

STATEMENT OF BASIS

Title V Air Operation Permit Revision
Permit No. 0330042-019-AV

APPLICANT

The applicant for this project is International Paper Company. The applicant's responsible official and mailing address are: Mr. Bretton C. DeJong, Mill Manager, International Paper Company, Pensacola Mill, 375 Muscogee Road, Cantonment, Florida 32533.

FACILITY DESCRIPTION

The applicant operates the Pensacola Mill, which is located in Escambia County at 375 Muscogee Road, Cantonment, Florida. The existing facility is a Kraft pulp and paper mill consisting of a wood handling facility, digesters, brown stock washers, oxygen delignification, bleaching facilities, paper machines, boilers, a lime kiln and associated equipment.

The facility consists of Recovery Furnaces Nos. 1 and 2; Power Boilers Nos. 3, 4, 5 and No. 6; Smelt Dissolving Tanks Nos. 1 and 2; a Lime Kiln; a Lime Slaker; Tall Oil Processing; B-Line Bleach Plant; Multiple Effect Evaporator Sets Nos. 1 and 2; Pulping System; Paper Machine Operations; Woodyard Activities; Non-Condensable Gas Handling System; a Thermal Oxidizer; Tail Gas Scrubber; and a Chlorine Dioxide Generator & Storage Operation.

Thermal Oxidizer

The thermal oxidizer is the primary control device for MACT regulated non-condensable gases. The lime kiln serves as a back-up control device. The thermal oxidizer is fired by natural gas and has an estimated maximum incineration rate of 1,500 pounds per hour as methanol loading of the stripper off gas, and is equipped with a waste heat recovery system. This emissions unit was first permitted in permit 0330042-006-AC, issued on March 1, 2001. The thermal oxidizer system is designed to reduce HAP emissions to 20 ppm at 10% oxygen, as required by the MACT (40 CFR 63 subpart S). Sulfur dioxide emissions are controlled by a scrubber with a mist eliminator. The system also uses candle filters to reduce emissions of particulate matter and sulfuric acid mist. Staged combustion is used to minimize nitrogen oxide emissions. This emission unit is regulated under 40 CFR 63 subpart S (Cluster Rule/MACT I) - National Emission Standards for Hazardous Air Pollutants from the Pulp and Paper Industry, 40 CFR 60 subpart BB - Standards of Performance for Kraft Pulp Mills; and Rules 62-296.404, Kraft Pulp Mills and 62-296.401, F.A.C., Incinerators.

Recovery Furnaces Nos. 1 and 2

These emissions units are low odor design recovery furnaces manufactured by Babcock and Wilcox. Black liquor is normally used for fuel but natural gas, No. 2, No. 4, No. 5, and No. 6 fuel oil may be used as a backup fuel at a maximum heat input rate of 572 MMBtu/hr. Each unit has a Koppers dual chamber electrostatic precipitator to control particulate matter emissions. Total reduced sulfur emissions are monitored with a continuous emission monitor (CEM) system. These emissions units are regulated under Rule 62-296.404, F.A.C., Kraft Pulp Mills and 40 CFR 63, Subpart MM - (Emission Standards for Chemical Recovery Sources).

Permit 0330042-018-AC established an annual limit of no more than 950,000 tons per year for the combined amount of black liquor solids generated and combusted in the Mill's two recovery furnaces.

Power Boiler No. 3

Power Boiler No. 3 was manufactured by Riley and is fueled by natural gas or coal. The rated capacity is 347 MMBtu/hr heat input if fueled with natural gas or 268 MMBtu/hr if fueled with 100% coal. Particulate matter emissions are controlled by multi-cyclones followed by a venturi wet scrubber manufactured by Neptune Airpol, Inc. Sulfur dioxide emissions are controlled by the sulfur content of the fuel and by addition of sodium hydroxide to the scrubber fluid to control pH. The boiler has a CEMS for monitoring SO₂, NO_x and O₂. A continuously monitored pressure drop has been approved in lieu of a CEMS for opacity. This emission unit is regulated under Rule 62-296.405, F.A.C., Fossil Fuel Steam Generators. Power Boiler No. 3 is subject to the requirements of 40 CFR 63, Subpart DDDDD – NESHAAP for Industrial, Commercial and Institutional Boilers and Process Heaters, referred to as Major Source Boiler MACT. The compliance date for this regulation is January 31, 2016.

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Permit 0330042-018-AC eliminates the use of carbonaceous fuels, fuel oil and used oil in this boiler; and establishes a federally enforceable limit of no more than 5,000 tons per year for coal fired in this boiler, with the balance of annual heat input coming from natural gas.

