ROCKTENN CP, LLC
Fernandina Mill
Facility ID #: 0890003

APPENDIX CAM
Compliance Assurance Monitoring Requirements

Compliance Assurance Monitoring Requirements

Pursuant to Rule 62-213.440(1)(b)1.a., F.A.C., the CAM plans that are included in this appendix contain the monitoring requirements necessary to satisfy 40 CFR 64. Conditions 1. – 17. are generic conditions applicable to all emissions units that are subject to the CAM requirements. Specific requirements related to each emissions unit are contained in the attached tables, as submitted by the applicant and approved by the Department.

40 CFR 64.6 Approval of Monitoring.

1. The attached CAM plan(s), as submitted by the applicant, is/are approved for the purposes of satisfying the requirements of 40 CFR 64.3.
[40 CFR 64.6(a)]

2. The attached CAM plan(s) include the following information:
(i) The indicator(s) to be monitored (such as temperature, pressure drop, emissions, or similar parameter);
(ii) The means or device to be used to measure the indicator(s) (such as temperature measurement device, visual observation, or CEMS); and
(iii) The performance requirements established to satisfy 40 CFR 64.3(b) or (d), as applicable.
[40 CFR 64.6(c)(1)]

3. The attached CAM plan(s) describe the means by which the owner or operator will define an exceedance of the permitted limits or an excursion from the stated indicator ranges and averaging periods for purposes of responding to (see **CAM Conditions 5. - 9.)** and reporting exceedances or excursions (see **CAM Conditions 10. – 14.**).
[40 CFR 64.6(c)(2)]

4. The permittee is required to conduct the monitoring specified in the attached CAM plan(s) and shall fulfill the obligations specified in the conditions below (see **CAM Conditions 5. - 17.**).
[40 CFR 64.6(c)(3)]

40 CFR 64.7 Operation of Approved Monitoring.

5. Commencement of operation. The owner or operator shall conduct the monitoring required under this appendix upon the effective date of this Title V permit.
[40 CFR 64.7(a)]

6. Proper maintenance. At all times, the owner or operator shall maintain the monitoring, including but not limited to, maintaining necessary parts for routine repairs of the monitoring equipment.
[40 CFR 64.7(b)]

7. Continued operation. Except for, as applicable, monitoring malfunctions, associated repairs, and required quality assurance or control activities (including, as applicable, calibration checks and required zero and span adjustments), the owner or operator shall conduct all monitoring in continuous operation (or shall collect data at all required intervals) at all times that the pollutant-specific emissions unit is operating. Data recorded during monitoring malfunctions, associated repairs, and required quality assurance or control activities shall not be used for purposes of this part, including data averages and calculations, or fulfilling a minimum data availability requirement, if applicable. The owner or operator shall use all the data collected during all other periods in assessing the operation of the control device and associated control system. A monitoring malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring to provide valid data. Monitoring failures that are caused in part by poor maintenance or careless operation are not malfunctions.

[40 CFR 64.7(c)]

8. Response to excursions or exceedances.

a. Upon detecting an excursion or exceedance, the owner or operator shall restore operation of the pollutant-specific emissions unit (including the control device and associated capture system) to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions. The response shall include minimizing the period of any startup, shutdown or malfunction and taking any necessary corrective actions to restore normal operation and prevent the likely recurrence of the cause of an excursion or exceedance (other than those caused by excused startup or shutdown conditions, if allowed by this permit). Such actions may include initial inspection and evaluation, recording that operations returned to normal without operator action (such as through response by a computerized distribution control system), or any necessary follow-up actions to return operation to within the indicator range, designated condition, or below the applicable emission limitation or standard, as applicable.

b. Determination of whether the owner or operator has used acceptable procedures in response to an excursion or exceedance will be based on information available, which may include but is not limited to, monitoring results, review of operation and maintenance procedures and records, and inspection of the control device, associated capture system, and the process.

[40 CFR 64.7(d)(1) & (2)]

9. Documentation of need for improved monitoring. If the owner or operator identifies a failure to achieve compliance with an emission limitation or standard for which the approved monitoring did not provide an indication of an excursion or exceedance while providing valid data, or the results of compliance or performance testing document a need to modify the existing indicator ranges or designated conditions, the owner or operator shall promptly notify the permitting authority and, if necessary, submit a proposed modification to the Title V permit to address the necessary monitoring changes. Such a modification may include, but is not limited to, reestablishing indicator ranges or designated conditions, modifying the frequency of conducting monitoring and collecting data, or the monitoring of additional parameters.

