2040 and limit the facility's greenhouses gases (GHGs) emissions to the maximum extent possible.

Response 22: LRAPA does not currently have regulatory authority to require the facility to become carbon neutral by 2040. However, Oregon DEQ is currently inviting public comment on "Climate 2023" rulemaking and major sources of greenhouse gas emissions may be required to obtain a Climate Protection Program (CPP) permit in the future (OAR340-271-0110(5)(a)(A)). The facility's GHG Plant Site Emissions Limit (PSEL) was established in accordance with LRAPA's Title 42 Stationary Source Plant Site Emission Limits rule which is identical to Oregon DEQ's PSEL rule (OAR 340-222) for GHGs. LRAPA does not currently have the regulatory authority to be more stringent than either the state or federal GHG rules.

Public Hearing Comment Receipt Log

During the public hearing, oral and/or written comments were received from:

James Hugo jamesgoesgreen81@gmail.com (Remote)

Public Comment Period Receipt Log

During the public comment period, timely written comments were received from:

Bob Emmons and Nena Lovinger hopsbran@aol.com	Lisa Arkin Beyond Toxics larkin@beyondtoxics.org	James Hugo jamesgoesgreen81@gmail.com
Teryn Yazdani Beyond Toxics yazdani@beyondtoxics.org	Craig Patterson craigmpatterson@msn.com	Diana Huntington fitten@earthlink.net
Brian Holtrop US EPA Region 10 holtrop.bryan@epa.gov	Planet Glassberg butoh@efn.org	Climate Writers 1380 Hughes Street Eugene, OR 97402
Climate Writers 86070 Cougar Lane Eugene, OR 97402	--	--

PUBLIC PROCESS PERMIT CHANGES

139. The following is a list of condition-by-condition changes between the draft Title V permit and the proposed Title V permit as part of the public comment process:

New Permit Condition Number	Old Permit Condition Number	Description of Change	Reason for Change
Permit Cover Page	Permit Cover Page	Corrected initial TV application date and document number from 8/31/16 and 61282 to **12/12/16 and 62175**.	Corrected date and document number in Response 7 to Comment 7, above.
NA (conditions deleted)	109.b, 122.e, 124.b, and 125.e	Conditions 109.b, 122.e, 124.b, and 125.e were deleted because LRAPA determined that the conditions don't apply since the action levels are not related to a specific emission standard. The action levels are related to general operation and maintenance requirements for pollution control devices under LRAPA Title 32.	Conditions deleted based on LRAPA Response 6 to Comment 6, above.
176, 178.e & Table 19	176, 178.e & Table 19	Language was added to Conditions 176 and 178.e to include the requirement that International Paper apply for a permit modification: "At least 30 days prior to the December 31, 2025, effective date of the Power Boiler 179 tons NOx/year PSEL, the permittee must apply for a permit modification to revise the PSEL tables to reflect the 179 tons Power Boiler NOx/year PSEL limit." Condition 178.e was also amended to clarify that Power Boiler NOx CEM data must be used to demonstrate compliance with the Regional Haze combustion units' group PSEL limit of 962 tons NOx/year until the individual Power Boiler PSEL of 179 tons NOx/year limit becomes effective on December 31, 2023. Also, a cross-reference to Condition 178.e was added to the Power Boiler NOx emission factor in Table 19, for clarification of the method of PSEL compliance demonstration.	The changes were added for clarity and are based on LRAPA's Response 5 to Comment 5, above.
177, Table 18	177, Table 18	The reference to "**VOC** $_{\text{as propane}}$" was changed to "**VOC**" and the VOC PSEL was reduced from 1279 tons VOC/year to **1269 tons VOC/year** as a result of correcting the use of an adjustment factor for calculating the Power Boiler (EU-150A) and Package Boiler (EU-150B) VOC PSELs. The emission factors already represented emissions "as VOC" and, therefore, the 1.22 adjusted factors were removed.	The changes were added for clarity and are based on LRAPA's Response 4 to Comment 4, above.
178, Table 19	178, Table 19	The PSEL Monitoring Table 19 in Condition 178 has been revised to include the emission factors converted from lb/ADT to lbs/TBLS for the Recovery Furnace and Dissolving Tank and lbs/T CaO for the Lime Kilns.	These changes were added based on LRAPA's Response 1 & 2 to Comments 1 &2, above.
178.b	178.b	Edited PSEL compliance demonstration equation to include excess emissions. (EE) The facility must quantify excess emissions and add total EEs/year to the PSEL compliance demonstration calculations	Added in Response 3 to Comment 3, above.

New Permit Condition Number	Old Permit Condition Number	Description of Change	Reason for Change
178.a, Table 19	178.a, Table 19	Changed "**VOC as propane**" references (62) to "**as VOC**" in Table 19 and also in the Review Report and Attachment 1 Emission Detail sheets to be consist with EPA Method 25 &/or 25A reporting and DEQ's Internal Management Directive (IMD) Guidance for Evaluating VOC Emissions (January 2007).	Added for clarity in Response to Comment 4, above.
189	189	Amended Condition 189 to include requirement that all monitoring equipment must be installed, calibrated, maintained and operated in accordance with manufacturer's specifications.	Added for clarity in Response to Comments 1 and 2, above.

EPA REVIEW

140. The proposed permit was sent to EPA for a 45-day review period on December 7, 2023. LRAPA did not request an expedited review as there were comments submitted during the public notice comment period and public hearing. EPA also submitted comments. The comments and responses are listed in the Public Notice section of this review report. The public will have 105 days (45-day EPA review period plus 60 days) from the date the proposed permit was sent to EPA to appeal the permit with EPA.

EMISSION DETAIL SHEETS

141. The emission detail sheets are in Attachments 1 and 2 to this review report. Attachment 3 summarizes source testing at the facility.

KEC/cg/cmw

1/24/2024

Emissions Summary								
Pollutant	**Baseline**	**Previous Netting Basis**	**Proposed Netting Basis**	**Previous PSEL**	**Proposed PSEL**	**Unassigned Emissions**	**SER**	**ERC**
CO	9,797	1,148	691	1,048	591	100	100	0
[a]NO_x	2,053	1,732	1,002	1,692	962	40	40	0
[b]Pb	0.2	0.83	NA[b]	0.23	NA[b]	0.6	0.6	0
PM	2,265	798	225	773	200	25	25	0
[a]PM_{10}	1,960	765	208	750	193	15	15	0
$PM_{2.5}$	NA	341	180	331	170	10	10	0
SAM	47	47	18	47	18	0	7	0
[a]SO_2	2,462	1,561	193	1,521	153	40	40	0
TRS	209	143	63	133	53	10	10	0
VOC	2,147	1,458	1,309	1,418	1,269	40	40	0
[c]GHG_{Anthro}	306,284	NA	306,284	468,501	540,750	0	75,000	0
[c]$GHG_{Anthro+Biogenic}$	1,169,323	1,227,934	1,169,323	1,227,934	1,269,532	0	75,000	0

Emissions Unit ID	**Emissions Unit Description**	**PSEL Summary (tons/year)**										
		CO	**NOx[a]**	**Pb[b]**	**PM**	**PM_{10}[a]**	**$PM_{2.5}$**	**SAM**	**SO_2[a]**	**TRS**	**VOC**	**GHG [c]**
EU-150A	Power Boiler	33.6	179.3	0.012	6.1	5.9	5.8	0.0	1.5	--	15.6	281,199
EU-150B	Package Boiler	207.6	296.4	0.007	3.8	3.7	3.6	0.0	1.0	--	9.8	175,750
EU-445C	#4 Recovery Furnace	344.0	419.8	0.00	97.9	97.9	88.1	15.1	6.4	1.8	27.8	737,104
EU-455	Lime Kilns	4.9	54.76	0.001	23.2	23.2	21.8	1.8	138.3	2.6	2.8	75,480
	[a]Total RH Pollutant PSELs	--	**950.3**	--	--	**130.7**	--	--	**147.2**	--	--	--
	SAFO (Aug 2021) RH PSEL Limits	--	**962**	--	--	**177**	--	--	**237**	--	--	--
EU-185	Combined Effluent Collection & Treatment	--	--	--	--	--	--	--	--	0.36	55.7	--
EU-275A	Road Fugitives	--	--	--	5.8	1.6	0.2	--	--	--	--	--
EU-275C	"Other Sources" of TRS	--	--	--	--	--	--	--	--	21.1	524.7	--
EU-275D	Additional Sources of TRS	--	--	--	--	--	--	--	--	2.3	2.3	--
EU-310	Chip Handling & Screening	--	--	--	2.4	1.1	0.6	--	--	--	147.7	--
EU-320	Chip Storage	--	--	--	1.7	0.8	0.1	--	--	--	2.6	--
EU-330	Fines System	--	--	--	1.1	1.0	0.8	--	--	--	0.2	--
EU-420	Kamyr Digester	--	--	--	--	--	--	--	--	--	10.4	--
EU-440	Evap/Recovery	--	--	--	0.6	0.5	0.2	--	--	--	--	--
EU-445D	#4 Smelt Dissolving Tank Vent	--	10.8	--	47.9	47.9	43.6	--	4.9	8.6	26.1	--
EU-456	Recaust Systems	--	--	--	1.4	1.2	0.6	--	--	--	6.5	--
EU-600	Paper Recycling Systems	--	--	--	--	--	--	--	--	0.1	11.3	--
EU-715A	#2 MR Wet-End Paper Machine	--	--	--	6.1	6.1	3.1	--	--	8.7	245.1	--
EU-715B	#2 MR Dry-End Paper Machine	--	--	--	0.9	0.9	0.5	--	--	6.7	179.9	--
EU-AIA	Aggregate Insignificant Activities	1	1	--	1	1	1	1	1	1	1	--
	Total Proposed PSEL[d]	**591**	**962**	**NA[b]**	**200**	**193**	**170**	**18**	**153**	**53**	**1,269**	**1,269,532**
	Total Previous PSEL[e]	**1,048**	**1,692**	**0.23**	**773**	**750**	**331**	**47**	**1,521**	**133**	**1,418**	**1,227,934**
	Total PSEL Reduction	**457**	**730**	**0.23**	**573**	**557**	**161**	**29**	**1,368**	**80**	**149**	**-41,598**

[a] In accordance with the August 2021 Regional Haze (RH) Round II Stipulated Agreement & Final Order (SAFO) and resulting fuel restrictions (use only NG and ULSD), the combined PSELs for the Power Boiler, Package Boiler, #4 Recovery Furnace & Lime Kilns Combustion Units are limited as follows: 962 tpy NOx, 177 tpy PM_{10} and 237 tpy SO_2. Per the SAFO, Power Boiler NOx PSEL of 179 tons NOx/yr does not become effective until Dec 31, 2025. In addition to the RH limitations, based on EPA R10 recommendations, the Rec. Furn.(EU-445C) & Dissolving Tank(EU-445D) EFs were converted from lbs. pollutant/ADT to lbs./TBLS. The Lime Kilns (EU-455) EFs were also converted from lbs/adt to lbs/T CaO.

[b] Due to fuel restrictions required by the Aug.2021 RH SAFO, the facility no longer has the capacity to emit Pb (Lead) above the Pb de minimis level of 0.1 tpy. Per LRAPA 42-0020(3)(a), PSELs are not required for pollutants below de minimis levels defined in LRAPA title 12. Calculations demonstrating that the facility no longer emits Pb above the de minimis level are included in the attached Pb PSEL detail sheet.

[c] The Anthropogenic GHG PSEL, the Anthropogenic + Biogenic GHG PSEL, and the Apr 2000 - Mar 2001 GHG Baseline & GHG Netting Basis have been recalculated with updated 40 CFR 98 Subpart C & AA GHG emission factors (EF) & Global Warming Potential (GWP) factors from EFs used for GHG PSELs in the 2012 permit renewal.

[d] Throughputs, emission factors (EFs) & references are primarily derived from the facility's ED605 information in the October 2022 revised Title V application. However, based on EPA R10 recommendations, the EU-445C, EU-445D & EU-455 PM, PM10 & PM2.5 EFs were updated based on 2017-2022 STs and TRS & SO2 EFs were updated based on CEMdata from Jan 2017 to Dec. 2022.

[e] The previous PSEL is based on total emissions in the 2016 Construction Air Contaminant Discharge Permit (ACDP) issued July 8, 2016.

CO PSEL

EU ID	Device/ Process ID	EU/Device Name	EU/Device Identifier	Fuel/Raw Material	Annual Rate	Units	EF	Units	EF Reference	Tons CO/yr
EU-150A	PS150-001	Power Boiler	150A-NG-CO	Natural Gas	4,739,328	MMBtu	1.400E-02	lb/MMBtu	May 2012 ST Data	33.18
			150A-Oil2-CO	ULSD #2 Oil	26,112	MMBtu	3.570E-02	lb/MMBtu	AP-42 Table 1.3-1	0.47
EU-150B	PS150-300	Package Boiler	150B-NG-CO	Natural Gas	2,962,080	MMBtu	1.400E-01	lb/MMBtu	Source Test Data Revised 8/12	207.35
			150B-Oil2-CO	ULSD #2 Oil	16,320	MMBtu	3.570E-02	lb/MMBtu	AP-42 Table 1.3-1	0.29
EU-445C	EQ-445-321	#4 Recovery Furnace	445C-NG-CO	Natural Gas	114,127	MMBtu	8.700E-02	lb/MMBtu	Source Test Data Revised 8/12	4.96
			445C-Oil2-CO	ULSD #2 Oil	2,146	MMBtu	3.570E-02	lb/MMBtu	AP-42 Table 1.3-1	0.04
			445C-BLS-CO	Black Liquor Solids	651,900	TBLS	1.04	lb/TBLS	Average 3 ST (10/2004, 12/2005 & 9/2008)	338.99
EU-455	PS455-999	Lime Kilns combined emissions	455-CaO-CO	Lime (CaO)	99,110	T CaO	9.91E-02	lb/T CaO	Average 3 ST (6/2011, 5/2012 & 5/2013)	4.91
EU-AIA	PS999-000	Combined AIA - all AIA devices	AIA-CO	--	--	--	--	--	--	1
									Total CO	**591.18**

NOx PSEL

EU ID	Device/ Process ID	EU/Device Name	EU/Device Identifier	Fuel/Raw Material	Annual Rate	Units	EF	Units	EF Reference	Tons NOx/yr
EU-150A	PS150-001	Power Boiler	150A-NG-NOx	Natural Gas	4,739,328	MMBtu	XX_{TBD}	lb/MMBtu	Aug 9, 2021 RH SAFO[a]	179.00
			150A-Oil2-NOx	ULSD #2 Oil	26,112	MMBtu	2.570E-02	lb/MMBtu	AP-42 Table 1.3-1	0.34
EU-150B	PS150-300	Package Boiler	150B-NG-NOx	Natural Gas	2,962,080	MMBtu	2.00E-01	lb/MMBtu	CEMs Data	296.21
			150B-Oil2-NOx	ULSD #2 Oil	16,320	MMBtu	2.570E-02	lb/MMBtu	AP-42 Table 1.3-1	0.21
EU-445C	EQ-445-321	#4 Recovery Furnace	445C-NG-NOx	Natural Gas	114,127	MMBtu	2.733E-01	lb/MMBtu	NCASI 2008, Table 3	15.60
			445C-Oil2-NOx	ULSD #2 Oil	2,146	MMBtu	2.570E-02	lb/MMBtu	AP-42 Table 1.3-1	0.03
			445C-BLS-NOx	Black Liquor Solids	651,900	TBLS	1.24	lb/TBLS	Average 3 ST (10/2004, 12/2005, 9/2008)	404.18
EU-445D	TA445-350	#4 Dissolving Tank	445D-BLS-NOx	Black Liquor Solids	651,900	TBLS	3.30E-02	lb/TBLS	NCASI TB 646 Table 16 (Mean)	10.76
EU-455	PS455-999	Lime Kilns combined emissions	455-CaO-NOx	Lime (CaO)	99,110	T CaO	1.11E+00	lb/T CaO	Average 3 STs (6/2011, 5/2012 & 5/2013)	54.76
EU-AIA	PS999-000	Combined AIA - all AIA devices	AIA-NOx	--	--	--	--	--	--	1
									Total NOx	**962.07**
									Total NOx PSEL (including 2021 RH SAFO limits)	**962**

[a]The emission factor (EF) for the Power Boiler PSEL calculation will be determined based on the NOx CEM data collected May 31, 2023 to November 2025. The facility is required to apply for a permit modification 30 days prior to the effective date (Dec.31, 2025) of the Power Boiler NOx PSEL of 179 tons NOx/yr. Until then, the Power Boiler NOx CEM will be used to demonstrate compliance with the RH combustion group limit of 962 tons NOx/yr PSEL.

Pb PSEL

EU ID	Device/ Process ID	EU/Device Name	EU/Device Identifier	Fuel/Raw Material	Annual Rate	Units	EF	Units	EF Reference	Tons Pb/yr
EU-150A	PS150-001	Power Boiler	150A-NG-Pb	Natural Gas	4,739,328	MMBtu	4.90E-06	lb/MMBtu	AQGP-010, 13.1.b	0.01161
			150A-Oil2-Pb	ULSD #2 Oil	26,112	MMBtu	9.00E-06	lb/MMBtu	AP-42 Table 1.3-1	0.00012
EU-150B	PS150-300	Package Boiler	150B-NG-Pb	Natural Gas	2,962,080	MMBtu	4.90E-06	lb/MMBtu	CEMs Data	0.00726
			150B-Oil2-Pb	ULSD #2 Oil	16,320	MMBtu	9.00E-06	lb/MMBtu	AP-42 Table 1.3-1	0.00007
EU-445C	EQ-445-321	#4 Recovery Furnace	445C-NG-Pb	Natural Gas	114,127	MMBtu	4.90E-06	lb/MMBtu	AQGP-010, 13.1.b	0.00028
			445C-Oil2-Pb	ULSD #2 Oil	2,146	MMBtu	9.00E-06	lb/MMBtu	AP-42 Table 1.3-1	0.00001
			445C-BLS-Pb	Black Liquor Solids	651,900	Tons BLS	1.20E-05	lb/TBLS	NCASI TB1050 Table 4.54	0.00391
EU-455	PS455-999	Lime Kilns combined emissions	455-CaO-Pb	Pulp-Unbleached	99,110	Tons CaO	1.48E-05	lb/T CaO	NCASI TB1050 Table 4.58	0.00073
									Total Pb	**0.024**

Per LRAPA 42-0020(3)(a), PSELs are NOT required for regulated pollutants that are emitted at less than the de minimis level listed in LRAPA Title 12. The de minimis level for Lead Pb is 0.1 TPY. Because the facility's PTE is 0.03 TPY as a result of the RH fuel restrictions and is below the de minimis level, a PSEL for Lead/Pb is no longer required.

