

SEDRO WOOLLEY WORK STATEMENT

LOCATION: 24972 Minkler Road, Sedro Woolley, WA. 98284

TITLE: Sedro Woolley Substation
New 230/115 kV Xfrm (115kV Yard)
New 2 Stage Capacitor Bank (115 kV Yard)
Additional Line Bay and DE Structures (230kV Yard)

CAPITOL WO#: 111016865 – 115 kV 2 Stage Cap Bank Work
111016865 – 230/115 kV Transformer Work
111016865 – 230 kV Yard New Line Bay Work
111019805 – Materials

ELEC ENGINEER: Kassidy Warren
OFFICE PHONE: 425-457-5339
CELLULAR PHONE: 206-375-1417

CIVIL ENGINEER: Rob Stewart
OFFICE PHONE: 425-456-2714
CELLULAR PHONE: 425-213-2836

DATE: December 8, 2011

General Description

Sedro Woolley substation has been scheduled for improvements to its 115kV and 230kV yard. These improvements consist of five jobs issued simultaneously. The substation work includes the addition of a 115kV 2-stage capacitor bank, installation of the on-site 230-115kV transformer with expansion of the 230kV breaker and a half scheme, installation of 2 new 115kV circuit breakers, and the replacement of 6 additional 115kV breakers.

115kV Yard

115 kV Yard improvements generally consist of, transformer area improvements, and an added 2 stage capacitor bank. The detailed improvements are as follows:

1. New foundations for the 2 Stage Capacitor Bank will include Switch Stands, Capacitor Bank, Single Pedestal, Circuit Switcher, Bus Support, and Dead End Foundation and includes the following:
 - a. Switch Stand foundations (qty=2)
 - b. Capacitor Bank foundations (qty=6)
 - c. Single Pedestal foundations (qty=6)
 - d. Circuit Switcher foundations (qty=2)
 - e. Bus Support Foundations (qty=2)
 - f. Dead End foundation and anchor bolt assembly (qty=1)
2. New structures for the 2 stage Capacitor Bank will include Current Limiting Reactor, Switch Stands, Bus Supports and Dead End structures and are as follows:
 - a. Current Limiting Reactor (qty=6)
 - b. Switch Stand with Ground Blade (qty=2)
 - c. Bus Supports (qty=2)
 - d. 35-ft Dead End Structure (qty=1)
3. Work around the 230/115 kV transformer includes installing the following:
 - a. Dead End Foundations (qty=2)
 - b. Dead End Structure (qty=2)
 - c. SPCC Curb
 - d. Oil Stop Valve Basin and Gate Valve (qty=1)
 - e. Bentonite and Sand Mat
 - f. 6" Deep Envirogrid
 - g. Catch Basins (qty=2)
 - h. Storm Drainage Pipe – 6" perf and 6" solid pvc pipe (qty=266 LF)

4. Yard rock within the 115kV yard
 - a. 4" Minimum Yard Rock in miscellaneous areas (see plans)
5. Capacitor Bank - Underground Electrical Materials
 - a. Copper ground grid that covers approximately 5,000 sq ft in the northwest corner of the station
 - b. Associated cad weld connections
 - c. Copperweld risers
 - d. Underground conduit runs from cable trench to indicated locations

230kV Yard

230 kV Yard improvements generally consist of adding a line bay, which include foundations and structures for dead end towers, switch stands, breakers and bus supports. The detailed improvements are as follows:

6. New foundations for the added line bay include Dead End, Switch Stands, Gas Breaker and Bus Support foundations and includes the following:
 - a. Switch Stand foundations (qty=6)
 - b. Bus Support drilled pier foundations (qty=16)
 - c. Gas Breaker foundations (qty=2)
 - d. Dead End foundation with piles (qty=4)
7. New structures for the added line bay include Dead End, Switch Stands, and Bus Support structures and includes the following:
 - a. Dead End Structure 55-ft Tall - North (qty=1)
 - b. Dean End Structure 55-ft Tall – South (qty=1)
 - c. Switch Stand with 12-ft Spacing (qty=6)
 - d. Bus Support with 12-ft Spacing (qty=8)
8. Yard rock within the 230kV yard
 - a. 4" Minimum Yard Rock in miscellaneous areas (see plans)
9. 230kV Yard – Underground Electrical Materials Installation
 - a. Expansion of existing cable trench
 - b. Underground conduit runs from cable trench to indicated locations
 - c. Copper ground grid that covers approximately 46,000 sq ft in the southeast corner of the substation
 - d. Copperweld risers
 - e. Associated cad weld connections