[40 CFR 64.7(e)]

<u>40 CFR 64.8 Quality Improvement Plan (QIP) Requirements.</u>

10. Based on the results of a determination made under **CAM Condition b.,** above, the permitting authority may require the owner or operator to develop and implement a QIP. Consistent with **CAM Condition 4.**, an accumulation of exceedances or excursions exceeding 5 percent duration of a pollutant-specific emissions unit's operating time for a reporting period, may require the implementation of a QIP. The threshold may be set at a higher or lower percent or may rely on other criteria for purposes of indicating whether a pollutant-specific emissions unit is being maintained and operated in a manner consistent with good air pollution control practices.
[40 CFR 64.8(a)]

11. <u>Elements of a QIP</u>:
a. The owner or operator shall maintain a written QIP, if required, and have it available for inspection.
b. The plan initially shall include procedures for evaluating the control performance problems and, based on the results of the evaluation procedures, the owner or operator shall modify the plan to include procedures for conducting one or more of the following actions, as appropriate:
(i) Improved preventive maintenance practices.
(ii) Process operation changes.
(iii) Appropriate improvements to control methods.
(iv) Other steps appropriate to correct control performance.
(v) More frequent or improved monitoring (only in conjunction with one or more steps under **CAM Condition 11.b(i)** through **(iv)**, above).
[40 CFR 64.8(b)]

12. If a QIP is required, the owner or operator shall develop and implement a QIP as expeditiously as practicable and shall notify the permitting authority if the period for completing the improvements contained in the QIP exceeds 180 days from the date on which the need to implement the QIP was determined.
[40 CFR 64.8(c)]

13. Following implementation of a QIP, upon any subsequent determination pursuant to **CAM Condition b.**, the permitting authority may require that an owner or operator make reasonable changes to the QIP if the QIP is found to have:
a. Failed to address the cause of the control device performance problems; or
b. Failed to provide adequate procedures for correcting control device performance problems as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions.
[40 CFR 64.8(d)]

14. Implementation of a QIP shall not excuse the owner or operator of a source from compliance with any existing emission limitation or standard, or any existing monitoring, testing, reporting or recordkeeping requirement that may apply under federal, state, or local law, or any other applicable requirements under the Act.
[40 CFR 64.8(e)]

40 CFR 64.9 Reporting And Recordkeeping Requirements.

15. General reporting requirements.

a. On and after the date specified in **CAM Condition 5.** by which the owner or operator must use monitoring that meets the requirements of this appendix, the owner or operator shall submit monitoring reports semi-annually to the permitting authority in accordance with Rule 62-213.440(1)(b)3.a., F.A.C.

b. A report for monitoring under this part shall include, at a minimum, the information required under Rule 62-213.440(1)(b)3.a., F.A.C., and the following information, as applicable:

(i) Summary information on the number, duration and cause (including unknown cause, if applicable) of excursions or exceedances, as applicable, and the corrective actions taken;

(ii) Summary information on the number, duration and cause (including unknown cause, if applicable) for monitor downtime incidents (other than downtime associated with zero and span or other daily calibration checks, if applicable); and

(iii) A description of the actions taken to implement a QIP during the reporting period as specified in **CAM Conditions 10.** through **14.** Upon completion of a QIP, the owner or operator shall include in the next summary report documentation that the implementation of the plan has been completed and reduced the likelihood of similar levels of excursions or exceedances occurring.

[40 CFR 64.9(a)]

16. General recordkeeping requirements.

a. The owner or operator shall comply with the recordkeeping requirements specified in Rule 62-213.440(1)(b)2., F.A.C. The owner or operator shall maintain records of monitoring data, monitor performance data, corrective actions taken, any written quality improvement plan required pursuant to **CAM Conditions 10.** through **14.** and any activities undertaken to implement a quality improvement plan, and other supporting information required to be maintained under this part (such as data used to document the adequacy of monitoring, or records of monitoring maintenance or corrective actions).

b. Instead of paper records, the owner or operator may maintain records on alternative media, such as microfilm, computer files, magnetic tape disks, or microfiche, provided that the use of such alternative media allows for expeditious inspection and review, and does not conflict with other applicable recordkeeping requirements.

