FINAL DETERMINATION

PERMITTEE

Buckeye Florida Limited Partnership
One Buckeye Drive
Perry, FL 32347

PERMITTING AUTHORITY

Florida Department of Environmental Protection
Waste and Air Resource Management Program
Northeast District Office
8800 Baymeadows Way West, Suite 100
Jacksonville, Florida 32256

PROJECT

Air Permit No. 1230001-046-AC
Air Construction Permit

This air construction permit authorizes the construction, installation, and implementation of equipment necessary for improvement of the existing Non-Condensible Gas (NCG) Collection System at the Foley Mill for compliance with the Kraft pulping system standards of 40 CFR 63 Subpart S.

The improvement projects consist of the following changes, which shall be substantially as described below and in the submitted permit application:

1. **New, Primary Condenser for TRS Accumulator- Digester System**. The existing primary condenser (manufactured by Rosenblad and sized for 740,000 lb/hr peak steam flow, 5,460 lb/hr peak NCG flow, 329,000 lb/hr sustained steam flow) located above the blow heat accumulator tank in the Batch Digester System will be replaced with a new primary condenser that is of a non-plugging design. The new condenser will be manufactured by Lundberg and of a cone-baffle design that the mill does not expect to plug with fiber. This new condenser shall be sized the same as the existing one.
2. **New, Parallel, Single- Stage Turpentine Condenser- Turpentine Recovery System**. A new, single-stage turpentine condenser (3'7" OD x 27' 2" long, 4100 sq ft) will be installed in parallel to the existing system which consists of a primary and secondary turpentine condenser in series. The new turpentine condenser will allow operational flexibility and will be only put in use when either the primary or secondary condenser needs to be taken out of service for cleaning, resulting in a redundant system. The capacity of the Turpentine Recovery System will not be increased with the installation of the new, single-stage Turpentine Condenser.
3. **Two, New, Turpentine Cyclones – Turpentine Recovery System.** The existing two turpentine cyclones (Cyclone A and B), are marginally sized for the service of separating black liquor from the turpentine vapor. Both cyclones are required in order to handle the full turpentine stream. Two, new cyclones will be installed in parallel, each with the capability of handling the full turpentine stream and are 8'6" OD x 102" sized for 46,165 lb/hr steam and 16,255 lb/hr NCG. Only one cyclone shall be operated at a given time. The existing two cyclones (6' 0" OD x 4'0" sized for maximum 943 lb/min vent gas flow) will be removed. Only one new cyclone will be operated at any given time. As such, the capacity of the Turpentine Recovery System will not be increased with the installation of the two, larger turpentine cyclones. The redundant cyclone will be used during required cleaning outages that occur several times in a year.
4. **New, No. 2 Evaporator Hotwell Overflow Tank – NCG System.** The NCGs from the Nos. 1 and 2 Evaporator hotwells are combined into a single collection header. The combined header requires both the Nos. 1 and 2 Evaporators to be shutdown in order to perform maintenance work on the NCG System for either of the evaporator sets. A new, evaporator hotwell overflow tank will be installed at the No. 2 Evaporator that will allow the No. 1

Evaporator to be separated from the No. 2 Evaporator during maintenance on the NCG collection system. There will not be an increase in the capacity of the Condensate Collection System or the NCG Collection System with the installation of the new No. 2 Evaporator overflow tank.

5. **Replacement of Water Seal Pressure/Vacuum Breakers (± 8 inches H_2O) with Pressure Vacuum Devices ((± 25 inches H_2O) – NCG System.** The existing NCG system has five water seal pressure/vacuum breakers that are set to relieve at +/- 8 inches of water column or less. Water seals at the turpentine and the evaporator sources can relieve NCGs to the atmosphere or pull in air when the system pressure or vacuum exceeds the water seal settings. The mill will replace the five water seal pressure/vacuum breakers with four pressure/vacuum devices that can be set to +/- 25 inches of water column. Each one will be located in the vicinity of the evaporator hotwells – one device at each hotwell. The remaining water seal pressure/vacuum breaker will be eliminated by this project. The new devices will be continuously monitored via a connection to the mill-wide distributed control system (DCS).

