

HCHO CAPACITY INCREASE

CLIENT: Georgia-Pacific Resins, Inc.
LOCATION: White City, Oregon

The purpose of this project was to increase capacity, reduce emissions, and improve safety for an existing formaldehyde plant. New equipment included formaldehyde and methanol tankage, cooling towers, chillers, pumps, thermal oil heaters, and a DCS control system. Major modifications were made to the absorption towers and converters. Evergreen's responsibilities included all civil, structural, mechanical, electrical, instrumentation and controls design. Process design was accomplished through collaboration between Georgia-Pacific and Evergreen.

Engineering and design services provided on this project:

- Demolition of existing equipment, including cooling towers, activation furnace and fan, thermal oil storage tanks, and recycle and fresh air piping for new blower configuration.
- Concrete foundations and containment for a new tank farm, cooling towers, blowers, process pumps and other equipment.
- Two 42,000-gallon stainless steel formaldehyde storage tanks, complete with agitators, heating coils, tank access (spiral stairs attached to one tank), and a truck loading platform.
- 75MM BTU five-cell cooling towers.
- 400-ton absorption chiller to use excess steam produced by the process, and to provide cooling to the top of absorption towers.
- Vapor collection system.
- Modifications of absorber towers to provide additional cooling and recirculation of HCHO for improved recovery and reduction of formaldehyde vapors to the RTO.
- Gas-fired thermal oil heaters for use during plant startup.
- Pump skid containing four new Innomag Seal-less Magnetic Drive pumps with valves and interconnecting piping.
- Process and utility piping for above equipment and modifications.
- PlantScape controls, including controllers, licenses, and I/O modules for converting formaldehyde plant to DCS control.
- Grounding and lighting as required.
- Motor Control Centers for equipment listed above.
- Wiring to motors and instrumentation for above items.