[40 CFR 64.9(b)]

40 CFR 64.10 Savings Provisions.

17. It should be noted that nothing in this appendix shall:

a. Excuse the owner or operator of a source from compliance with any existing emission limitation or standard, or any existing monitoring, testing, reporting or recordkeeping requirement that may apply under federal, state, or local law, or any other applicable requirements under the Act. The requirements of this appendix shall not be used to justify the approval of monitoring less stringent than the monitoring which is required under separate legal authority and are not intended to establish minimum requirements for the purpose of determining the monitoring to be imposed under separate authority under the Act, including monitoring in permits issued pursuant to title I of the Act. The purpose of this part is to require, as part of the issuance of a permit under Title V of the Act, improved or new monitoring at those emissions units where monitoring requirements do not exist or are inadequate to meet the requirements of this part.

b. Restrict or abrogate the authority of the Administrator or the permitting authority to impose additional or more stringent monitoring, recordkeeping, testing, or reporting requirements on any owner or operator of a source under any provision of the Act, including but not limited to sections 114(a)(1) and 504(b), or state law, as applicable.
c. Restrict or abrogate the authority of the Administrator or permitting authority to take any enforcement action under the Act for any violation of an applicable requirement or of any person to take action under section 304 of the Act.

[40 CFR 64.10]

No. 5 Power Boiler

Emissions Unit		E.U. Description
006		No. 5 Power Boiler: • 805 MMBTU/hr (24-hour average), which generates a nominal steam production of 286,000 lb/hr @ 900 psig and 875 °F
Permitted Fuels:		• Carbonaceous fuel (bark, wood, sawdust, wastewater wood fiber residuals, and bark ash). • No. 6 fuel oil. • Facility-generated on-specification used oil blended with the No. 6 fuel oil. • No. 2 fuel oil (startup).
Pollutant	**Regulation**	**Emissions Limit**
PM	62-296.405(1)(b), F.A.C. Construction Permit No. AC45-194149	0.10 lb/MMBtu heat input from fossil fuel or fossil fuel
	62-296.410(2)(b)(2) F.A.C. Construction Permit No. AC45-194149	0.3 lb/MMBtu heat input of carbonaceous fuel and 0.1 lb/MMBtu heat input of No. 6 fuel oil 137.1 lbs/hr and 598.9 TPY
Control Technology		**Control Description**
Multiple cyclone (w/o fly ash reinjection)		Manufacturer: Barron Industries Model: 55-51100-40 Date of Install: April 1986 • Inlet Gas Temperature: 300-400°F • Inlet Gas Flow Rate: 4.5 acfm • Inlet Gas PM Content: 2.0 gf/dscf • No. of Tubes: 64 • Control Efficiency: 75%
Electrostatic Precipitator		Manufacturer: Research Cottrell Model: IP 3356 Date of Install: November 1985 • One-chamber, three fields • Spark Rate: 2 per minute • Inlet Gas Temperature: 475°F • Inlet Gas Flow Rate: 235,000 acfm • Inlet Gas PM Content: 2160 lb/hr • Control Efficiency: 94%

Monitoring Approach

The monitoring approach is based on monitoring the total secondary power input to the ESP. The monitoring approach is summarized in the table below:

	Indicator No. 1
I. Indicator	ESP secondary voltage and current are measured for each field and are measured to determine the total power input to the ESP.
II. Measurement Approach	The secondary voltage is measured using a voltmeter and the secondary current is measured using an ammeter. The total power (P expressed as kW) input to the ESP is the sum of the products of the secondary voltage (V) and current (I) in each field. ($P = V_1I_1 + V_2I_2 + \ldots V_nI_n$)
III. Indicator Range	An excursion is defined as an ESP power input less than a 15.2 kW based on a 1-hour block average. Excursions trigger an inspection, corrective action, and a reporting requirement.
IV. Performance Criteria	
a. Data Representativeness	The voltage and current are measured using standard instrumentation provided for this purpose.
b. Verification of Operational Status	NA
c. QA/QC Practices and Criteria	Confirm the meters read zero when the unit is not in operation. Calibration as required by the manufacturer, but no less than annually.
d. Monitoring Frequency	The secondary voltage and current are monitored continuously.
e. Data Collection Procedures	Hourly block averages are computed from reading at least once every successive 15-minute period.
f. Averaging Period	1-hour block averages are computed from the 15-minute averages.

Generally, ESP performance improves as total power input increases. The secondary voltage drops when a malfunction, such as ground electrodes, occurs in an ESP. When the secondary voltage drops, less particulate is changed and collected. Also, the secondary voltage can remain high but fail to perform its function if the collection plates are not cleaned, or rapped, appropriately. If the collection plates are not cleaned, the current drops. Power is the product of the voltage and the current. Monitoring the power input should provide reasonable assurance that the ESP is functioning properly.