PM PSEL

EU ID	Device/ Process ID	EU/Device Name	EU/Device Identifier	Fuel/Raw Material	Annual Rate	Units	EF	Units	EF Reference	Tons PM/yr
EU-150A	PS150-001	Power Boiler	150A-NG-PM	Natural Gas	4,739,328	MMBtu	2.45E-03	lb/MMBtu	DEQ AQGP-010, 13.1	5.81
			150A-Oil2-PM	ULSD #2 Oil	26,112	MMBtu	2.36E-02	lb/MMBtu	AP-42 Table 1.3-1	0.31
EU-150B	PS150-300	Package Boiler	150B-NG-PM	Natural Gas	2,962,080	MMBtu	2.45E-03	lb/MMBtu	DEQ AQGP-010, 13.1	3.63
			150B-Oil2-PM	ULSD #2 Oil	16,320	MMBtu	2.36E-02	lb/MMBtu	AP-42 Table 1.3-1	0.19
EU-275A	FU275-999D	Facility on-site unpaved roads	275A-Hours-PM	Hours	8,760	hours-opr	1.32	lb/hr-opr	AP-42	5.78
EU-310	FU310-999	Chip Handling System	310-PU-PM	Pulp-Unbleached	530,000	adt	8.87E-03	lb/adt	AP-42, Eng.Estimate	2.35
EU-320	FU320-999	Chip Storage System	320-PU-PM	Pulp-Unbleached	530,000	adt	6.30E-03	lb/adt	AP-42, Eng.Estimate	1.67
EU-330	FU330-999	Fines Bin Cyclone	330-Fines-PM	Fines	10,500	BDT	2.00E-01	lb/BDT	DEQ AQGP-010, 13.2 High Eff.	1.05
EU-440	FU441-999	Chemical & Makeup Handling Fugitives	440-PU-PM	Pulp-Unbleached	530,000	adt	2.08E-03	lb/adt	AP-42, Eng.Estimate	0.55
EU-445C	EQ-445-321	#4 Recovery Furnace	445C-NG-PM	Natural Gas	114,127	MMBtu	2.45E-03	lb/MMBtu	DEQ AQGP-010, 13.1	0.14
			445C-Oil2-PM	ULSD #2 Oil	2,146	MMBtu	2.36E-02	lb/MMBtu	AP-42 Table 1.3-1	0.03
			445C-BLS-PM	Black Liquor Solids	651,900	TBLS	3.00E-01	lb/TBLS	ST Data 2017-2022 (Average+2SD)	97.79
EU-445D	TA445-350	#4 Dissolving Tank	445D-BLS-PM	Black Liquor Solids	651,900	TBLS	1.47E-01	lb/TBLS	ST Data 2017-2022 (Average+2SD)	47.91
EU-455	PS455-999	Lime Kilns combined emissions	455-CaO-PM	Lime (CaO)	99,110	T CaO	4.68E-01	lb/T CaO	ST Data 2017-2022 (Average+2SD)	23.19
EU-456	FU456-999A	Lime Cycle Chemical Handling Fugitives	456-PU-PM	Pulp-Unbleached	530,000	adt	5.20E-03	lb/adt	AP-42	1.38
EU-715A	FU710-999	#2 MR additive chem. Handling fugitives	715A-PAPER-PM	Paper	924,500	adt	1.320E-02	lb/adt	DEQ LRAPA Estimate NCASI TB 942 11/07	6.10
EU-715B	FA730-104	Dust Collection Exhauster	FA730-104-PAPER-PM	Paper	924,500	adt	1.548E-03	lb/adt	Estimate based on NCASI TB 942	0.72
	VA730-025	#2 MR diverter valve trim conveyance sys	VA730-025-PAPER-PM	Paper	924,500	adt	4.19E-04	lb/adt	Estimate based on NCASI TB 942	0.19
EU-AIA	PS999-000	Combined AIA - all AIA devices	AIA-hours-PM	Hours	8,760	hours opr	--	--	--	1

Total PM 199.79

PM_{10} PSEL

EU ID	Device/ Process ID	EU/Device Name	EU/Device Identifier	Fuel/Raw Material	Annual Rate	Units	EF	Units	EF Reference	Tons PM_{10}/yr
EU-150A	PS150-001	Power Boiler	150A-NG-PM10	Natural Gas	4,739,328	MMBtu	2.45E-03	lb/MMBtu	DEQ AQGP-010, 13.1	5.81
			150A-Oil2-PM10	ULSD #2 Oil	26,112	MMBtu	7.14E-03	lb/MMBtu	AP-42 Table 1.3-6	0.09
EU-150B	PS150-300	Package Boiler	150B-NG-PM10	Natural Gas	2,962,080	MMBtu	2.45E-03	lb/MMBtu	DEQ AQGP-010, 13.1	3.63
			150B-Oil2-PM10	ULSD #2 Oil	16,320	MMBtu	7.14E-03	lb/MMBtu	AP-42 Table 1.3-6	0.06
EU-275A	FU275-999D	Facility on-site unpaved roads	275A-Hours-PM10	Hours	8,760	hours-opr	3.550E-01	lb/hr-opr	AP-42	1.55
EU-310	FU310-999	Chip Handling System	310-PU-PM10	Pulp-Unbleached	530,000	adt	4.190E-03	lb/adt	Engineering Estimate	1.11
EU-320	FU320-999	Chip Storage System	320-PU-PM10	Pulp-Unbleached	530,000	adt	2.990E-03	lb/adt	AP-42, Eng. Estimate	0.79
EU-330	FU330-999	Fines Bin Cyclone	330-Fines-PM10	Fines	10,500	BDT	1.900E-01	lb/BDT	DEQ AQGP-010, 13.2 High Eff.	1.00
EU-440	FU441-999	Chemical & Makeup Handling Fugitives	440-PU-PM10	Pulp-Unbleached	530,000	adt	1.870E-03	lb/adt	Engineering Estimate	0.50
EU-445C	EQ-445-321	#4 Recovery Furnace	445C-NG-PM10	Natural Gas	114,127	MMBtu	2.45E-03	lb/MMBtu	DEQ AQGP-010, 13.1	0.14
			445C-Oil2-PM10	ULSD #2 Oil	2,146	MMBtu	7.14E-03	lb/MMBtu	AP-42 Table 1.3-6	0.01
			445C-BLS-PM10	Black Liquor Solids	651,900	TBLS	3.00E-01	lb/TBLS	ST Data 2017-2022 (Average+2SD)	97.79
EU-445D	TA445-350	#4 Dissolving Tank	445D-BLS-PM10	Black Liquor Solids	651,900	TBLS	1.47E-01	lb/TBLS	ST Data 2017-2022 (Average+2SD)	47.91
EU-455	PS455-999	Lime Kilns combined emissions	455-CaO-PM10	Lime (CaO)	99,110	T CaO	4.68E-01	lb/T CaO	ST Data 2017-2022 (Average+2SD)	23.19
EU-456	FU456-999A	Lime Cycle Chemical Handling Fugitives	456-PU-PM10	Pulp-Unbleached	530,000	adt	4.70E-03	lb/adt	AP-42	1.25
EU-715A	FU710-999	#2 MR additive chem. Handling fugitives	715A-PAPER-PM10	Paper	924,500	adt	1.32E-02	lb/adt	DEQ LRAPA Estimate NCASI TB 942 11/07	6.10
EU-715B	FA730-104	Dust Collection Exhauster	FA730-104-PAPER-PM10	Paper	924,500	adt	1.548E-03	lb/adt	Estimate based on NCASI TB 942	0.72
	VA730-025	#2 MR diverter valve trim conveyance sys	VA730-025-PAPER-PM10	Paper	924,500	adt	4.190E-04	lb/adt	Estimate based on NCASI TB 942	0.19
EU-AIA	PS999-000	Combined AIA - all AIA devices	AIA-hours-PM10	Hours	8,760	hours opr	--	--	--	1

Total PM_{10} **192.84**

Total PM_{10} PSEL (including 2021 RH SAFO limits) **193**

$PM_{2.5}$ PSEL

EU ID	Device/ Process ID	EU/Device Name	EU/Device Identifier	Fuel/Raw Material	Annual Rate	Units	PM_{10} EF	Units	$PM_{2.5}$ Fraction	PM_{10} Emission Factor (EF) & $PM_{2.5}$ Fraction Reference	$PM_{2.5}$ EF	Units	Tons $PM_{2.5}$/yr
EU-150A	PS150-001	Power Boiler	150A-NG-PM2.5	Natural Gas	4,739,328	MMBtu	2.45E-03	lb/MMBtu	1.00	EF: DEQ AQGP-010, 13.1 Fraction: AP-42 Table 1.4-2	2.45E-03	lb/MMBtu*	5.81
			150A-Oil2-PM2.5	ULSD #2 Oil	26,112	MMBtu	7.14E-03	lb/MMBtu	0.25	EF & Fraction: AP-42 Table 1.3-6	1.79E-03	lb/MMBtu	0.02
EU-150B	PS150-300	Package Boiler	150B-NG-PM2.5	Natural Gas	2,962,080	MMBtu	2.45E-03	lb/MMBtu	1.00	EF: DEQ AQGP-010, 13.1 Fraction: AP-42 Table 1.4-2	2.45E-03	lb/MMBtu*	3.63
			150B-Oil2-PM2.5	ULSD #2 Oil	16,320	MMBtu	7.14E-03	lb/MMBtu	0.25	EF & Fraction: AP-42 Table 1.3-6	1.79E-03	lb/MMBtu	0.01
EU-275A	FU275-999D	Facility on-site unpaved roads	275A-Hours-PM2.5	Hours	8,760	hours-opr	3.550E-01	lb/hr-opr	0.10	EF & Fraction: DEQ AQ-EF08 & AP-42 13.2-1	3.55E-02	lb/hr-opr	0.16
EU-310	FU310-999	Chip Handling System	310-PU-PM2.5	Pulp-Unbleached	530,000	adt	4.190E-03	lb/adt	0.50	EF: Engineering Estimate Fraction: DEQ AQ-EF08 & AP-42	2.10E-03	lb/adt	0.56
EU-320	FU320-999	Chip Storage System	320-PU-PM2.5	Pulp-Unbleached	530,000	adt	2.990E-03	lb/adt	0.15	EF: Engineering Estimate Fraction: DEQ AQ-EF08 & AP-42	4.49E-04	lb/adt	0.12
EU-330	FU330-999	Fines Bin Cyclone	330-Fines-PM2.5	Fines	10,500	BDT	1.900E-01	lb/BDT	0.84	EF & Fraction: DEQ AQGP-010, 13.2 High Eff.	1.60E-01	lb/BDT	0.84
EU-440	FU441-999	Chemical & Makeup Handling Fugitives	440-PU-PM2.5	Pulp-Unbleached	530,000	adt	1.870E-03	lb/adt	0.50	EF: Engineering Estimate Fraction: DEQ AQ-EF08 & LRAPA estimate	9.35E-04	lb/adt	0.25
EU-445C	EQ-445-321	#4 Recovery Furnace	445C-NG-PM2.5	Natural Gas	114,127	MMBtu	2.45E-03	lb/MMBtu	1.00	EF: DEQ AQGP-010, 13.1 Fraction: AP-42 Table 1.4-2	2.45E-03	lb/MMBtu*	0.14
			445C-Oil2-PM2.5	ULSD #2 Oil	2,146	MMBtu	7.14E-03	lb/MMBtu	0.25	EF & Fraction: AP-42 Table 1.3-6	1.79E-03	lb/MMBtu*	0.00
			445C-BLS-PM2.5	Black Liquor Solids	651,900	TBLS	3.00E-01	lb/TBLS	0.90	EF: ST Data 2017-2022 (Average+2SD) PM2.5 Fraction: DEQ AQ-EF08 & AP-42 10.2-3	2.70E-01	lb/TBLS	88.01
EU-445D	TA445-350	#4 Dissolving Tank	445D-BLS-PM2.5	Black Liquor Solids	651,900	TBLS	1.47E-01	lb/TBLS	0.91	EF: ST Data 2017-2022 (Average+2SD) PM2.5 Fraction: DEQ AQ-EF08 & AP-42 10.2-7	1.34E-01	lb/TBLS	43.60
EU-455	PS455-999	Lime Kilns combined emissions	455-CaO-PM2.5	Lime (CaO)	99,110	T CaO	4.68E-01	lb/T CaO	0.94	EF: ST Data 2017-2022 (Average+2SD) PM2.5 Fraction: DEQ AQ-EF08 & AP-42 10.2-5	4.40E-01	lb/T CaO	21.80
EU-456	FU456-999A	Lime Cycle Chemical Handling Fugitives	456-PU-PM2.5	Pulp-Unbleached	530,000	adt	4.70E-03	lb/adt	0.50	EF: AP-42 Fraction: DEQ AQ-EF08 & LRAPA estimate	2.35E-03	lb/adt	0.62
EU-715A	FU710-999	#2 MR additive chem. Handling fugitives	715A-PAPER-PM2.5	Paper	924,500	adt	1.32E-02	lb/adt	0.50	EF: DEQ LRAPA Estimate NCASI TB 942 11/07 Fraction: DEQ AQ-EF08 & LRAPA estimate	6.60E-03	lb/adt	3.05
EU-715B	FA730-104	Dust Collection Exhauster	FA730-104-PAPER-PM2.5	Paper	924,500	adt	1.548E-03	lb/adt	0.50	EF: Estimate based on NCASI TB 942 Fraction: DEQ AQ-EF08 & LRAPA estimate	7.74E-04	lb/adt	0.36
	VA730-025	#2 MR diverter valve trim conveyance sys	VA730-025-PAPER-PM2.5	Paper	924,500	adt	4.190E-04	lb/adt	0.50	EF: Estimate based on NCASI TB 942 Fraction: DEQ AQ-EF08 & LRAPA estimate	2.10E-04	lb/adt	0.10
EU-AIA	PS999-000	Combined AIA - all AIA devices	AIA-hours-PM2.5	Hours	8,760	hours opr	--	--	--	--	--	--	1

Total $PM_{2.5}$ 170.07

SAM (Sulfuric Acid Mist) PSEL

EU ID	Device/ Process ID	EU/Device Name	EU/Device Identifier	Fuel/Raw Material	Annual Rate	Units	EF	Units	EF Reference	Tons SAM/yr
EU-150A	PS150-001	Power Boiler	150A-NG-SAM	Natural Gas	4,739,328	MMBtu	NA	lb/MMBtu	NA	negligible
			150A-Oil2-SAM	ULSD #2 Oil	26,112	MMBtu	6.151E-05	lb/MMBtu	AP-42 Table 1.3-1	0.00
EU-150B	PS150-300	Package Boiler	150B-NG-SAM	Natural Gas	2,962,080	MMBtu	NA	lb/MMBtu	NA	negligible
			150B-Oil2-SAM	ULSD #2 Oil	16,320	MMBtu	6.151E-05	lb/MMBtu	AP-42 Table 1.3-1	0.00
EU-445C	EQ-445-321	#4 Recovery Furnace	445C-NG-SAM	Natural Gas	114,127	MMBtu	NA	lb/MMBtu	NA	negligible
			445C-Oil2-SAM	ULSD #2 Oil	2,146	MMBtu	6.151E-05	lb/MMBtu	AP-42 Table 1.3-1	6.60E-05
			445C-BLS-SAM	Black Liquor Solids	651,900	TBLS	4.63E-02	lb/TBLS	NCASI Air Toxics Database 2019 (Used median)	15.09
EU-455	PS455-999	Lime Kilns combined emissions	455-CaO-SAM	Lime (CaO)	99,110	T CaO	3.58E-02	lb/T CaO	NCASI Air Toxics Database 2019 (One detect)	1.77
EU-AIA	PS999-000	Combined AIA - all AIA devices	AIA-SAM	--	--	--	--	--	--	1
									Total SAM	**17.87**

SO_2 PSEL

EU ID	Device/ Process ID	EU/Device Name	EU/Device Identifier	Fuel/Raw Material	Annual Rate	Units	EF	Units	EF Reference	Tons SO_2/yr
EU-150A	PS150-001	Power Boiler	150A-NG-SO2	Natural Gas	4,739,328	MMBtu	6.410E-04	lb/MMBtu	AP-42 Table 1.4.2, DEQ AQGP-010	1.52
			150A-Oil2-SO2	ULSD #2 Oil	26,112	MMBtu	1.520E-03	lb/MMBtu	AP-42 Table 1.3-1	0.02
EU-150B	PS150-300	Package Boiler	150B-NG-SO2	Natural Gas	2,962,080	MMBtu	6.410E-04	lb/MMBtu	AP-42 Table 1.4.2, DEQ AQGP-010	0.95
			150B-Oil2-SO2	ULSD #2 Oil	16,320	MMBtu	1.520E-03	lb/MMBtu	AP-42 Table 1.3-1	0.01
EU-445C	EQ-445-321	#4 Recovery Furnace	445C-NG-SO2	Natural Gas	115,000	MMBtu	6.410E-04	lb/MMBtu	AP-42 Table 1.4.2, DEQ AQGP-010	0.04
			445C-Oil2-SO2	ULSD #2 Oil	2,146	MMBtu	1.520E-03	lb/MMBtu	AP-42 Table 1.3-1	0.00
			445C-BLS-SO2	Black Liquor Solids	651,900	TBLS	1.95E-02	lb/TBLS	CEM Data 1/2017 - 12/2022 (Average + 2SD)	6.36
EU-445D	TA445-350	#4 Dissolving Tank	445D-BLS-SO2	Black Liquor Solids	651,900	TBLS	1.50E-02	lb/TBLS	NCASI TB 1020 Table 4.15 (Mean)	4.89
EU-455	PS455-999	Lime Kilns combined emissions	455-CaO-SO2	Lime (CaO)	99,110	T CaO	2.79E+00	lb/T CaO	CEM Data 1/2017 - 12/2022 (Average + 2SD)	138.26
EU-AIA	PS999-000	Combined AIA - all AIA devices	AIA-SO2	--	--	--	--	--	--	1
									Total SO_2	**153.04**
									Total SO_2 PSEL (including 2021 RH SAFO limits)	**153**

