

# PROJECT NARRATIVE



## System Description

**Owner:** City of Akron Public Utilities Bureau

**Plant:** Water Pollution Control Station

**Plant Size (MGD):** Total is 280 preliminary treatment capacity

**Product:** Ovation

**Location:** Akron, Ohio

**Application:** WWT, MIG

**Initial WDPF Installation:** 1992

**Migration to Ovation:** 2010

**Consultant or A/E on Original WDPF System:** Finkbeiner, Pettis & Stout, Limited, Toledo, Ohio

### Major Ovation Components:

- 1 Ovation Network
- 6 Redundant Controller Upgrade kits
- Retain existing I/O
- 1 Engineer / Database Server Workstation
- 2 Engineer Workstations
- 4 Operator Workstations with quad monitors
- 2 Process Historians
- 1 OPC Server

**Distributed Control System I/O Point Count:** ~ 4340



Photos courtesy of [www.ci.akron.oh.us](http://www.ci.akron.oh.us)

## CITY OF AKRON

### *Water Pollution Control Station Located in Akron, Ohio*

The City of Akron's (the City) Water Pollution Control Station embodies some of the most modern processes and equipment available for wastewater treatment to service a 96 square mile area with an estimated population of 330,000. Keeping the plant's technology up-to-date has allowed the city to continuously and safely treat wastewater since 1928.

The City's Water Pollution Station operates in three phases. Preliminary treatment includes influent screening, grit removal and storm retention during times of high flow. Primary treatment removes organic solids by sedimentation and flotation. Secondary treatment provides aeration through activated sludge, solid separation from treated wastewater through gravity settling, and disinfection and oxygenation of the effluent before it is released back to the environment. Solids are handled through a process that includes gravity thickeners, mixing and holding tanks for blending and then sent to a composting facility.

In the early 1990's, The City selected Emerson Process Management's WDPF control system to improve basic process performance, with added benefits to administrative and regulatory compliance functions. The WDPF system allowed the operators to spend less time manually collecting, recording, and manipulating process data, freeing them to concentrate on process performance. WDPF also streamlined the reporting function, easing the process for creating mandatory EPA regulatory compliance reports previously done through a labor intensive manual compilation of data by several departments including Operations, Laboratory, and Administration.

After two decades, the City once again wanted to modernize the plant's control system technology to gain additional performance benefits. Emerson's WDPF-to-Ovation™ migration provided the City with a cost-effective strategy that preserved the existing plant investment and significantly reduced downtime. The City realized significant cost savings by reusing existing hardware and software, such as field

Implementing Emerson's state-of-the-art technologies and migration program provides the City of Akron with less maintenance, lower-cost spare parts, and greater application flexibility through the use of:

- Fully redundant Ovation controllers with embedded advanced control algorithms
- Industry-standard, high-speed Fast Ethernet Network
- Fully integrated engineering tools
- Easy connectivity to WANs, LANs, and third-party devices
- Ability to integrate bus-based networks

terminations, Q-Line I/O, cabinets, graphics, and control logic. The project included a one-to-one replacement of WDPF DPU chassis with Ovation controllers in order to maintain the current control configuration as much as possible and to provide a platform for future expansion.

By migrating the Water Pollution Control Station's existing control technology to Ovation, The City of Akron realized maximum cost savings, minimized implementation time, reduced spare parts inventory, and improved efficiency and availability.