No. 4 Smelt Dissolving Tank

Emissions Unit		E.U. Description
013		No. 4 Smelt Dissolving Tank: • 137,500 lbs (BLS)/hr (based on a 24-hour average)
Permitted Fuels:		• Black Liquor Solids
Pollutant	**Regulation**	**Emissions Limit**
TRS	62-296.404(3)(d)1., F.A.C. Construction Permit No. AC45-141875	0.048 lb/3000 lbs BLS input 2.2 lbs/hr and 9.64 TPY
Control Technology		**Control Description**
Venturi Scrubber (PM Control) Weak Wash flow rate to scrubber (surrogate parameter for TRS Control)		Manufacturer: Air Pollution, Inc. Date of Install: February 1989 • Inlet Gas Temperature: 165°F • Inlet Gas Flow Rate: 50,000 acfm • Outlet Gas Temperature: 143°F • Outlet Gas Flow Rate: 23,000 acfm • Inlet Gas TRS Content: 22.0 lb/hr • Control Efficiency: 90%

Monitoring Approach

The monitoring approach is based on monitoring the pressure drop across the Venturi scrubber and the weak wash make-up flow rate. The monitoring approach is summarized in the table below:

	Indicator No. 1	Indicator No. 2
I. Indicator	Pressure drop across the scrubber.	Scrubber weak wash make-up flow rate.
II. Measurement Approach	Pressure drop is monitored with a differential pressure transducer.	The scrubber weak wash make-up flow rate is measured using a flow rate sensor.
III. Indicator Range	An excursion is defined as any 3-hour average (block) pressure drop value below 11.0 in. H_2O. Excursions trigger an inspection, corrective action, and a recordkeeping and reporting requirement.	An excursion is defined as any 3-hour average (block) weak wash flow rate below 45 gpm. Excursions trigger an inspection, corrective action, and a recordkeeping and reporting requirement.
IV. Performance Criteria		
a. Data Representativeness	The monitoring system consists of a differential pressure transducer, which measures the pressure drop across the scrubber. The minimum accuracy of the device is ±2 inches of water gauge pressure.	The scrubber weak wash make-up flow rate sensor is located on the weak wash liquid supply line.
b. Verification of Operational Status	NA	NA
c. QA/QC Practices and Criteria	The pressure transducer is maintained in accordance with the manufacturer's recommendations.	The flow rate sensor is maintained in accordance with the manufacturer's recommendations.
d. Monitoring Frequency	Pressure drop is monitored continuously.	Weak wash flow rate is monitored continuously.
e. Data Collection Procedures	Hourly block averages are computed from readings at least once every successive 15-minute period.	Hourly block averages are computed from readings at least once every successive 15-minute period.
f. Averaging Period	3-hour block averages are computed from the hourly averages.	3-hour block averages are computed from the hourly averages.

Pressure drop across the scrubber is a measure of the energy imparted to the gas stream and therefore the efficiency of the scrubbing process. The weak wash make-up flow rate is a measure of sufficient scrubbing liquid being supplied to the scrubber.

No. 5 Smelt Dissolving Tank

Emissions Unit		E.U. Description
014		No. 5 Smelt Dissolving Tank: • 156,780 lbs (BLS)/hr (based on a 24-hour average)
Permitted Fuels:		• Black Liquor Solids
Pollutant	**Regulation**	**Emissions Limit**
TRS	40 CFR 60.283(a)(4)	0.033 lb TRS/ton of BLS input as H_2S 2.59 lbs/hr and 11.08 TPY
Control Technology		**Control Description**
Venturi Scrubber (PM Control) Weak Wash flow rate to scrubber (surrogate parameter for TRS Control)		Manufacturer: Air Pollution, Inc. Date of Install: February 1989 • Inlet Gas Temperature: 165°F • Inlet Gas Flow Rate: 50,000 acfm • Outlet Gas Temperature: 151°F • Outlet Gas Flow Rate: 34,000 acfm • Inlet Gas TRS Content: 259.0 lb/hr • Control Efficiency: 99%

Monitoring Approach

The monitoring approach is based on monitoring the pressure drop across the Venturi scrubber and the weak wash make-up flow rate. The monitoring approach is summarized in the table below:

