



PUBLIC UTILITY DISTRICT NO. 1 *of* CHELAN COUNTY

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March 13, 2009

P-637-WA

NATDAM-WA00004

Mr. Patrick Regan, P.E., Regional Engineer
Portland Regional Office
Federal Energy Regulatory Commission
805 SW Broadway, Suite 550
Portland, OR 97205

Re: Chelan River Project Monthly Report

Dear Mr. Regan:

In accordance with your letter of June 19, 2008, enclosed herewith are an original and two copies of the ninth monthly report for the Chelan River Project. In addition, copies of this letter and the report will be sent to Mr. Jon Merz and Ms. Pat Irle of Washington Department of Ecology.

If you would like to discuss this work or if additional information would be helpful, please call me at the number listed below, or call Michelle Smith, Licensing & Compliance Manager, at (509) 661-4180.

Sincerely,
Engineering Services

M. Gene Yow, P.E.
Dam Safety Manager
(509) 661-4305
gene.yow@chelanpud.org

Enclosures: Original and two copies

cc: Jon Merz, WaDOE
Pat Irle, WaDOE

Chelan River Project – Monthly Report
Lake Chelan Hydroelectric Project – FERC No. 637
Public Utility District No. 1 of Chelan County

March 15th, 2009

1. Progress of Work

The work is on schedule. No environmental incidents have occurred.

Work on the new river habitat channel, pump station, and conveyance canal (and outlet structure), is actively progressing. The hydraulic control structure (boulder weir) was completed on schedule. The habitat channel is complete with the exception of two access road areas.

Work at Chelan Dam for the Low Level Outlet is ongoing. The slab and footing concrete has been placed, as well as the walls.

Progress on the site includes:

- The hydraulic control structure is complete.
- Reach 4 spill channel is about 95% complete.
- The conveyance canal is about 95% complete. Remaining work will coincide with completion of the concrete installation at the pump station.
- Conveyance canal outlet structure concrete placement is complete. The gates are installed, but not yet grouted in place. The diffuser screens are in, and walkways will be installed, on schedule, by July 2009.
- All of the boulders are now in place in Reach 4.
- Pump station concrete placements continue. The footing slab and grade beams are in place, as well as the concrete work on the retaining wall.
- The pump tubes have been set, and the supports grouted into the drilled pier casings.
- Habitat channel is complete except for the two access roads which are needed for follow-on work.

2. Status of Construction

The lower tailrace habitat work began July 1, 2008, on schedule, and is complete.

Canal outlet structure concrete construction is complete, on schedule, and slide gates and diffusion gratings are in place. Installation of miscellaneous metals (e.g. walkway grating) is underway.

Work continues on the pump station. Footing slab and grade beams are in place, as well as the concrete retaining wall. The five pump tubes were set and their supports grouted into the drilled pier casings. Footings are currently being formed for the buildings.

Concrete has been placed for the Low Level Outlet's slab, footings and walls. This includes installation of the thimbles between the gate valves and the sluice gates.

All other phases of the work are expected to start on schedule.

See project milestone schedule which follows.

Activity Name	Original Duration	Start	Finish
LC07b Chelan River Project	950	11-Dec-06 A	04-Aug-10
Costs	564	02-Jan-08 A	07-Jan-10
Planning	698	28-Feb-07 A	30-Nov-09
Tree Relo & Boulder Process (Mostly 08-SW04)	91	20-Mar-08 A	18-Jul-08 A
Entrance Road Modifications	133	05-Mar-08 A	14-Aug-08 A
Execution (Construction of 08-01)	680	11-Dec-06 A	15-Jul-09
Pre-Construction Activities	51	12-May-08 A	02-Jun-08 A
Pump Station Construction	651	11-Dec-06 A	03-Jun-09
Reach 4 Construction	269	02-Jun-08 A	15-Jul-09
Low Level Outlet Construction	445	01-Oct-07 A	01-Jul-09
Revegetated Areas	257	04-Aug-09	04-Aug-10
Closeout	22	16-Jul-09	14-Aug-09
Testing	22	16-Jul-09	14-Aug-09
Project Turnover	2	31-Jul-09	04-Aug-09
Closeout	5	04-Aug-09	10-Aug-09

3. **Construction Difficulties**

No unanticipated difficulties have been encountered thus far on the project.

4. **Contract Status**

Goodfellow Brothers, Inc. (GBI) of Wenatchee, WA, is the general contractor and is performing the majority of the work themselves.

Malcolm Drilling of Kent, WA, a specialty foundation contractor, installed the foundation piers to support the pump tubes and pumps.

Sharples Construction of Kent, WA built the concrete outlet structure for the conveyance canal. They also constructed the retaining wall for the pump station, including the footing slab and grade beams. For business reasons, Goodfellow Brothers, Inc. has decided to self-perform the remaining concrete work on the project.

McCandlish Electric, Wenatchee, WA will be performing the electrical work.

Harbor Offshore, Ventura, CA, performed the diving work for installation of the tee screens and pump tubes.

