



# Florida Department of Environmental Protection

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## PERMITTEES

LignoTech Florida, LLC  
and Rayonier Performance Fibers (RPF), LLC  
P.O. Box 2002  
Fernandina Beach, Florida 32035

### *Authorized Representatives:*

Mr. Mark Homans, LignoTech Florida (LTF)  
Mr. C. A. McDonald, (RFP)

Air Permit Nos. 0890444-001-AC (PSD-FL-438) & 0890004-050-AC  
Expires: October 18, 2021

Lignosulfonate Plant and Fernandina Beach  
Dissolving Sulfite Pulp Plant  
Facility ID Nos. 0890444 & 0890004

New Lignosulfonate Plant and Sulfite Pulp Plant Modifications

## PROJECT

This is the final air construction permit, which authorizes the construction of a new 165,344 ton per year (TPY) lignosulfonate products production plant at the existing Rayonier Dissolving Sulfite Pulp Plant, which is a Pulp Mill categorized under Standard Industrial Classification No. 2611 (Pulp Mills) and NAICS No. 322121 (Pulp and Paper Manufacturing). The new plant will be categorized under Standard Industrial Classification Code (SIC) No. 2861 (Gum and Wood Chemicals) and North American Industrial Classification System (NAICS) No. 325194 (Cyclic Crude, Intermediate, and Gum and Wood Chemical Manufacturing). The plant will be located in Nassau County at 10 Gum Street in Fernandina Beach, Florida. The UTM coordinates of the new LignoTech plant will be Zone 17, 454.5 km East, and 3,392.1 km North. The UTM coordinates of the existing RPF plant are Zone 17, 454.7 kilometers (km) East, and 3,392.2 km North.

This final permit is organized into the following sections: Section 1 (General Information); Section 2 (Administrative Requirements); Section 3 (Emissions Unit Specific Conditions); and Section 4 (Appendices). Because of the technical nature of the project, the permit contains numerous acronyms and abbreviations, which are defined in Appendix A of Section 4 of this permit.

## STATEMENT OF BASIS

This air pollution construction permit is issued under the provisions of: Chapter 403 of the Florida Statutes (F.S.) and Chapters 62-4, 62-204, 62-210, 62-212, 62-296 and 62-297 of the Florida Administrative Code (F.A.C.). The permittee is authorized to conduct the proposed work in accordance with the conditions of this permit. This project is subject to the general preconstruction review requirements in Rule 62-212.300, F.A.C. and the preconstruction review requirements for major stationary sources in Rule 62-212.400, F.A.C. for the Prevention of Significant Deterioration (PSD) of Air Quality.

Upon issuance of this final permit, any party to this order has the right to seek judicial review of it under Section 120.68 of the Florida Statutes by filing a notice of appeal under Rule 9.110 of the Florida Rules of Appellate Procedure with the clerk of the Department of Environmental Protection in the Office of General Counsel (Mail Station #35, 3900 Commonwealth Boulevard, Tallahassee, Florida, 32399-3000) and by filing a copy of the notice of appeal accompanied by the applicable filing fees with the appropriate District Court of Appeal. The notice must be filed within 30 days after this order is filed with the clerk of the Department.

Executed in Tallahassee, Florida

*For:*

Syed Arif, P.E., Program Administrator  
Office of Permitting and Compliance  
Division of Air Resource Management

## FINAL PERMIT

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### CERTIFICATE OF SERVICE

The undersigned duly designated deputy agency clerk hereby certifies that this Final Air Construction Permit package was sent by electronic mail, or a link to these documents made available electronically on a publicly accessible server, with received receipt requested before the close of business on the date indicated below to the following persons.

Mr. Mark Homans, LignoTech Florida, LLC ([mark.homans@lignotechflorida.com](mailto:mark.homans@lignotechflorida.com))

Mr. C. A. McDonald, Rayonier Performance Fibers, LLC ([ca.mcdonald@rayonieram.com](mailto:ca.mcdonald@rayonieram.com))

Mr. David Rogers, Rayonier Performance Fibers, LLC ([david.rogers@rayonieram.com](mailto:david.rogers@rayonieram.com))

Mr. David Buff, P.E., Golder Associates, Inc. ([dbuff@golder.com](mailto:dbuff@golder.com))

Mr. Rick Rachal, Program Administrator, Northeast District Office ([richard.rachal@dep.state.fl.us](mailto:richard.rachal@dep.state.fl.us))

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Ms. Lynn Searce, DEP OPC: ([lynn.searce@dep.state.fl.us](mailto:lynn.searce@dep.state.fl.us))

Ms. Barbara Friday, DEP OPC: ([barbara.friday@dep.state.fl.us](mailto:barbara.friday@dep.state.fl.us))

Clerk Stamp

**FILING AND ACKNOWLEDGMENT FILED**, on this date, pursuant to Section 120.52(7), Florida Statutes, with the designated agency clerk, receipt of which is hereby acknowledged.

## SECTION 1. GENERAL INFORMATION

### FACILITY DESCRIPTION

The existing Rayonier plant consists of the following emissions units.

Facility ID No. 0890004	
EU No.	Emission Unit Description
005	Vent Gas Scrubber and Direct Contact Condenser
006	Sulfite Recovery Boiler, red liquor solids and oil fired boiler
010	Biological Effluent Treatment System
011	Dissolving-Grade Bleaching System
021	Evaporator Vents Methanol Condenser
022	No. 6 Power Boiler
024	Temporary Emergency Generators

Rayonier Performance Fibers is an acid sulfite-based pulp mill using ammonia as the base chemical for the manufacture of dissolving pulp. This plant produces approximately 10 different grades of pulp. The pulp produced at this plant is used in products such as plastics, photographic film, LCD screens, paints, cigarette filters, pharmaceuticals, food production, cosmetics and textiles. The mill is permitted to produce a maximum of 175,000 ADMT of pulp per year, on a 12-month rolling total basis. Additional modifications such as the pulp dryer and pulp machine improvements are necessary to achieve the permitted maximum production rate, which are outlined in Appendix CP of the current Title V Permit No. 0890004-043-AV.

The sulfite process utilizes a sulfurous acid and ammonium bisulfite cooking solution to chemically separate the lignin from the cellulose. Pine wood chips and cooking solution are cooked in the six (6) batch digesters. The cooking process requires approximately 6 hours to complete. The unbleached sulfite pulp and spent cooking solution (SSL - spent sulfite liquor) are separated over vacuum washers (red stock washers). The unbleached pulp is then sent into the screening area to remove any knots and tailings (uncooked, woody materials), while the SSL is pumped to the evaporators to concentrate the solids before being burned in the recovery boiler. The collected knots and tailings are pressed for use as fuel in the No. 6 Power Boiler.

The sulfurous acid and ammonium bisulfite cooking solution is prepared in the "Cooking Acid Plant". Two molten sulfur burners are currently used to produce SO<sub>2</sub> which is converted to sulfurous acid (H<sub>2</sub>SO<sub>3</sub>) in the acid fortification tower. Emissions from the cooking acid plant are sent to a caustic scrubber referred to as the Vent Gas Scrubber (VGS). The digesters, washers, evaporators, SSL tanks, and stock tanks are also vented to the VGS.

The unbleached pulp exiting the screening operation enters the bleach plant. The first stage in the bleaching plant is the Hot Caustic Extraction (HCE) stage. Caustic soda is used to remove hemi-cellulose (small chain cellulose molecules) from the pulp in small pressure vessels called an HCE cells. The mill currently operates eight (8) of these cells. The pulp is then washed after the HCE stage. The spent solution, Hot Caustic Extract, is concentrated in a set of evaporators before being sold to Kraft mills for its sodium content and energy value.

Pulp leaving the HCE stage is further purified in continuous and batch stages using various bleaching chemicals such as peroxide, chlorine dioxide, chlorine, sodium hydroxide, and sodium hypochlorite depending upon the pulp grade specifications. Following these bleaching stages, the pulp passes through centrifugal dirt cleaners before being sent to the pulp machine. The pulp machine forms the sheet by draining water from the pulp slurry (containing 99% water) over a moving wire to a consistency of 50% water. The remainder of the water is removed by passing the pulp sheet over pressing and drying cylinders heated internally with steam. The pulp sheet, which contains approximately 7% moisture, is then wound onto a "jumbo" roll before being transported to the finishing room where the pulp sheet is cut into smaller rolls or sheets based on customer specifications. No coatings are used on any of the pulp grades produced by the mill.

The digestion process, the HCE stage, and the pulp machine processes are significant users of steam for heating. Steam used at the plant is produced in the No. 6 Power Boiler and the Sulfite Recovery Boiler. The No. 6 Power

## SECTION 1. GENERAL INFORMATION

Boiler is authorized to burn biomass, No. 6 fuel oil, No. 2 fuel oil, on-specification used oil, tires, and mill effluent treatment system solids. The Sulfite Recovery Boiler is currently authorized to burn Red Liquor Solids (RLS) generated from the digestion and evaporation processes, No. 6 and No. 2 fuel oils, and on-specification used oil. The steam produced is also used to generate nearly 100 percent of the mill's electricity needs. In addition, the recovery boiler provides steam for the evaporators and its emissions are scrubbed for sulfur dioxide recovery using an ammonia solution. The ammonium bisulfite produced in the scrubber is used for cooking acid make-up.