	Indicator No. 1	Indicator No. 2
V. Indicator	Pressure drop across the scrubber.	Scrubber weak wash make-up flow rate.
VI. Measurement Approach	Pressure drop is monitored with a differential pressure transducer.	The scrubber weak wash make-up flow rate is measured using a flow rate sensor.
VII. Indicator Range	An excursion is defined as any 3-hour average (block) pressure drop value below 5.8 in. H_2O. Excursions trigger an inspection, corrective action, and a recordkeeping and reporting requirement.	An excursion is defined as any 3-hour average (block) weak wash flow rate below 30 gpm. Excursions trigger an inspection, corrective action, and a recordkeeping and reporting requirement.
VIII. Performance Criteria		
a. Data Representativeness	The monitoring system consists of a differential pressure transducer, which measures the pressure drop across the scrubber. The minimum accuracy of the device is ±2 inches of water gauge pressure.	The scrubber weak wash make-up flow rate sensor is located on the weak wash liquid supply line.
b. Verification of Operational Status	NA	NA
c. QA/QC Practices and Criteria	The pressure transducer is maintained in accordance with the manufacturer's recommendations	The flow rate sensor is maintained in accordance with the manufacturer's recommendations.
d. Monitoring Frequency	Pressure drop is monitored continuously.	Weak wash flow rate is monitored continuously.
e. Data Collection Procedures	Hourly block averages are computed from readings at least once every successive 15-minute period.	Hourly block averages are computed from readings at least once every successive 15-minute period.
f. Averaging Period	3-hour block averages are computed from the hourly averages.	3-hour block averages are computed from the hourly averages.

Pressure drop across the scrubber is a measure of the energy imparted to the gas stream and therefore the efficiency of the scrubbing process. The weak wash make-up flow rate is a measure of sufficient scrubbing liquid being supplied to the scrubber.

No. 7 Power Boiler

Emissions Unit		E.U. Description
015		No. 7 Power Boiler • 1,021 MMBTU/hr (24-hour average), which generates a nominal steam production of 825,000 lb/hr @ 850 psig and 825 °F
Permitted Fuels:		• Coal. • No. 5 Power Boiler Fly Ash. • No. 6 Fuel Oil (SSM). • Facility-generated on-specification used oil blended with the No. 6 fuel oil (SSM). • No. 2 fuel oil (SSM).
Pollutant	**Regulation**	**Emissions Limit**
PM	40 CFR 60.42(a)(1) PSD-FL-062 Construction Permit No. AC45- 35532	0.10 lb/MMBtu heat input 102.10 lbs/hr and 447.20 TPY
Control Technology		**Control Description**
Electrostatic Precipitator		Manufacturer: Hamon Research-Cottrell Model: IP 3356 Date of Install: November 1981 • Two-chamber, six fields per chamber • Spark Rate: 2 per minute • Inlet Gas Temperature: 373°F • Inlet Gas Flow Rate: 460,000 acfm • Inlet Gas PM Content: 6435 lb/hr • Control Efficiency: 98%

Monitoring Approach

The monitoring approach is based on monitoring the total secondary power input to the ESP. The monitoring approach is summarized in the table below:

	Indicator No. 1
V. Indicator	ESP secondary voltage and current are measured for each field and are measured to determine the total power input to the ESP
VI. Measurement Approach	The secondary voltage is measured using a voltmeter and the secondary current is measured using an ammeter. The total power (P expressed as kW) input to the ESP is the sum of the products of the secondary voltage (V) and current (I) in each field. ($P = V_1I_1 + V_2I_2 + \ldots V_nI_n$)
VII. Indicator Range	An excursion is defined as an ESP power input less than a 45.2 kW based on a 1-hour block average. Excursions trigger an inspection, corrective action, and a reporting requirement.
VIII. Performance Criteria	
a. Data Representativeness	The voltage and current are measured using standard instrumentation provided for this purpose.
b. Verification of Operational Status	NA
c. QA/QC Practices and Criteria	Confirm the meters read zero when the unit is not in operation. Calibration as required by the manufacturer, but no less than annually.
d. Monitoring Frequency	The secondary voltage and current are monitored continuously.
e. Data Collection Procedures	Hourly block averages are computed from reading at least once every successive 15-minute period.
f. Averaging Period	1-hour block averages are computed from the 15-minute averages.

Generally, ESP performance improves as total power input increases. The secondary voltage drops when a malfunction, such as ground electrodes, occurs in an ESP. When the secondary voltage drops, less particulate is charged and collected. Also, the secondary voltage can remain high but fail to perform its function if the collection plates are not cleaned, or rapped, appropriately. If the collection plates are not cleaned, the current drops. Power is the product of the voltage and the current. Monitoring the power input should provide reasonable assurance that the ESP is functioning properly.