

Success Story: Hydroelectric

Markets Served
Utility – Hydro Generation



Electric utility hydro facility modernization

Location:

United States

Segment:

Hydroelectric

Problem:

Obsolete control system

Solution:

Electric utility hydro facility modernization

Results:

New switchgear, protection design and station control system.

Project Overview

Originally built in 1913 the hydro facility was rebuilt in 2010. The facility consists of three 1650MW horizontal turbine generators.

Eaton® was awarded a turnkey contract as the Electrical & Control Equipment (ECE) contractor to design, supply and install the electrical distribution and control equipment from the generator leads out, for the Water-to-Wire portion of the project.

Eaton's complete overhaul of the controls systems enhances the ability of the utility to remotely monitor the condition and status of the generating plant. Resulting in faster response times to plant issues and greatly shortened start-up and shut-down times.

Project Scope

For this project Eaton supplied the following:

- Engineering design of a 46kV interconnection
- Complete electrical design of Water-to-Wire package
- Installation of all supplied equipment, governors, exciters, PLC control system, SCADA interface, protection system
- Fully automated station
- Head gate monitoring and control
- Project management, scheduling, & commissioning

As part of the turnkey solution Eaton provided:

- 5kV switchgear
- High resistance grounding
- Station service
- DC system
- New hydraulic systems
- Static exciters
- Protective relay control panels
- Generator automatic synchronizing and local control panel
- PLC, HMI, SCADA
- Station alarming
- Instrumentation
- Lube oil system controls
- Installation



EATON

Powering Business Worldwide