### PROPOSED PROJECT

The new lignosulfonate product manufacturing plant will process up to 165,344 tons per year (TPY) red liquor on an oven dry basis [red liquor solids (RLS)] from the Rayonier plant to manufacture wet and dry lignosulfonate products. The products manufactured at the new plant will include ammonium lignosulfonate, ion exchanged sodium lignosulfonate, and further processed ion exchanged sodium lignosulfonate. Lignosulfonate products have a wide variety of uses in other industries such as an additive to concrete to reduce water requirements, an additive to bricks and roof tiles for improved strength, as a soil conditioner, and as an animal feed binder. The wet products will be shipped to customers by truck or railcar, while the dry products will be packaged and then shipped to customers. The Lignin Plant will be constructed in two phases. The first phase will have an anticipated production capacity of 110,230 tons per year of product on a dry solids per year basis (TDS/yr), equivalent to 100,000 metric tons dry solids per year (MTDS/yr). The second phase will increase production capacity to 165,344 TDS/yr (150,000 MTDS/yr). The proposed plant will operate continuously (8,760 hours per year).

Existing emissions units at the Rayonier plant will need to be modified to accommodate the operation of this new plant. Rayonier will be adding a 3<sup>rd</sup> sulfur burner rated at 38.6 tons per day (TPD) to its cooking acid plant and adding 450.6 million British thermal units per hour (MMBtu/hr) of natural gas capability to the recovery boiler. The 3<sup>rd</sup> sulfur burner will primarily operate when RLS is being processed by the new lignosulfonate products plant, but may operate at other times as necessary to maintain the sulfur balance in the pulp manufacturing process and ensure equipment reliability. The maximum permitted operating rate of the recovery boiler will remain at 70,000 lbs RLS per hour, which is equivalent to 653.1 MMBtu/hr. The emissions generated from the 3<sup>rd</sup> sulfur burner and recovery boiler will vent to the existing scrubber systems.

This project will add and/or modify the following emissions units.

Facility ID No. 0890004 – Rayonier Performance Fibers	
EU No.	Emission Unit Description
-005	Vent Gas Scrubber and Direct Contact Condenser
-006	Sulfite Recovery Boiler, red liquor solids and oil fired boiler

Facility ID No. 0890444 – LignoTech Florida, LLC (new)	
EU No.	Description
-001	Two (2) 30 MMBtu/hr Spray Dryers controlled by High-Efficiency Cyclones and Venturi Scrubbers
-002	Two (2) Ion Exchange Columns controlled by Wet Scrubbers
-003	Three (3) Product Storage Silos
-004	Packaging Operation with Three (3) Packaging Bins
-005	Induced-Draft Cooling Tower Set with High-Efficiency Mist Eliminators
-006	Facility-wide Fugitive Emissions

### FACILITY REGULATORY CLASSIFICATION

- The RPF plant is a major source of hazardous air pollutants (HAP). The LTF plant will be located at a major source of HAP.

## SECTION 1. GENERAL INFORMATION

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- The facilities do not operate units subject to the acid rain provisions of the Clean Air Act (CAA).
- The combined facility is a Title V major source of air pollution in accordance with Chapter 62-213, F.A.C., however, each plant will apply for its own Title V permit.
- The combined facility is a major stationary source in accordance with Rule 62-212.400(PSD), F.A.C.

## SECTION 2. ADMINISTRATIVE REQUIREMENTS

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1. Permitting Authority: The Permitting Authority for this project is the Office of Permitting and Compliance in the Division of Air Resource Management of the Department of Environmental Protection (Department). The mailing address for the Office of Permitting and Compliance is 2600 Blair Stone Road, MS #5505, Tallahassee, Florida 32399-2400. All documents related to applications for permits to operate an emissions unit shall be submitted to the Northeast District Office at: 8800 Baymeadows Way West, Suite 100, Jacksonville, Florida 32256.
2. Compliance Authority: All documents related to compliance activities such as reports, tests, and notifications shall be submitted to the Northeast District Office at: 8800 Baymeadows Way West, Suite 100, Jacksonville, Florida 32256.
3. Appendices: The following Appendices are attached as a part of this permit: Appendix A (Citation Formats and Glossary of Common Terms); Appendix B (General Conditions); Appendix C (Common Conditions); Appendix D (Common Testing Requirements); Appendix E (Final BACT Determinations); Appendix F (NSPS 40 CFR 60, Subpart D); Appendix G (NSPS 40 CFR 60, Subpart A – General Provisions); Appendix H (NESHAP 40 CFR 63, Subpart S); Appendix I (NESHAP 40 CFR 63, Subpart MM); Appendix J (NESHAP 40 CFR 63, Subpart FFFF); and, Appendix K (NESHAP 40 CFR 63, Subpart A – General Provisions).
4. Applicable Regulations, Forms and Application Procedures: Unless otherwise specified in this permit, the construction and operation of the subject emissions units shall be in accordance with the capacities and specifications stated in the application. The facility is subject to all applicable provisions of: Chapter 403, F.S.; and Chapters 62-4, 62-204, 62-210, 62-212, 62-213, 62-296 and 62-297, F.A.C. Issuance of this permit does not relieve the permittee from compliance with any applicable federal, state, or local permitting or regulations.
5. New or Additional Conditions: For good cause shown and after notice and an administrative hearing, if requested, the Department may require the permittee to conform to new or additional conditions. The Department shall allow the permittee a reasonable time to conform to the new or additional conditions, and on application of the permittee, the Department may grant additional time. [Rule 62-4.080, F.A.C.]
6. Modifications: No emissions unit shall be constructed or modified without obtaining an air construction permit from the Department. Such permit shall be obtained prior to beginning construction or modification. [Rules 62-210.300(1) and 62-212.300(1)(a), F.A.C.]
7. Construction and Expiration. The expiration date shown on the first page of this permit provides time to complete the physical construction activities authorized by this permit, complete any necessary compliance testing, and obtain an operation permit. Notwithstanding this expiration date, all specific emissions limitations and operating requirements established by this permit shall remain in effect until the facility or emissions unit is permanently shut down. For good cause, the permittee may request that that a permit be extended. Pursuant to Rule 62-4.080(3), F.A.C., such a request shall be submitted to the Permitting Authority in writing before the permit expires. [Rules 62-4.070(3) & (4), 62-4.080 & 62-210.300(1), F.A.C.]
8. Source Obligation:
  - a. Authorization to construct shall expire if construction is not commenced within 18 months after receipt of the permit, if construction is discontinued for a period of 18 months or more, or if construction is not completed within a reasonable time. This provision does not apply to the time period between construction of the approved phases of a phased construction project except that each phase must commence construction within 18 months of the commencement date established by the Department in the permit.
  - b. At such time that a particular source or modification becomes a major stationary source or major modification (as these terms were defined at the time the source obtained the enforceable limitation) solely by virtue of a relaxation in any enforceable limitation which was established after August 7, 1980, on the capacity of the source or modification otherwise to emit a pollutant, such as a restriction on hours

## SECTION 2. ADMINISTRATIVE REQUIREMENTS

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of operation, then the requirements of subsections 62-212.400(4) through (12), F.A.C., shall apply to the source or modification as though construction had not yet commenced on the source or modification.

- c. At such time that a particular source or modification becomes a major stationary source or major modification (as these terms were defined at the time the source obtained the enforceable limitation) solely by exceeding its projected actual emissions, then the requirements of subsections 62-212.400(4) through (12), F.A.C., shall apply to the source or modification as though construction had not yet commenced on the source or modification.

[Rule 62-212.400(12), F.A.C.]

9. **Title V Permit:** This permit authorizes specific modifications and new construction on the affected emissions units as well as initial operation to determine compliance with conditions of this permit. Title V operation permits are required for regular operation of the permitted emissions units. The permittees shall apply for Title V operation permits at least 90 days prior to expiration of this permit, but no later than 180 days after completing the required work and commencing operation. To apply for a Title V operation permit, the applicants shall submit the appropriate application forms, compliance test results, and such additional information as the Department may by law require. The application shall be submitted to the appropriate Permitting Authority with copies to each Compliance Authority. [Rules 62-4.030, 62-4.050 and Chapter 62-213, F.A.C.]
10. **Actual Emissions Reporting:** This permit is based on an analysis that compared baseline actual emissions with projected actual emissions and avoided the requirements of subsection 62-212.400(4) through (12), F.A.C. for several pollutants. Therefore, pursuant to Rule 62-212.300(1)(e), F.A.C., the permittee is subject to the following monitoring, reporting and recordkeeping provisions.
  - a. The permittee shall monitor the emissions of any PSD pollutant that the Department identifies could increase as a result of the construction or modification and that is emitted by any emissions unit that could be affected; and, using the most reliable information available, calculate and maintain a record of the annual emissions, in tons per year on a calendar year basis, for a period of 10 years following resumption of regular operations after the change. Emissions shall be computed in accordance with the provisions in Rule 62-210.370, F.A.C., which are provided in Appendix C of this permit.
  - b. The permittee shall report to the Department within 60 days after the end of each calendar year during the 10-year period setting out the unit's annual emissions during the calendar year that preceded submission of the report. The report shall contain the following:
    - (1) The name, address and telephone number of the owner or operator of the major stationary source;
    - (2) The annual emissions as calculated pursuant to the provisions of 62-210.370, F.A.C., which are provided in Appendix C of this permit;
    - (3) If the emissions differ from the preconstruction projection, an explanation as to why there is a difference; and
    - (4) Any other information that the owner or operator wishes to include in the report.
  - c. The information required to be documented and maintained pursuant to subparagraphs 62-212.300(1)(e)1 and 2, F.A.C., shall be submitted to the Department, which shall make it available for review to the general public.

For this project, the permit requires the annual reporting of actual *CO*, *NO<sub>x</sub>*, *SO<sub>2</sub>*, and *VOC* emissions for the following units: *Facility No. 0890004: 005 – Vent Gas Scrubber and 006 – Sulfite Recovery Boiler; and, Facility No. 0890444 – Lignosulfonate Products Plant.*

[Application 0890444-001-AC and 0890004-050-AC; and Rules 62-212.300(1)(e) and 62-210.370, F.A.C.]

