

DEOX* Service Saves Cost on Deaerator Repair at Pulp and Paper Mill

Challenge

The deaerator serving the mill's central steam system was performing poorly, and oxygen concentrations in boiler feedwater were in excess of acceptable limits. The mill needed to shut the deaerator down for a seven-day period to make repairs, but could not afford to wait for a production outage and needed to make the repairs without curtailing production. As a solution, it investigated us of a temporary rental deaerator to operate during the repair outage, but the cost and complexity of installing temporary steam piping for the rental unit were considered prohibitive.

Solution

GE's proprietary DEOX process saved the cost of installing temporary steam piping, and provided deoxygenated boiler feedwater at low ppb levels during the repair project. The process required only temporary hose connections, which took only a day to install, and operated at ambient temperature and required no steam. The process adds hydrazine to water and passes the water through activated carbon to catalyze the reaction, producing nitrogen and water. Two MultiFlow* 500 vessels were loaded with activated carbon were used to deoxygenate the water, and a MobileFlow* trailer-enclosed demineralizer system used downstream resulted in providing deoxygenated and demineralized boiler makeup water.

Results

During the repair project, the GE system was operated at up to 160 gpm (0.6 m³/minute), and produced deoxygenated and demineralized water over the seven day repair outage. The temporary hose and piping connections were completed in about a day and for minimal expense versus the cost of

temporary steam piping. The GE system treated the makeup water stream, oxygenated at up to 11 ppm, and produced water to meet a specified limit of less than 10 ppb dissolved oxygen, less than 20 ppb silica, and less than 0.5 Micromhos. Most importantly, the repairs to the deaerator were completed on schedule and with no loss in steam production or mill production capacity.



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