Lampson International, Kennewick, WA, supplied the cranes and riggers for installation of the pump tube assemblies.

DDJ Construction Welding, Inc., Enumclaw, WA, is performing the demolition work on the sheet pile wall and bulkhead at the 17-foot penstock at Chelan Dam. They will also be performing the welding on the LLO piping.

The work is on schedule, and no contract disputes have occurred.

5. **Critical Events and Dates**

- May 5 Notice to Proceed
- May 12 Begin Mobilization
- May 27 Begin work on site
- June 5 Set temporary bridge across Reach 4 spill channel
- June 5 Lake Chelan spill begins
- July 1 In-water construction work window begins
- July 15 Delivery of pump station pumps
- August 7 Delivery of T-Screens
- September 2 Delivery of pump tubes

- September 5 Completion of Tailrace Habitat construction
- November 17 Completion of Hydraulic Control Structure
- December 5 Begin work at Chelan Dam for the Low Level Outlet
- December 12 Completion of Canal Outlet Structure Concrete
- January 29 Completed setting pump tubes and grouting
- March 9 Begin tunnel stub work at Chelan Dam
- March 11 Set the two power transformers for the pump buildings

6. **Reservoir Filling**

N/A

7. **Foundations**

Drilling for pump station foundation piers did not encounter bedrock in any of the pier locations. This possibility was anticipated in the design so that an appropriate length for piers not reaching bedrock was calculated and shown on the design drawings. This length was used, as planned.

The foundation excavation for the conveyance canal outlet structure has been completed. The foundation material consists of alluvial boulders and cobbles in a matrix of gravel and sand. These are the conditions anticipated by the design.

The foundation excavation for the low level outlet has been completed. The foundation material consists of alluvial sand and gravel, with some cobbles and boulders. These are the conditions anticipated by the design.

8. **Sources of Major Construction Materials**

Material for “fish mix” and “riffle mix”, two gradations of gravel used to construct the fish habitat, is being obtained from on-site sources. See drawing 0330-50GA-0028 (sheet R1) in the bid documents for borrow area locations. The material has been regularly tested, inspected, and meets the contract specifications.

Boulders have been obtained from both on-site and off-site sources. The boulders are generally from alluvial sources along the Columbia River Valley. All boulders needed for the project are now on-site.

The required Large Woody Debris (LWD) has been delivered to the job site from various sources along the Columbia River Valley. The LWD includes 154 poplar trees for racking, 65 root balls, 85 conifer key logs, and approximately 100 conifer racking logs.

Concrete is being supplied by Chelan Concrete. The cement is being supplied by Lehigh Cement.

Gates and valves for the Low-Level Outlet are from J&S Valve and HydroGate. The equipment is on-site. We have not yet received the electric gate operators for the sluice gates.

Pumping equipment and controls are being provided under separate contract by ITT Flygt, Inc. The pumps and major components have been delivered to the job site, on schedule.

9. Materials Testing and Results

Structural concrete has been placed and tested, and structural fill material for which density tests are required has been placed. Test results meet the contract specifications. Canal shotcrete lining has been placed, and tested to verify conformance with the contract specifications. No exceptions have been noted.

10. Instrumentation

No instrumentation has been installed at this point in the project. Information will be provided as appropriate in future reports.

11. Photographs



This shows Reach 4 looking south, on March 11th, 2009. The only noticeable item of change is the conveyance canal connection to the outlet structure. Notice that the canal liner is in place, but has not yet had shotcrete applied.



This is a picture from 3/9/09, of the sheet pile wall, with the dry tunnel and bulkhead for the 17-foot diameter penstock behind. The hole being cut is for the eventual LLO pipe installation.



This picture was taken on 3/10/09. After the sheet pile wall was cut open, work removing the beams from the bulkhead steel began.



This is a photo of the conduits that will eventually penetrate inside the pump control building. Picture was taken on 3/5/09. These conduits are for pump power and control.

12. Erosion Control and Other Environmental Measures

All work has been performed in accordance with the project's approved Water Quality Protection Plan and Erosion & Sediment Control Plan. This includes placement of silt fences and sediment curtains, and deployment of an oil boom. Washington Department of Ecology staff has visited the project site on several occasions. No water quality violations have been cited.

A sediment curtain was installed in the powerhouse tailrace channel around the temporary earth berm at the pump station, prior to placement of the berm. The sediment curtain, along with an oil boom, remained in place during drilling for pier installation. The steps taken have been effective at limiting sedimentation to acceptable levels. The equipment has now been removed since the temporary earth foundation used for concrete pier construction staging has been removed.

The oil boom that was installed downstream of the confluence of the Chelan powerhouse tailrace channel and the new channel, has been removed. Work is underway above elevation 710 in the habitat channel, and surface water is protected by a temporary berm which separates work from nearby water.

13. Other Items of Interest

The pump control buildings will be delivered to the site and set in place, on March 17th, 2009.

No injuries or safety incidents have occurred.