Power Boiler No. 4

This boiler was manufactured by Foster Wheeler and is fueled by wood waste, coal, gas or oil. Rated capacity is 546 MMBtu/hr heat input for 100% coal or up to 666 MMBtu/hr if fueled with other fuels supplementing coal. Particulate emissions are controlled by multi-cyclones followed by a venturi wet scrubber manufactured by FMC Type TI, model 280K. Sulfur dioxide emissions are controlled by the sulfur content of the fuels and/or by addition of sodium hydroxide to scrubber fluid to control pH. The boiler has a CEM for SO₂, NO_x and O₂. A continuously monitored pressure drop has been approved in lieu of a CEM for opacity. This emissions unit is regulated under Rule 62-296.405, F.A.C.

Power Boiler No. 5

This is a 195 MMBtu/hr heat input natural gas fired boiler. NO_x emissions are controlled by a combination of flue gas recirculation and low NO_x burners. The boiler was constructed under permit AC17-140962/PSD-FL-126 and later modified under permit AC17-192933/PSD-FL-126A.

Power Boiler No. 6

This is a 533 MMBtu/hr heat input natural gas fired boiler. NO_x emissions are controlled by a combination of flue gas recirculation and low NO_x burners. The boiler was constructed under permit AC17-223343/PSD-FL-200 and replaced power boilers 1 and 2. NO_x emissions are monitored with a CEM system.

Smelt Dissolving Tanks Nos. 1 and 2

Each Smelt Dissolving Tank receives molten smelt from the recovery furnaces, consisting primarily of sodium carbonate, sodium sulfide and sodium sulfate. The smelt is dissolved in weak wash to yield green liquor for the slaking process. Particulate matter and reduced sulfur emissions from these emissions units are controlled by a wet venturi scrubber manufactured by Neptune Airpol, Inc. These units are regulated under Rule 62-296.404, F.A.C., Kraft Pulp Mills and 40 CFR 63, Subpart MM (MACT II), NESHAP for Chemical Recovery Combustion Sources at Kraft, Soda, Sulfite, and Stand-Alone Semichemical Pulp Mills.

Lime Kiln-Mud Dryer System

A natural gas, and No. 4, No. 5 and No. 6 fuel oil fired Lime Kiln with a maximum operating rate of 20.83 tons per hour of lime as CaO. The kiln also serves as a backup control device for the Non-Condensable Gas (NCG) system. Emissions are controlled by an electrostatic precipitator, which is vented in series to a modified packed column wet scrubber using NaOH as the scrubbing medium. Sulfur dioxide emissions are controlled by the sulfur content of the fuel oil (maximum of 1% by weight) and maintaining a minimum scrubber pH of 7.5. Total reduced sulfur compliance is maintained by proper combustion and the scrubber. Total reduced sulfur emissions are monitored with a CEM system. This emissions unit is regulated under Rule 62-296.404, F.A.C. - Kraft Pulp Mills, 40 CFR 63 subpart S - National Emissions Standards for Hazardous Air Pollutants from the Pulp and Paper Industry and 40 CFR 63 subpart MM, (Emission Standards for Chemical Recovery Sources).

NESHAP Subpart S was updated by USEPA on 09/11/2012; however, none of the specific conditions for the Lime Kiln-Mud Dryer System were affected by the update.

Tall Oil Processing

A maximum of 22,500 pounds per hour of black liquor soap is treated with sulfuric acid to yield 11,400 pounds per hour of crude tall oil. Resulting TRS gases are vented through a packed scrubber and treated with white liquor. Total reduced sulfur emissions are controlled by maintaining 35 gallon per minute scrubber flow. This emissions unit is regulated under Rule 62-296.404, F.A.C. - Kraft Pulp Mills.

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Tail Gas Scrubber, Chlorine Dioxide Generator, Storage

This is a R8/R10 process that uses methanol, sulfuric acid, and sodium chlorate to generate chlorine dioxide. The system produces a maximum of 41.1 tons of ClO₂ per day. Emissions from the ClO₂ generator and three storage tanks are controlled by the white liquor scrubber (tail gas scrubber) with a pH set point of 12. In the event the white liquor scrubber is not functional, the emissions from the storage tanks will be controlled by two chilled water scrubbers with a maximum temperature set point of 50 degrees Fahrenheit and a minimum flow rate of 25 gallons per minute. This emissions unit was permitted under Construction/PSD Permit AC17-223343/PSD-FL-200.

