



# Feedwater Treatment Control System

## Situation

The control system used for the regeneration of the feedwater treatment system at a Thunder Bay mill, was of an outdated design. The system used relays and cam timers, which were in a constant need of repair. The failures of the system, at times, required the operators to manually control valves and time the sequence with a clock. Because of these problems, potentially, improper treatment of the water could result.

## Design Approach

Through the use of a G.E. Series 6 PLC with Wonderware HMI as the front end, KMH Engineering's goal was to provide a user-friendly control interface and resolve as many control failures as possible. The approach taken was to audit the regeneration sequence of the High Pressure Filters, Organic Traps and Cation/Anion Units, then to audit the existing equipment and determine what equipment required replacement. With this information in hand, the PLC program and graphical interface were then developed.

While developing the program and graphics, it was possible to simulate the regeneration sequences. It was important to simulate the system to ensure the programming was error free to accommodate short shutdowns for upgrade of controls.

## Scope of Supply

KMH Engineering supplied a comprehensive detailed design package including all hardware specifications, drawings, cable schedules, as well as the G.E. Series 6 PLC programming and Wonderware HMI graphics.

KMH Engineering acted as construction supervisors and was responsible for commissioning and start-up support of the systems.

## Summary

The project proceeded on schedule and on time. KMH Engineering was able to meet its goals and the goals of the client.

## References

- Vern Seymour, Steam Plant Superintendent, 807-475-2457