TRS PSEL

EU ID	Device/ Process ID	EU/Device Name	EU/Device Identifier	Fuel/Raw Material	Annual Rate	Units	EF	Units	EF Reference	Tons TRS/yr
EU-185	FU185-000	Combined Effluent Collection & Treatment	185-Paper-TRS	Paper	869,500	adt	8.26E-04	lb/adt	NCASI TB 849 08/02	0.36
EU-275C	FU401-098	Combined Emissions from Kamyr chip bins	FU401-098-TRS	Pulp-Unbleached	924,500	adt	1.110E-03	lb/adt	NCASI TB 849 08/02	0.51
	PS420-999	Kamyr Brownstock washer system	PS420-999-TRS	Pulp-Unbleached	530,000	adt	5.490E-02	lb/adt	Source Test Data	14.55
	TA186-120	VCE Compressor Fugitives	TA186-120-TRS	Pulp-Unbleached	530,000	adt	1.310E-03	lb/adt	Source Test Data	0.35
	TA440-003	#3 weak bl liq tank	TA440-003-TRS	Pulp-Unbleached	530,000	adt	1.500E-02	lb/adt	Engineering Estimate	3.98
	TA440-004	#4 weak bl liq tank	TA440-004-TRS	Pulp-Unbleached	530,000	adt	6.500E-04	lb/adt	Engineering Estimate	0.17
	TA440-130	Multi-Purpose Tank	TA440-130-TRS	Operating Hours	8,760	hrs-opr	1.090E-01	lb/hr-opr	NCASI TB 849 Table 25	0.48
	TA445-300	#7 str bl liq tank	TA445-300-TRS	Pulp-Unbleached	530,000	adt	4.200E-03	lb/adt	Source Test Data	1.11
EU-275D	EQ420-070	Kamyr 480 Bauer Refiner Chest Vent	EQ420-070-TRS	Pulp-Unbleached	530,000	adt	5.80E-04	lb/adt	NCASI TB 849 Table A-12	0.15
	TA420-035	Contaminated Hot Water Tank	TA420-035-TRS	Pulp-Unbleached	530,000	adt	1.25E-03	lb/adt	Engineering Estimate Extrapolate	0.33
	TA420-014	Recaust Hot Water Tank	TA420-014-TRS	Pulp-Unbleached	530,000	adt	1.25E-03	lb/adt	Source Test Data	0.33
	TA455-012	#5 Causticizer	TA455-012-TRS	Pulp-Unbleached	530,000	adt	2.88E-03	lb/adt	NCASI TB 676	0.76
	TA456-010	#6 Causticizer	TA456-010-TRS	Pulp-Unbleached	530,000	adt	8.20E-03	lb/adt	NCASI TB 676	0.76
EU-445C	EQ-445-321	#4 Recovery Furnace	EQ-445-321-TRS	Black Liquor Solids	651,900	TBLS	5.60E-03	lb/TBLS	CEM Data 1/2017 - 12/2022 (Average + 2SD)	1.83
EU-445D	TA445-350	#4 Dissolving Tank	TA445-350-TRS	Black Liquor Solids	651,900	TBLS	2.64E-02	lb/TBLS	May 2020 Stack Test Data	8.61
EU-455	PS455-999	Lime Kilns combined emissions	PS455-999-TRS	Lime (CaO)	99,110	T CaO	5.27E-02	lb/T CaO	CEM Data 1/2017 - 12/2022 (Average + 2SD)	2.61
EU-600	TA601-134	#9 hi-d storage tank	TA601-134-TRS	Hours	8,760	hours-opr	6.90E-04	lb/hr-opr	Engineering Estimate - Other	3.02E-03
	TA601-142	#9 lo-d chest	TA601-142-TRS	Hours	8,760	hours-opr	3.45E-04	lb/hr-opr	Engineering Estimate - Other	1.51E-03
	TA601-167	OCC clarifier	TA601-167-TRS	OCC	354,700	adt	5.25E-04	lb/adt	Engineering Estimate - Other	9.31E-02
EU-715A	FA705-032	Drum saveall hood exhaust fan	FA705-032-TRS	Paper	924,500	adt	2.640E-04	lb/adt	NCASI TB 681	1.22E-01
	FA705-107	Furnish pulper hood exhaust	FA705-107-TRS	Paper	924,500	adt	2.980E-05	lb/adt	Engineering Estimate - Other	1.38E-02
	FA705-174	Morden pulper hood exhaust fan	FA705-174-TRS	Paper	924,500	adt	1.490E-07	lb/adt	Engineering Estimate - Other	6.89E-05
	PS715-999A	Paper #2 total wet end vent emissions	PS715-999A-TRS	Paper	924,500	adt	1.190E-02	lb/adt	NCASI TB 681	5.50
	TA705-002	#3 hi-d tank	TA705-002-TRS	Hours	8,760	hours-opr	1.500E-3	lb/hr-opr	Engineering Estimate - Other	6.57E-03
	TA705-003	#4 hi-d tank	TA705-003-TRS	Hours	8,760	hours-opr	5.000E-3	lb/hr-opr	Engineering Estimate - Other	2.19E-02
	TA705-093	#5 hi-d storage tank	TA705-093-TRS	Hours	8,760	hours-opr	1.500E-3	lb/hr-opr	Engineering Estimate - Other	6.57E-03
	TA705-094	#6 hi-d storage tank	TA705-094-TRS	Hours	8,760	hours-opr	1.720E-1	lb/hr-opr	Engineering Estimate - Other	7.53E-01
	TA705-099	#10 hi-d storage tank	TA705-099-TRS	Hours	8,760	hours-opr	3.370E-1	lb/hr-opr	Engineering Estimate - Other	1.48
	TA705-130	#7 hi-d storage tank	TA705-130-TRS	Hours	8,760	hours-opr	1.720E-1	lb/hr-opr	Engineering Estimate - Other	7.53E-01
	TA705-208	#8 hi-d storage tank	TA705-208-TRS	Hours	8,760	hours-opr	3.000E-3	lb/hr-opr	Engineering Estimate - Other	1.31E-02
	TA705-215	#8 lo-d chest	TA705-215-TRS	Hours	8,760	hours-opr	1.500E-3	lb/hr-opr	Engineering Estimate - Other	6.57E-03
EU-715B	PS715-999B	Paper #2 total dry end vent emissions	PS715-999B-TRS	Pulp-Unbleached	924,500	adt	1.460E-02	lb/adt	NCASI TB 681	6.75
EU-AIA	PS999-000	Combined AIA - all AIA devices	AIA-hours-TRS	Hours	8,760	hours opr	--	--	--	1

Total TRS **53.41**

VOC PSEL

EU ID	Device/ Process ID	EU/Device Name	EU/Device Identifier	Fuel/Raw Material	Annual Rate	Units	EF	Units	EF Reference	Tons VOC/yr
EU-150A	PS150-001	Power Boiler	150A-NG-VOC	Natural Gas	4,739,328	MMBtu	6.578E-03	lb/MMBtu	AP-42 Table 1.4.2, DEQ AQGP-010	15.59
			150A-Oil2-VOC	ULSD #2 Oil	26,112	MMBtu	1.743E-03	lb/MMBtu	AP-42 Table 1.3-3	0.02
EU-150B	PS150-300	Package Boiler	150B-NG-VOC	Natural Gas	2,962,080	MMBtu	6.578E-03	lb/MMBtu	AP-42 Table 1.4.2, DEQ AQGP-010	9.74
			150B-Oil2-VOC	ULSD #2 Oil	16,320	MMBtu	1.743E-03	lb/MMBtu	AP-42 Table 1.3-3	0.01
EU-185	FU185-000	Combined Effluent Collection & Treatment	185-Paper-VOC	Paper	924,500	adt	1.204E-01	lb/adt (as propane)	Engineering Estimate	55.66
EU-275C	FU401-098	Controlled Emissions from Kamyr chip bins	FU401-098-VOC	Pulp-Unbleached	477,000	adt	2.47E-01	lb/adt (as propane)	May 8, 2015 Source Test	58.81
		Uncontrolled Emissions from Kamyr chip bins		Pulp-Unbleached	53,000	adt	5.43	lb/adt (as propane)	Engineering Estimate (assume 10% uncontrolled by condenser, increase est. by factor of 3.3 based on 5/8/15 ST)	143.90
	PS420-999	Kamyr Brownstock washer system	PS420-999-VOC	Pulp-Unbleached	530,000	adt	1.12	lb/adt (as propane)	Source Test Data	297.44
	TA186-120	VCE Compressor Fugitives	TA186-120-VOC	Pulp-Unbleached	530,000	adt	6.051E-03	lb/adt (as propane)	Source Test Data	1.60
	TA440-003	#3 weak bl liq tank	TA440-003-VOC	Pulp-Unbleached	530,000	adt	6.185E-02	lb/adt (as propane)	Source Test Data	16.39
	TA440-004	#4 weak bl liq tank	TA440-004-VOC	Pulp-Unbleached	530,000	adt	1.830E-03	lb/adt (as propane)	Source Test Data	0.48
	TA440-130	Multi-Purpose Tank	TA440-130-VOC	Pulp-Unbleached	8,760	hours-opr	8.211E-01	lb/hr-opr (as propane)	NCASI Criteria Pollutant Summary	3.60
	TA445-300	#7 str bl liq tank	TA445-300-VOC	Pulp-Unbleached	530,000	adt	9.289E-03	lb/adt (as propane)	NCASI TB 677	2.46
EU-275D	EQ420-070	Kamyr 480 Bauer Refiner Chest Vent	EQ420-070-VOC	Pulp-Unbleached	530,000	adt	2.32E-03	lb/adt (as propane)	Engineering Estimate	0.61
	TA420-035	Contaminated Hot Water Tank	TA420-035-VOC	Pulp-Unbleached	530,000	adt	2.93E-03	lb/adt (as propane)	Engineering Estimate Extrapolated	0.78
	TA420-014	Recaust Hot Water Tank	TA420-014-VOC	Pulp-Unbleached	530,000	adt	2.93E-03	lb/adt (as propane)	Engineering Estimate Extrapolated	0.78
	TA455-012	#5 Causticizer	TA455-012-VOC	Pulp-Unbleached	530,000	adt	3.17E-04	lb/adt (as propane)	Source Test Data	0.08
	TA456-010	#6 Causticizer	TA456-010-VOC	Pulp-Unbleached	530,000	adt	9.03E-05	lb/adt (as propane)	Source Test Data	0.02
EU-310	FU310-999	Chip handling system	310-PU-VOC	Pulp-Unbleached	530,000	adt	5.58E-01	lb/adt (as propane)	Engineering Estimate	147.75
EU-320	FU320-999	Chip storage system	320-PU-VOC	Pulp-Unbleached	530,000	adt	9.76E-03	lb/adt (as propane)	Engineering Estimate	2.59
EU-330	FU330-999	Fines bin cyclone	330-Fines-VOC	Fines	10,050	BDT	4.88E-02	lb/BDT (as propane)	NCASI TB723	0.25
EU-420	TA420-035	Cont. hot water tank (minus TRS)	TA420-035-VOC	Pulp-Unbleached	530,000	adt	7.41E-03	lb/adt (as propane)	Engineering Estimate - Other	1.96
	TA420-037	Spill tank (minus TRS)	TA420-037-VOC	Pulp-Unbleached	530,000	adt	1.00E-02	lb/adt (as propane)	Engineering Estimate - Other	2.65
	TA420-059	Reject tank (minus TRS)	TA420-059-VOC	Pulp-Unbleached	530,000	adt	1.17E-02	lb/adt (as propane)	Engineering Estimate - Other	3.10
	TA420-109	Diffuser filtrate tk (minus TRS)	TA420-109-VOC	Pulp-Unbleached	530,000	adt	1.00E-02	lb/adt (as propane)	Engineering Estimate - Other	2.65
EU-445C	EQ445-321	# 4 Recovery Boiler	EQ445-321-VOC	Black Liquor Solids	651,900	TBLS	8.54E-02	lb/TBLS (as propane)	NCASI Criteria Air Pollutants Master Summary Table (Median)	27.84
EU-445D	TA445-350	#4 Dissolving Tank	TA445-350-VOC	Black Liquor Solids	651,900	TBLS	8.00E-02	lb/TBLS (as propane)	NCASI Criteria Air Pollutants Master Summary Table (Median)	26.09
EU-455	PS455-999	Lime kilns combined emissions	PS455-999-VOC	Lime (CaO)	99,110	T CaO	5.61E-02	lb/T CaO (as propane)	NCASI Criteria Air Pollutants Master Summary Table (Mean)	2.78

EU ID	Device/ Process ID	EU/Device Name	EU/Device Identifier	Fuel/Raw Material	Annual Rate	Units	EF	Units	EF Reference	Tons VOC/yr
EU-456	GE454-052	#2 mud filter (minus TRS)	GE454-052-VOC	Pulp-Unbleached	530,000	adt	9.39E-04	lb/adt (as propane)	Source Test Data	0.25
	GE455-153	#3 mud filter hood fan (plus fugitives minus TRS)	GE455-153-VOC	Pulp-Unbleached	530,000	adt	1.42E-02	lb/adt (as propane)	Source Test Data	3.77
	PU455-056	Mud filter vacuum pump vapor (#3) (minus TRS)	PU455-056-VOC	Pulp-Unbleached	530,000	adt	3.54E-04	lb/adt (as propane)	Engineering Estimate - Other	0.09
	TA454-016	#2 mud filter sump (minus TRS)	TA454-016-VOC	Pulp-Unbleached	530,000	adt	2.32E-04	lb/adt (as propane)	Source Test Data	0.06
	TA455-001	Green Liquor Clarifier (minus TRS)	TA455-001-VOC	Pulp-Unbleached	530,000	adt	1.46E-03	lb/adt (as propane)	Source test data	0.39
	TA455-018	S. wh liq clarifier	TA455-018-VOC	Pulp-Unbleached	530,000	adt	1.46E-03	lb/adt (as propane)	Source Test Data	0.39
	TA455-025	South mud washer	TA455-025-VOC	Pulp-Unbleached	530,000	adt	4.15E-04	lb/adt (as propane)	Source Test Data	0.11
	TA455-050	S. lime mud storage	TA455-050-VOC	Pulp-Unbleached	530,000	adt	4.51E-04	lb/adt (as propane)	Source Test Data, Egineering Estimate	0.12
	TA455-158	Jet condenser seal tank (minus TRS)	TA455-158-VOC	Pulp-Unbleached	530,000	adt	1.20E-04	lb/adt (as propane)	Engineering Estimate - Other	0.03
	TA456-001	N. gr liq clarifier (minus TRS)	TA456-001-VOC	Pulp-Unbleached	530,000	adt	1.46E-03	lb/adt (as propane)	Source test data	0.39
	TA456-020	N. wh liq clarifier	TA456-020-VOC	Pulp-Unbleached	530,000	adt	1.46E-03	lb/adt (as propane)	Source Test Data	0.39
	TA456-028	N. lime mud washer	TA456-028-VOC	Pulp-Unbleached	530,000	adt	4.15E-04	lb/adt (as propane)	Source Test Data	0.11
	TA456-036	North mud storage	TA456-036-VOC	Pulp-Unbleached	530,000	adt	4.15E-04	lb/adt (as propane)	Source Test Data	0.11
	TA456-128	Precip. slurry tank (minus TRS)	TA456-128-VOC	Pulp-Unbleached	530,000	adt	9.33E-04	lb/adt (as propane)	Source test data	0.25
EU-600	FA601-121	#1 thickener exhaust fan	FA601-121-VOC	OCC	354,700	adt	2.07E-02	lb/adt (as propane)	NCASI TB 737	3.68
	FA601-255	Pulper exhaust fan	FA601-255-VOC	OCC	354,700	adt	7.66E-03	lb/adt (as propane)	NCASI TB 737	1.36
	TA601-012	Dump chest vent	TA601-012-VOC	OCC	354,700	adt	1.15E-03	lb/adt (as propane)	Source Test Data	0.20
	TA601-134	#9 hi-d storage tank	TA601-134-VOC	Hours	8,760	hours-opr	1.74E-01	lb/hr-opr (as propane)	NCASI TB 737 Table 5-6	0.76
	TA601-167	OCC clarifier	TA601-167-VOC	OCC	354,700	adt	2.96E-02	lb/adt (as propane)	NCASI TB 737	5.26
EU-715A	FA705-032	Drum saveall hood exhaust fan	FA705-032-VOC	Paper	924,500	adt	1.95E-02	lb/adt (as propane)	NCASI TB 681	9.02
	FA705-107	Furnish pulper hood exhaust	FA705-107-VOC	Paper	924,500	adt	3.40E-03	lb/adt (as propane)	NCASI TB 737	1.57
	FA705-174	Morden pulper hood exhaust fan	FA705-174-VOC	Paper	924,500	adt	1.72E-04	lb/adt (as propane)	NCASI TB 737	0.08
	PS715-999A	Paper #2 total wet end vent emissions	PS715-999A-VOC	Paper	924,500	adt	3.89E-01	lb/adt (as propane)	NCASI TB 681	179.90
	TA705-002	#3 hi-d tank	TA705-002-VOC	Hours	8,760	hours-opr	1.74E-01	lb/hr-opr (as propane)	NCASI TB 737 Table 5-6	0.76
	TA705-003	#4 hi-d tank	TA705-003-VOC	Hours	8,760	hours-opr	1.74E-01	lb/hr-opr (as propane)	NCASI TB 737 Table 5-6	0.76
	TA705-093	#5 hi-d storage tank	TA705-093-VOC	Hours	8,760	hours-opr	1.74E-01	lb/hr-opr (as propane)	NCASI TB 737 Table 5-6	0.76
	TA705-094	#6 hi-d storage tank	TA705-094-VOC	Hours	8,760	hours-opr	3.86	lb/hr-opr (as propane)	NCASI TB 973, pg 85, Table 4.19, Part V	16.89
	TA705-099	#10 hi-d storage tank	TA705-099-VOC	Hours	8,760	hours-opr	3.86	lb/hr-opr (as propane)	NCASI TB 973, pg 85, Table 4.19, Part V	16.89
	TA705-130	#7 hi-d storage tank	TA705-130-VOC	Hours	8,760	hours-opr	3.86	lb/hr-opr (as propane)	NCASI TB 973, pg 85, Table 4.19, Part V	16.89
	TA705-208	#8 hi-d storage tank	TA705-208-VOC	Hours	8,760	hours-opr	1.74E-01	lb/hr-opr (as propane)	NCASI TB 737 Table 5-6	0.76
	TA705-215	#8 lo-d chest	TA705-215-VOC	Hours	8,760	hours-opr	1.74E-01	lb/hr-opr (as propane)	NCASI TB 737 Table 5-6	0.76
EU-715B	PS715-999B	Paper #2 total dry end vent emissions	PS715-999B-VOC	Paper	924,500	adt	3.89E-01	lb/adt (as propane)	NCASI TB 681	179.90
EU-AIA	PS999-000	Combined AIA - all AIA devices	PS999-000-VOC	Hours	8,760	hours-opr	--	--	--	1

Total VOC pp. 1-2 1,269.3

GHG PSEL

EU ID	Device/ Process ID	EU/Device Name	EU/Device Identifier	Fuel/Raw Material	Annual Rate	Units	EF	Units	EF Reference	Short Tons GHG CO_2e/yr
EU-150A	PS150-001	Power Boiler	150A-NG-GHG	Natural Gas	4,739,328	MMBtu	116.98	lb CO_2/MMBtu	40 CFR Part 98 Tables C-1 & C-2	277,197
			150A-NG-GHG	Natural Gas	4,739,328	MMBtu	2.205E-03	lbs CH_4/MMBtu	40 CFR Part 98 Tables C-1 & C-2	131
			150A-NG-GHG	Natural Gas	4,739,328	MMBtu	2.205E-04	lbs N_2O/MMBtu	40 CFR Part 98 Tables C-1 & C-2	156
			150A-Oil2-GHG	ULSD #2 Oil	26,112	MMBtu	163.05	lb CO_2/MMBtu	40 CFR Part 98, Table C-1, kg to lbs	2,129
			150A-Oil2-GHG	ULSD #2 Oil	26,112	MMBtu	6.614E-03	lbs CH_4/MMBtu	40 CFR Part 98 Tables C-1 & C-2	54
			150A-Oil2-GHG	ULSD #2 Oil	26,112	MMBtu	1.323E-03	lbs N_2O/MMBtu	40 CFR Part 98 Tables C-1 & C-2	1,534
EU-150B	PS150-300	Package Boiler	150B-NG-GHG	Natural Gas	2,962,080	MMBtu	116.98	lb CO_2/MMBtu	40 CFR Part 98 Tables C-1 & C-2	173,248
			150B-NG-GHG	Natural Gas	2,962,080	MMBtu	2.205E-03	lbs CH_4/MMBtu	40 CFR Part 98 Tables C-1 & C-2	82
			150B-NG-GHG	Natural Gas	2,962,080	MMBtu	2.205E-04	lbs N_2O/MMBtu	40 CFR Part 98 Tables C-1 & C-2	97
			150B-Oil2-GHG	ULSD #2 Oil	16,320	MMBtu	163.05	lb CO_2/MMBtu	40 CFR Part 98 Tables C-1 & C-2	1,331
			150B-Oil2-GHG	ULSD #2 Oil	16,320	MMBtu	6.614E-03	lbs CH_4/MMBtu	40 CFR Part 98 Tables C-1 & C-2	34
			150B-Oil2-GHG	ULSD #2 Oil	16,320	MMBtu	1.323E-03	lbs N_2O/MMBtu	40 CFR Part 98 Tables C-1 & C-2	959
EU-445C	EQ-445-321	#4 Recovery Furnace	445C-NG-GHG	Natural Gas	114,127	MMBtu	116.98	lb CO_2/MMBtu	40 CFR Part 98 Tables C-1 & C-2	6,675
			445C-NG-GHG	Natural Gas	114,127	MMBtu	2.205E-03	lbs CH_4/MMBtu	40 CFR Part 98 Tables C-1 & C-2	3
			445C-NG-GHG	Natural Gas	114,127	MMBtu	2.205E-04	lbs N_2O/MMBtu	40 CFR Part 98 Tables C-1 & C-2	4
			445C-Oil2-GHG	ULSD #2 Oil	2,146	MMBtu	163.05	lb CO_2/MMBtu	40 CFR Part 98 Tables C-1 & C-2	175
			445C-Oil2-GHG	ULSD #2 Oil	2,146	MMBtu	6.614E-03	lbs CH_4/MMBtu	40 CFR Part 98 Tables C-1 & C-2	4
			445C-Oil2-GHG	ULSD #2 Oil	2,146	MMBtu	1.323E-03	lbs N_2O/MMBtu	40 CFR Part 98 Tables C-1 & C-2	126
			445C-BLS-GHG-***B***	Black Liquor Solids (BLS), ***Biogenic***	569,400	tons BLS	2559.83	lb CO_2/ton BLS	40 CFR Part 98 Table AA-1, Eq. AA-1 & 2011 lab	728,783
			445C-BLS-GHG-***A***	Black Liquor Solids (BLS), ***Anthropogenic***	569,400	tons BLS	5.152E-02	lb CH_4/ton BLS	40 CFR Part 98 Table AA-1, Eq. AA-1 & 2011 lab	367
			445C-BLS-GHG-***A***	Black Liquor Solids (BLS), ***Anthropogenic***	569,400	tons BLS	1.139E-02	lb N_2O/ton BLS	40 CFR Part 98 Table AA-1, Eq. AA-1 & 2011 lab	966
EU-455	PS455-999	Lime Kilns combined emissions	455-NG-GHG	Natural Gas	1,263,240	MMBtu	116.98	lb CO_2/MMBtu	40 CFR Part 98	73,885
			455-NG-GHG	Natural Gas	1,263,240	MMBtu	2.205E-03	lbs CH_4/MMBtu	40 CFR Part 98 Tables C-1 & C-2	35
			455-NG-GHG	Natural Gas	1,263,240	MMBtu	2.205E-04	lbs N_2O/MMBtu	40 CFR Part 98 Tables C-1 & C-2	41
			455-Oil2-GHG	ULSD #2 Oil	6,960	MMBtu	163.05	lb CO_2/MMBtu	40 CFR Part 98, Table C-1, kg to lbs	567
			455-Oil2-GHG	ULSD #2 Oil	6,960	MMBtu	6.614E-03	lbs CH_4/MMBtu	40 CFR Part 98 Tables C-1 & C-2	14
			455-Oil2-GHG	ULSD #2 Oil	6,960	MMBtu	1.323E-03	lbs N_2O/MMBtu	40 CFR Part 98 Tables C-1 & C-2	409
			455-CaCO3-GHG	$CaCO_3$ Makeup	1,200	tons CaCO3	44.00	lb CO_2/100lb $CaCO_3$	AP-42 Mass Balance 2012 Attm 3 TSD Feb 2009	528