6. **New, NCG Condensate Drain Tank- Condensate Collection System.** The existing condensate collection system accepts drainage from piping low points from both upstream and downstream of the NCG ejectors. The ejector differential pressure must therefore be considered carefully in the design of the drain lines. Sufficient seal elevation must be included in the drain design to prevent gases being recirculated from the downstream drains (or equalizing vent) to the suction drains, thus interfering with drainage and ejector capacity. The existing system is not functioning properly. The mill will install a 2 ft diameter by 11 ft tall condensate drain tank to replace the seal pot. Condensates from the low points in the NCG line will drain to the tank before being sent to the condensate collection and treatment system. The condensate drain tank will be a closed tank which will vent back to the NCG collection system, so there will be no emissions from the tank.

7. **Two, New, NCG Steam Ejectors – NCG System.** Install two new, single steam ejectors in parallel, to provide motive force for the transfer of the NCGs from the 40 CFR 63 Subpart S sources to the control device (No. 1 Bark Boiler and the TRS Pre-Scrubber followed by the No. 1 Power Boiler) locations. Each steam ejector shall have the capacity of 7500 lbs/hr (steam) and capable of handling the entire NCG stream. Only one NCG steam ejector will be operated at any one time. The new ejectors will have the ability to throttle the vacuum to only what is required to effectively transport the NCG vapors to the ejectors. The redundant NCG steam ejector will be used during required maintenance outages that occur several times during the year. The existing, three, NCG steam ejectors (sized 3010 lb/hr, 2630 lb/hr, and 960 lb/hr) shall be removed from the facility site.

8. **Two, new valves Nos. 3 and 4 Evaporators- NCG System.** Two small valves will be installed in existing 4-inch lines that will de-couple the Nos. 3 and 4 Multiple Effect Evaporators. Currently, any maintenance work associated with the NCG system on either of these evaporator sets requires both sets (Nos. 3 and 4) to be down. The installation of these valves will allow maintenance work to be done on the NCG system while only having the associated evaporator set out of service, allowing the other set to continue to operate.

The improvement projects will be constructed in three phases according to the following preliminary schedule:

Phase I: Install the tie-ins for the following equipment: the single-stage turpentine condenser located in the Turpentine Recovery System, the two turpentine cyclones located in the Turpentine Recovery System, the No. 2 Evaporator hotwell overflow tank for the separation of the No. 1 and No. 2 Evaporator Hot Wells, the NCG Drain Tank, and the two steam ejectors in the NCG System. Replace the existing primary condenser for the TRS Accumulator, replace a portion of the water seal pressure/vacuum breakers in the NCG System, and install the isolation valves to de-couple the No. 3 and No. 4 Evaporators. Construction is planned to occur during the Cold Mill Outage scheduled for May 2014.

Phase II: Install the No.2 Evaporator Hotwell Overflow Tank, the NCG Drain Tank, and the two steam ejectors in the NCG System, the remaining portion of the water seal pressure/vacuum breakers in the NCG System, and final equipment associated with de-coupling the No. 3 and No. 4 Evaporators. Construction/installation is planned to commence and be completed during the Dual Mill Outage scheduled for January 2015.

Phase III: Install the single-stage turpentine condenser and the turpentine cyclones. Construction/installation is planned to commence and be completed by September 2015. A mill outage is not required to complete this work.

NOTICE AND PUBLICATION

The Department distributed a Public Notice and Draft construction permit on April 8, 2014. The applicant submitted comments on the Draft construction permit on April 15 and 16, 2014, and the Department changed the Draft construction permit based on these comments. The Department withdrew the April 8, 2014 draft construction permit and replaced it with a new Draft construction permit package on April 21, 2014. The applicant published the Public Notice in the Perry News-Herald/TACO Times on April 18, 2014. The Department received the proof of publication on April 23, 2014. No requests for administrative hearings or requests for extensions of time to file a petition for administrative hearing were received.

COMMENTS

No comments on the Draft Permit were received from the public or the applicant.

CONCLUSION

The final action is to issue the permit with the minor changes, corrections and clarifications as described above.