B-Line Bleach Plant

Emissions from B-Line Bleach Plant are controlled by a Cl/ClO₂ scrubber. The scrubber uses white liquor to maintain a minimum pH of 10.0. This emission unit is regulated under 40 CFR 63 subpart S - National Emissions Standards for Hazardous Air Pollutants from the Pulp and Paper Industry.

The A-Line bleach plant was shutdown as a result of the Mill reconfiguration under permit 0330042-012-AC and the B-Line Bleach Plant was reconfigured from a hardwood/softwood pulping line to softwood only. The bleach plant operates at a reduced level since bleached pulp production decreased.

The old A-Line #4 and #6 high density tanks are being reused as a “broke storage tank” for the No. 5 Paper Machine and a high density storage tank for the bleached pulp for the B-Line, respectively. The batch digesters are now equipped with a turpentine recovery system for processing softwood. The O₂ delignification, brown stock washer systems, and bleach plant are now used to process softwood pulp. The A-Line Kamyr continuous digester was modified to allow for a greater softwood pulping rate. The diffusion washer and refiners were modified to improve pulp quality processed by No. 5 Paper Machine. The O₂ delignification and bleaching operations were removed, with some of the process units and tanks being reused. The secondary knotter, rejects drainer, brown stock decker, #1 post oxygen washer (POW), secondary knotter level tank, screen dilution tank, refined reject tank, and pine O₂ blow tank of the current A-Line O₂ delignification process were taken out of service and/or used for other operations. The #1 brown stock decker, screen dilution tank, and pine O₂ blow tank will be reused in future A-Line operations. The #1 POW was reconfigured to act as a second brown stock decker (#2), the pine O₂ blow tank now serves as a new screen feed tank, the press feed tank serves as a reject refiner feed tank, and the screen dilution tank serve as a cleaner dilution tank in the future. The A-Line bleach plant scrubber, E/O tower, E/O washer hood vent, and E/O seal tank will not be operated in the future.

Non-Condensable Gas Handling System

This emission unit collects non-condensable gases containing total reduced sulfur compounds. These gases are collected from twelve batch digesters processed through two blow tanks, a primary condenser and a secondary condenser; a Kamyr continuous digester processed through three flash tanks, a stripper reboiler and a secondary condenser; No. 2 condensate stripper; and No. 1 & 2 Multiple Effect Evaporator Sets. Total reduced sulfur emissions are controlled by combustion in the Thermal Oxidizer (EU 067) or Lime Kiln (EU 028) as a backup. This emissions unit is regulated by 40 CFR 63, Subpart S - National Emissions Standards for Hazardous Air Pollutants from the Pulp and Paper Industry.

Permit 0330042-018-AC authorizes the Mill to replace the Mill's total pulp production limit of 694,373 ADTUP per year with a federally enforceable limit on the combined amount of BLS generated and combusted in the Mill's two recovery furnaces of no more than 950,000 tons per year.

NOTE: The Kamyr Digester is sometimes referred to as the A-Line digester. This is not to be confused with the A-Line Bleach Plant, which no longer exists.

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Multiple Effect Evaporator (MEE) Sets Nos. 1 and 2

The evaporators are used to concentrate the weak black liquor prior to firing in the recovery furnaces. The off-gas from the evaporator sets vent into the NCG system and combust in the thermal oxidizer, or lime kiln as a backup. This emission unit is regulated by 40 CFR 63 subpart S - National Emissions Standards for Hazardous Air Pollutants from the Pulp and Paper Industry.

Permit 0330042-018-AC authorizes the Mill to remove the maximum operating rate limitation for this emissions unit. The evaporator sets are in series with the recovery furnaces and can only concentrate weak black liquor at the rate at which the recovery furnaces can combust the BLS. Because the unit does not vent to the atmosphere during normal operation, testing and recordkeeping is not required.

Lime Slaker

Lime and green liquor react to yield white liquor and lime mud. The maximum operating rate is 20.8 tons of lime as CaO added to green liquor per hour. Particulate emissions are controlled by four water showers in a scrubber manufactured by Dorr-Oliver. This emissions unit is regulated under Rules 62-296.404, F.A.C., Kraft Pulp Mills.

Dry Additives, Starch Receiving and Storage (Inactive)

Dry additives are received in bags and are batch handled in a variety of make-down systems. Particulate emissions are controlled by a rotating wet scrubber manufactured by American Air Filter, model W size 12 Roto-Clone. Also, starch is pneumatically loaded from rail cars or trucks to a storage silo. The maximum designed operating rate is 500 pounds of starch loaded to silo per minute. Particulate emissions are controlled by a baghouse filter manufactured by Fuller Company. The alkaline conversion process consists of a starch silo and clay silo. Each unit has a separate baghouse to control emissions. The maximum designed operating rate is 1,500 pounds of starch loaded to silo per minute and 1,500 pounds of clay loaded to silo per minute. This emissions unit is regulated under Rule 62-296.320, F.A.C., General Pollutant Emission Limiting Standards. The unit is currently not operating but the facility wishes to keep it in the permit in the event it needs to use these dry additives again in the future.