Total GHG (Anthropogenic + Biogenic)	**1,269,532**
Total Anthropogenic GHG	**540,749**
Total Biogenic GHG	**728,783**
Total Increase over GHG BER	**100,210**

Aggregate Insignificant Activities (AIA) Emissions (Page 1 of 2)

Aggregate Insignificant Activities (AIA) for **PM** Emissions

EU ID	Device ID	Description	Annual Production Rate	Units	Emission Factors			Emissions (lbs/year)	Emissions (tons/year)
					Rate	Units	Reference		
EU-420	FA401-069	Kamyr Screen Room Roof Exhaust Fan	530000	eADTUBP	0.000133	lbs/eADTUBP	Eng. Est. TV appl.	70.75	0.0354
EU-420	TA420-999	Misc Totes for additives	530000	eADTUBP	0.000133	lbs/eADTUBP	Eng. Est. TV appl.	70.75	0.0354
EU-715	TA710-190	Huberfil Tank	924500	eADTUBP	0.000065	lbs/eADTUBP	Eng. Est. TV appl.	60.13	0.0301
EU-445C	TA445-348	Smelt spout cooling water surge tank on #4 Recovery	530000	eADTUBP	0.000133	lbs/eADTUBP	Eng. Est. TV appl.	70.75	0.0354
EU-440	TA440-999	Misc Totes for additives	530000	eADTUBP	0.000133	lbs/eADTUBP	Eng. Est. TV appl.	70.75	0.0354
EU-310	TA310-133	Kamyr Belt Sump	530000	ADTUBP	0.000071	lbs/ADTUBP	Eng. Est. TV appl.	37.81	0.0189
EU-310	TA310-274	#3 Silo Sump Pump Tank	530000	ADTUBP	0.000071	lbs/ADTUBP	Eng. Est. TV appl.	37.81	0.0189
EU-310	FU315-999B	ADS Rejects (ADS trash conveyor/belt)	530000	ADTUBP	0.000071	lbs/ADTUBP	Eng. Est. TV appl.	37.81	0.0189
EU-310	TA310-999A	Misc Totes for additives	530000	ADTUBP	0.000071	lbs/ADTUBP	Eng. Est. TV appl.	37.81	0.0189
EU-185	TA185-061	Bulk Nutrient Tank	530000	eADTUBP	0.000133	lbs/eADTUBP	Eng. Est. TV appl.	70.75	0.0354
EU-715	TA715-500	MR#2 Dry End Fugitives	924500	ADT	0.000031	lbs/ADT	Eng. Est. TV appl.	28.86	0.0144
EU-456	FU456-999	Lime kiln ESP dry ash off-handling fugitives (see related FU456-999A&B)	530000	eADTUBP	0.000034	lbs/eADTUBP	Eng. Est. TV appl.	18.16	0.0091
EU-275D & EU-456	TA455-165	New Dregs Filter	530000	eADTUBP	0.000007	lbs/eADTUBP	Eng. Est. TV appl.	3.78	0.0019
EU-445C	TA445-675	#4 Recovery saltcake handling system vents to atmosphere.	530000	eADTUBP	0.001335	lbs/eADTUBP	Eng. Est. TV appl.	707.53	0.3538
							Total AIA **PM** Emissions	**1323.49**	**0.6617**

Aggregate Insignificant Activities (AIA) for **PM_{10} & $PM_{2.5}$** Emissions

EU ID	Device ID	Description	Annual Production Rate	Units	Emission Factors			Emissions (lbs/year)	Emissions (tons/year)
					Rate	Units	Reference		
EU-420	FA401-069	Kamyr Screen Room Roof Exhaust Fan	530000	eADTUBP	0.000013	lbs/eADTUBP	Eng. Est. TV appl.	7.08	0.0035
EU-420	TA420-999	Misc Totes for additives	530000	eADTUBP	0.000013	lbs/eADTUBP	Eng. Est. TV appl.	7.08	0.0035
EU-715	TA710-190	Huberfil Tank	924500	eADTUBP	0.000007	lbs/eADTUBP	Eng. Est. TV appl.	6.01	0.0030
EU-445C	TA445-348	Smelt spout cooling water surge tank on #4 Recovery	530000	eADTUBP	0.000013	lbs/eADTUBP	Eng. Est. TV appl.	7.08	0.0035
EU-440	TA440-999	Misc Totes for additives	530000	eADTUBP	0.000013	lbs/eADTUBP	Eng. Est. TV appl.	7.08	0.0035
EU-310	TA310-133	Kamyr Belt Sump	530000	ADTUBP	0.000007	lbs/ADTUBP	Eng. Est. TV appl.	3.78	0.0019
EU-310	TA310-274	#3 Silo Sump Pump Tank	530000	ADTUBP	0.000007	lbs/ADTUBP	Eng. Est. TV appl.	3.78	0.0019
EU-310	FU315-999B	ADS Rejects (ADS trash conveyor/belt)	530000	ADTUBP	0.000007	lbs/ADTUBP	Eng. Est. TV appl.	3.78	0.0019
EU-310	TA310-999A	Misc Totes for additives	530000	ADTUBP	0.000007	lbs/ADTUBP	Eng. Est. TV appl.	3.78	0.0019
EU-185	TA185-061	Bulk Nutrient Tank	530000	eADTUBP	0.000013	lbs/eADTUBP	Eng. Est. TV appl.	7.08	0.0035
EU-715	TA715-500	MR#2 Dry End Fugitives	924500	ADT	0.000016	lbs/ADT	Eng. Est. TV appl.	14.43	0.0072
EU-456	FU456-999	Lime kiln ESP dry ash off-handling fugitives (see related FU456-999A&B)	530000	eADTUBP	0.000016	lbs/eADTUBP	Eng. Est. TV appl.	8.72	0.0044
EU-275D & EU-456	TA455-165	New Dregs Filter	530000	eADTUBP	0.000003	lbs/eADTUBP	Eng. Est. TV appl.	1.51	0.0008
EU-445C	TA445-675	#4 Recovery saltcake handling system vents to atmosphere.	530000	eADTUBP	0.000667	lbs/eADTUBP	Eng. Est. TV appl.	353.77	0.1769
							Total AIA **PM_{10}** Emissions	**434.94**	**0.2175**
							Total AIA **$PM_{2.5}$** Emissions	**434.94**	**0.2175**

Aggregate Insignificant Activities (AIA) for **SO_2** Emissions

EU ID	Device ID	Description	Annual Production Rate	Units	Emission Factors			Emissions (lbs/year)	Emissions (tons/year)
					Rate	Units	Reference		
EU-445C	TA445-348	Smelt spout cooling water surge tank on #4 Recovery	530000	eADTUBP	0.000133	lbs/eADTUBP	Eng. Est. TV appl.	70.75	0.0354
							Total AIA **SO_2** Emissions	**70.75**	**0.0354**

Aggregate Insignificant Activities (AIA) for **VOC** Emissions

EU ID	Device ID	Description	Annual Production Rate	Units	Emission Factors			Emissions (lbs/year)	Emissions (tons/year)
					Rate	Units	Reference		
EU-715	TA710-036	Overflow EZE 465C tank	924500	ADT	0.000065	lbs/ADT	Eng. Est. TV appl.	60.13	0.0301
EU-715	TA710-031	Retention Aid Tank	924500	ADT	0.000065	lbs/ADT	Eng. Est. TV appl.	60.13	0.0301
EU-715	TA710-085	AMRES 8870 Tank	924500	ADT	0.000065	lbs/ADT	Eng. Est. TV appl.	60.13	0.0301
EU-715	TA710-063	Defoamer tank	924500	ADT	0.000065	lbs/ADT	Eng. Est. TV appl.	60.13	0.0301
EU-715	TA710-093	PFP-50 Tank	924500	ADT	0.000065	lbs/ADT	Eng. Est. TV appl.	60.13	0.0301
EU-715	TA710-154	PC-142	924500	ADT	0.000065	lbs/ADT	Eng. Est. TV appl.	60.13	0.0301
EU-275C	TA186-162	VCE seal water tank	530000	ADTUBP	0.000000	lbs/ADTUBP	Eng. Est. TV appl.	0.11	0.0001
EU-275C	PR440-074	Fiber Filter	530000	ADTUBP	0.0000001	lbs/ADTUBP	Eng. Est. TV appl.	0.05	0.0000
EU-275C	TA440-072	Fiber Filter Supply Tank	530000	ADTUBP	0.0000001	lbs/ADTUBP	Eng. Est. TV appl.	0.05	0.0000
EU-420	TA401-017	Kamyr blow tank (#3)	530000	ADTUBP	0.000186	lbs/ADTUBP	Eng. Est. TV appl.	98.55	0.0493
EU-275C	TA440-090	Strong Black Liquor Surge Tank	530000	eADTUBP	0.000110	lbs/eADTUBP	Eng. Est. TV appl.	58.30	0.0292
EU-456	PU454-009	Mud Filter Vacuum Pump Vapor	530000	eADTUBP	0.000174	lbs/eADTUBP	Eng. Est. TV appl.	92.16	0.0461
EU-185	FU180-999F	#2 PM Effluent Collection System	924500	ADT	0.000051	lbs/ADT	Eng. Est. TV appl.	47.10	0.0236
EU-600	TA601-031	OCC Primary Stock Rejects Chest Vent	354700	ADT	0.000095	lbs/ADT	Eng. Est. TV appl.	33.63	0.0168
EU-275D & EU-456	TA455-165	New Dregs Filter	530000	eADTUBP	0.000007	lbs/eADTUBP	Eng. Est. TV appl.	3.80	0.0019
							Total AIA **VOC** Emissions	**694.55**	**0.3473**

Aggregate Insignificant Activities (AIA) Emissions (Page 2 of 2)

Aggregate Insignificant Activities (AIA) for **TRS** Emissions

EU ID	Device ID	Description	Annual Production Rate	Units	Emission Factors			Emissions (lbs/year)	Emissions (tons/year)
					Rate	Units	Reference		
EU-445C	TA445-348	Smelt spout cooling water surge tank on #4 Recovery	530000	eADTUBP	0.000003	lbs/eADTUBP	Eng. Est. TV appl.	1.42	0.0007
EU-275C	TA186-162	VCE seal water tank	530000	ADTUBP	0.000000	lbs/ADTUBP	Eng. Est. TV appl.	0.03	0.0000
EU-275C	PR440-074	Fiber Filter	530000	ADTUBP	0.0000003	lbs/ADTUBP	Eng. Est. TV appl.	0.18	0.0001
EU-275C	TA440-072	Fiber Filter Supply Tank	530000	ADTUBP	0.0000003	lbs/ADTUBP	Eng. Est. TV appl.	0.18	0.0001
EU-420	TA401-017	Kamyr blow tank (#3)	530000	ADTUBP	0.000005	lbs/ADTUBP	Eng. Est. TV appl.	2.43	0.0012
EU-275C	TA440-090	Strong Black Liquor Surge Tank	530000	eADTUBP	0.000098	lbs/eADTUBP	Eng. Est. TV appl.	51.68	0.0258
EU-456	PU454-009	Mud Filter Vacuum Pump Vapor	530000	eADTUBP	0.000001	lbs/eADTUBP	Eng. Est. TV appl.	0.37	0.0002
EU-275D & EU-456	TA455-165	New Dregs Filter	530000	eADTUBP	0.000000	lbs/eADTUBP	Eng. Est. TV appl.	0.13	0.0001
EU-420	TA420-059	Kamyr Screened Rejects Pulp Tank	530000	ADTUBP	0.0000476	lbs/ADTUBP	Eng. Est. TV appl.	25.20	0.0126
EU-420	TA420-037	Kamyr Filtrate Spill Tank	530000	ADTUBP	0.000046	lbs/ADTUBP	Eng. Est. TV appl.	24.13	0.0121
EU-420	TA420-109	Kamyr Diffuse Filtrate Tank	530000	eADTUBP	0.000023	lbs/eADTUBP	Eng. Est. TV appl.	12.06	0.0060
EU-456	GE455-153	#3 Mud Filter Hood Fan (plus fugitives from filter)	530000	eADTUBP	0.000170	lbs/eADTUBP	Eng. Est. TV appl.	90.12	0.0451
EU-275D & EU-456	TA455-001	South Green Liquor Clarifier	530000	ADT	0.000024	lbs/ADT	Eng. Est. TV appl.	12.88	0.0064
EU-275D & EU-456	TA456-001	North Green Liquor Clarifier	530000	ADT	0.000021	lbs/ADT	Eng. Est. TV appl.	11.02	0.0055
EU-275D & EU-456	TA456-015	#3 Causticizer (3rd in series of 5)	530000	eADTUBP	0.000386	lbs/eADTUBP	Eng. Est. TV appl.	204.58	0.1023
EU-275D & EU-456	GE454-052	#2 Mud Filter	530000	eADTUBP	0.000012	lbs/eADTUBP	Eng. Est. TV appl.	6.20	0.0031
EU-275D & EU-456	TA455-013	#2 Causticizer (4th in series of 5)	530000	eADTUBP	0.000291	lbs/eADTUBP	Eng. Est. TV appl.	154.23	0.0771
EU-275D & EU-456	PU454-056	Mud Filter Vacuum Pump Vapor (#3)	530000	eADTUBP	0.000004	lbs/eADTUBP	Eng. Est. TV appl.	2.35	0.0012
EU-275D & EU-456	TA456-128	Precipitator Slurry Tank	530000	eADTUBP	0.000003	lbs/eADTUBP	Eng. Est. TV appl.	1.48	0.0007
EU-275D & EU-456	TA455-158	Jet Condenser Seal Tank	530000	eADTUBP	0.000001	lbs/eADTUBP	Eng. Est. TV appl.	0.31	0.0002
							Total AIA **TRS** Emissions	**600.99**	**0.3005**

Aggregate Insignificant Activities (AIA) for **HAP** Emissions

EU ID	Device ID	Description	Annual Production Rate	Units	Emission Factors			Emissions (lbs/year)	Emissions (tons/year)
					Rate	Units	Reference		
EU-715	TA710-176	Conc. Sulfuric Acid Tank	924500	ADT	0.000065	lbs/ADT	Eng. Est. TV appl.	60.13	0.0301
EU-715	TA710-179	Dilute Acid Use Tank	924500	ADT	0.000065	lbs/ADT	Eng. Est. TV appl.	60.13	0.0301
EU-275C	TA186-162	VCE seal water tank	530000	ADTUBP	0.000000	lbs/ADTUBP	Eng. Est. TV appl.	0.11	0.0001
EU-440	TA155-015	Sulfuric Acid Tank	530000	eADTUBP	0.000133	lbs/eADTUBP	Eng. Est. TV appl.	70.75	0.0354
EU-440	TA155-040	Caustic Storage Tank	530000	eADTUBP	0.000133	lbs/eADTUBP	Eng. Est. TV appl.	70.75	0.0354
EU-185	TA185-182	Sulfuric Acid Tank	530000	eADTUBP	0.000113	lbs/eADTUBP	Eng. Est. TV appl.	60.13	0.0301
EU-275C	PR440-074	Fiber Filter	530000	ADTUBP	0.0000004	lbs/ADTUBP	Eng. Est. TV appl.	0.22	0.0001
EU-275C	TA440-072	Fiber Filter Supply Tank	530000	ADTUBP	0.0000004	lbs/ADTUBP	Eng. Est. TV appl.	0.22	0.0001
EU-420	TA401-017	Kamyr blow tank (#3)	530000	ADTUBP	0.000013	lbs/ADTUBP	Eng. Est. TV appl.	7.06	0.0035
EU-275C	TA440-090	Strong Black Liquor Surge Tank	530000	eADTUBP	0.000100	lbs/eADTUBP	Eng. Est. TV appl.	52.94	0.0265
EU-456	PU454-009	Mud Filter Vacuum Pump Vapor #2	530000	eADTUBP	0.000460	lbs/eADTUBP	Eng. Est. TV appl.	244.00	0.1220
EU-185	FU180-999F	#2 PM Effluent Collection System	924500	ADT	0.000025	lbs/ADT	Eng. Est. TV appl.	23.57	0.0118
							Total AIA **HAP** Emissions	**650.03**	**0.3250**

Aggregate Insignificant Activities (AIA) for **MeOH** Emissions

EU ID	Device ID	Description	Annual Production Rate	Units	Emission Factors			Emissions (lbs/year)	Emissions (tons/year)
					Rate	Units	Reference		
EU-275C	TA186-162	VCE seal water tank	530000	ADTUBP	0.000000	lbs/ADTUBP	Eng. Est. TV appl.	0.11	0.0001
EU-275C	PR440-074	Fiber Filter	530000	ADTUBP	0.0000004	lbs/ADTUBP	Eng. Est. TV appl.	0.22	0.0001
EU-275C	TA440-072	Fiber Filter Supply Tank	530000	ADTUBP	0.0000004	lbs/ADTUBP	Eng. Est. TV appl.	0.22	0.0001
EU-420	TA401-017	Kamyr blow tank (#3)	530000	ADTUBP	0.000012	lbs/ADTUBP	Eng. Est. TV appl.	6.48	0.0032
EU-275C	TA440-090	Strong Black Liquor Surge Tank	530000	eADTUBP	0.000081	lbs/eADTUBP	Eng. Est. TV appl.	42.93	0.0215
EU-456	PU454-009	Mud Filter Vacuum Pump Vapor #2	530000	eADTUBP	0.000413	lbs/eADTUBP	Eng. Est. TV appl.	218.95	0.1095
EU-185	FU180-999F	#2 PM Effluent Collection System	924500	ADT	0.000023	lbs/ADT	Eng. Est. TV appl.	21.13	0.0106
							Total AIA **MeOH** Emissions	**290.02**	**0.1450**

EU ID	Emission Unit Description	Baseline Summary - 1978 (tons/year)[a]										Baseline - 2000/2001 (short tons/year)[b]
		CO	NOx	Pb	PM	PM_{10}	$PM_{2.5}$	SAM	SO_2	TRS	VOC	GHG
EU-150A	Power Boiler	47	164	0.001	19	16	--	29	443	--	1	153,725
EU-150B	Package Boiler	--	--	--	--	--	--	--	--	--	--	59,133
EU-185	Effluent Collection and Treatment	--	--	--	--	--	--	--	--	0.4	55	--
EU-275A	Road Fugitives	--	--	--	4	1	--	--	--	--	--	--
EU-275C	Other Sources of TRS	0.1	--	--	--	--	--	--	5	38	329	--
EU-275D	Future Additional Sources of TRS	--	--	--	24	21	--	--	--	92	142	--
EU-310	Chip Handling and Screening	--	--	--	12	6	--	--	--	--	153	--
EU-320	Chip Storage	--	--	--	4	2	--	--	--	--	16	--
EU-410	Batch Digesters	--	--	--	--	--	--	--	--	0.03	12	--
EU-420	Kamyr Digester	0.4	--	--	--	--	--	--	--	--	88	--
EU-440	Evap/Recovery Tanks and Steam System	0.04	--	--	1	1	--	--	--	0.0004	7	--
EU-445A	No. 3 Recovery Furnace	527	357	--	250	200	--	2	981	23	24	438,692
EU-445B	No. 3 Recovery DTV East/West	--	8	--	24	22	--	--	9	10	105	--
EU-445C	No. 4 Recovery Furnace	409	278	--	264	211	--	6	679	8	17	476,387
EU-445D	No. 4 Recovery DTV		6		20	18	--		7	6	71	--
EU-455	Lime Kilns	62	216	0.1	60	54	--	2	170	12	17	41,385
EU-456	Recaust Systems	--	--	--	2	1	--	--	--	0.01	32	--
EU-600	Paper Recycling Systems	--	--	--	--	--	--	--	--	--	--	--
EU-714A	No. 1 MR Wet End Systems	--	--	--	2	2	--	--	--	3	85	--
EU-714B	No. 1 MR Dry End Systems	--	--	--	1	1	--	--	--	3	29	--
EU-715A	No. 2 MR Wet End Systems	--	--	--	3	3	--	--	--	10	35	--
EU-715B	No. 2 MR Dry End Systems	--	--	--	0.4	0.7	--	--	--	4	59	--
EU-800	Powerhouse Hogged Fuel Boilers	8,750	1,024	0.1	1,545	1,387	--	8	169	--	299	--
EU-802	Powerhouse Fuel & Solids Waste Fugitives	--	--	--	30	12	--	--	--	--	60	--
	Total Annual Baseline Emissions	**9,797**	**2,053**	**0.2**	**2,265**	**1,960**	**NA**	**47**	**2,462**	**209**	**2,147**	**1,169,323**

[a] Baseline year emissions for all criteria pollutants except GHG are based on the 1978 operating year[c]. These emissions were established during a previous permit renewal and have not been changed with the current permit renewal.