**SECTION 3. EMISSIONS UNIT SPECIFIC CONDITIONS**

**A. Vent Gas Scrubber and Direct Contact Condenser (RPF EU-005)**

This section of the permit addresses the following emissions unit.

EU No.	Emission Unit Description
-005	<p>Vent Gas Scrubber and Direct Contact Condenser</p> <p>The vent gas scrubber (wet scrubber) controls emissions from numerous vents from the cooking acid plant, the red stock washers, the unwashed stock tank, the spent sulfite liquor storage tanks, the spent sulfite liquor washer area, the digesters (6), and the blow pits. The scrubber is a packed bed containing 10 feet of packing consisting of two packed sections. The lower section is designed for sulfur dioxide emissions control via gas absorption using alkaline scrubbing media (soda ash, sodium hydroxide, etc.). The spent scrubber media is bled first to other closed sources to make maximum use of the alkali to remove sulfur dioxide, and then to sewer via closed piping to number 1 Pump Station. The sulfur dioxide concentration in the stack is continuously measured with a CEMS.</p> <p>The upper packed section of the vent gas scrubber is designed to condense methanol from the gas stream by direct contact with fresh well water, i.e. the Direct Contact Condenser. This is a once through process. The condensed methanol held in the water is sent to the biological effluent treatment system for treatment in order to comply with the requirements of 40 CFR 63 Subpart S.</p> <p>As part of this project, a new molten sulfur burner is being added to the cooking acid plant in addition to the two existing sulfur burners. The design capacity of the new burner is 38.6 tons per day and emissions will be vented to the existing vent gas scrubber.</p> <p>The scrubber stack is 180 feet high and 5.0 feet in diameter, with an exit temperature of approximately 80°F and a new maximum design flow rate of 32,504 actual cubic feet per minute.</p>

*{Permitting Note: The emissions standards and performance restrictions specified in this subsection allow the above emission unit to avoid NNSR preconstruction review for the following pollutant: Sulfur Dioxide (SO<sub>2</sub>).}*

**EQUIPMENT**

1. **New Sulfur Burner:** The permittee is authorized to install a third sulfur burner to the two existing sulfur burners before the existing Vent Gas Scrubber. The new sulfur burner will have a maximum sulfur burning design capacity of 38.6 tons per day (1.61 tons per hour). The maximum flow rate of the Vent Gas Scrubber system will increase from 25,797 to a design rate of 32,504 acfm. In order to avoid NNSR review, the maximum SO<sub>2</sub> concentration will be limited to 82 ppmv (12-month rolling average) as determined by the existing SO<sub>2</sub> CEMS. [Application Nos. 0890444-001-AC and 0890004-050-AC; and, Rule 62-210.200(PTE), F.A.C.] *{Permitting Note: The PTE for the Vent Gas Scrubber system will increase from 107.6 tons/year to 111.2 TPY tons/year.}*
2. **Equipment Start-up:** The permittee shall not begin commercial operation of the new molten sulfur burner until the new natural gas burners in the Sulfite Recovery Boiler (see Subsection B) have been installed and become commercially operational. The 3<sup>rd</sup> sulfur burner and new natural gas burners in the Recovery Boiler will become operational after a reasonable shakedown period, not to exceed 180 days for each emissions unit. Notification of commencement of commercial operation of the third sulfur burner and natural gas burners shall be provided to the Compliance Authority in writing within 7 days, for each emissions unit. [Rule 62-4.070(3), F.A.C.]

**PERFORMANCE RESTRICTIONS**

3. **Permitted Capacity:** The capacity of the new molten sulfur burner shall not exceed 38.6 tons per day, based on a 12-month rolling average, rolled monthly. [Rule 62-210.200(PTE), F.A.C.]
4. **Authorized Fuel:** The permittee is authorized to burn molten sulfur in the new sulfur burner. Propane may be fired as needed during startup, shutdown, and flame stabilization. No other fuels may be burned unless specifically authorized by the Department. [Application Nos. 0890444-001-AC and 0890004-050-AC and Rule 62-210.200(PTE), F.A.C.]
5. **Modes of Operation:** This emission unit may operate with any combination of the three sulfur burners in operation at full or partial capacity, and the amount of RLS sent to the lignosulfonate production plant varying



## SECTION 3. EMISSIONS UNIT SPECIFIC CONDITIONS

### A. Vent Gas Scrubber and Direct Contact Condenser (RPF EU-005)

from 0 to 150,000 MTDS/yr, provided the total SO<sub>2</sub> emissions from Emissions Units 005 (Vent Gas Scrubber) and 006 (Recovery Boiler) do not exceed 759 tons per year, based on a 12-month rolling total. Monthly and 12-month rolling records of total SO<sub>2</sub> emissions from these emissions units shall be kept on-site and made available for inspection by the Department upon request. [Rules 62-212.400(1)(b) and 62-4.070(3), F.A.C.]

6. Restricted Operation: The hours of operation of this emissions unit are not limited (8,760 hours per year). [Rules 62-4.070(3) and 62-210.200(PTE), F.A.C.]
7. Duty to Minimize Emissions. At all times, the owner or operator must operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source. [40 CFR 63.453(q)]
8. NESHAP Subpart S Requirements. The Vent Gas Scrubber system and the affected sources controlled by the scrubber shall comply with all of the applicable requirements of 40 CFR 63, Subpart S, attached in Appendix H of this permit. [Rule 62-204.800, F.A.C.]

### EMISSIONS STANDARDS

9. Emissions Standards:
  - a. *Sulfur Dioxide (SO<sub>2</sub>) Emissions*. As determined by CEMS, SO<sub>2</sub> emissions shall not exceed 82 ppmv (12-month rolling average) and 111.2 tons per year. [Application Nos. 0890444-001-AC and 0890004-050-AC; and, Rule 62-210.200(PTE), F.A.C.]
  - b. *Nitrogen Oxides (NO<sub>x</sub>) Emissions*. As determined by reference method stack test, NO<sub>x</sub> emissions shall not exceed 0.37 lb/ton sulfur burned and 4.8 tons per year. [Application Nos. 0890444-001-AC and 0890004-050-AC; and, Rule 62-210.200(PTE), F.A.C.] {*Permitting Note: The equivalent hourly NO<sub>x</sub> emission rate is 1.1 lb per hour based on 0.37 lb/ton sulfur burned, total for all three sulfur burners*}
  - c. *Visible Emissions*. Visible emissions (VE) from the Vent Gas Scrubber shall not exceed 20% opacity. [Rule 62-296.320(4)(b)1., F.A.C. and Permit No. 0890004-010-AC]

### TESTING REQUIREMENTS

10. Initial Compliance Tests: The Vent Gas Scrubber emissions unit shall be tested to demonstrate initial compliance with the emissions standards for SO<sub>2</sub>, NO<sub>x</sub> and VE. The initial tests shall be conducted within 60 days after achieving permitted capacity, but not later than 180 days after initial operation of the third sulfur burner. The annual RATA testing may be used to satisfy the initial test requirement for SO<sub>2</sub>. [Rules 62-4.070(3) and 62-297.310(8)(b)1., F.A.C.]
11. Annual Compliance Tests: During each calendar year (January 1 – December 31), the Vent Gas Scrubber emissions unit shall be tested to demonstrate compliance with the emissions standards for SO<sub>2</sub> and VE. The annual RATA testing may be used to satisfy the annual test requirement for SO<sub>2</sub>. [Rule 62-297.310(8)(a)1., F.A.C.]
12. Compliance Tests Prior to Renewal: After the initial compliance tests under **Specific Condition A.10.**, subsequent compliance tests for NO<sub>x</sub> shall be conducted every 5 years. [Rule 62-297.310(8)(b)1., F.A.C.]
13. Test Requirements: The permittee shall notify the Compliance Authority in writing at least 15 days prior to any required tests. Tests shall be conducted in accordance with the applicable requirements specified in Appendix D (Common Testing Requirements) of this permit. [Rule 62-297.310(9), F.A.C.]
14. Test Methods: Required tests shall be performed in accordance with the following reference methods.

## SECTION 3. EMISSIONS UNIT SPECIFIC CONDITIONS

### A. Vent Gas Scrubber and Direct Contact Condenser (RPF EU-005)

Method	Description of Method and Comments
1-4	Traverse Points, Velocity and Flow Rate, Gas Analysis, and Moisture Content
7E	Determination of Nitrogen Oxide Emissions from Stationary Sources
8	Method for Determining SO <sub>2</sub> and Sulfuric Acid Mist Emissions
9	Visual Determination of the Opacity of Emissions from Stationary Sources

The above methods are described in Appendix A of 40 CFR 60 and are adopted by reference in Rule 62-204.800, F.A.C or 40 CFR 63.14. No other methods may be used unless prior written approval is received from the Department. [Rules 62-204.800, F.A.C.; and Appendix A of 40 CFR 60]

#### MONITORING REQUIREMENTS

15. **SO<sub>2</sub> CEMS:** The permittee shall calibrate, operate, and maintain the existing SO<sub>2</sub> CEMS on the Vent Gas Scrubber stack in accordance with 40 CFR 60, Appendix B, Performance Specification 2 and Appendix F. [Rules 62-297.310(8)(a)5.b. and 62-4.070(3), F.A.C.]

