TECHNICAL EVALUATION

APPLICANT

Rayonier Performance Fibers, LLC
PO Box 2002
Fernandina Beach, FL 32035

Fernandina Beach Sulfite Pulp Mill
Facility ID No. 0890004

PROJECT

Project No. 0890004-044-AC
Wood Pellet Trial Burn – No. 6 Power Boiler

COUNTY

Nassau County, Florida

PERMITTING AUTHORITY

Florida Department of Environmental Protection
Northeast District Office
Permitting Program
8800 Baymeadows Way West, Suite 100
Jacksonville, Florida 32256

August 26, 2015

1. GENERAL PROJECT INFORMATION

Air Pollution Regulations

Projects at stationary sources with the potential to emit air pollution are subject to the applicable environmental laws specified in Section 403 of the Florida Statutes (F.S.). The statutes authorize the Department of Environmental Protection (Department) to establish regulations regarding air quality as part of the Florida Administrative Code (F.A.C.), which includes the following applicable chapters: 62-4 (Permits); 62-204 (Air Pollution Control – General Provisions); 62-210 (Stationary Sources – General Requirements); 62-212 (Stationary Sources – Preconstruction Review); 62-213 (Operation Permits for Major Sources of Air Pollution); 62-296 (Stationary Sources - Emission Standards); and 62-297 (Stationary Sources – Emissions Monitoring). Specifically, air construction permits are required pursuant to Chapters 62-4, 62-210 and 62-212, F.A.C.

In addition, the U. S. Environmental Protection Agency (EPA) establishes air quality regulations in Title 40 of the Code of Federal Regulations (CFR). Part 60 specifies New Source Performance Standards (NSPS) for numerous industrial categories. Part 61 specifies National Emission Standards for Hazardous Air Pollutants (NESHAP) based on specific pollutants. Part 63 specifies NESHAP based on the Maximum Achievable Control Technology (MACT) for numerous industrial categories. The Department adopts these federal regulations in Rule 62-204.800, F.A.C.

Facility Description and Location

Rayonier is an acid sulfite based pulp mill using ammonia as a base chemical for the manufacture of dissolving pulps (SIC No. 2611). The facility is located in Fernandina Beach at the Foot of Gum Street in Nassau County, Florida 32305. The UTM coordinates are zone 14, 454.7 km East, and 3392.2 km North. This site is an area that is in attainment (or designated as unclassifiable) for all pollutants subject to a National Ambient Air Quality Standard (NAAQS).

Facility Regulatory Categories

- The facility is a major source of hazardous air pollutants (HAP).
- The facility does not operate units subject to the acid rain provisions of the Clean Air Act.
- The facility is a Title V major source of air pollution in accordance with Chapter 213, F.A.C.
- The facility is a major stationary source in accordance with Rule 62-212.400, F.A.C. for the Prevention of Significant Deterioration (PSD) of Air Quality.
- This facility has one or more emissions units subject to NSPS (40CFR 60).
- This facility has one or more emissions units subject to NESHAP (40 CFR 61 or Part 63)

Project Description

On August 14, 2015, the Fernandina Beach Sulfite Pulp Mill submitted a request for authorization to burn wood pellet fuel in the No. 6 Power Boiler for a trial period of approximately 2 months. The request was deemed complete with additional information provided on August 25, 2015. The request states the mill anticipates burning approximately 500 green short tons per week of the wood pellet fuel in the No. 6 Power Boiler.

The wood pellets are manufactured from a variety of wood residuals, i.e. sawdust, wood chips, and forest thinnings by Fram Renewal Fuels, LLC located in Hazlehurst, Georgia. The wood pellets that are approximately 6 - 9 mm millimeters in diameter and 5 to 25 millimeters in length and contain no additives or binders. The mill states that the wood pellets have a heating value of approximately 8000 Btu/pound and a moisture content of approximately 50%.

The mill anticipates that the wood pellets will be transported to the mill in a covered truck and stored onsite outside until the material is burned in the boiler. The mill will use reasonable precautions such as watering down the material as necessary to prevent excessive dust.

The mill states that the wood pellets will be introduced and, given sufficient time for the boiler to achieve steady state after which the boiler CEM operation will be reviewed for any exceptions outside of normal operation.