[b] The Apr 2000 - Mar 2001 GHG Baseline & GHG Netting Basis have been recalculated with updated 40 CFR 98 Subpart C & AA GHG emission factors (EF) & Global Warming Potential (GWP) factors from EFs used for GHG PSELs in the 2012 permit renewal.

[c] The below Production and Operation Data were used to calculate all criteria pollutant Baseline emissions except GHG.

Baseline Production and Operation Data			
Emission Unit	**Fuel, Material or Chemical**	**Throughput or Usage**	**Units**
#3 Recovery Furnace	Pulp-Unbleached	233,622	ADT
#3 Recovery Furnace	Natural Gas	41,030	MMBtu
#3 SDTV	Pulp-Unbleached	233,622	ADT
#4 Recovery Furnace	Natural Gas	41,030	MMBtu
#4 Recovery Furnace	Pulp-Unbleached	181,185	ADT
#4 SDTV	Pulp-Unbleached	181,185	ADT
#1 Oxidation Tank	Pulp-Unbleached	233,622	ADT
#2 Oxidation Tank	Pulp-Unbleached	233,622	ADT
Batch Pulping	Pulp-Unbleached	147,231	ADT
Kamyr Digester	Pulp-Unbleached	267,576	ADT
Hog Fuel Boilers	Oil #6	310,212	Gallons
Hog Fuel Boilers	Hog Fuel and Sander Dust	349,667	BDT
Hog Fuel Boilers	Natural Gas	489,590	Therms
Lime Kilns	Pulp-Unbleached	414,807	ADT
Paper Machine #1	Paper	172,739	ADT
Paper Machine #2	Paper	330,193	ADT
Power Boiler	Oil #6	1,826,523	Gallons
Power Boiler	TRS from MVCS	96	Tons sulfur
Power Boiler	Natural Gas	7,963,770	Therms
Powerhouse HF and SW for Fugitives	Hog Fuel and Sander Dust	349,667	BDT
Sanderdust Total	Sander Dust	3,670	BDT
Chip Handling & Storage	Pulp-Unbleached	414,807	ADT
Total Paper	Paper	502,932	ADT
Total Pulp	Pulp-Unbleached	414,807	ADT
Operating Hours	Hours	8,760	Hours-opr

GHG Baseline (short tons) **Baseline Year April 2000 - March 2001**

EU ID	Device/ Process ID	EU/Device Name	EU/Device Identifier	Fuel/Raw Material	Annual Rate	Units	EF	Units	EF Reference	Short Tons GHG [a] CO_2e/yr
EU-150A	PS150-001	Power Boiler	150A-NG-GHG	Natural Gas	1,849,540	MMBtu	116.98	lb CO_2/MMBtu	40 CFR Part 98 Tables C-1 & C-2	108,177
			150A-NG-GHG	Natural Gas	1,849,540	MMBtu	2.205E-03	lb CH_4/MMBtu	40 CFR Part 98 Tables C-1 & C-2	51
			150A-NG-GHG	Natural Gas	1,849,540	MMBtu	2.205E-04	lb N_2O/MMBtu	40 CFR Part 98 Tables C-1 & C-2	61
			150A-Oil6-GHG	#6 Oil	547,008	MMBtu	165.57	lb CO_2/MMBtu	40 CFR Part 98 Tables C-1 & C-2	45,283
			150A-Oil6-GHG	#6 Oil	547,008	MMBtu	6.614E-03	lb CH_4/MMBtu	40 CFR Part 98 Tables C-1 & C-2	45
			150A-Oil6-GHG	#6 Oil	547,008	MMBtu	1.323E-03	lb N_2O/MMBtu	40 CFR Part 98 Tables C-1 & C-2	108
EU-150B	PS150-300	Package Boiler	150B-NG-GHG	Natural Gas	1,009,718	MMBtu	116.98	lb CO_2/MMBtu	40 CFR Part 98 Tables C-1 & C-2	59,057
			150B-NG-GHG	Natural Gas	1,009,718	MMBtu	2.205E-03	lb CH_4/MMBtu	40 CFR Part 98 Tables C-1 & C-2	28
			150B-NG-GHG	Natural Gas	1,009,718	MMBtu	2.205E-04	lb N_2O/MMBtu	40 CFR Part 98 Tables C-1 & C-2	33
			150B-Oil2-GHG	#2 Oil	189.06	MMBtu	163.05	lb CO_2/MMBtu	40 CFR Part 98 Tables C-1 & C-2	15
			150B-Oil2-GHG	#2 Oil	189.06	MMBtu	6.614E-03	lb CH_4/MMBtu	40 CFR Part 98 Tables C-1 & C-2	1.56E-02
			150B-Oil2-GHG	#2 Oil	189.06	MMBtu	1.323E-03	lb N_2O/MMBtu	40 CFR Part 98 Tables C-1 & C-2	3.73E-02
EU-445A	EQ-445-014	#3 Recovery Furnace	445A-NG-GHG	Natural Gas	357,887	MMBtu	116.98	lb CO_2/MMBtu	40 CFR Part 98 Tables C-1 & C-2	20,932
			445A-NG-GHG	Natural Gas	357,887	MMBtu	2.205E-03	lb CH_4/MMBtu	40 CFR Part 98 Tables C-1 & C-2	10
			445A-NG-GHG	Natural Gas	357,887	MMBtu	2.205E-04	lb N_2O/MMBtu	40 CFR Part 98 Tables C-1 & C-2	12
			445A-BLS-GHG-***B***	Black Liquor Solids (BLS), ***Biogenic***	349,298	tons BLS	2387.51	lbs CO_2/ton BLS	40 CFR Part 98 Table AA-1, Eq. AA-1 & 2011 lab	416,976
			445A-BLS-GHG-***A***	Black Liquor Solids (BLS), ***Anthropogenic***	349,298	tons BLS	4.805E-02	lb CH_4/ton BLS	40 CFR Part 98 Table AA-1, Eq. AA-1 & 2011 lab	210
			445A-BLS-GHG-***A***	Black Liquor Solids (BLS), ***Anthropogenic***	349,298	tons BLS	1.062E-02	lb N_2O/ton BLS	40 CFR Part 98 Table AA-1, Eq. AA-1 & 2011 lab	553
EU-445C	EQ-445-321	#4 Recovery Furnace	445C-NG-GHG	Natural Gas	503,991	MMBtu	116.98	lb CO_2/MMBtu	40 CFR Part 98 Tables C-1 & C-2	29,478
			445C-NG-GHG	Natural Gas	503,991	MMBtu	2.205E-03	lb CH_4/MMBtu	40 CFR Part 98 Tables C-1 & C-2	14
			445C-NG-GHG	Natural Gas	503,991	MMBtu	2.205E-04	lb N_2O/MMBtu	40 CFR Part 98 Tables C-1 & C-2	17
			445C-BLS-GHG-***B***	Black Liquor Solids (BLS), ***Biogenic***	348,510	tons BLS	2559.83	lb CO_2/ton BLS	40 CFR Part 98 Table AA-1, Eq. AA-1 & 2011 lab	446,063
			445C-BLS-GHG-***A***	Black Liquor Solids (BLS), ***Anthropogenic***	348,510	tons BLS	5.152E-02	lb CH_4/ton BLS	40 CFR Part 98 Table AA-1, Eq. AA-1 & 2011 lab	224
			445C-BLS-GHG-***A***	Black Liquor Solids (BLS), ***Anthropogenic***	348,510	tons BLS	1.139E-02	lb N_2O/ton BLS	40 CFR Part 98 Table AA-1, Eq. AA-1 & 2011 lab	591
EU-455	PS455-999	Lime Kilns combined emissions	455-NG-GHG	Natural Gas	435,256	MMBtu	116.98	lb CO_2/MMBtu	40 CFR Part 98 Tables C-1 & C-2	25,458
			455-NG-GHG	Natural Gas	435,256	MMBtu	2.205E-03	lb CH_4/MMBtu	40 CFR Part 98 Tables C-1 & C-2	12
			455-NG-GHG	Natural Gas	435,256	MMBtu	2.205E-04	lb N_2O/MMBtu	40 CFR Part 98 Tables C-1 & C-2	14
			455-Oil6-GHG	#6 Oil	166,765	MMBtu	165.57	lb CO_2/MMBtu	40 CFR Part 98 Tables C-1 & C-2	13,805
			455-Oil6-GHG	#6 Oil	166,765	MMBtu	6.614E-03	lb CH_4/MMBtu	40 CFR Part 98 Tables C-1 & C-2	14
			455-Oil6-GHG	#6 Oil	166,765	MMBtu	1.323E-03	lb N_2O/MMBtu	40 CFR Part 98 Tables C-1 & C-2	33
			455-CaCO3-GHG	$CaCO_3$ Makeup	4,657	tons $CaCO_3$	44.00	lbs CO_2/ 100 lbs $CaCO_3$	40 CFR 98.273 (d)	2,049

[a] Greenhouse Gas emissions (tons CO_2e/yr) calculated using Global Warming Potentials (GWPs) from Table A-1 to Subpart A of 40 CFR Part 98: CO_2 GWP = 1, CH_4 GWP = 25, N_2O GWP = 298.

Total GHG (Anthropogenic + Biogenic) 1,169,323

Total Anthropogenic GHG 306,284

Total Biogenic GHG 863,039

GHG Baseline (metric tons) **Baseline Year April 2000 - March 2001**

EU ID	Device/ Process ID	EU/Device Name	EU/Device Identifier	Fuel/Raw Material	Annual Rate	Units	Emission Factor	Units	Conversion Factor	Units	EF Reference	Metric Tons GHG [a] CO_2e/yr
EU-150A	PS150-001	Power Boiler	150A-NG-GHG	Natural Gas	1,849,540	MMBtu	53.06	kg CO_2/MMBtu	--	--	40 CFR Part 98 Tables C-1 & C-2	98,137
			150A-NG-GHG	Natural Gas	1,849,540	MMBtu	1.000E-03	kg CH_4/MMBtu	--	--	40 CFR Part 98 Tables C-1 & C-2	46
			150A-NG-GHG	Natural Gas	1,849,540	MMBtu	1.000E-04	kg N_2O/MMBtu	--	--	40 CFR Part 98 Tables C-1 & C-2	55
			150A-Oil6-GHG	#6 Oil	3,646,722	gallons	75.1	kg CO_2/MMBtu	1.500E-01	MMBtu/gal	40 CFR Part 98 Tables C-1 & C-2	41,080
			150A-Oil6-GHG	#6 Oil	3,646,722	gallons	3.00E-03	kg CH_4/MMBtu	1.500E-01	MMBtu/gal	40 CFR Part 98 Tables C-1 & C-2	41
			150A-Oil6-GHG	#6 Oil	3,646,722	gallons	6.00E-04	kg N_2O/MMBtu	1.500E-01	MMBtu/gal	40 CFR Part 98 Tables C-1 & C-2	98
EU-150B	PS150-300	Package Boiler	150B-NG-GHG	Natural Gas	1,009,718	MMBtu	53.06	kg CO_2/MMBtu	--	--	40 CFR Part 98 Tables C-1 & C-2	53,576
			150B-NG-GHG	Natural Gas	1,009,718	MMBtu	1.000E-03	kg CH_4/MMBtu	--	--	40 CFR Part 98 Tables C-1 & C-2	25
			150B-NG-GHG	Natural Gas	1,009,718	MMBtu	1.000E-04	kg N_2O/MMBtu	--	--	40 CFR Part 98 Tables C-1 & C-2	30
			150B-Oil2-GHG	#2 Oil	1,370	gallons	73.96	kg CO_2/MMBtu	1.380E-01	MMBtu/gal	40 CFR Part 98 Tables C-1 & C-2	14
			150B-Oil2-GHG	#2 Oil	1,370	gallons	3.00E-03	kg CH_4/MMBtu	1.380E-01	MMBtu/gal	40 CFR Part 98 Tables C-1 & C-2	1.42E-02
			150B-Oil2-GHG	#2 Oil	1,370	gallons	6.00E-04	kg N_2O/MMBtu	1.380E-01	MMBtu/gal	40 CFR Part 98 Tables C-1 & C-2	3.38E-02
EU-445A	EQ-445-014	#3 Recovery Furnace	445A-NG-GHG	Natural Gas	357,887	MMBtu	53.06	kg CO_2/MMBtu	--	--	40 CFR Part 98 Tables C-1 & C-2	18,989
			445A-NG-GHG	Natural Gas	357,887	MMBtu	1.000E-03	kg CH_4/MMBtu	--	--	40 CFR Part 98 Tables C-1 & C-2	9
			445A-NG-GHG	Natural Gas	357,887	MMBtu	1.000E-04	kg N_2O/MMBtu	--	--	40 CFR Part 98 Tables C-1 & C-2	11
			445A-BLS-GHG-***B***	Black Liquor Solids (BLS), ***Biogenic***	316,878	metric tons BLS	94.4	kg CO_2/MMBtu	12.65	MMBtu/metric ton BLS	40 CFR Part 98 Table AA-1, Eq. AA-1 & 2011 lab	378,274
			445A-BLS-GHG-***A***	Black Liquor Solids (BLS), ***Anthropogenic***	316,878	metric tons BLS	1.90E-03	kg CH_4/MMBtu	12.65	MMBtu/metric ton BLS	40 CFR Part 98 Table AA-1, Eq. AA-1 & 2011 lab	190
			445A-BLS-GHG-***A***	Black Liquor Solids (BLS), ***Anthropogenic***	316,878	metric tons BLS	4.20E-04	kg N_2O/MMBtu	12.65	MMBtu/metric ton BLS	40 CFR Part 98 Table AA-1, Eq. AA-1 & 2011 lab	502
EU-445C	EQ-445-321	#4 Recovery Furnace	445C-NG-GHG	Natural Gas	503,991	MMBtu	53.06	kg CO_2/MMBtu	--	--	40 CFR Part 98 Tables C-1 & C-2	26,742
			445C-NG-GHG	Natural Gas	503,991	MMBtu	1.000E-03	kg CH_4/MMBtu	--	--	40 CFR Part 98 Tables C-1 & C-2	13
			445C-NG-GHG	Natural Gas	503,991	MMBtu	1.000E-04	kg N_2O/MMBtu	--	--	40 CFR Part 98 Tables C-1 & C-2	15
			445C-BLS-GHG-***B***	Black Liquor Solids (BLS), ***Biogenic***	316,163	metric tons BLS	94.4	kg CO_2/MMBtu	13.56	MMBtu/metric ton BLS	40 CFR Part 98 Table AA-1, Eq. AA-1 & 2011 lab	404,661
			445C-BLS-GHG-***A***	Black Liquor Solids (BLS), ***Anthropogenic***	316,163	metric tons BLS	1.90E-03	kg CH_4/MMBtu	13.56	MMBtu/metric ton BLS	40 CFR Part 98 Table AA-1, Eq. AA-1 & 2011 lab	204
			445C-BLS-GHG-***A***	Black Liquor Solids (BLS), ***Anthropogenic***	316,163	metric tons BLS	4.20E-04	kg N_2O/MMBtu	13.56	MMBtu/metric ton BLS	40 CFR Part 98 Table AA-1, Eq. AA-1 & 2011 lab	537
EU-455	PS455-999	Lime Kilns combined emissions	455-NG-GHG	Natural Gas	435,256	MMBtu	53.06	kg CO_2/MMBtu	--	--	40 CFR Part 98 Tables C-1 & C-2	23,095
			455-NG-GHG	Natural Gas	435,256	MMBtu	1.000E-03	kg CH_4/MMBtu	--	--	40 CFR Part 98 Tables C-1 & C-2	11
			455-NG-GHG	Natural Gas	435,256	MMBtu	1.000E-04	kg N_2O/MMBtu	--	--	40 CFR Part 98 Tables C-1 & C-2	13
			455-Oil6-GHG	#6 Oil	1,111,769	gallons	75.1	kg CO_2/MMBtu	1.500E-01	MMBtu/gal	40 CFR Part 98 Tables C-1 & C-2	12,524
			455-Oil6-GHG	#6 Oil	1,111,769	gallons	3.00E-03	kg CH_4/MMBtu	1.500E-01	MMBtu/gal	40 CFR Part 98 Tables C-1 & C-2	13
			455-Oil6-GHG	#6 Oil	1,111,769	gallons	6.00E-04	kg N_2O/MMBtu	1.500E-01	MMBtu/gal	40 CFR Part 98 Tables C-1 & C-2	30
			455-CaCO3-GHG	$CaCO_3$ Makeup	4,225	tons $CaCO_3$	44.00	kg CO_2 /100 kg $CaCO_3$	1,000	kg/Metric tons	AP-42 Mass Balance	1,859

[a] Greenhouse Gas emissions (tons CO_2e/yr) calculated using the below Global Warming Potentials (GWPs) from Table A-1 to Subpart A of 40 CFR Part 98 and converted to metric tons.