#### EXCESS EMISSIONS

16. **Excess Emissions – Startup and Shutdown.** Excess emissions resulting from startup, shutdown or malfunction of any emissions unit shall be permitted provided that best operational practices to minimize emissions are adhered to and the duration of excess emissions shall be minimized but in no case exceed two hours in any 24-hour period unless specifically authorized by the Department for longer duration. [Rule 62-210.700(1), F.A.C.]
17. **Excess Emissions – Work Practice Plan.** The permittee shall develop and implement a work practice plan within 180 days of startup of the 3<sup>rd</sup> sulfur burner, in order to ensure that excess emissions from the Vent Gas Scrubber during startup, shutdown, and malfunction are minimized to the extent practicable in a manner consistent with safety and good air pollution control practices for minimizing emissions, in accordance with **Specific Condition A.7**. The permittee shall include the plan with the Title V operation permit application required under **Specific Condition 9** of Section 2. Administrative Requirements. [Rules 62-4.070(3) and 62-213.420, F.A.C.]
18. **Excess Emissions Prohibited.** Excess emissions which are caused entirely or in part by poor maintenance, poor operation, or any other equipment or process failure which may reasonably be prevented during startup, shutdown or malfunction shall be prohibited. [Rule 62-210.700(4), F.A.C.]

#### RECORDS AND REPORTS

19. **Test Reports:** The permittee shall prepare and submit reports for all required tests in accordance with the requirements specified in Appendix D (Common Testing Requirements) of this permit. For each test run, the report shall also indicate the sulfur burners' operation rates (lbs/hour) and the unbleached pulp production rate (ADUP/hr). In addition, for each SO<sub>2</sub> performance test run, the permittee shall also include the average pounds of SO<sub>2</sub> per ton of sulfur burned during the test. [Rule 62-297.310(10), F.A.C.]

**SECTION 3. EMISSIONS UNIT SPECIFIC CONDITIONS**

**B. Sulfite Recovery Boiler (RPF EU 006)**

This section of the permit addresses the following emissions unit.

ID No.	Emission Unit Description
-006	<p>Sulfite Recovery Boiler fired on Red Liquor Solids (RLS), Natural Gas, No. 6 Fuel Oil, No. 2 Fuel Oil, and On-Specification Used Oil</p> <p>Combustion gases from the boiler and non-condensable gases from the evaporators are controlled through a multi-stage wet scrubber that utilizes ammonium hydroxide as the scrubbing medium. This absorption process produces a fine, aerosol type particulate, which is subsequently controlled by a filter unit, the Brinks Demister. The Brinks Demister consists of four, enclosed rubber-lined metal compartments each containing 52 candles. Each candle is a 24-inch diameter, 12-foot high cylinder with 6 inches of tightly wound polyester fiber filter held within a concentric wire cage. Gases flow up through the center of each candle then pass through the 6 inches of filter medium, out an opening near the top of the compartment and on to the stack.</p> <p>The sulfur dioxide concentration within the stack is measured continuously using a CEMS; therefore, this emissions unit is exempt from CAM. A BetaGuard Particulate Monitor is the CMS utilized to demonstrate compliance with 40 CFR 63 Subpart MM.</p> <p>The recovery boiler stack is 250 feet high and 7.33 feet in diameter, with an exit temperature of approximately 114°F and a maximum design flow rate of 141,606 actual cubic feet per minute.</p>

**EQUIPMENT**

1. Natural Gas and Fuel Oil Burners: The permittee is authorized to install natural gas capabilities to the 12 existing fuel burners (6.2 MMBtu/hr from natural gas for each burner) on the sulfite recovery boiler. In addition, new natural gas burners each rated at 62.7 MMBtu/hr will be installed on six of the existing burners. The existing No. 6 fuel oil burners will also be modified to meet NOx emission limits under 40 CFR Part 60, Subpart D. The maximum heat input from natural gas will be 450.6 MMBtu/hr. In addition to natural gas, the existing sulfite recovery boiler will continue to be able to fire red liquor solids, No. 6 fuel oil, No. 2 fuel oil, and on-specification used oil generated on-site. SO<sub>2</sub> emissions from the sulfite recovery boiler are continuously monitored by CEMS. [Application Nos. 0890444-001-AC and 0890004-050-AC]

**PERFORMANCE RESTRICTIONS**

2. Annual Pulp Production Limit: The annual pulp production rate shall not exceed 175,000 metric tons per 12-consecutive month period. Compliance with this limit shall be demonstrated each month on a 12-month rolling basis. Records shall be kept on-site and made available for inspection upon request by the Department. [Rules 62-4.070(3), 62-4.160(7)(a), and 62-212.400(12), F.A.C.]  
*{Permitting Note: The pulp production limit effectively limits the production of RLS that is burned in the Sulfite Recovery Boiler. The RLS production rate is calculated by multiplying the pulp production rate in MT/year by a maximum conversion factor of 1.71, which is equivalent to a maximum of 299,460 tons per year RLS.}*
3. Permitted Capacity: The heat input to the recovery boiler shall not exceed 70,000 lb/hour of oven dry RLS, which is equivalent to a heat input rate of 653.1 MMBtu/hour based on a fuel heating value of 9,330 Btu/lb of RLS. This is also equivalent to approximately 11,015 gallons per hour (gph) of red liquor. Natural gas and/or fuel oil may be used to supplement the firing of RLS up to the maximum permitted heat input rate. [Rule 62-210.200(PTE) and Rule 62-212.400(12), F.A.C. and Permit No. 0890004-043-AV]
4. Authorized Fuels: The permittee is authorized to fire red liquor solids (RLS), natural gas, No. 6 fuel oil with up to 2.5% sulfur by weight, No. 2 fuel oil, and on-specification used oil in the recovery boiler. No other fuels shall be burned in the recovery boiler unless specifically authorized by the Department. [Application Nos. 0890444-001-AC and 0890004-050-AC and Rule 62-210.200(PTE), F.A.C.]
5. Restricted Operation: The hours of operation are not limited (8,760 hours per year). [Rules 62-4.070(3) and 62-210.200(PTE), F.A.C.]

## SECTION 3. EMISSIONS UNIT SPECIFIC CONDITIONS

### B. Sulfite Recovery Boiler (RPF EU 006)

6. NSPS Subpart D Requirements. When firing fossil fuel(s), the Sulfite Recovery Boiler shall comply with all of the applicable requirements of 40 CFR 60, Subpart D, attached in Appendix F of this permit. [Rule 62-204.800, F.A.C. and Application Nos. 0890444-001-AC and 0890004-050-AC]
7. NESHAP Subpart MM Requirements. The Sulfite Recovery Boiler shall comply with all of the applicable requirements of 40 CFR 63, Subpart MM, attached in Appendix I of this permit. [Rule 62-204.800, F.A.C. and Application Nos. 0890444-001-AC and 0890004-050-AC]

### EMISSIONS STANDARDS

#### 8. Emissions Standards:

- a. NO<sub>x</sub> Emissions. As determined by reference method stack test, NO<sub>x</sub> emissions shall not exceed 0.20 lb/MMBtu derived from natural gas, and 0.30 lb/MMBtu derived from fuel oil. These standards shall be based on a 3-hour average. When more than one type of fossil fuel is being fired simultaneously, the emissions standard for NO<sub>x</sub> shall be prorated as follows:

$$PS_{NOx} = \frac{x(0.20) + y(0.30)}{x + y}$$

Where:

PS<sub>NO<sub>x</sub></sub> = Prorated standard for NO<sub>x</sub> when burning different fuels simultaneously, in lb/MMBtu heat input derived from all fossil fuels fired;

x = Percentage of total heat input derived from gaseous fossil fuel; and,

y = Percentage of total heat input derived from liquid fossil fuel.

The permittee also has the option to install, calibrate, operate, and maintain a NO<sub>x</sub> CEMS on the recovery boiler stack in accordance with 40 CFR 60, Appendix B, Performance Specification 2 and Appendix F. [40 CFR 60.44; Rule 62-296.405, F.A.C.; and, Application Nos. 0890444-001-AC and 0890004-050-AC]

- b. SO<sub>2</sub> Emissions. As determined by CEMS, SO<sub>2</sub> emissions shall not exceed 250 ppmvd, 3-hour average. In addition, SO<sub>2</sub> emissions derived from fuel oil shall not exceed 0.80 lb/MMBtu. If fuel oil and natural gas are fired simultaneously, the heat input contribution from natural gas may be included in the total heat input when demonstrating compliance with this standard. [40 CFR 60.43; Rule 62-296.405, F.A.C.; Application Nos. 0890444-001-AC and 0890004-050-AC; and, Permit No. 0890004-043-AV]
- c. PM Emissions. As determined by reference method stack test, PM emissions shall not exceed 0.040 grains per dry standard cubic foot (gr/dscf), corrected to 8 percent oxygen. In addition, as determined by reference method stack test, PM emissions derived from fuel oil shall not exceed 0.10 lb/MMBtu. [40 CFR 63.862(a)(2); 40 CFR 60.42(a)(1); Rule 62-296.405, F.A.C.; and, Application Nos. 0890444-001-AC and 0890004-050-AC]
- d. Visible Emissions. As determined by EPA Method 9, visible emissions from the firing of fuel oil only shall not exceed 20 percent opacity except for one six-minute period per hour which shall not exceed 27 percent opacity. [40 CFR 60.42(a)(2); Rules 62-296.405 and 62-296.320(4)(b)1., F.A.C.; OGC Case No. 90-0332, DOAH Case 90-2153, Final Order dated June 19, 1991, Air Construction permit 0890004-001-AC; and, Application Nos. 0890444-001-AC and 0890004-050-AC]

### TESTING REQUIREMENTS

9. Initial Compliance Tests: The emissions unit shall be tested to demonstrate initial compliance with the emissions standards for NO<sub>x</sub> when firing natural gas, and for NO<sub>x</sub>, SO<sub>2</sub>, PM, and VE when firing fuel oil. The initial tests shall be conducted within 60 days after achieving permitted capacity, but not later than 180 days after initial operation of the modified unit. The annual RATA testing may be used to satisfy the initial test requirement for SO<sub>2</sub>. [Rules 62-4.070(3) and 62-297.310(8)(b)1, F.A.C.]
10. Annual Compliance Tests: During each calendar year (January 1<sup>st</sup> to December 31<sup>st</sup>), the emissions unit shall be tested to demonstrate compliance with the emissions standards for NO<sub>x</sub> when firing natural gas, and for SO<sub>2</sub>, NO<sub>x</sub>, PM, and VE when firing fuel oil. The annual RATA testing may be used to satisfy the annual test

## SECTION 3. EMISSIONS UNIT SPECIFIC CONDITIONS

### B. Sulfite Recovery Boiler (RPF EU 006)

requirement for SO<sub>2</sub>. Annual testing for NO<sub>x</sub>, PM and VE is not required during any calendar year in which the unit fires fuel oil less than 400 hours. [Rule 62-297.310(8)(a)2 and 62-297.310(8)(a)5., F.A.C.]