Woodyard Activities

Pine is received as logs and/or chips by rail cars and/or trucks. The logs are debarked and chipped and the chips are classified through screens according to thickness. The chip handling system consists of one fines cyclone. Visible emissions from this system are limited to 5% opacity. The maximum feed rate of pine wood chips to the thickness screening system is 237 tons per hour. This emissions unit is regulated under Rule 62-296.320, F.A.C., General Pollutant Emission Limiting Standards. The Woodyard can process approximately 3,025 cords per day. Additional purchased softwood chips and logs will supplement current chip and softwood log operations.

Pulping System

The non-condensable gases (TRS/HAP/VOC) from the system are collected and combusted in the thermal oxidizer (primary NCG control system) or in the lime kiln (back-up NCG control system). This emissions unit is regulated by 40 CFR 63 subpart S, National Emissions Standards for Hazardous Air Pollutants from the Pulp and Paper Industry.

Note: NESHAP Subpart S was updated by USEPA on 09/11/2012. This action affects Specific Condition S.4., 40 CFR 63.443 - Standards for the pulping system at kraft, soda, and semi-chemical processes, as shown below

CFR 63.443(e) Periods of excess emissions reported under 40 CFR 63.455 shall not be a violation of 40 CFR 63.443(c) and (d) provided that the time of excess emissions (~~excluding periods of startup, shutdown, or malfunction~~) divided by the total process operating time in a semi-annual reporting period does not exceed the following levels.

Detailed Discussion: *Allowances for SSM venting have been vacated by US EPA.* Because of this, every minute of venting counts toward their 1 % vent allowance. An RTI International Memorandum, dated July 23, 2012,

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states, "The U.S. Court of Appeals for the District of Columbia Circuit vacated portions of two provisions in the EPA's CAA section 112 regulations governing the emissions of HAP during periods of startup, shutdown, and malfunction (SSM). Specifically, the Court vacated the SSM exemption contained in §§63.6(f)(1) and (h)(1) of the NESHAP General Provisions. In the December 2011 subpart S Risk and Technology Review proposal, EPA explained that, when incorporated into section 112(d) regulations for specific source categories, these two provisions exempt sources from the requirement to comply with otherwise applicable NESHAP standards during periods of SSM. Because the Pulp and Paper NESHAP relied on the General Provisions for SSM, EPA proposed to set standards that applied during startup and shutdown periods. Specifically, EPA proposed to require the same standards that apply during normal operations for periods of startup and shutdown".

Paper Machine Operations

As part of permit 0330042-012-AC, there were several modifications to the No. 5 Paper Machine to allow for the production of linerboard and/or corrugated medium. Modifications occurred to the vacuum section, the dryers and the winder section of the paper machine (the wet end). The modified No. 5 Paper Machine produces approximately 1,843 air-dried tons of unbleached pulp per day (ADTPD). The No. 4 Pulp Dryer was modified to produce approximately 634 ADTPD of bleached softwood pulp. The No. 3 Paper Machine was shut down indefinitely. The mill will not be making modifications to the No. 5 Paper Machine authorized by permit 0330042-015-AC.

Reciprocating Internal Combustion Engines

This Title V facility contains stationary reciprocating internal combustion engines (RICE) that are subject to one or more of the following federal rules:

- 40 CFR 60, Subpart IIII - Standards of Performance for Stationary CI RICE:

Facility Location	Engine Type	Engine Mfgr	Engine Model No.	Mfgr/Model Year	Brake hp	Mfgr Cert
No. 1 Fire Pump	Fire Pump	Cummins	QSB205-220	2010	205	Yes
No. 2 Fire Pump	Fire Pump	Clarke	JU6H-UFAD88	2010	237	Yes

- 40 CFR 63, Subpart ZZZZ – NESHAP for Stationary Reciprocating Internal Combustion Engines:

Facility Location	Engine Type	Engine Mfgr	Engine Model No.	Mfgr/Model Year	Brake hp	Mfgr. Cert.
Lime Kiln Donkey	Emergency	Cummins	4B-76-2500	2006	76	No

This permit revision includes these three new emission units, which were added for the existing reciprocating internal combustion engines (RICE) at this facility: EU 074, Lime Kiln Donkey; EU 075, No. 1 Fire Pump; and EU 076, No. 2 Fire Pump. These RICE are subject to 40 CFR 63 Subpart ZZZZ and 40 CFR 60 Subpart IIII.

