

**Requirement:** Manufacturer's process required discharge of highly acidic waste by-product.

Environmental regulations required that pH of the effluent stream be controlled to prevent environmental impact.

An existing PLC based control system is to be used to implement control of pH.

Caustic is injected into the waste stream to raise pH to an acceptable level.

**Solution:** AEC evaluated the process with the manufacturer's process engineers.

AEC then implemented a unique closed loop control strategy using several innovative features

- Multi-input control
- Digital filtering
- Non-linear control
- Adaptive control

pH additive rate is calculated based on tank level, influent, flow rate, current pH, and effluent pH.

**Benefits** pH of effluent was controlled to acceptable limits.

Manufacturer was able to continue operation in compliance with DHEC regulations.