11. **Test Requirements:** The permittee shall notify the Compliance Authority in writing at least 15 days prior to any required tests. Tests shall be conducted in accordance with the applicable requirements specified in Appendix D (Common Testing Requirements) of this permit. If an alternate sampling procedure (ASP) is approved by the Department in order to demonstrate compliance with the emissions limits in this subsection, the ASP shall apply in lieu of the applicable requirements in this permit and Appendix D. [Rule 62-297.310(9), F.A.C.]
12. **Test Methods:** Required tests shall be performed in accordance with the following reference methods.

Method	Description of Method and Comments
1-4	Traverse Points, Velocity and Flow Rate, Gas Analysis, and Moisture Content
5	Method for Determining Particulate Matter Emissions
6C	Method for Determining SO <sub>2</sub> Emissions (Instrumental)
7E	Determination of Nitrogen Oxide Emissions from Stationary Sources
9	Visual Determination of the Opacity of Emissions from Stationary Sources
19	Determination of Sulfur Dioxide Removal Efficiency and Particulate Matter, Sulfur Dioxide, and Nitrogen Oxides Emission Rates (Optional F-factor method may be used to determine flow rate and gas analysis to calculate mass emissions in lieu of Methods 1-4.)

The above methods are described in Appendix A of 40 CFR 60 and are adopted by reference in Rule 62-204.800, F.A.C. No other methods may be used unless prior written approval is received from the Department. [Rules 62-204.800, F.A.C.; and Appendix A of 40 CFR 60]

### MONITORING REQUIREMENTS

13. **PM CPMS.** The permittee shall continue to operate, maintain, and calibrate the existing BetaGuard PM CPMS on the Sulfite Recovery Boiler stack. [Rule 62-4.070(3), F.A.C. and Permit No. 0890004-043-AV]

### EXCESS EMISSIONS

14. **Excess Emissions – Startup and Shutdown.** Excess emissions resulting from startup, shutdown or malfunction of any emissions unit shall be permitted provided that best operational practices to minimize emissions are adhered to and the duration of excess emissions shall be minimized but in no case exceed two hours in any 24-hour period unless specifically authorized by the Department for longer duration. [Rule 62-210.700(1), F.A.C.]
15. **Excess Emissions – Startup, Shutdown, and Malfunction.** The permittee shall develop and implement a revised startup, shutdown, and malfunction (SSM) plan within 180 days of startup of the natural gas burners, in order to ensure that at all times, including during startup, shutdown, and malfunction, excess emissions from the Sulfite Recovery Boiler are minimized to the extent practicable in a manner consistent with safety and good air pollution control practices for minimizing emissions. The SSM plan shall contain specific procedures for operating the source and maintaining the source during periods of startup, shutdown, and malfunction, and a program of corrective action for malfunctioning process and control systems used to comply with the standards. In addition to the information required in §63.6(e), the plan shall include the requirements in paragraphs a. and b. below:
- a. Procedures for responding to any process parameter level that is inconsistent with the level(s) established during the initial particulate matter performance test, including the following procedures:
- (1) Procedures to determine and record the cause of an operating parameter exceedance and the time the exceedance began and ended; and

## SECTION 3. EMISSIONS UNIT SPECIFIC CONDITIONS

### B. Sulfite Recovery Boiler (RPF EU 006)

(2) Corrective actions to be taken in the event of an operating parameter exceedance, including procedures for recording the actions taken to correct the exceedance.

- b. The startup, shutdown, and malfunction plan also must include the following schedules:
- (1) A maintenance schedule for each control technique that is consistent with, but not limited to, the manufacturer's instructions and recommendations for routine and long-term maintenance; and
  - (2) An inspection schedule for each continuous monitoring system to ensure, at least once in each 24-hour period, that each continuous monitoring system is properly functioning.

The permittee shall include the revised SSM plan with the Title V operation permit application required under **Specific Condition 9** of Section 2. Administrative Requirements.

[40 CFR 63.866(a) and Rule 62-213.420, F.A.C.]

16. Excess Emissions Prohibited. Excess emissions which are caused entirely or in part by poor maintenance, poor operation, or any other equipment or process failure which may reasonably be prevented during startup, shutdown or malfunction shall be prohibited. [Rule 62-210.700(4), F.A.C.]

### RECORDS AND REPORTS

17. Test Reports: The permittee shall prepare and submit reports for all required tests in accordance with the requirements specified in Appendix D (Common Testing Requirements) of this permit. For each test run, the report shall also indicate the fuels being fired, the heat input rate of each fuel and the total heat input rate, and the average CPMS readings. [Rule 62-297.310(10), F.A.C.]

18. Operational Data: The permittee shall maintain the following records:

- a. Monthly and 12-month rolling records of the type and amount of each fuel combusted in the Sulfite Recovery Boiler;
- b. Records of the monitored operating parameters required under **Specific Condition B.13.**;
- c. Records of any occurrence when the 3-hour average monitored PM CPMS readings are outside of the established ranges, including any corrective action taken to bring the unit into compliance with the established ranges; and,
- d. Monthly and 12-month rolling records of hours of operation that the boiler fired fuel oil.

[40 CFR 63.866 and Rule 62-4.070(3), F.A.C.]

19. Quarterly Excess Emissions Reports. The permittee shall submit quarterly excess emissions reports to the Compliance Authority within 30 days of the end of each calendar quarter, if source met the conditions described in **Specific Condition B.18.c.** during the calendar quarter. The reports shall contain all required CMS measurements (including monitoring data recorded during unavoidable CMS breakdowns and out-of-control periods), the date and time identifying each period during which the CMS was inoperative except for zero (low-level) and high-level checks, the date and time identifying each period during which the CMS was out of control, as defined in §63.8(c)(7), the specific identification (i.e., the date and time of commencement and completion) of each period of excess emissions and parameter monitoring exceedances, as defined in the relevant standard(s), that occurs during startups, shutdowns, and malfunctions of the affected source, the specific identification (i.e., the date and time of commencement and completion) of each time period of excess emissions and parameter monitoring exceedances, as defined in the relevant standard(s), that occurs during periods other than startups, shutdowns, and malfunctions of the affected source, the nature and cause of any malfunction (if known), the corrective action taken or preventive measures adopted, the nature of the repairs or adjustments to the CMS that was inoperative or out of control, the total process operating time during the reporting period, and all procedures that are part of a quality control program developed and implemented for CMS under §63.8(d). The reports shall also include the number and duration of occurrences when the source met the conditions in **Specific Condition B.18.c.** The reporting frequency may be reduced to semiannually if the permittee can demonstrate that the unit was in continuous compliance for 1 full year (12-consecutive calendar months). [40 CFR 63.10, 63.867(c), and 63.864(k)(1)(ii)]

### SECTION 3. EMISSIONS UNIT SPECIFIC CONDITIONS

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#### B. Sulfite Recovery Boiler (RPF EU 006)

20. Semiannual Reports. The permittee shall submit semiannual reports to the Compliance Authority within 30 days of the end of each calendar half, if source did not meet the conditions described in **Specific Condition B.18.c.** during the calendar half, and the source was in continuous compliance for 1 full year prior to the beginning of the semiannual reporting period. The reports shall indicate whether there were six or more occurrences within the 6-month reporting period when the source met the conditions in **Specific Condition B.18.c.** If there were no such occurrences, the report shall state that there were no excess emissions during the reporting period. [40 CFR 63.867(c)(1) and 63.864(k)(2)(iii)]

## SECTION 3. EMISSIONS UNIT SPECIFIC CONDITIONS

### C. Lignosulfonate Products Plant – Common Conditions (LTF)

This section of the permit addresses the following emissions units.

Facility ID No. 0890444	
EU No.	Description
001	Two (2) 30 MMBtu/hr Spray Dryers controlled by High-Efficiency Cyclones and Venturi Scrubbers
002	Two (2) Ion Exchange Columns controlled by Wet Scrubbers
003	Three (3) Product Storage Silos
004	Packaging Operation with Three (3) Packaging Bins
005	Induced-Draft Cooling Tower with High-Efficiency Mist Eliminators
006	Plant-wide Fugitive Emissions

#### EQUIPMENT

1. Phase I Construction. In Phase I (2017-2018), the permittee is authorized to construct the following:

- One ammonium ion exchange column with a maximum red liquor processing design capacity of 26.68 tons per hour, followed by an absorber to control VOC and ammonia emissions;
- One spray dryer, with a maximum dry solid processing design rate of 6.56 tons per hour of feed;
- The spray dryer will include direct-fired natural gas burners with a maximum design capacity of 30 MMBtu/hr to provide process heat;
- High-efficiency cyclones will be installed after the spray dryer to collect product materials; and,
- A high-efficiency wet venturi scrubber will be installed after the cyclones to control particulate matter emissions (adjustable throat with chevron mist eliminators).