Potential Emissions (tons/year)

Pollutants (tons per year)	PM	SO ₂	TRS	NO _x	CO	VOC
Recovery Boiler No. 1	282	66.6	14.5	1421.3	206.74	54.3
Recovery Boiler No. 2	265	66.6	14.5	1421.3	206.74	54.3
Power Boiler No. 3	6.4	75.65	N/A	301.5	N/A	N/A
Power Boiler No. 4	240.9	2,868.9	N/A	1,673.2	N/A	N/A
Power Boiler No. 5	N/A	N/A	N/A	85.4	205.9	N/A
Power Boiler No. 6	11.7	2.2	N/A	140.1	233.5	23.4

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Smelt Dissolving Tank No. 1	75.4	N/A	71.3	N/A	N/A	N/A
Smelt Dissolving Tank No. 2	77.8	N/A	7.8	N/A	N/A	N/A
Lime Kiln/Mud Dryer	34	28.47	6.4	215.9	29.6	107.3
Thermal Oxidizer	4.4	25.0	2.2	39.9	29.8	4.8
Lime Slaker	7.0	N/A	N/A	N/A	N/A	N/A
No. 1 Cyclone Separator	0.03	N/A	N/A	N/A	N/A	N/A
High Density Separator	0.6	N/A	N/A	N/A	N/A	N/A
Tall Oil Process	N/A	N/A	1.25	N/A	N/A	76.0
TOTAL	1,005	3,133	118	5,299	912	320

Also included in this permit are miscellaneous unregulated/insignificant emissions units and/or activities.

PROJECT DESCRIPTION

The purpose of this permitting project is to revise the existing Title V permit for the above referenced facility.

PROCESSING SCHEDULE AND RELATED DOCUMENTS

Renewed Title V Air Operation Permit issued September 12, 2012

Title V Air Construction Permit issued June 4, 2013

Application for a Title V Air Operation Permit Revision received December 31, 2013

Additional Information Request dated [January 10, 2014]

Additional Information Response received [February 6, 2014]

Notice of Intent to Issue Air Permit issued [Month day, year]

Public Notice Published [Month day, year]

PRIMARY REGULATORY REQUIREMENTS

Title III: The facility is identified as a major source of hazardous air pollutants (HAP).

Title V: The facility is a Title V major source of air pollution in accordance with Chapter 62-213, Florida Administrative Code (F.A.C.).

PSD: The facility is a Prevention of Significant Deterioration (PSD)-major stationary source of air pollution in accordance with Rule 62-212.400, F.A.C.

NSPS: The facility operates units subject to the New Source Performance Standards (NSPS) of 40 Code of Federal Regulations (CFR) 60.

NESHAP: The facility operates units subject to the National Emissions Standards for Hazardous Air Pollutants (NESHAP) of 40 CFR 63.

CAIR: The facility is subject to the Clean Air Interstate Rule (CAIR) set forth in Rule 62-296.470, F.A.C.

CAM: Compliance Assurance Monitoring (CAM) applies to Emissions Units 033 (Power Boiler No. 3), 037 (Power Boiler No. 4), 067 (Thermal Oxidizer) and 046 (Lime Slaker). Power Boilers Nos. 3 and 4 and the Lime Slaker have regulated PM emission limits and use scrubbers to control PM emissions. The Thermal Oxidizer has regulated SO₂ and NO_x emissions limits and serves as a control device designed to reduce HAP emissions. SO₂ emissions from this unit are controlled by a scrubber with mist eliminator and NO_x emissions are controlled by staged combustion.

PROJECT REVIEW

This permit revises Title V air operation permit 033042-016-AV, effective September 12, 2012, and incorporates the terms and conditions of Title V air construction permit No. 0330042-018-AC, issued June 4, 2013 to authorize the facility to replace the mill's annual pulp production limit with an annual limit on black liquor solids fired in the recovery furnaces. The air construction project also limits the amount of coal fired in Power Boiler No. 3 and removes wood waste, fuel oil and used oil as permitted fuels fired in that boiler.

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CONCLUSION

This project revises Title V air operation permit No. 033042-016-AV, effective September 12, 2012, and incorporates air construction permit 0330042-018-AC, issued June 4, 2013. This Title V air operation permit revision is issued under the provisions of Chapter 403, Florida Statutes (F.S.), and Chapters 62-4, 62-210 and 62-213, F.A.C.

DRAFT / PROPOSED