Total GHG (Anthropogenic + Biogenic) **1,060,791**
Total Anthropogenic GHG **277,856**
Total Biogenic GHG **782,935**

CO_2 GWP = 1
CH_4 GWP = 25
N_2O GWP = 298
Metric ton conversion factor = 0.001 (MT/kg)

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SECTION 1: Boilers

EU-150A: Power Boiler – CO, NOx

Test Date(s)	Test Purpose	Steam Production (Mlb/hr)	Natural Gas Usage (Mscf/hr)	Natural Gas Usage (MMBtu/hr)	Fuel Oil Usage (lb/hr)	CO (lb/hr)	CO (lb/MMBtu)	NOx (ppmv)	NOx (lb/hr)	NOx (lb/MMBtu)
May 14, 2014	Emission Factor Verification	194.8	233.7	242.7	--	--	0.00003	121	44.8	0.18
November 5, 2012	BART Compliance	126.6	--	187.5	--	--	0	95.54	31.94	0.168
May 7, 2012	Emission Factor Verification	71.6	93.1	95.0	--	--	0.014	81	16.8	0.18
Prior Permit Review Report (Expiration: 12/14/2017)										
September 20, 2011	Emission Factor Verification	108.3	--	144.22	--	--	0.039	73.6	20.16	0.14
June 30, 2011	Emission Factor Verification	86.8	105.2	109.2	--	--	0	66	13.9	0.1398
October 21, 2010	Emission Factor Verification	212.2	--	282.25	--	--	0.0131	99	42.53	0.1507
June 21, 2010	Emission Factor Verification	79.4	--	102.4	--	--	0.00091	84	16.3	0.16
October 17, 2009	Emission Factor Verification	117.5	--	156.68	--	--	0	--	--	0.163
June 4, 2009	Emission Factor Verification	220.4	293	--	--	--	0.00026	--	--	0.23
October 21 – 24, 2008	Emission Factor Verification	151.6	188.6	--	--	--	0	--	--	0.18
October 21 – 24, 2008	Emission Factor Verification	227.9	289.5	--	--	--	0.0002	--	--	0.23
September 9-10, 2008	Emission Factor Verification	180	--	--	--	--	0	--	--	0.2043
September 9-10, 2008	Emission Factor Verification	250	--	--	--	--	0	--	--	0.204
May 21-22, 2008	Emission Factor Verification	277.9	347	--	--	--	0.014	--	--	0.25
December 7, 2004	Emission Factor Verification (NG)	353.3	0.4651	--	--	--	0.033	--	--	0.47
December 7, 2004	Emission Factor Verification (Oil)	295.2	--	--	18,934	--	0	--	--	0.42
April 8, 1992	Unspecified (NG)	--	--	--	--	25.2	--	--	81.3	--
April 8, 1992	Unspecified (Oil)	--	--	--	--	32.7	--	--	92.3	--

EU-150B: Package Boiler – CO, NOx

Test Date(s)	Test Purpose	Steam Production Rate		Fuel Usage Rate		CO (lb/MMBtu)	NOx (lb/MMBtu)
September 15, 2014	Emission Factor Verification	88.9	Mlb steam/hr	104.2	Mscf/hr	0.0522	--
Prior Permit Review Report (Expiration: 12/14/2017)							
May 8, 2012	Emission Factor Verification (Required by June 30, 2010 - See NON 3375)	79.2	Mlb steam/hr	96	scf/hr	0.137	--
October 21, 2004	Emission Factor Verification	228.9	Mlb steam/hr	273.3	scf/hr	0.2	--
August 27, 1993	NSPS Performance Test	243,333	lb steam/hr	--	--	--	0.081

SECTION 2: No. 4 Recovery Furnace

EU-445C: No. 4 Recovery Furnace – Filterable and Total PM

Test Date(s)	Test Purpose	BLS Firing (Mlb/hr)	Pulp Production (ADMT/day)	Natural Gas Usage (scf/hr)	FPM Emission Rate		PM Emission Rate	
December 7, 2022	Compliance Test	114.1	1,068.0	39,179.5	0.142	kg/ADMT	0.169	kg/ADMT
March 15, 2022	Compliance Test	117.2	1,097.0	14,621.4	0.036	kg/ADMT	5.266	lb/hr
September 23, 2021	Compliance Test	121.2	1,188.7	12,035.6	0.100	kg/ADMT	0.107	kg/ADMT
May 11, 2021	Compliance Test	104.7	1,027.0	45.0	0.025	kg/ADMT	0.043	kg/ADMT
September 22, 2020	Compliance Test	110.5	1,084.0	15,320.8	0.040	kg/ADMT	0.051	kg/ADMT
May 29, 2020	Compliance Test	114.4	1,122.7	9,000.5	0.044	kg/ADMT	0.055	kg/ADMT
September 4, 2019	Compliance Test	116.1	1,086.3	17,916.9	0.154	kg/ADMT	0.164	kg/ADMT
March 28, 2019	Compliance Test	123.2	1,207.7	10,579.8	0.061	kg/ADMT	0.066	kg/ADMT
September 26, 2018	Compliance Test	125.1	1,115.3	14,054.7	0.066	kg/ADMT	0.083	kg/ADMT
May 10, 2018	Compliance Test	124.9	1,289.3	1,090.3	13.42	lb/hr	0.131	kg/ADMT
October 5, 2017	Compliance Test	135.5	1,268.7	21,750.7	9.00	lb/hr	0.096	kg/ADMT
June 1, 2017	Compliance Test	137.8	1,289.3	11,294.5	14.71	lb/hr	0.133	kg/ADMT
September 16, 2016	Compliance Test	132.8	1,242.7	7,290.0	11.82	lb/hr	0.12	kg/ADMT
April 14, 2016	Compliance Test	127.6	1,195.0	7,741.9	0.096	kg/ADMT	0.114	kg/ADMT
September 24, 2015	Compliance Test	120.0	1,153.0	41,021.1	0.043	kg/ADMT	0.051	kg/ADMT
May 6, 2015	Compliance Test	121.9	1,127.7	18,255.0	0.058	kg/ADMT	0.076	kg/ADMT

Test Date(s)	Test Purpose	BLS Firing (Mlb/hr)	Pulp Production (ADMT/day)	Natural Gas Usage (scf/hr)	FPM Emission Rate		PM Emission Rate	
September 10, 2014	Compliance Test	117.0	1,095.0	1.6	0.150	kg/ADMT	0.160	kg/ADMT
May 15, 2014	Compliance Test	123.7	1,160.7	0.0	0.130	kg/ADMT	0.140	kg/ADMT
September 26, 2013	Compliance Test	122.7	1,168.6	1,596.3	0.089	kg/ADMT	0.098	kg/ADMT
May 21, 2013	Compliance Test	121.8	1,119.7	1,690.0	0.12	kg/ADMT	0.13	kg/ADMT
November 1, 2012	Compliance Test	118.8	1,114.3	0.0	0.11	kg/ADMT	0.14	kg/ADMT
May 8, 2012	Compliance Test	115.7	1,088.3	3,833.0	0.11	kg/ADMT	0.18	kg/ADMT
October 11, 2011	Compliance Test	119.1	1,103.3	2,337.0	0.18	kg/ADMT	0.21	kg/ADMT

EU-445C: No. 4 Recovery Furnace - Filterable and Total PM ***[Prior Permit Review Report, Expiration: 12/14/2017]***

Test Date(s)	Test Purpose	BLS Firing Rate		Steam Production (Mlb/hr)	Natural Gas Usage (scf/hr)	FPM Emission Rate		PM Emission Rate	
June 28-29, 2011	Compliance Test	111.3	Mlb BLS/hr	311.4	845.3	--	--	0.16	kg/ADMT
October 12-13, 2010	Compliance Test	118.2	Mlb BLS/hr	329.8	0	--	--	0.12	kg/ADMT
June 8-9, 2010	Compliance Test	115.7	Mlb BLS/hr	324.4	1,286.2	--	--	0.33	kg/ADMT
September 22-24, 2009	Compliance Test	106.1	Mlb BLS/hr	313.1	1,115.5	--	--	0.27	kg/ADMT
June 2-3, 2009	Compliance Test	115.5	Mlb BLS/hr	362.9	511.8	--	--	0.3	kg/ADMT
October 21 and 22, 2008	Compliance Test	118.4	Mlb BLS/hr	329.2	480.8	--	--	0.23	kg/ADMT
May 20 and 22, 2008	Compliance Test	124	Mlb BLS/hr	355.4	562.6	--	--	0.243	kg/ADMT
October 30 and 31, 2007	Compliance Test	120.3	Mlb BLS/hr	319.9	--	--	--	0.213	kg/ADMT
May 15 and 16, 2007	Compliance Test	128.8	Mlb BLS/hr	324.9	--	--	--	0.24	kg/ADMT
October 24 and 25, 2006	Compliance Test	116.9	Mlb BLS/hr	287.2	--	--	--	0.19	kg/ADMT
December 5 and 6, 2005	Compliance Test	126.6	Mlb BLS/hr	416.6	--	--	--	0.17	kg/ADMT
May 3 and 4, 2005	Compliance Test	Various	--	--	--	--	--	0.25	lb/ADMT
October 18-19, 2004	Compliance Test	125.6	Mlb BLS/hr	418.5	--	--	--	0.22	kg/ADMT
May 25 and 26, 2004	Compliance Test	124.5	Mlb BLS/hr	441.6	--	--	--	0.36	kg/ADMT
QA'd by LRAPA lab on10/6/03	Compliance Test	130.9	Mlb BLS/hr	437.3	--	--	--	0.189	kg/ADMT
QA'd by LRAPA lab on 2/27/03	Compliance Test	124.4	Mlb BLS/hr	447.3	--	--	--	0.1276	kg/ADMT
QA'd by LRAPA lab on 2/27/03	Compliance Test	121.2	Mlb BLS/hr	408.9	30,419	--	--	0.1062	kg/ADMT

Test Date(s)	Test Purpose	BLS Firing Rate		Steam Production (Mlb/hr)	Natural Gas Usage (scf/hr)	FPM Emission Rate		PM Emission Rate	
June 18, 19 2002	Compliance Test	107.5	Mlb BLS/hr	377.2	--	--	--	0.4265	kg/ADMT
December 4 and 5, 2001	Compliance Test	124.9	lb BLS/hr	399.5	--	--	--	0.1827	kg/ADMT
July 19 2001	Compliance Test	111.9	lb BLS/hr	371.87	--	--	--	0.2355	kg/ADMT
December 4-6, 2000	Compliance Test	104.8	lb BLS/hr	350.6	--	--	--	0.2451	kg/ADMT
June 20-22, 2000	Compliance Test	105.5	lb BLS/hr	371.8	--	--	--	0.2966	kg/ADMT
December 13-15, 1999	Compliance Test	92.3	Mlb BLS/hr	337.9	--	--	--	0.354	kg/ADMT
June 9, 1999	Compliance Test	--	--	340.1	--	0.01	gr/dscf	--	--
June 18, 1998	Compliance Test	--	--	301.7	--	0.0117	gr/dscf	--	--
December 15, 1997	Compliance Test	--	--	321.3	--	0.0141	gr/dscf	--	--
May 5-7, 1997	Compliance Test	--	--	323.3	--	0.0099	gr/dscf	--	--
December 10-13, 1996	Compliance Test	--	--	318.1	--	0.014	gr/dscf	--	--
May 15, 1996	Compliance Test	--	--	341.6	--	0.007	gr/dscf	--	--
December 19, 1995	Compliance Test	--	--	323.1	--	0.008	gr/dscf	--	--
May 11, 1995	Compliance Test	--	--	305.1	--	0.015	gr/dscf	--	--
December 15, 1994	Compliance Test	--	--	309.8	--	0.018	gr/dscf	--	--
June 16, 1994	Compliance Test	--	--	323	--	0.015	gr/dscf	--	--
December 17, 1993	Compliance Test	--	--	317.6	--	0.003	gr/dscf	--	--
May 21, 1993	Compliance Test	--	--	255	--	--	--	0.007	gr/dscf
May 27, 1992	Compliance Test	--	--	329.5	--	--	--	0.0134	gr/dscf
October 25, 1990	Compliance Test	--	--	245.3	--	--	--	0.0095	gr/dscf
June 18, 1990	Compliance Test	--	--	279.55	--	--	--	0.002	gr/dscf
June 15-16, 1989	Compliance Test	--	--	379.2	--	--	--	0.0114	gr/dscf

EU-445C: No. 4 Recovery Furnace - CO, NOx

Test Date(s)	Test Purpose	BLS Firing (Mlb/hr)	Natural Gas Usage (scf/hr)	Pulp Production (ADMT/day)	Pulp Production (ADT/day)	CO (lb/ADT)	NOx (lb/ADT)
May 21, 2013	Emission Factor Verification	121.8	1,690.5	1,119.7	1,016.0	3.6	1.8

EU-445C: No. 4 Recovery Furnace - CO, NOx *[Prior Permit Review Report, Expiration: 12/14/2017]*

Test Date(s)	Test Purpose	BLS Firing (Mlb/hr)	Steam Production (Mlb/hr)	CO Emission Rate		NOx Emission Rate	
October 21 – 24, 2008	Emission Factor Verification	118.5	329.6	0.32	lb/MMBtu	0.095	lb/MMBtu
September 9-10, 2008	Emission Factor Verification	125.2	350.4	0.604	lb/ADT	1.28	lb/ADT
December 5 and 6, 2005	Emission Factor Verification	126.7	416.4	0.84	lb/ADT	1.5	lb/ADT
October 19, 2004	Emission Factor Verification	125.6	418.5	2.4	lb/ADT	1.8	lb/ADT
April 7, 1992	Unspecified	--	387	12	lbs/hr	31.6	lbs/hr

EU-445C: No. 4 Recovery Furnace - TRS, SO_2

Test Date(s)	Test Purpose	BLS Firing (Mlb/hr)	Natural Gas Usage (scf/hr)	Pulp Production (ADMT/day)	TRS (ppm @ 8% O_2)	SO_2 (ppm @ 8% O_2)
September 26, 2018	Compliance Test	125.1	14,054.7	1,115.3	<0.4 (0.394 at DL)	<0.4 (0.349 at DL)

NOTE: DL = detection limit

EU-445C: No. 4 Recovery Furnace - Flow Rate Testing

Test Date(s)	Test Purpose	BLS Firing (Mlb/hr)	Pulp Production (ADMT/day)	Flow Rate (dscfm @ 8% O_2)
April 15, 2016	Flow Rate Verification	113.7	1,107.7	151,038

EU-445C: No. 4 Recovery Furnace - HAP, THC, Carbon, Opacity *[Prior Permit Review Report, Expiration: 12/14/2017]*

Test Date(s)	Test Purpose	BLS Firing (ton/day)	Steam Production (Mlb/hr)	Pulp Production (ADST/day)	Pollutant	Emission Rate	
June 9-11, 1993	NCASI Test	1,031	--	--	HAP	0.022	lb/ton BLS
June 9-11, 1993	NCASI Test	1,031	--	--	THC	0.093	lb/ton BLS
November 12, 1992	Engineering	--	--	576	Carbon	0.03	lb/ADST
June 8-9, 1989	Unspecified	--	283.6	--	Opacity	10.8	%

SECTION 3: No. 4 Recovery Smelt Dissolving Tank

EU-445D: No. 4 Recovery Smelt Dissolving Tank - Filterable and Total PM

Test Date(s)	Test Purpose	BLS Firing (Mlb/hr)	Pulp Production (ADMT/day)	Pulp Production[1] (ODT/day)	FPM Emission Rate		PM Emission Rate	
December 8, 2022	Compliance Test	113.55	1,207.3	1,197.7	0.066	kg/ADMT	0.069	kg/ADMT
March 17, 2022	Compliance Test	119.5	1,271.1	1,261.0	0.059	kg/ADMT	7.63	lb/hr
September 17, 2021	Compliance Test	113.6	1,207.3	1,197.7	0.0680	kg/ADMT	0.077	kg/ADMT
May 13, 2021	Compliance Test	104.8	1,028.4	1,020.2	0.0630	kg/ADMT	0.0713	kg/ADMT
September 24, 2020	Compliance Test	109.3	1,071.8	1,063.2	0.11	kg/ADMT	0.124	kg/ADMT
May 27, 2020	Compliance Test	112.0	1,098.4	1,089.3	0.060	kg/ADMT	0.0649	kg/ADMT
September 6, 2019	Compliance Test	116.0	1,233.2	1,223.4	0.0717	kg/ADMT	0.0779	kg/ADMT
March 27, 2019	Compliance Test	120.5	1,182.2	1,173.1	0.085	lb/ton BLS	0.0515	kg/ADMT
October 3, 2018	Compliance Test	129.9	1,158.4	1,149.2	0.11	lb/ton BLS	0.0788	kg/ADMT
May 9, 2018	Compliance Test	125.2	1,079.2	1,072.5	0.011	kg/ADMT	0.083	kg/ADMT
October 4, 2017	Compliance Test	132.6	1,174.7	1,165.4	0.058	kg/ADMT	0.066	kg/ADMT
June 2, 2017	Compliance Test	136.0	1,240.8	1,218.6	0.067	kg/ADMT	0.073	kg/ADMT
September 15, 2016	Compliance Test	129.8	1,201.0	1,191.4	0.062	kg/ADMT	0.070	kg/ADMT
April 13, 2016	Compliance Test	125.9	1,194.5	1,185.0	0.060	kg/ADMT	0.067	kg/ADMT
September 24, 2015	Compliance Test	119.9	1,151.2	1,142.1	0.071	kg/ADMT	0.078	kg/ADMT
May 6-7, 2015	Compliance Test	120.6	1,115.8	1,107.0	0.059	kg/ADMT	0.064	kg/ADMT
September 10, 2014	Compliance Test	117.0	1,094.6	1,085.9	0.048	kg/ADMT	0.053	kg/ADMT
May 15, 2014	Compliance Test	124.1	1,164.5	1,155.2	0.043	kg/ADMT	0.047	kg/ADMT
September 26, 2013	Compliance Test	122.6	1,168.4	1,159.1	0.046	kg/ADMT	0.051	kg/ADMT
May 21, 2013	Compliance Test	121.7	1,118.7	1,109.8	0.059	kg/ADMT	0.064	kg/ADMT
November 1, 2012	Compliance Test	118.8	1,114.8	1,104.6	0.056	kg/ADMT	0.067	kg/ADMT
May 8, 2012	Compliance Test	115.6	1,087.9	1,079.0	0.052	kg/ADMT	0.058	kg/ADMT
October 11, 2011	Compliance Test	118.9	1,101.2	1,071.3	0.055	kg/ADMT	0.062	kg/ADMT

1. If pulp production (ODT/day) is not recorded in the source test report, the value is calculated as: pulp production (ADMT/day) ÷ 1.008

EU-445D: No. 4 Recovery Smelt Dissolving Tank - Filterable and Total PM ***[Prior Permit Review Report, Expiration: 12/14/2017]***

