

REGENERATIVE THERMAL OXIDIZERS (RTO)

Confidential Client

Medium Density Fiberboard Plant

A continuous Medium Density Fiberboard (MDF) plant was installed at the existing plant site, where a veneer plant, stud mill, particleboard plant, and finishing line already existed.

To add the MDF plant, the State of Georgia Department of Environmental Quality (DEQ) required all of the divisions on the plant site to be declared under one permit, which would have triggered a Prevention of Significant Deterioration (PSD) permit application and review. To avoid PSD, the MDF plant was permitted with emissions below Significant Emission Rates (SER), saving at least two years of permitting time. To meet the SER requirements, some air was recycled, critical baghouses were converted to cartridge filters, and a Regenerative Thermal Oxidizer (RTO) was installed. The RTO treated air from the flash tube dryer and press enclosure. Evergreen Engineering® prepared the permits and provided preliminary engineering and detailed engineering for the control technology equipment.

Trus Joist

Plywood Plant

Evergreen provided preliminary engineering for treatment of emissions from the plant, which had added a new dryer. With the addition of the new dryer, the plant would have been production-limited due to the maximum emissions allowed by the operating permit issued by the DEQ. Evergreen did a complete BACT study and recommended an RTO. This allowed maximum production from the new veneer dryer, and economically justified both the new dryer and the RTO.

Trus Joist

Plywood Plants

Evergreen performed detailed engineering for RTOs installed in the Junction City and Eugene plants. 40,000 ACFM Durr RTOs were installed at each plant for emission control of the veneer dryer emissions. Evergreen did the civil engineering for the concrete pads for the RTOs, fan, and stack; mechanical engineering included design, routing, and mounting of ductwork, utility piping, and the stack; and structural work included duct supports, pipe racks, and access platforms. Evergreen did a complete power study for the installations, specified the transformers, motor control centers, and the switch gear needed. A complete electrical package was developed for the electrical contractor.

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Resin Plant

Evergreen performed detailed engineering for the 12,000 CFM Thermal Oxidizer (TO) at Georgia-Pacific's resin plant in Albany, Oregon. An Epcon TO was installed for destruction of all of the collectable plant fumes. Evergreen did the civil engineering for the concrete pads for the TO, fan, and stack; mechanical engineering included design, routing, and mounting of ductwork, utility piping, and necessary tank modifications; and structural engineering included pipe racks and access platforms. The fume collection system included conservation vents, emergency venting, formaldehyde converter, all process tanks, storage tanks, finished product tanks, unloading area, Dowtherm units, and process area equipment. Evergreen also provided engineering for the power distribution and the instrumentation, complete with DCS integration.