After Phase I is complete, the maximum red liquor solids processing capacity of the plant will be 110,229 tons per consecutive 12-month period (dry solids-basis) and the maximum lignosulfonate production rate will be 110,229 tons per consecutive 12 months. [Application Nos. 0890444-001-AC and 0890004-050-AC]

2. Phase II Construction. In Phase II (2020-2021), the permittee is authorized to construct the following:

- One ammonium ion exchange column with a maximum red liquor processing design capacity of 13.34 tons per hour, followed by an absorber to control VOC and ammonia emissions;
- One spray dryer with a maximum dry solid processing design rate of 6.56 tons per hour of feed;
- The spray dryer will include direct-fired natural gas burners with a maximum design capacity of 30 MMBtu/hr to provide process heat;
- High-efficiency cyclones will be installed after the spray dryer to collect product materials; and,
- A high-efficiency wet venturi scrubber will be installed after the cyclones to control particulate matter emissions (adjustable throat with chevron mist eliminators).

After Phase II is complete, the maximum red liquor solids processing capacity of the lignin plant will be 165,344 tons per consecutive 12-month period and the maximum lignosulfonate production rate will be 165,344 tons per consecutive 12-month period. [Application Nos. 0890444-001-AC and 0890004-050-AC]

3. Additional Equipment. In each phase, permittee is authorized to install the following equipment:

- Buffer tank, reactors, flash vessels, and other ancillary equipment. The buffer tank will vent to a condenser. Reactors #1, #2 and #3 vent to a separator, and also have pressure relief valves. The flash tank and reactor following the flash tank will be atmospheric devices;
- Dry material handling equipment including sizing, packaging, conventional conveyors, pneumatic conveyors, and screw conveyors. All conveyors shall be located inside a building or completely enclosed to prevent fugitive particulate matter emissions;



### SECTION 3. EMISSIONS UNIT SPECIFIC CONDITIONS

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#### C. Lignosulfonate Products Plant – Common Conditions (LTF)

- c. The finished powder products will be transferred pneumatically from the spray dryer separators to the product storage silos and then to the packaging bins. Bin vent filters shall be installed on each packaging bin and baghouses on each product storage silo to control particulate matter during pneumatic transfer and loading;
- d. Miscellaneous tanks, storage vessels, buffering tanks, mixers, and product tanks; and,
- e. An induced-draft cooling tower set designed with high-efficiency mist eliminators.

[Application Nos. 0890444-001-AC and 0890004-050-AC]

#### PERFORMANCE RESTRICTIONS

- 4. Plant Production Capacity. The maximum red liquor solids (RLS) processing capacity of the lignosulfonate products plant shall not exceed 165,344 tons per consecutive 12-month period (dry solids-basis) and the maximum lignosulfonate production rate shall not exceed 165,344 tons per consecutive 12-month period (dry solids-basis).
- 5. NESHAP Subpart FFFF Requirements. The lignosulfonates processing plant is subject to the NESHAP for Miscellaneous Organic Chemical Manufacturing – 40 CFR 63, Subpart FFFF, which is attached in Appendix J of this permit. The permittee shall comply with all applicable requirements for all miscellaneous organic chemical processing units (MOCPU). Based on the permit application, there are no applicable emissions limits under this regulation. If it is determined through testing and monitoring that further emissions control is required, the permittee shall apply to revise this permit within 60 days of becoming aware of such information.

[40 CFR 63, Subpart FFFF; Rule 62-4.070(3), F.A.C.; and, Application Nos. 0890444-001-AC and 0890004-050-AC]

**SECTION 3. EMISSIONS UNIT SPECIFIC CONDITIONS**

**D. 30 MMBtu/hr Spray Dryers and Ion Exchange Columns (LTF EU 001 and 002)**

This section of the permit addresses the following emissions units.

ID No.	Emission Unit Description
-001	Two (2) 30 MMBtu/hr Spray Dryers controlled by High-Efficiency Cyclones and Wet Venturi Scrubbers  The 30 MMBtu/hr direct-fired spray dryers operate by atomizing a slurry of sodium lignosulfonate and drying the suspended solids with the upward motion of the hot combustion gases. The dried product is collected in high-efficiency cyclones and deposited into product storage silos. The PM emissions from the spray dryers will be controlled by high-efficiency venturi scrubbers. The maximum exhaust flow rate of each spray dryer will be approximately 68,593 actual cubic feet per minute (acfm).  The spray dryer stacks will be approximately 100 feet high and 6.23 feet in diameter, with a flue gas temperature of approximately 113 degrees Fahrenheit.
-002	Two (2) Ion Exchange Columns controlled by Wet Scrubbers (Absorbers)

**POLLUTION CONTROL EQUIPMENT**

1. Cyclones and Scrubbers for Spray Dryers. The permittee shall install and operate high-efficiency cyclones for product recovery, followed by high-efficiency wet venturi scrubbers for the control of particulate matter emissions from the spray dryers. The venturi scrubbers shall be designed and operated to achieve an outlet grain loading of 0.011 grains per dry standard cubic foot. [Rule 62-212.400(BACT), F.A.C.; and, Application Nos. 0890444-001-AC and 0890004-050-AC]
2. Absorbers for Ion Exchange Columns. The permittee shall install and operate absorbers after the ion exchange units for the control of VOC and ammonia emissions. The combined control efficiency of the two absorbers shall be a minimum of 60% for VOC. [Rule 62-212.400(1)(b) and 62-4.070(3), F.A.C.; and, Application Nos. 0890444-001-AC and 0890004-050-AC]

**PERFORMANCE RESTRICTIONS**

3. Permitted Capacity:
  - a. Each spray dryer shall have a maximum design dry solids processing rate of 7.2 tons per hour (dry solids-basis). Each spray dryer’s throughput shall not exceed 6.56 tons per hour (12-month rolling average). The heat input to each spray dryer shall not exceed 30 MMBtu/hr (12-month rolling average).
  - b. The first ion exchange column shall have a maximum design red liquor processing capacity of 26.68 tons per hour (12-month rolling average). The second ion exchange column shall have a maximum red liquor processing capacity of 13.34 tons per hour (12-month rolling average).  
[Rule 62-210.200(PTE), F.A.C.]
4. Authorized Fuels: The permittee is authorized to fire only pipeline-quality natural gas in the spray dryers (sulfur content of 2 grains per 100 dry standard cubic feet). Compliance shall be demonstrated by keeping records of the vendor’s fuel analysis. No other fuels shall be fired unless specifically authorized by the Department. [Rules 62-212.400(BACT) and 62-210.200(PTE), F.A.C.; Application Nos. 0890444-001-AC and 0890004-050-AC]
5. Restricted Operation: The hours of operation are not limited (8,760 hours per year).  
[Rule 62-210.200(PTE), F.A.C.]
6. Scrubbing Liquid: The scrubbing liquid used in the venturi scrubbers and absorbers shall be de-ionized process water from the adjacent sulfite pulp mill or other source of fresh water. The scrubber effluents may be recycled back to the scrubbers, and may be treated to remove product material. Ultimate disposal shall be commingling with the pulp mill wastewater and directed to the existing biological treatment system. [Rule 62-4.070(3), F.A.C.; and, Application Nos. 0890444-001-AC and 0890004-050-AC]

## SECTION 3. EMISSIONS UNIT SPECIFIC CONDITIONS

### D. 30 MMBtu/hr Spray Dryers and Ion Exchange Columns (LTF EU 001 and 002)

#### EMISSIONS STANDARDS

##### 7. Emissions Standards:

- a. *PM/PM<sub>10</sub>/PM<sub>2.5</sub> Emissions - BACT.* As determined by reference method stack test, PM/PM<sub>10</sub>/PM<sub>2.5</sub> emissions including condensable PM emissions from each of the spray dryers shall not exceed 0.011 grains per dry standard cubic foot (gr/dscf) and 4.58 pounds per hour. [Rule 62-212.400(BACT), F.A.C.; and, Application Nos. 0890444-001-AC and 0890004-050-AC] *{Permitting Note: Based on the limited data on fine particulate matter for this type of plant, an exceedance of the grain loading or lb/hr emission limit is not necessarily a violation of this permit. The permittee may apply for a revision to this permit upon completion of initial testing and review of site-specific test data.}*
- b. *PM Emissions – SIP.* In addition, PM emissions from the spray dryers shall not exceed the emission rate determined by the following equation:

$$E = 3.59P^{0.62}$$

where:

E = PM emissions in pounds per hour

P = process weight rate in tons per hour

Compliance with this emission limit shall be demonstrated by showing compliance with the BACT emission limit in **a.** above. [Rule 62-296.320(4)(a)2., F.A.C.; and, Application Nos. 0890444-001-AC and 0890004-050-AC]