Test Date(s)	Test Purpose	BLS Firing (Mlb/hr)	Steam Production (Mlb/hr)	FPM Emission Rate		PM Emission Rate	
June 28-29, 2011	Compliance Test	--	--	--	--	0.0511	kg/ADMT
October 12-13, 2010	Compliance Test	--	--	--	--	0.064	kg/ADMT
June 8-9, 2010	Compliance Test	--	--	--	--	0.091	kg/ADMT
September 22-24, 2009	Compliance Test	--	--	--	--	0.075	kg/ADMT
June 2-3, 2009	Compliance Test	--	--	--	--	0.087	kg/ADMT
October 21 and 22, 2008	Compliance Test	--	--	--	--	0.082	kg/ADMT
May 20 and 22, 2008	Compliance Test	--	--	--	--	0.13	kg/ADMT
October 30 and 31, 2007	Compliance Test	--	--	--	--	0.099	kg/ADMT
May 15 and 16, 2007	Compliance Test	--	--	--	--	0.075	kg/ADMT
October 24 and 25, 2006	Compliance Test	--	--	--	--	0.074	kg/ADMT
December 5 and 6, 2005	Compliance Test	--	--	--	--	0.071	kg/ADMT
May 3 and 4, 2005	Compliance Test	Various	--	--	--	0.086	kg/ADMT
October 18-19, 2004	Compliance Test	125.5	418.15	--	--	0.061	kg/ADMT
May 25 and 26, 2004	Compliance Test	124.5	455.4	--	--	0.13	kg/ADMT
QA'd by LRAPA lab on10/6/03	Compliance Test	131.1	436.3	--	--	0.102	kg/ADMT
QA'd by LRAPA lab on 2/27/03	Compliance Test	124.2	447	--	--	0.1014	kg/ADMT
QA'd by LRAPA lab on 2/27/03	Compliance Test	119.7	403.8	--	--	0.0629	kg/ADMT
June 18, 19 2002	Compliance Test	107.7	377.2	--	--	0.095	kg/ADMT
December 4 and 5, 2001	Compliance Test	120.8	392.8	--	--	85.6	kg/day
June 4, 2001	Compliance Test	111.5	373.7	--	--	45.3	kg/day
December 4-6, 2000	Compliance Test	104.6	347.9	--	--	54.8	kg/day
June 20-22, 2000	Compliance Test	105.6	372.8	--	--	96.5	kg/day
December 13-15, 1999	Compliance Test	92.6	337.9	--	--	62.8	kg/day
June 8, 1999	Compliance Test	--	343.5	0.027	gr/dscf	--	--
June 18, 1998	Compliance Test	--	305	0.0352	gr/dscf	--	--
December 15, 1997	Compliance Test	--	323.3	0.0362	gr/dscf	--	--
May 5-7, 1997	Compliance Test	--	323.3	0.05	gr/dscf	--	--

Test Date(s)	Test Purpose	BLS Firing (Mlb/hr)	Steam Production (Mlb/hr)	FPM Emission Rate		PM Emission Rate	
December 10-13, 1996	Compliance Test	--	323.3	0.019	gr/dscf	--	--
May 15, 1996	Compliance Test	--	341.9	0.0331	gr/dscf	--	--
December 15, 1995	Compliance Test	--	310.5	0.0238	gr/dscf	--	--
May 9, 1995	Compliance Test	--	320.8	0.026	gr/dscf	--	--
December 13, 1994	Compliance Test	--	308.1	0.031	gr/dscf	--	--
June 15, 1994	Compliance Test	--	300.5	0.047	gr/dscf	--	--
December 20, 1993	Compliance Test	--	300.5	0.017	gr/dscf	--	--
June 3, 1993	Unspecified	--	388	0.045	gr/dscf	--	--

EU-445D: No. 4 Recovery Smelt Dissolving Tank - NOx and SO_2

Test Date(s)	Test Purpose	BLS Firing (Mlb/hr)	Production[1] (ADMT/hr)	BLS:ADMTP Factor	NOx (lb/ADTP)	SO_2 (lb/ADTP)
April 29, 2013	Emission Factor Verification	117.3	45.3	0.386	5.14E-05	3.10E-04

1. Pulp production (ADMT/hr) is calculated as: BLS Firing Rate (Mlb/hr) x BLS:ADMTP Factor

EU-445D: No. 4 Recovery Smelt Dissolving Tank – TRS

Test Date(s)	Test Purpose	BLS Firing (Mlb/hr)	TRS Emissions (g/kg BLS)
December 8, 2022	Compliance Test	113.55	0.0035
March 17, 2022	Compliance Test	119.5	0.0039
September 17, 2021	Compliance Test	113.6	0.0091
May 13, 2021	Compliance Test	104.8	0.0097
September 24, 2020	Compliance Test	109.3	0.0063
May 27, 2020	Compliance Test	112.0	0.0114
September 6, 2019	Compliance Test	116.0	0.010
March 27, 2019	Compliance Test	120.5	0.0049
October 3, 2018	Compliance Test	129.9	0.0047
May 9, 2018	Compliance Test	125.2	0.009

Test Date(s)	Test Purpose	BLS Firing (Mlb/hr)	TRS Emissions (g/kg BLS)
October 4, 2017	Compliance Test	132.5	0.009
June 2, 2017	Compliance Test	136.0	0.011
September 15, 2016	Compliance Test	129.8	0.0050
April 13, 2016	Compliance Test	125.9	0.0061
September 22, 2015	Compliance Test	118.7	0.0028
March 25, 2015	Compliance Test	127.3	0.0029
September 15, 2014	Compliance Test	116.0	0.0065
March 31, 2014	Compliance Test	124.7	0.0034
September 17, 2013	Compliance Test	121.6	0.0040
April 29, 2013	Compliance Test	117.3	0.0072
November 5, 2012	Compliance Test	117.3	0.0065
March 13, 2012	Compliance Test	115.4	0.0040
September 20, 2011	Compliance Test	116.3	0.0058

EU-445D: No. 4 Recovery Smelt Dissolving Tank - TRS *[Prior Permit Review Report, Expiration: 12/14/2017]*

Test Date(s)	Test Purpose	BLS Firing		Steam Production		TRS (lb/ton BLS)	TRS (g/kg BLS)
November 28, 2005	Compliance Test	116,033	lb BLS/hr	280,200	lb steam/hr	0.017	0.008
August 15, 2005	Compliance Test	117,700	lb BLS/hr	383,400	lb steam/hr	0.015	0.008
July 13, 2005	Compliance Test	120,100	lb BLS/hr	360,300	lb steam/hr	0.021	0.01
April 6, 2005	Compliance Test	114,700	lb BLS/hr	342,000	lb steam/hr	0.035	0.018
October 13, 2004	Compliance Test	126,600	lb BLS/hr	412,700	lb steam/hr	0.018	0.009
August 13, 2004	Compliance Test	125,500	lb BLS/hr	425,250	lb steam/hr	0.014	0.007
March 17, 2004	Compliance Test	125,700	lb BLS/hr	453,000	lb steam/hr	0.015	0.007
June 10, 2004	Compliance Test	125,000	lb BLS/hr	429,600	lb steam/hr	0.019	0.01
August 26, 2003	Compliance Test (Re-test)	127,667	lb BLS/hr	432,967	lb steam/hr	0.022	0.011
August 21, 2003	Compliance Test	129,633	lb BLS/hr	439,933	lb steam/hr	0.085	0.043
QA'd by LRAPA lab on 1/7/04	Compliance Test	127,600	lb BLS/hr	444,400	lb steam/hr	0.02	0.01
QA'd by LRAPA lab on 8/18/03	Compliance Test	123,133	lb BLS/hr	427,067	lb steam/hr	0.037	--

Test Date(s)	Test Purpose	BLS Firing		Steam Production		TRS (lb/ton BLS)	TRS (g/kg BLS)
QA'd by LRAPA lab on 4/1/03	Compliance Test	126,533	lb BLS/hr	452,933	lb steam/hr	0.061	--
October/November 2002	Compliance Test	117,300	lb BLS/hr	412,900	lb steam/hr	0.037	--
August 21, 2002	Compliance Test	117.8	Mlb BLS/hr	386.8	Mlb steam/hr	0.038	0.019
June 5-6, 2002	Compliance Test	119,900	lb BLS/hr	408,883	lb steam/hr	0.032	--
March 28, 2002	Compliance Test	121.3	Mlb BLS/hr	395.9	Mlb steam/hr	0.047	--
November 23, 2001	Compliance Test	95.1	Mlb BLS/hr	343.5	Mlb steam/hr	0.043	--
August 6, 2001	Compliance Test	105.3	Mlb BLS/hr	417.9	Mlb steam/hr	0.057	--
June 26, 2001	Compliance Test	122.9	Mlb BLS/hr	392.6	Mlb steam/hr	0.005	--
March 27, 2001	Compliance Test	93.4	Mlb BLS/hr	322.6	Mlb steam/hr	0.03	--
November 20, 2000	Compliance Test	99.2	Mlb BLS/hr	326.1	Mlb steam/hr	0.006	--
March 27, 2000	Compliance Test	94.6	Mlb BLS/hr	343.1	Mlb steam/hr	0.006	--
December 17, 1999	Compliance Test	95.5	Mlb BLS/hr	353.3	Mlb steam/hr	0.023	--
September 18, 1999	Compliance Test	--	--	341.7	Mlb steam/hr	0.05	--
June 15, 1999	Compliance Test	--	--	393.7	Mlb steam/hr	0.05	--
March 21, 1998	Compliance Test	--	--	347.03	Mlb steam/hr	0.026	--
November 11, 1997	Compliance Test	--	--	298.93	Mlb steam/hr	0.044	--
August 11, 12 1997	Compliance Test	--	--	340,067	lb steam/hr	0.014	--
May 14, 15 1997	Compliance Test	--	--	322,733	lb steam/hr	0.022	--
March 6,7 1997	Compliance Test	--	--	334,033	lb steam/hr	0.039	--
November 19,1996	Compliance Test	--	--	335,767	lb steam/hr	0.033	--
September 9-13,1996	Compliance Test	--	--	324,433	lb steam/hr	0.031	--
June 6, 1996	Compliance Test	--	--	327.4	Mlb steam/hr	0.029	--
February 15-16, 1996	Compliance Test	--	--	293.1	Mlb steam/hr	0.031	--
December 4, 1995	Compliance Test	--	--	338.3	Mlb steam/hr	0.029	--
August 22, 1995	Compliance Test	--	--	404.4	Mlb steam/hr	0.031	--
April 21, 1995	Compliance Test	--	--	331	Mlb steam/hr	0.037	--
February 19, 1995	Compliance Test	--	--	329.4	Mlb steam/hr	0.042	--
June 6, 1994	Compliance Test	--	--	355.1	Mlb steam/hr	0.038	--
April 18, 1994	Compliance Test	--	--	274.7	Mlb steam/hr	0.028	--

Test Date(s)	Test Purpose	BLS Firing		Steam Production		TRS (lb/ton BLS)	TRS (g/kg BLS)
October 19, 1993	Compliance Test	--	--	290.8	Mlb steam/hr	0.038	--
September 26, 1993	Compliance Test	--	--	290.8	Mlb steam/hr	0.04	--

SECTION 4: Lime Kilns

EU-455: Lime Kilns - Filterable and Total PM

Test Date(s)	Test Purpose	Pulp Production (ODTP/day)	Pulp Production[1] (ADMT/day)	FPM Emission Rate		PM Emission Rate	
December 6, 2022	Compliance Test	1,055.0	1,063.4	0.0056	kg/ADMT	0.022	kg/ADMT
March 16, 2022	Compliance Test	1,165.3	1,175.9	0.0059	kg/ADMT	2.85	lb/hr
September 21, 2021	Compliance Test	1,129.4	1,138.4	0.011	kg/ADMT	0.013	kg/ADMT
May 12, 2021	Compliance Test	1,188.8	1,214.2	0.005	kg/ADMT	0.012	kg/ADMT
September 23, 2020	Compliance Test	997.8	1,005.8	0.008	kg/ADMT	0.0296	kg/ADMT
May 28, 2020	Compliance Test	1,130.3	1,138.8	0.005	kg/ADMT	0.0215	kg/ADMT
September 10, 2019	Compliance Test	1,040.0	1,048.3	0.0076	kg/ADMT	0.026	kg/ADMT
March 26, 2019	Compliance Test	1,023.2	1,032.0	0.0074	kg/ADMT	0.013	kg/ADMT
September 27, 2018	Compliance Test	1,073.7	1,082.3	0.0031	kg/ADMT	0.0038	kg/ADMT
May 8, 2018	Compliance Test	1,073.9	1,082.4	0.014	kg/ADMT	0.042	kg/ADMT
October 3, 2017	Compliance Test	1,158.7	1,168.0	0.0087	kg/ADMT	0.017	kg/ADMT
May 31, 2017	Compliance Test	1,229.2	1,239.0	0.03	kg/ADMT	0.036	kg/ADMT
September 12, 2016	Compliance Test	1,181.9	1,191.3	0.023	kg/ADMT	0.038	kg/ADMT
April 12, 2016	Compliance Test	1,212.8	1,222.5	0.018	kg/ADMT	0.073	kg/ADMT
September 22, 2015	Compliance Test	1,148.9	1,158.09	0.0160	kg/ADMT	0.0320	kg/ADMT
May 5, 2015	Compliance Test	1,097.1	1,105.88	0.0065	kg/ADMT	0.0230	kg/ADMT
September 9, 2014	Compliance Test	1,102.8	1,111.62	0.0053	kg/ADMT	0.0200	kg/ADMT
May 13, 2014	Compliance Test	1,084.0	1,092.67	0.0084	kg/ADMT	0.0140	kg/ADMT
September 24, 2013	Compliance Test	1,085.6	1,094.28	0.0530	kg/ADMT	0.0710	kg/ADMT
May 20, 2013	Compliance Test	1,093.1	1,101.84	0.0250	kg/ADMT	0.0410	kg/ADMT
October 30, 2012	Compliance Test	1,104.0	1,112.83	0.0120	kg/ADMT	0.0320	kg/ADMT

Test Date(s)	Test Purpose	Pulp Production (ODTP/day)	Pulp Production[1] (ADMT/day)	FPM Emission Rate		PM Emission Rate	
May 9, 2012	Compliance Test	1,002.1	1,010.1	0.0025	kg/ADMT	0.0200	kg/ADMT
October 10, 2011	Compliance Test	1134.7	1143.8	0.0033	kg/ADMT	0.0037	kg/ADMT

1. If pulp production (ADMT/day) is not included in the source test, then it is calculated as: pulp production (ODTP/day) x 1.008

EU-455: Lime Kilns - Filterable and Total PM ***[Prior Permit Review Report, Expiration: 12/14/2017]***

Test Date(s)	Test Purpose	Mud Feed Rate		Natural Gas Usage (scf/min)		FPM Emission Rate		PM Emission Rate	
June 28-29, 2011	Compliance Test	--	--	--	--	--	--	0.028	kg/ADMT
October 12-13, 2010	Compliance Test	--	--	--	--	--	--	0.02	kg/ADMT
June 8-9, 2010	Compliance Test	--	--	--	--	--	--	0.013	kg/ADMT
September 22-24, 2009	Compliance Test	--	--	--	--	--	--	0.022	kg/ADMT
June 2-3, 2009	Compliance Test	--	--	--	--	--	--	0.022	kg/ADMT
October 21 and 22, 2008	Compliance Test	--	--	--	--	--	--	0.027	kg/ADMT
May 20 and 22, 2008	Compliance Test	--	--	--	--	--	--	0.059	kg/ADMT
October 30 and 31, 2007	Compliance Test	--	--	--	--	--	--	0.035	kg/ADMT
May 15 and 16, 2007	Compliance Test	--	--	--	--	--	--	0.0288	kg/ADMT
October 24 and 25, 2006	Compliance Test	--	--	--	--	--	--	0.018	kg/ADMT
December 5 and 6, 2005	Compliance Test	--	--	--	--	--	--	0.058	kg/ADMT
May 3 and 4, 2005	Compliance Test	Various	--	--	--	--	--	0.029	kg/ADMT
October 18-19, 2004	Compliance Test	452.97	ton/day	--	--	--	--	0.029	kg/ADMT
May 25 and 26, 2004	Compliance Test	455.6	ton/day	--	--	--	--	0.053	kg/ADMT
QA'd by LRAPA lab on 2/27/03	Compliance Test	453	ton/day	--	--	--	--	0.0506	kg/ADMT
QA'd by LRAPA lab on 2/27/03	Compliance Test	432.1	ton/day	--	--	--	--	0.0278	kg/ADMT
June 18, 19 2002	Compliance Test	378	ton/day	--	--	--	--	0.0608	kg/ADMT
December 4 and 5, 2001	Compliance Test	160.5	gpm	--	--	--	--	17.8	kg/day
June 5, 2001	Compliance Test	168.1	gpm	--	--	--	--	23.7	kg/day
December 4-6, 2000	Compliance Test	153.9	gpm	--	--	--	--	23.4	kg/day
June 20-22, 2000	Compliance Test	239.9	gpm	--	--	--	--	47.4	kg/day

Test Date(s)	Test Purpose	Mud Feed Rate		Natural Gas Usage (scf/min)		FPM Emission Rate		PM Emission Rate	
December 13-15, 1999	Compliance Test	189.5	gpm	--	--	--	--	73.8	kg/day
June 7, 1999	Compliance Test	--	--	934.1	Kiln 2 & 3	0.0148	gr/dscf	--	--
June 19, 1998	Compliance Test	--	--	435.4	Kiln 2	0.0051	gr/dscf	--	--
		--	--	1025.1	Kiln 3			--	--
December 19, 1997	Compliance Test	--	--	400	Kiln 2	0.0095	gr/dscf	--	--
		--	--	1124.4	Kiln 3			--	--
May 5-7, 1997	Compliance Test	--	--	--	--	0.0051	gr/dscf	--	--
December 10-13, 1996	Compliance Test	--	--	--	--	0.0027	gr/dscf	--	--
May 15, 1996	Compliance Test	--	--	328.4	Kiln 2	0.0041	gr/dscf	--	--
		--	--	1102.9	Kiln 3			--	--
December 18, 1995	Compliance Test	--	--	340.4	Kiln 2	0.0027	gr/dscf	--	--
		--	--	1014.2	Kiln 3			--	--
May 12, 1995	Compliance Test	--	--	464.9	Kiln 2	0.0039	gr/dscf	--	--
		--	--	962.3	Kiln 3			--	--
December 12, 1994	Compliance Test	--	--	0.1	Kiln 2	0.031	gr/dscf	--	--
		--	--	9.4	Kiln 3			--	--
June 13, 1994	Compliance Test	--	--	330	Kiln 2	0.0064	gr/dscf	--	--
		--	--	922	Kiln 3			--	--
December 16, 1993	Compliance Test	--	--	0	Kiln 2	0.012	gr/dscf	--	--
		--	--	1.9	Kiln 3			--	--
June 4, 1993	Unspecified	--	--	305	Kiln 2	0.029	gr/dscf	--	--
		--	--	1054	Kiln 3			--	--

EU-455: Lime Kilns - CO, NOx

Test Date(s)	Test Purpose	Mud Feed Rate		Pulp Production		CO Emission Rate		NOx Emission Rate	
May 20, 2013	Emission Factor Verification	440.7	ton/day	1,093	ODTP/day	0.0052	lb/ADT	0.23	lb/ADT
May 9, 2012	Emission Factor Verification	433	ton/day	1,002	ODTP/day	0.0094	lb/ADT	0.18	lb/ADT
Prior Permit Review Report (Expiration: 12/14/2017)									
June 28, 2011	Emission Factor Verification	523	ton/day	1,025	ODTP/day	0.041	lb/ADT	0.21	lb/ADT

Test Date(s)	Test Purpose	Mud Feed Rate		Pulp Production		CO Emission Rate		NOx Emission Rate	
June 8, 2010	Emission Factor Verification	428	ton/day	1,098	ODTP/day	0.00014	lb/ADT	0.01	lb/ADT
September 22, 2009	Emission Factor Verification	437	ton/day	990	ODTP/day	0.00085	lb/ADT	0.012	lb/ADT
October 21 – 24, 2008	Emission Factor Verification	190.5	gpm	--	--	0.033	lb/MMBtu	0.26	lb/MMBtu
September 9-10, 2008	Emission Factor Verification	507	ton/day	1,150	ADTP/day	0	lb/ADT	0.546	lb/ADT
December 5 and 6, 2005	Emission Factor Verification	176.3	gpm	44	ADT/hr	0.0079	lb/ADT	0.25	lb/ADT
October 18, 2004	Emission Factor Verification	452.97	ton/day	39.9	ADMT/hr	0.0017	lb/ADT	0.51	lb/ADT
April 6, 1992	Unspecified	465	ton/day	--	--	7	lbs/hr	24.7	lbs/hr
April 6, 1992	Unspecified	463	ton/day	--	--	7	lbs/hr	21.2	lbs/hr

EU-455: Lime Kilns - TRS, SO_2

Test Date(s)	Test Purpose	Pulp Production (ODTP/day)	Pulp Production1 (ADMT/day)	TRS (ppm @ 10% O_2)	SO_2 (ppm @ 10% O_2)
September 28, 2018	Compliance Test	1073.7	1,082.3	3.19	<1.6

