



# SNOQUALMIE FALLS REHABILITATION PROJECT

## Project Summary

Redeveloping and expanding the capacity of this one-of-a-kind power operation became all the more complex 100 years later when Puget Sound Energy (PSE) began the relicensing process with the Federal Energy Regulatory Commission (FERC). Barnard joined the team addressing these challenges in the design phase, striving to develop the best way to approach work on Plant 1 updating the world's

first completely underground powerhouse, an 11.98 MW facility, by refurbishing four generators and replacing a fifth as well as enlarging the plant's cavern and 270-foot-deep shaft, replacing the elevator, replacing the penstock and draft tube, realigning the riverbank, reconstructing the river intake, and other work. On the other side of the river, our work on Plant 2 involved construction of a new river intake, the upsizing and relining of the flowline tunnel, and construction of new site chambers, new penstocks, and a new powerhouse which included installation of a new 12.5 MW turbine generator.

## Equipment and Systems Overview

- (2) 5kV class metal-clad switchgear lineups
- (3) 15kV class metal-clad switchgear lineups
- (1) generator neutral grounding cabinet
- (4) 5kV generator phase cabinets
- (2) 250kV liquefied petroleum gas fueled emergency standby generators
- (4) pad-mount, oil filled station service transformers
- 480VAC MCC
- LV & MV Switchgear

## Offeror Role

## Subcontractor

## Owner Information

Puget Sound Energy  
10885 NE 4TH ST  
Bellevue, WA. 98004  
Dave Jeness, *Project Manager*  
Roque Bamba, *Project Manager*  
425.462.3932

## Contract Amount & Type

Initial Contract Value (*with bond*):  
**\$11,566,639**  
Final Contract Value:  
**\$17,200,000**  
*(over 300 design changes due to unforeseen conditions)*

## Customer Information

Barnard Construction Company  
701 Gold Avenue  
Bozeman, MT 59715  
406.586.1995

## Project Start and Finish Dates

4/14/2010—9/1/2015

## Project Location

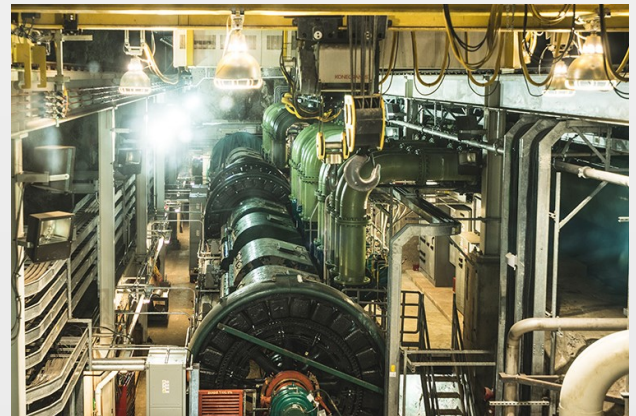
6501 Railroad Ave SE  
Snoqualmie, WA 98024

## Burke Electric Scope

- Temporary power, detail, furnish and install all Electrical equipment, Fire protection and detection, cable tray, cables and wiring, motors and starters, electrical isolation and safety switches, cabinets, junction boxes, terminal blocks and test switches, install programmable equipment including 480VAC MCC, VFDs and hoist equipment in the powerhouses and Gatehouse.
- Complete grounding system for powerhouse, intake structures and transformer yards.
- Furnish, install and commission (2) 5kV class metal-clad switchgear lineups, (3) 15kV class metal-clad switchgear lineups, One generator neutral grounding cabinet and (4) 5kV generator phase cabinets.
- Furnish, install and commission (4) pad-mount, oil filled station service transformers as well as dry type transformers for lighting and controls.
- Furnish, install and commission panel boards, station batteries and chargers as well as UPS system with inverters.
- Furnish, install and commission (2) 250kV liquefied petroleum gas fueled emergency standby generators with (2) generator starting systems comprising batteries and chargers, and (2) fixed load banks
- Furnish, install and commission (8) transfer switches

## Problems Encountered and Solutions Executed

Challenges not faced in the 1800s spanned the gamut, from the existence of a five-star lodge perched on a cliff above the Plant 2 intake, to the constant stream of tourists to the falls, roughly 2 million per year, through the middle of the project site.



## Burke Electric Project Personnel

Ken Nash, *Superintendent*  
James Traver, *Foreman*  
Jim Long, *Project Manager*  
Dominic Burke, *Project Manager, COO*

13563 SE 27th PL Bellevue, WA 98005  
425.644.0351 - [www.burkeelectric.com](http://www.burkeelectric.com)