Processing Schedule

August 14, 2015	Received the request for a trial burn of wood pellets in the No. 6 Power Boiler.
August 17, 2015	Requested additional information.
August 25, 2015	Received additional information; request complete.

2. DEPARTMENT REVIEW

- The applicant's August 14, 2015 and August 25, 2015 submissions describe the details of the proposed project. The Fernandina Beach Sulfite Pulp Mill operates under the current valid Title V air operation Permit No. 0890004-042-AV.
- No. 6 Power Boiler is a Bubbling Fluidized Bed boiler that produces steam for electrical generation and usage in the manufacturing process. The total maximum operational heat input of this emissions unit is 660 MMBtu/hr (24-hr average). The boiler is authorized to fire biomass (green bark, chips, knots, fines, and landscape waste).
- The supplier of the wood pellets during the proposed trial burn is Fram Renewal Fuels, LLC located in Hazlehurst, Georgia. The Safety Data Sheets states that the wood pellets are manufactured from a variety of wood residuals, i.e. sawdust, wood chips, and forest thinnings. The chemical composition of Wood Pellets varies between the species of raw material components of the wood, soil conditions, and the age of the raw material. Wood Pellets are typically manufactured from a blend of hardwoods and softwoods. There are no additives or binders used.
- CO, NO_X, PM, PM_{10}, SO_2 and VOC emissions will be generated from combustion of the commercial wood pellets. These pollutants are the same as being generated from the combustion of the current defined biomass. It is anticipated that the existing No. 6 Power Boiler with its controls are sufficient to ensure that emissions from the wood pellet fuel will not cause a significant increase in emissions and should be about the same as the presently authorized and defined biomass. The applicant will be required to comply with all existing valid permit conditions during the trial period.

The Department will authorize the temporary trial burn of wood pellets in the No. 6 Power Boiler based on the following requirements:

- The Fernandina Beach Sulfite Pulp Mill anticipates burning up to approximately 500 green short tons per week of wood pellet fuel in No. 6 Power Boiler.
- The trial period shall be limited to the requested 2 month (60 calendar days) period. In the event of operational problems, the Fernandina Beach Sulfite Pulp Mill may request in writing an additional 60 days to complete the trial.
- The Fernandina Beach Sulfite Pulp Mill anticipates that the wood pellet fuel will be transported and delivered in covered trucks and stored onsite outside until the material is burned in the No. 6 Power Boiler. The Fernandina Beach Sulfite Pulp Mill shall follow reasonable precautions such as watering down the wood pellet material, as necessary, to respond to fugitive dust emissions.

- Prior to accepting any wood pellet fuel, the permittee shall provide to the Compliance Authority a preliminary schedule for receiving the wood pellet fuel and for conducting the trial burn. This schedule shall be updated as necessary. The permittee shall maintain a written log of the date of delivery and the amount of wood pellet fuel delivered. The permittee shall provide at least a one-day advance notice of the initial wood pellet fuel delivery.
- For the trial, the mill will continue to monitor nitrogen oxides, sulfur dioxide and carbon monoxide emissions with the existing certified continuous emissions monitoring systems, and opacity with the existing certified continuous opacity monitoring system. This data shall be compared with baseline data and used to determine the corresponding emissions impacts from firing the wood pellet fuel.
- Within 30 days of completing the trial burn, the permittee shall submit a report to the Compliance Authority summarizing: any problems encountered with unloading, storing, handling or firing the wood pellet fuel; the average firing rate of the wood pellet fuel in the No. 6 Power Boiler; the emissions monitoring data; and a conclusion as to the feasibility and practicality of wood pellets as fuel. The report shall specifically identify any problems that occurred during the trial and the expected cause of the problem.
- Although the information gathered during the trial burn may be used to provide information to support a request for the permanent firing of wood pellets in the No. 6 Power Boiler, the Department notes that the applicant must revise the air permit for the No. 6 Power Boiler for the permanent firing of wood pellet fuel as a fuel.

3. CONCLUSION

The Department approves the request to burn the wood pellet fuel in the No. 6 Power Boiler for a trial period subject to the provisions and restrictions stated in the Letter of Authorization. Rita Felton-Smith is the project engineer responsible for reviewing the request. Additional details of this analysis may be obtained by contacting the project engineer at the Florida Department of Environmental Protection, Northeast District Office, 8800 Baymeadows Way, Suite 100, Jacksonville, FL 32256, Phone: 904/256-1700.