

## **THERMAL FLUID SHUTDOWN SYSTEM**

### **IMPROVES SAFETY IN LAMINATING OPERATION**

A manufacturer of laminated foam board uses a high temperature thermal fluid system to heat the hot rolls used in the laminating process. Each hot roll (2 per line) uses two rotary joints for supply and return of the thermal fluid. Having had several minor fluid releases due to rotary joint problems, the Owner was concerned that a major release might have serious effect on infrastructure or employee safety.

A system was designed that could be integrated into the existing thermal fluid system that could quickly and safely isolate sub-systems or shut down the entire system if need be. The system was designed after analysis of the failure mode of the various components. Sub-systems that are isolated are protected from the fire case by safety relief valves, which will direct fluid to a collection tank outside the plant.

#### **IMPROVEMENTS NOTED:**

1. Fluid inventory of sub-systems containing rotary joints has been reduced to a minimum.
2. Isolation of sub-systems by automatic valves occurs in a matter of seconds rather than the minutes it took previously with manual valves.
3. Sub-systems are isolated remotely, and can be isolated with no one in the area.