- c. *VOC Emissions.* As determined by reference method stack test, in order to avoid PSD review, total VOC emissions from the following emissions units shall not exceed:
- (1) Both spray dryers combined: 7.88 pounds per hour and 34.5 TPY.
  - (2) Both ion exchange columns combined: 1.03 pounds per hour and 4.5 TPY.
- [Rule 62-210.200(PTE) and 62-212.400(1)(b), F.A.C.; and, Application Nos. 0890444-001-AC and 0890004-050-AC]
- d. *NO<sub>x</sub> Emissions.* As determined by reference method stack test, in order to avoid PSD review, NO<sub>x</sub> emissions from each spray dryer shall not exceed 4.1 pounds per hour and 17.8 TPY. [Rule 62-210.200(PTE) and 62-212.400(1)(b), F.A.C.; and, Application Nos. 0890444-001-AC and 0890004-050-AC]
- e. *CO Emissions.* As determined by reference method stack test, in order to avoid PSD review, CO emissions from each spray dryer shall not exceed 10.2 pounds per hour and 44.6 TPY. [Rule 62-210.200(PTE) and 62-212.400(1)(b), F.A.C.; and, Application Nos. 0890444-001-AC and 0890004-050-AC]
- f. *Visible Emissions.* As determined by EPA Method 9, visible emissions from the spray dryers shall not exceed 10 percent opacity. [Rule 62-212.400(BACT), F.A.C.; and, Application Nos. 0890444-001-AC and 0890004-050-AC]

#### TESTING REQUIREMENTS

8. Initial Compliance Tests: The spray dryers shall be tested to demonstrate initial compliance with the emissions standards for PM/PM<sub>10</sub>/PM<sub>2.5</sub>, CO, NO<sub>x</sub>, VOC, and VE. The ion exchange columns shall be tested to demonstrate initial compliance with the emissions standards for VOC. The initial tests shall be conducted within 60 days after achieving permitted capacity, but not later than 180 days after initial operation of the unit. Subsequent tests for CO, VOC, and NO<sub>x</sub> shall be conducted every 5 years or 60 months from the previous test. [Rules 62-4.070(3) and 62-297.310(8)(b)1., F.A.C.]
9. Annual Compliance Tests: During each calendar year (January 1<sup>st</sup> to December 31<sup>st</sup>), the spray dryers shall be tested to demonstrate compliance with the emissions standards for PM/PM<sub>10</sub>/PM<sub>2.5</sub> and VE. [Rule 62-297.310(8)(a)2 and 62-297.310(8)(a)5.e., F.A.C.]

### SECTION 3. EMISSIONS UNIT SPECIFIC CONDITIONS

#### D. 30 MMBtu/hr Spray Dryers and Ion Exchange Columns (LTF EU 001 and 002)

10. **Test Requirements:** The permittee shall notify the Compliance Authority in writing at least 15 days prior to any required tests. Tests shall be conducted in accordance with the applicable requirements specified in Appendix D (Common Testing Requirements) of this permit. If an alternate sampling procedure (ASP) is approved by the Department in order to demonstrate compliance with the emissions limits in this subsection, the ASP shall apply in lieu of the applicable requirements in this permit and Appendix D. [Rule 62-297.310(9), F.A.C.]
11. **Test Methods:** Required tests shall be performed in accordance with the following reference methods.

Method	Description of Method and Comments
1-4	Traverse Points, Velocity and Flow Rate, Gas Analysis, and Moisture Content
5	Determination of Particulate Matter Emissions from Stationary Sources
201, 202	Determination of Filterable PM <sub>10</sub> /PM <sub>2.5</sub> and Condensable PM <sub>2.5</sub> Emissions from Stationary Sources.
7E	Determination of Nitrogen Oxide Emissions from Stationary Sources
9	Visual Determination of the Opacity of Emissions from Stationary Sources
10	Determination of Carbon Monoxide Emissions from Stationary Sources
25A/B	Determination of VOC Emissions from Stationary Sources

The above methods are described in Appendix A of 40 CFR 60 and are adopted by reference in Rule 62-204.800, F.A.C. No other methods may be used unless prior written approval is received from the Department. [Rules 62-204.800, F.A.C.; and Appendix A of 40 CFR 60]

#### MONITORING REQUIREMENTS

12. **Scrubber Parameter Monitoring:** The permittee install, calibrate, maintain, and operate a CPMS that can be used to determine and record the pressure drop across each of the spray dryer scrubbers and the scrubbing liquid flow rates at least once every successive 15-minute period as well as the following procedures:
- The monitoring devices used for the continuous measurement of the pressure drop of the gas stream across each scrubber must be certified by the manufacturer to be accurate to within a gauge pressure of  $\pm 10$  percent of the design pressure drop; and,
  - The monitoring devices used for continuous measurement of the scrubbing liquid flow rates must be certified by the manufacturer to be accurate within  $\pm 10$  percent of the design scrubbing liquid flow rate.
- [Rules 62-297.310(6) and 62-4.070(3), F.A.C.]

#### EXCESS EMISSIONS

13. **Excess Emissions – Startup, Shutdown, and Malfunction.** Excess emissions resulting from startup, shutdown or malfunction of any emissions unit shall be permitted provided that best operational practices to minimize emissions are adhered to and the duration of excess emissions shall be minimized but in no case exceed two hours in any 24-hour period unless specifically authorized by the Department for longer duration. [Rule 62-210.700(1), F.A.C.]
14. **Excess Emissions – Work Practice Plan.** The permittee shall develop and implement a work practice plan within 180 days of startup of the emissions units in this subsection, in order to ensure that excess emissions during startup, shutdown, and malfunction are minimized to the extent practicable in a manner consistent with safety and good air pollution control practices for minimizing emissions. The permittee shall include the plan with the Title V operation permit application required under **Specific Condition 9** of Section 2. Administrative Requirements. [Rules 62-4.070(3) and 62-213.420, F.A.C.]

### SECTION 3. EMISSIONS UNIT SPECIFIC CONDITIONS

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#### D. 30 MMBtu/hr Spray Dryers and Ion Exchange Columns (LTF EU 001 and 002)

15. Excess Emissions Prohibited. Excess emissions which are caused entirely or in part by poor maintenance, poor operation, or any other equipment or process failure which may reasonably be prevented during startup, shutdown or malfunction shall be prohibited. [Rule 62-210.700(4), F.A.C.]

#### RECORDS AND REPORTS

16. Test Reports: The permittee shall prepare and submit reports for all required tests in accordance with the requirements specified in Appendix D (Common Testing Requirements) of this permit. For each test run, the report shall also indicate the heat input rate (MMBtu/hour) and the operation rate (tons per hour), as applicable. Each particulate matter compliance test report shall include the average monitored value for each of the parameters listed in **Specific Condition D.12.** for each test run, as well as the range of scrubber parameter values that have demonstrated compliance with the particulate matter emission limits.  
[Rule 62-297.310(10), F.A.C.]
17. Operational Data: The permittee shall maintain the following records:
- Monthly and 12-month rolling records of the amount of material processed in the ion exchange columns and the spray dryers (tons per year);
  - Monthly and 12-month rolling records of the hours of operation of the ion exchange columns and the spray dryers;
  - Records of regular and preventative maintenance activities;
  - Records of the monitored scrubber operating parameters required under **Specific Condition D.12.**;
  - Records of any occurrence when the 3-hour average monitored scrubber parameters are outside of the ranges established during the latest compliance test for PM, including any corrective action taken to bring the unit into compliance with the established ranges; and,
  - Records of the natural gas vendor's fuel analysis.

[Rule 62-4.070(3), F.A.C.]

**SECTION 3. EMISSIONS UNIT SPECIFIC CONDITIONS**

**E. Product Storage Silos and Packaging Bins (LTF EU 003 and 004)**

This section of the permit addresses the following emissions units.

ID No.	Emission Unit Description
-003	Three (3) Product Storage Silos
-004	Packaging Operation with Three (3) Packaging Bins

**POLLUTION CONTROL EQUIPMENT**

- Pollution Control Devices. The permittee shall install and operate high-efficiency baghouses or bin vent filters on the product storage silos, packaging bins, and packaging operations for the control of particulate matter emissions from the material handling and packaging operations. The PM control devices shall be designed and operated to achieve an outlet grain loading of 0.002 grains per dry standard cubic foot (PTFE-laminated filter bags or equivalent). Filter bags shall only be replaced with bags that meet the design dust outlet specification. Records of the equipment manufacturer’s emissions performance guarantee(s) shall be maintained on-site at all times and made available for inspection upon request. [Design; Rule 62-212.400(BACT), F.A.C.; and, Application Nos. 0890444-001-AC and 0890004-050-AC]

**PERFORMANCE RESTRICTIONS**

- Equipment Capacity:
  - The maximum design dry solids feed rate to the product storage silos shall be 7.2 tons per hour. The feed rate to the storage silos shall not exceed 6.56 tons per hour (12-month rolling average).
  - The maximum design dry solids feed rate to the packaging bins shall be 16.5 tons per hour. The feed rate to the packaging bins shall not exceed 6.56 tons per hour (12-month rolling average).

*{Permitting note: The production rate of the spray dryers effectively limits the process rates to the Product Storage Silos}*

[Rule 62-210.200(PTE), F.A.C.; and, Application Nos. 0890444-001-AC and 0890004-050-AC]
- Restricted Operation: The hours of operation are not limited (8,760 hours per year). [Rule 62-210.200(PTE), F.A.C.]

