

## Featured Project

### Iron Mountain Mine SCADA PLC Replacement Project

Redding, California

ArcSine Engineering was contracted to update and replace the existing Supervisory Control and Data Acquisition (SCADA) software and Programmable Logic Controllers (PLC's) for the Iron Mountain Mine wastewater treatment plant. This plant is part of the Environmental Protection Agency's Superfund site's effluent contamination mitigation process.

The goal of this Superfund project is to reduce the risk of potential discharge of highly contaminated heavy metal leachate into the upper Sacramento River - a critical salmon spawning fishery, as well as a primary agricultural irrigation supply resource for the greater Sacramento Valley. The site's SCADA system monitors and controls all aspects of the leachate treatment process, including regulating the release of treated water into the river. Due to the critical nature of this control system, the cutover period was required to be extremely short.

Radio telemetry throughout the mountainous and difficult site includes licensed serial radios at 450 MHz, unlicensed radios at 150 MHz, and fiber/copper connections.

Unique features to the project:

- Implementation of the project within a 2-week cutover window.
- Comprehensive turnkey project.
- Integration of seven remote sites into the existing SCADA system.

ArcSine's work included the replacement, upgrade, installation, startup, and testing, and programming of:

- HMI—Wonderware InTouch operating system.
- Redundant InTouch systems.
- PLC's—Replaced existing Modicon 984 series PLC's and 880 series I/O modules with Modicon Quantum PLC's and I/O.
- Added a redundant hot standby PLC and remote I/O scanner assemblies.
- Communications utilized a Modbus+ control and supervisory network.
- Modbus+ over fiber optics to remote sites.
- Five PLC's, redundant HMI's, seven remote sites.

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*"ArcSine is a highly valued partner in the ongoing success of our operations. We look forward to a long and productive business association."*

*— Rudy Carver, P.E.*

