



# GRAND COULEE 11.95kV SWITCHYARD

## Project Summary

- Design of new 11.95 kV Switchyard
- Switchyard built to service existing 500kV, 230 kV and 115kV switchyards, the XLS

switchgear and the industrial area surrounding the Grand Coulee Dam

- Furnish and install an oil spill containment system
- Construction of concrete foundations, firewall and pull box vault
- Furnish and install switchyard steel structures and other metalwork
- Furnish and install fiber optic cable, electrical ground mat, cables, conduit and equipment
- Furnish and install power, potential and current transformers
- Furnish and install 11.95 kV circuit breakers, disconnecting switches, control relay switchboard,
- modify existing control and relay duplex switchboard
- Provide testing and training for new switchyard equipment



## Equipment and Systems Overview

- 115kV to 11.95 Power Transformers
- 11.95kV Circuit Breakers
- Oil Spill Containment
- XLS Switchgear
- Electrical Testing and Training

## Offeror Role

Prime Contractor

## Owner/Client Information

United States Bureau of Reclamation  
1150 North Curtis Rd #1  
Boise ID 83706  
George Marrs, *Contract Manager*  
509-633-3958  
Terry Ford: 208-378-5399

## Contract Amount & Type

\$7,517,000—*firm fixed price*  
06CC101618

## Project Start and Finish Dates

4/1/2006—4/1/2011

## Project Location

Grand Coulee Dam, Coulee Dam, WA  
99116

## Burke Electric Scope

- Differential and distance relays for six transmission line and cable circuits between the 500-kV Switchyard, and the 15-kV Third Powerplant generators.
- Communications interface for future transient excitation boosting, existing path availability, and existing transfer trip equipment at the Third Power Plant and 500-kV Switchyard.
- Line differential and distance permissive tripping system for the line designated CSY No. 1 between the 500-kV Switchyard and the 230-kV Switchyard.
- Differential relays for transformer KX26A in the 230-kV Switchyard.
- Breaker flashover protection for the twenty (20) dead tank breakers in the 500-kV Switchyard.

## Problems Encountered and Solutions Executed

- There were multiple design errors with clearances
- Flexible Braids were extended on the hand operated switches, Burke was able to revise the operator mechanisms.
- Large rocks were encountered which required rerouted utilities and relocation of the project site
- While changing out the motors for the breakers, the wrong voltage was specified, Burke re-fed with the motors with the correct voltage as well as changed out motors to proper voltage as required.

## Burke Electric Project Personnel

Stan Thompson, General Foreman  
Andy Anderson, Project Manager  
Dominic Burke, COO

