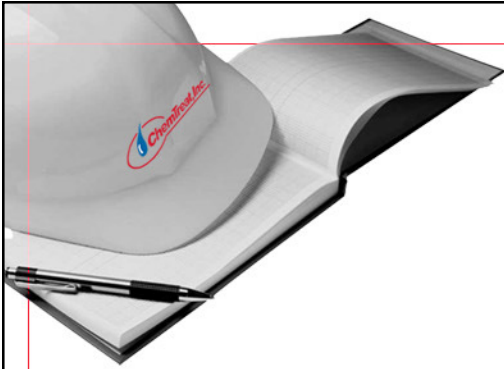


Energy Opportunities Outside of the Power House

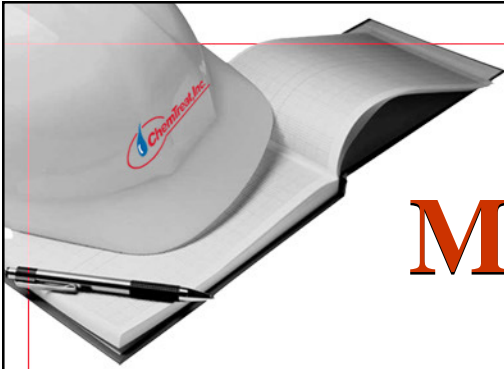
- Mill Water Corrosion Control
- Mill Water Scale Control
- Condensate Recovery & Treatment



Mill Water Tendencies

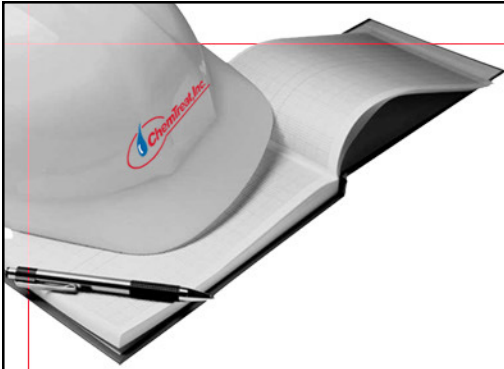
- Corrosion Tendencies are dependent upon river source
- WI River most corrosive.
- UP Rivers are more neutral.
- Fox River is scaling.

River Waters			
Elements	UP	Wi River	Fox River
uhos	290	180	450
M Alk	100	50	190
Ca	90	40	100
Mg	50	24	90



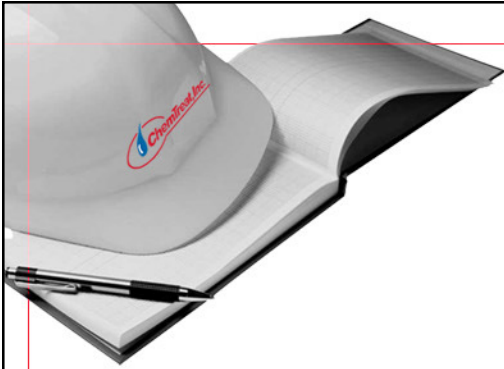
Mill Water Corrosion Control

- Biggest Issues at the WI River Mills
- Corrosion is found on the mild steel tube sheets when mill water temp. $> 120^{\circ}$ F
- Increases Maintenance Costs.
- Condensate needs to be dumped.
- Very High Cost to the mill!



Mill Water Scale Control

- Biggest Issues at the Fox River Mills
- Scale is found on the exchanger tubes when mill water temp. $> 120^{\circ}\text{F}$ especially in 3&4 pass exchangers.
- Greatly reduces Chiller efficiencies and increases electrical costs.
- Increases Maintenance Costs.



Condensate Recovery & Treatment

- Increasing Condensate Recovery provides huge energy efficiencies.
- Dumping condensate after a paper machine startup wastes thousands of dollars in fuel costs
- The addition of a condensate polisher or EMF will avoid condensate loss while protecting your boiler from iron scale