**EMISSIONS STANDARDS**

- Emissions Standards:
  - PM/PM<sub>10</sub>/PM<sub>2.5</sub> Emissions.* When required in accordance with Rule 62-297.310(8)(c), *Special Compliance Tests*, F.A.C., as determined by reference method stack test, PM/PM<sub>10</sub>/PM<sub>2.5</sub> emissions from the product storage silos and packaging operations shall be operated not to exceed the applicable emissions rates in pounds per hour:

Emission Point	EU	Design Flow Rate (acfm)	Design Grain Loading <sup>1</sup> (gr/dscf)	Emissions Rate (lb/hr)	Basis
Product Storage Silo No. 1	003	5,000	0.002	0.076	BACT
Product Storage Silo No. 2		5,000	0.002	0.076	BACT
Product Storage Silo No. 3		5,000	0.002	0.076	BACT
Packaging Bin No. 1	004	782	0.002	0.013	BACT
Packaging Bin No. 2		782	0.002	0.013	BACT
Packaging Bin No. 3		782	0.002	0.013	BACT

<sup>1</sup>In order to demonstrate compliance with the annual PM<sub>2.5</sub> NAAQS, a more stringent design grain loading than the Department’s original BACT determination of 0.005 gr/dscf is being specified. [Rules 62-212.400(BACT) and 62-297.310(8)(c), F.A.C.; and, Application Nos. 0890444-001-AC and 0890004-050-AC]

### SECTION 3. EMISSIONS UNIT SPECIFIC CONDITIONS

#### E. Product Storage Silos and Packaging Bins (LTF EU 003 and 004)

- b. *Visible Emissions.* As determined by EPA Method 9, visible emissions from the product storage silos and packaging operations shall not exceed 5% opacity. [Rules 62-212.400(BACT) and 62-297.620(4), F.A.C.; and, Application Nos. 0890444-001-AC and 0890004-050-AC]

#### TESTING REQUIREMENTS

5. Initial Compliance Tests: The product storage silos and packaging operations shall be tested to demonstrate initial compliance with the emissions standards for visible emissions. The initial tests shall be conducted within 60 days after achieving permitted capacity, but not later than 180 days after initial operation of the units. [Rules 62-4.070(3), 62-297.620(4) and 62-297.310(8)(b)1., F.A.C.]
6. Annual Compliance Tests: During each calendar year (January 1<sup>st</sup> to December 31<sup>st</sup>), the product storage silos and packaging operations shall be tested to demonstrate compliance with the emissions standards for visible emissions. [Rule 62-297.310(8)(a)3, 62-297.620(4) and 62-297.310(8)(a)5.d., F.A.C.]
7. Special Compliance Tests: When the Department, after investigation, has good reason (such as complaints, increased visible emissions or questionable maintenance of control equipment) to believe that any applicable emission standard contained in **Specific Condition E.4.a.** is being violated, it shall require the owner or operator of the emissions unit to conduct compliance tests which identify the nature and quantity of pollutant emissions from the emissions unit. The owner or operator of the emissions unit shall provide a report on the results of said tests to the Department in accordance with the provisions of subsection 62-297.310(10), F.A.C. [Rules 62-297.310(8)(c), *Special Compliance Tests*, F.A.C. and 62-4.070(3), F.A.C.]
8. Test Requirements: The permittee shall notify the Compliance Authority in writing at least 15 days prior to any required tests. Tests shall be conducted in accordance with the applicable requirements specified in Appendix D (Common Testing Requirements) of this permit. If an alternate sampling procedure (ASP) is approved by the Department in order to demonstrate compliance with the emissions limits in this subsection, the ASP shall apply in lieu of the applicable requirements in this permit and Appendix D. [Rule 62-297.310(9), F.A.C.]
9. Test Methods: Required tests shall be performed in accordance with the following reference methods.

Method	Description of Method and Comments
1-4	Traverse Points, Velocity and Flow Rate, Gas Analysis, and Moisture Content
5	Determination of Particulate Matter Emissions from Stationary Sources
201	Determination of Filterable PM <sub>10</sub> /PM <sub>2.5</sub>
9	Visual Determination of the Opacity of Emissions from Stationary Sources

The above methods are described in Appendix A of 40 CFR 60 and are adopted by reference in Rule 62-204.800, F.A.C. No other methods may be used unless prior written approval is received from the Department. [Rules 62-204.800, F.A.C.; and Appendix A of 40 CFR 60]

#### MONITORING REQUIREMENTS

10. Baghouse Pressure Monitoring: The permittee shall install, calibrate, maintain, and operate a differential pressure gauge on each baghouse that can be used to determine the pressure drop across the baghouse. The pressure drop shall be observed and recorded daily during normal operations. The observer shall also note the presence or absence of visible emissions from the baghouse vents, and indicate any corrective actions taken. The gauges shall be certified by the manufacturer to be accurate to within a gauge pressure of  $\pm 10$  percent of the true value. [Rules 62-297.310(6) and 62-4.070(3), F.A.C.]

#### EXCESS EMISSIONS

11. Excess Emissions – Startup, Shutdown, and Malfunction. Excess emissions resulting from startup, shutdown or malfunction of any emissions unit shall be permitted provided that best operational practices to minimize

### SECTION 3. EMISSIONS UNIT SPECIFIC CONDITIONS

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#### E. Product Storage Silos and Packaging Bins (LTF EU 003 and 004)

emissions are adhered to and the duration of excess emissions shall be minimized but in no case exceed two hours in any 24-hour period unless specifically authorized by the Department for longer duration. [Rule 62-210.700(1), F.A.C.]

12. Excess Emissions – Work Practice Plan. The permittee shall develop and implement a work practice plan within 180 days of startup of the emissions units in this subsection, in order to ensure that excess emissions during startup, shutdown, and malfunction are minimized to the extent practicable in a manner consistent with safety and good air pollution control practices for minimizing emissions. The permittee shall include the plan with the Title V operation permit application required under **Specific Condition 9** of Section 2. Administrative Requirements. [Rules 62-4.070(3) and 62-213.420, F.A.C.]
13. Excess Emissions Prohibited. Excess emissions which are caused entirely or in part by poor maintenance, poor operation, or any other equipment or process failure which may reasonably be prevented during startup, shutdown or malfunction shall be prohibited. [Rule 62-210.700(4), F.A.C.]

#### RECORDS AND REPORTS

14. Test Reports: The permittee shall prepare and submit reports for all required tests in accordance with the requirements specified in Appendix D (Common Testing Requirements) of this permit. For each test run, the report shall also indicate the process rate (tons per hour) and the baghouse pressure drop. Each particulate matter compliance test report, when required, shall include the range of baghouse pressure drop values that have demonstrated compliance with the particulate matter emission limits. [Rule 62-297.310(10), F.A.C.]
15. Operational Data: The permittee shall maintain the following records:
  - a. Monthly and 12-month rolling records of the amount of material processed in the product storage silos and packaging operations (tons per year);
  - b. Monthly and 12-month rolling records of the hours of operation of each emissions unit;
  - c. Records of the daily baghouse pressure drops and instantaneous visible emissions checks required under **Specific Condition E.10.**; and,
  - d. Records of replacement of filter bags as well as regular and preventative maintenance activities.[Rule 62-4.070(3), F.A.C.]



**SECTION 3. EMISSIONS UNIT SPECIFIC CONDITIONS**

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**F. Induced Draft Cooling Tower with High Efficiency Mist Eliminators (LTF EU 005)**

This section of the permit addresses the following emissions units.

ID No.	Emission Unit Description
-005	Induced Draft Cooling Tower with High-Efficiency Mist Eliminators

**PERFORMANCE RESTRICTIONS**

1. Cooling Tower. The permittee is authorized to install an induced-draft cooling tower set to support the operation of the lignosulfonate products plant. The cooling tower shall be an induced draft design with high-efficiency drift/mist eliminators with a design drift rate of 0.0006%. PM/PM<sub>10</sub>/PM<sub>2.5</sub> emissions shall be minimized by regular operation and maintenance practices in accordance with the manufacturer's recommendations and good air pollution control practices for minimizing emissions. [Rule 62-212.400(BACT), F.A.C. and Application Nos. 0890444-001-AC and 0890004-050-AC]
2. Records. The permittee shall keep records of the design drift rate, as well as regular and preventative maintenance activities. The permittee shall make the records available for inspection by the Department upon request. [Rules 62-4.160(7)(a) and 62-4.070(3), F.A.C.]

**SECTION 3. EMISSIONS UNIT SPECIFIC CONDITIONS**

**G. Plant-wide Fugitive Emissions (LTF EU 006)**

This section of the permit addresses the following emissions units.

ID No.	Emission Unit Description
-006	Plant-wide Fugitive Emissions (Lignosulfonate Products Plant)

**PERFORMANCE RESTRICTIONS**

1. Best Management Practices. The permittee shall use best management practices (reasonable precautions) in order to minimize emissions of PM/PM<sub>10</sub>/PM<sub>2.5</sub> from vehicular traffic, transportation of materials, construction, land clearing, demolition, grading, or other industrially related activities.
    - a. Reasonable precautions shall, at a minimum, include the following:
      - (1) Paving and maintenance of all in-plant roads, parking areas, and yards to include vacuum sweeping and wet suppression;
      - (2) Application of water or other dust suppressants to unpaved roads, yards, and open stockpiles of materials during construction activities;
      - (3) Posting of speed limits throughout the plant grounds (15 mph); and,
      - (4) Allowing no fugitive visible emissions beyond the plant property boundary.
    - b. Additional reasonable precautions may include, but not be limited to:
      - (1) Use of wind fences or other wind breaks during construction activities;
      - (2) Application of water or environmentally safe chemicals to control emissions from such activities as construction, demolition, land clearing, and grading;
      - (3) Landscaping or planting of vegetation;
      - (4) Use of hoods, fans, filters and similar equipment to contain, capture, and/or vent particulate matter;
      - (5) Confining abrasive blasting where possible; and,
      - (6) Enclosure or covering of conveyor systems.
- [Rules 62-212.400(BACT) and 62-296.320(4)(c), F.A.C.]
2. Records. The permittee shall keep a daily log of road maintenance activities and periodic visual observations and shall make the log available for inspection by the Department upon request. [Rules 62-4.160(7)(a) and 62-4.070(3), F.A.C.]