1. Pulp production (ADMT/day) is calculated as: pulp production (ODTP/day) x 1.008

SECTION 5: Methanol Testing

EU-445D: No. 4 Recovery Smelt Dissolving Tank and EU-275D: Slaker (TA445-127), # 5 Causticizer (TA455-012), and #6 Causticizer (TA456-010)

Test Date(s)	Test Location	BLS Firing (Mlb/hr)	Pulp Production (ODT/day)	Slaker Rate (GPM)	Methanol (lb/ODTP)
December 8, 2022	No. 4 SDTV	113.6	1,197.7	--	0.33
December 3, 2022	Slaker	--	991.2	659.7	0.0021
December 3, 2022	1st Causticizer No. 5	--	1,065.0	659.7	0.0330
December 2, 2022	2nd Causticizer No. 6	--	954.0	659.7	0.0107
December 21, 2021 (Re-test)	No. 4 SDTV	--	1,238.2	--	0.25
December 21, 2021 (Re-test)	Slaker	--	976.1	--	0.013
December 21, 2021 (Re-test)	1st Causticizer No. 5	--	976.2	--	0.130
September 22, 2021	2nd Causticizer No. 6	--	1,148.1	700.0	0.031
September 22, 2021	1st Causticizer No. 5	--	1,146.8	692.5	0.073

Test Date(s)	Test Location	BLS Firing (Mlb/hr)	Pulp Production (ODT/day)	Slaker Rate (GPM)	Methanol (lb/ODTP)
September 22, 2021	Slaker	--	1,148.8	685.7	0.004
September 17, 2021	No. 4 SDTV	113.6	1,197.7	--	0.380
December 3, 2020	1st Causticizer No. 5	--	1,027.6	589.6	0.0007
December 3, 2020	2nd Causticizer No. 6	--	1,027.6	589.6	0.0131
December 4, 2020	Slaker	--	1,015.9	589.6	0.0027
May 27, 2020	No. 4 SDTV	112.0	1,089.0	--	0.143
September 6, 2019	No. 4 SDTV	116.0	1,223.5	--	0.24
September 12, 2019	Slaker	--	1,194.8	674.8	0.0003
September 11, 2019	1st Causticizer No. 5	--	1,131.9	624.8	0.0033
September 11, 2019	2nd Causticizer No. 6	--	1,131.7	624.8	0.0152
October 3, 2018	No. 4 SDTV	129.9	1,149.2	--	0.229
September 28, 2018	1st Causticizer No. 5	--	1,185.3	649.6	0.0177
September 28, 2018	2nd Causticizer No. 6	--	1,184.2	649.6	0.029
September 27, 2018	Slaker	--	1,202.1	649.6	0.0045
October 3-4, 2017	1st Causticizer No. 5	--	1,168.2	624.9	0.0072
October 3-4, 2017	2nd Causticizer No. 6	--	1,165.1	624.9	0.0259
October 3-4, 2017	No. 4 SDTV	132.4	1,164.6	--	0.49
October 3-4, 2017	Slaker	--	1,158.4	624.9	0.0047
September 15-16, 2016	1st Causticizer No. 5	--	1,213.5	619.9	0.0019
September 15-16, 2016	2nd Causticizer No. 6	--	1,213.2	624.5	0.0129
September 15-16, 2016	No. 4 SDTV	131.0	1,191.4	--	0.27
September 15-16, 2016	Slaker	--	1,027.0	629.9	0.00052
September 23-24, 2015	Slaker	--	1,171.0	539.8	<0.00012
September 23-24, 2015	1st Causticizer No. 5	--	1,176.0	539.8	0.0044
September 23-24, 2015	2nd Causticizer No. 6	--	1,163.0	539.8	0.059
September 23-24, 2015	No. 4 SDTV	119.9	1,142.0	--	0.3
September 10-11, 2014	Slaker	--	1,082.8	579.9	0.0042
September 10-11, 2014	1st Causticizer No. 5	--	1,083.3	579.9	0.022
September 10-11, 2014	2nd Causticizer No. 6	--	1,083.9	579.9	0.003

Test Date(s)	Test Location	BLS Firing (Mlb/hr)	Pulp Production (ODT/day)	Slaker Rate (GPM)	Methanol (lb/ODTP)
September 10-11, 2014	No. 4 SDTV	117.0	1,085.9	--	0.22
September 25-26, 2013	Slaker	--	1,083.0	634.6	0.00029
September 25-26, 2013	1st Causticizer No. 5	--	1,079.0	634.7	0.00021
September 25-26, 2013	2nd Causticizer No. 6	--	1,081.0	634.6	0.012
September 25-26, 2013	No. 4 SDTV	122.6	1,159.0	--	0.13
October 31 and November 1, 2012	Slaker	--	1,069.4	600.5	0.0071
October 31 and November 1, 2012	1st Causticizer No. 5	--	1,079.6	600.5	0.00088
October 31 and November 1, 2012	2nd Causticizer No. 6	--	1,079.5	600.5	0.0024
October 31 and November 1, 2012	No. 4 SDTV	118.8	1,104.6	--	0.32
October 11-12, 2011	Slaker	--	1,125	619.6	0.0004
October 11-12, 2011	1st Causticizer No. 5	--	1,122	619.6	0.0011
October 11-12, 2011	2nd Causticizer No. 6	--	1,120	619.6	0.0014
October 11-12, 2011	No. 4 SDTV	118.9	1,071	--	0.12
October 13-14, 2010	Slaker	--	1,100	640.5	0.00015
October 13-14, 2010	1st Causticizer No. 5		1,098	640.5	0.0035
October 13-14, 2010	2nd Causticizer No. 6		1,094	640.5	0.0061
October 13-14, 2010	No. 4 SDTV	118.1	1,116	--	0.34
Prior Permit Review Report (Expiration: 12/14/2017)					
September 23-24, 2009	Various	--	1000	--	0.36
October 21-23, 2008	Various	--	1000-1050	--	0.36
October 29-31, 2007	Various	--	1000	--	0.37
December 25 and 26, 2006	Various	--	900	--	0.28
October 25 and 26, 2006	Various	--	850-1000	--	0.28
December 6 and 9, 2005	Various	--	1000	--	0.3241

SECTION 6: Other Sources of TRS

EU-275C: Other Sources of TRS (Original) - Miscellaneous TRS Testing

Test Date	Test Location	Production (ADMT/day)	Production (ODT/day)	TRS	Units
December 20, 2022	Kamyr Diffusion Washer Vent	1,069.7	1,061.2	0.036	kg/ADMT
December 20, 2022	Kamyr #1 Washer Hood	1,068.5	1,060.0	0.013	kg/ADMT
November 30, 2022	Kamyr Washer Foam Tower	1,076.0	1,067.4	0.023	kg/ADMT
September 15, 2021	Kamyr Diffusion Washer Vent	1,073.0	1,064.5	0.034	kg/ADMT
September 15, 2021	Kamyr Washer Foam Tower	1,074.7	1,066.1	0.011	kg/ADMT
September 15, 2021	Kamyr #1 Washer Hood	1,077.2	1,068.6	0.0074	kg/ADMT
December 1, 3-4, 2020	Kamyr Diffusion Washer Vent	1,008.6	1,000.5	0.0082	kg/ADMT
December 1, 3-4, 2020	Kamyr Washer Foam Tower	1,030.4	1,022.3	0.0098	kg/ADMT
December 1, 3-4, 2020	Kamyr #1 Washer Hood	1,016.4	1,008.3	0.0093	kg/ADMT
September 12, 2019	Kamyr Washer Foam Tower	1,203.6	1,194.0	0.013	kg/ADMT
September 11, 2019	Kamyr #1 Washer Hood	1,142.5	1,133.4	0.0138	kg/ADMT
September 5, 2019	Kamyr Diffusion Washer Vent	1,102.8	1,094.1	0.010	kg/ADMT
October 1, 2018 and November 1-2, 2018	Kamyr Diffusion Washer Vent	1,122.2	1,113.3	0.018	kg/ADMT
October 1, 2018 and November 1-2, 2018	Kamyr #1 Washer Hood	1,170.1	1,160.8	0.012	kg/ADMT
October 1, 2018 and November 1-2, 2018	Kamyr Washer Foam Tower	1,202.0	1,192.4	0.020	kg/ADMT
September 7-8, 2017	Kamyr Diffusion Washer Vent	1,183.9	1,172.5	0.074	lb/ODT
September 7-8, 2017	Kamyr Washer Foam Tower	1,206.2	1,197.6	0.027	lb/ODT
September 7-8, 2017	Kamyr #1 Washer Hood	1,189.6	1,179.9	0.043	lb/ODT
September 14, 2016	Kamyr Washer Hood East	1,212.7	1,203.3	0.094	lb/ADMT
September 14, 2016	Kamyr Washer #1	1,216.8	1,207.2	0.021	lb/ADMT
September 14, 2016	Kamyr Washer Foam Tower	1,206.2	1,196.6	0.026	lb/ADMT
September 23, 2015	Kamyr Diffusion Washer Vent	1,171.0	1,162.0	0.011	lb/ADT
September 23, 2015	Kamyr #1 Washer Hood	1,180.0	1,170.0	0.024	lb/ADT
September 23, 2015	Kamyr Washer Foam Tower	1,160.0	1,151.0	0.059	lb/ADT
September 16-17, 2014	Kamyr Diffusion Washer Vent	1,109.0	1,100.0	0.010	lb/ADT
September 16-17, 2014	Kamyr #1 Washer Hood	1,106.0	1,098.0	0.018	lb/ADT

Test Date	Test Location	Production (ADMT/day)	Production (ODT/day)	TRS	Units
September 16-17, 2014	Kamyr Washer Foam Tower	1,090.0	1,082.0	0.041	lb/ADT
September 18-19, 2013	Kamyr Diffusion Washer Vent	1,122.0	1,113.0	0.015	lb/ADT
September 18-19, 2013	Kamyr #1 Washer Hood	1,134.0	1,125.0	0.009	lb/ADT
September 18-19, 2013	Kamyr Washer Foam Tower	1,116.0	1,107.0	0.013	lb/ADT
November 7 and December 13, 2012	Kamyr Diffusion Washer Vent	1,063.0	1,055.0	0.021	lb/ADT
November 7 and December 13, 2012	Kamyr #1 Washer Hood	1,065.0	1,056.0	0.007	lb/ADT
November 7 and December 13, 2012	Kamyr Washer Foam Tower	1,039.0	1,031.0	0.014	lb/ADT
Prior Permit Review Report (Expiration: 12/14/2017)					
October 31, 2011	Miscellaneous TRS	--	--	0.0479	lb/ADT
September 22-23, 2009	Miscellaneous TRS	--	--	0.081	lb/ADT
February 12 and September 10-11, 2008	Miscellaneous TRS	--	--	0.093	lb/ADT
August 27-28, 2007	Miscellaneous TRS	--	--	0.066	lb/ADT
May 2-3, and September 13, 2006	Miscellaneous TRS	--	--	0.102	lb/ADT
December 1, 2005	Miscellaneous TRS	--	--	0.103	lb/ADT
December 1, 2004	Miscellaneous TRS	--	--	0.127	lb/ADT
October 1, 2003	Miscellaneous TRS	--	--	0.16	lb./ADT
Received January 29, 2003	Miscellaneous TRS	--	--	0.197	lb/ADT
November 28-30, 2001	Miscellaneous TRS	--	--	Various	--

EU-275C: Other Sources of TRS (Original) & EU-275D: Other Sources of TRS (Additional)

Test Date	Test Purpose	Test Location	Pulp Production		VOC as propane (lb/hr)	Carbon (lb/ADST)
			(ODT/day)	(ADST/day)		
October 4-5, 2018	Emission Factor Verification	Chip Bin Condenser Vent (EU-275C, Device FU401-098)	1,194.50	--	21.4	--
October 4-5, 2018	Emission Factor Verification	Chip Bin Release Vent (EU-275C, Device FU401-098)	1,187.20	--	18.7	--

Test Date	Test Purpose	Test Location	Pulp Production		VOC as propane (lb/hr)	Carbon (lb/ADST)
			(ODT/day)	(ADST/day)		
Prior Permit Review Report (Expiration: 12/14/2017)						
December 1, 1992	Engineering/R&D	Weak BL Storage (Device in EU-275C)	--	1,253	--	0.12
November 19, 1992	Engineering/R&D	Bergstrom Tank Vent (Device in EU-275D)	--	756	--	0.19

SECTION 7: Other Miscellaneous Performance Testing and Relative Accuracy Test Audits (RATAs)

EU-310: Chip Handling and Screening *[Prior Permit Review Report, Expiration: 12/14/2017]*

Test Date	Test Purpose	Test Location	Chip Throughput (BDT/hr)	Pulp Production (ADT/hr)	PM (gr/dscf)	VOC (lb/ADT)	VOC (lb/hr)
June 14, 2006	Emission Factor Verification	No.1 Wood Chip Blower Cyclone	60	37	0.00015	0.07	2.6

EU-420: Kamyr Digester *[Prior Permit Review Report, Expiration: 12/14/2017]*

Test Date	Test Purpose	Test Location	Production (ADST/day)	Carbon (lb/ADST)
November 18, 1992	Engineering/R&D	Kamyr System	776	0.08

EU-456: Recaust Systems *[Prior Permit Review Report, Expiration: 12/14/2017]*

Test Date	Test Purpose	Test Location	Production (ADST/day)	Carbon (lb/ADST)
December 4 and 5, 1992	Engineering/R&D	Recausticizing Operations	1,380	0.037

EU-715A & EU-715B: Machine Room *[Prior Permit Review Report, Expiration: 12/14/2017]*

Test Date	Test Purpose	Test Location	Pulp Production (ADT/day)	Pulp Production (ADST/day)	HAPs (lb/ADTFP)	THC (lb/ADTFP)	Carbon (lb/ADST)
June 12-18, 1993	NCASI Test	Paper Machine (12) Wet End Vents	1,347	--	0.066	0.02	--
June 12-18, 1993	NCASI Test	Paper Machine (11) Dry End Vents	1,352	--	0.057	0.022	--
December 3, 1992	Engineering/R&D	Paper Machine No. 1 - Dry	--	574	--	--	0.03

Test Date	Test Purpose	Test Location	Pulp Production (ADT/day)	Pulp Production (ADST/day)	HAPs (lb/ADTFP)	THC (lb/ADTFP)	Carbon (lb/ADST)
December 3, 1992	Engineering/R&D	Paper Machine No. 2 - Wet	--	574	--	--	0.05
November 16 and 17, 1992	Engineering/R&D	Paper Machine No. 2 – Dry	--	1,447	--	--	0.015
November 17, 1992	Engineering/R&D	Paper Machine No. 2 – Wet	--	1,215	--	--	0.021

Stripper MACT I, Phase I Testing ***[Prior Permit Review Report, Expiration: 12/14/2017]***

Test Date	Test Purpose	Test Location	Production and Efficiency Rates	Methanol Emissions	
August 13 to October 12, 2001	Compliance Test - MACT I, Phase I	CSD Regulated Condensate Methanol Treatment	Kamyr Digester = 482,227 ODT pulp Methanol Treatment = 499,451 lb Stripper Efficiency = 85.1% Methanol Collection = 586,899 lb	10.4	lb treated/ODTP
				12.2	lb collected/ODTP

VOC Leak Detection and Repair (LDAR)

Test Date	Test Location	Test Result
September 14, 2021	CNCG and DNCG Systems	Pass
November 30, 2020	CNCG and DNCG Systems	Pass
September 5, 2019	CNCG and DNCG Systems	Pass
September 25, 2018	CNCG and DNCG Systems	Pass
October 5, 2017	CNCG and DNCG Systems	Pass
September 14, 2016	NCG Handling System, #2 and #3 Kilns, Chip Steaming System	Pass
September 22, 2015	NCG Handling System, #2 and #3 Kilns, Kamyr	Pass

CEMS RATAs

Test Date(s)	Emission Device	Result
September 20-22, 2022	Lime Kiln, Package Boiler and No. 4 Recovery	Pass
September 20-21, and 23, 2021	Lime Kiln, Package Boiler and No. 4 Recovery	Pass
September 22-29, 2020	Lime Kiln, Package Boiler and No. 4 Recovery	Pass
September 4-10, 2019	Lime Kiln, Package Boiler and No. 4 Recovery	Pass
September 25-27, 2018	Lime Kiln, Package Boiler and No. 4 Recovery	Pass
September 11-14 and 28, 2017	Lime Kiln, Package Boiler and No. 4 Recovery	Pass

Test Date(s)	Emission Device	Result
September 13-15, 2016	Lime Kiln, Package Boiler and No. 4 Recovery	Pass
September 22-23, 2015	Lime Kiln, Package Boiler and No. 4 Recovery	Pass
September 15-16, 2014	Lime Kiln, Package Boiler and No. 4 Recovery	Pass
October 22, 2013	Lime Kiln, Package Boiler and No. 4 Recovery	Pass
November 5-6, 2012	Lime Kiln, Package Boiler and No. 4 Recovery	Pass
Prior Permit Review Report (Expiration: 12/14/2017)		
October 26, 2011	Lime Kilns, Package Boiler, No. 3 Recovery Furnace, No. 4 Recovery Furnace	Pass
October 22, 2010	Lime Kilns, Package Boiler, No. 3 Recovery Furnace, No. 4 Recovery Furnace	Pass
October 14, 2009	Lime Kilns, Package Boiler, No. 3 Recovery Furnace, No. 4 Recovery Furnace	Pass
September 25, 2008	Lime Kilns, Package Boiler, No. 3 Recovery Furnace, No. 4 Recovery Furnace	Pass
August 28-30, 2007	Lime Kilns, Package Boiler, No. 3 Recovery Furnace, No. 4 Recovery Furnace	Pass
September 11-12, 2006	Lime Kilns, Package Boiler, No. 3 Recovery Furnace, No. 4 Recovery Furnace	Pass
August 1 – September 14, 2005	Lime Kilns, Package Boiler, No. 3 Recovery Furnace, No. 4 Recovery Furnace	Pass
September 14 and 15, 2004	Lime Kilns, Package Boiler, No. 4 Recovery Furnace	Pass
November 26-27, 2001	Lime Kilns	Pass
December 4-6, 2000	Lime Kilns, Package Boiler, No. 3 Recovery Furnace, No. 4 Recovery Furnace	Pass
November 9-12, 1999	Lime Kilns, Package Boiler, No. 3 Recovery Furnace, No. 4 Recovery Furnace	Pass
November 11-14, 1997	Package Boiler	NO_X = 1.34% / O_2 = -0.13%
November 11-14, 1997	Lime Kilns	TRS = 1.96 % / SO_2 = 3.11% / O_2 = 0.40%
November 11-14, 1997	No. 4 Recovery Furnace	TRS = 3.03% / SO_2 = 4.72% / O_2 = 0.54%
November 24, 1996	Package Boiler	NO_X = 2.88% / O_2 = -0.75%
November 19-20, 1996	Lime Kilns	TRS = 4.98% / SO_2 = 0.08% / O_2 = -0.25%
November 21-23, 1996	No. 4 Recovery Furnace	TRS=4.98% / SO_2 = 0.08% / O_2 = 0.66%
December 6-7, 1995	Package Boiler	TRS = 2.46% / SO_2 = 0.11% / O_2 = -0.52%
December 8, 1995	Lime Kilns	TRS = 18.1% / SO_2 = 2.00% / O_2 = -0.54%
December 7-8, 1995	No. 4 Recovery Furnace	NO_X = 7.22% / O_2 = -0.65%
October 25, 1993	Package Boiler	NO_X = 3.79% / O_2 = -0.38%
October 24-25, 1993	Lime Kilns	TRS = 6.69% / SO_2 = 1.57% / O_2 = -0.22%
October 24-25, 1993	No. 4 Recovery Furnace	TRS = 6.41% / SO_2 = 12.1% / O_2 = 0.66%