RAYONIER PERFORMANCE FIBERS, LLC
FERNANDINA MILL

Facility ID #: 0890004

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 8.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 8.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)]

<u>40 CFR 64.9 Reporting And Recordkeeping Requirements.</u>

15. <u>General reporting requirements.</u>

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. Semi-annually shall mean, for the purposes of this condition, that a monitoring report shall be submitted to the Department (postmarked) no later than the thirty-first day in the month of July for the monitoring period of January – June and the thirty-first day in month of January for the monitoring period of July – December.

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. <u>General recordkeeping requirements.</u>

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)]

<u>40 CFR 64.10 Savings Provisions.</u>

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]

Emissions Unit		E.U. Description
022		No. 6 Power Boiler – Bubbling Fluidized Bed: • 525 MMBTU/hr (based on an annual basis), which generates a nominal steam production of 330,000 lb/hr @ 900 psig and 875 °F • 660 MMBTU/hr (24-hour average), which generates maximum steam production of 400,000 lb/hr
Permitted Fuels:		• Biomass, consisting of green bark, knots, chips, fines and landscape waste. • Tire derived fuel (TDF). • No. 6 fuel oil. • Facility-generated on-specification used oil blended with the No. 6 fuel oil. • No. 2 fuel oil.
Pollutant	**Regulation**	**Emissions Limit**
PM	Permit No. 0890004-040-AC	0.0557 lb/MMBtu heat input 36.75 lbs/hr 128.0 TPY
	40CFR 60.42(a)(1)	0.10 lb/MMBtu heat input from fossil fuel or fossil fuel and wood residue 66.0 lbs/hr
	62-296.410(2)(b)(2) FAC	0.2 lb/MMBtu heat input of carbonaceous fuel and 0.1 lb/MMBtu heat input of fossil fuel 132.0 lbs/hr
Control Technology		**Control Description**
Settling Chamber Electrostatic Precipitator		Manufacturer: • One-chamber, four electric fields • Spark Rate: 0 -10 per minute • Inlet Gas Temperature: 400°F • Inlet Gas Flow Rate: 240,000 acfm • Moisture in Inlet Gas: 15% • Inlet Gas PM Content: 2.5 gr/dscf

Monitoring Approach

The monitoring approach is based on monitoring the total secondary power input to the ESP, and the change in the duct opacity. The monitoring approach is summarized in the table below:

	Indicator No. 1	Indicator No. 2
I. Indicator	**Total Electrostatic Power**	**Change in Duct Opacity**
II. Measurement Approach	Recording ammeters and voltmeters are installed to monitor these electrical parameters for each of the four fields of the ESP. From this data total power is calculated as follows: $P_t = V_1I_1 + V_2I_2 + V_3I_3 + V_4I_4$ Where P_t = total ESP power (watts) V_1 = Secondary voltage (kV), ESP field 1 I_1 = Secondary current (ma), ESP field 1 V_2 = Secondary voltage (kV), ESP field 2 I_2= Secondary current (ma), ESP field 2 V_3 = Secondary voltage (kV), ESP field 3 I_3 = Secondary current (ma), ESP field 3 V_4 = Secondary voltage (kV), ESP field 4 I_4 = Secondary current (ma), ESP field 4	Continuous opacity monitoring system (COMS). Note: The COMS is located downstream of the ESP and prior to the stack induced-draft fan of the No. 6 Power Boiler. In accordance with Alternate Procedure and Requirement No. 07-B-AP, the location is a minimum of two duct diameters from a flow disturbance.
III. Indicator Range	Total secondary power input to the electrostatic precipitator less than 10 kilowatts (kW) on a one hour block average will be considered an excursion and triggers an action level (non sludge burning mode). When mill effluent treatment system solids (sludge) is cofired with allowable fuels, an excursion will be defined as an ESP power input level less than 45 kW on a one hour block average and triggers an action level. An action level will trigger an investigaton of the occurrrence, corrective actions, and documentaton of the event.	A sustained opacity reading of 7% or greater for ten consecutive six-minute averages [one hour block average] (other than start-up and shutdown periods) will be considered as an action level. An action level will trigger an ivestigaton of the occurrrence, corrective actions, and documentaton of the event. The operator will also determine the ESP total power input at the onset of the excursion.

	Indicator No. 1	Indicator No. 2
IV. Performance Criteria **a. Data Representativeness**	Ammenters and voltmeters are installed for each precipitator field in accordance with the manufacturer's instruction and standard practice and record continuously.	Based on available data under normal operation, opacity varies with operating conditions and control device performance. The ammeters and voltmeters are installed for each precipitator field in accordance with manufacturers' instructions and standard practice. These meters record secondary current and voltage continuously.
b. Verification of Operational Status	Alarms are set at the minimum total power level to alert the operators and have the meter serviced.	The COMS is audited quarterly.
c. QA/QC Practices and Criteria	The voltmeters and ammeterswill be calibrated and maintained as required by the manufacturer, but no less than annually. This is specified in the mill's preventive maintenance system.	The COMS is installed and operated according to 40 CFR 60, Appendix B, Performance Specification 1, and the general provisions of 40 CFR 60.13.
d. Monitoring Frequency	This monitoring is continuous. The operator has instantaneous and running hourly average readouts and alarms.	Continuous.
e. Data Collection Procedures	The meters provide input on a second-by-second basis. About once each month, these data are downloaded, consolidated into 15-minute averages and stored in an Environmental Data Management Database.	The COMS collects data that are reduced to six-minute averages. Consecutive six-minute averages are tracked through the CEM software.
f. Averaging Period	15-minute averages are stored for a period of 5 years to comply with the CAM Rule and Title V record-keeping requirements. A one hour block average is used to determine an action level.	The COMS records six-minute averages to demonstrate compliance with the opacity limit. For CAM purposes ten consecutive six-minute averages are averaged into a one-hour block average which is used to determine an action level.