



**PUBLIC UTILITY DISTRICT NO. 1 *of* CHELAN COUNTY**

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September 12, 2008

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 third monthly report for the Chelan River Project. In addition, a copy of this letter and the report will be sent to Mr. Mark Peterschmidt 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](mailto:gene.yow@chelanpud.org)

Enclosures: Original and two copies

cc: Mark Peterschmidt, WaDOE

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

September 15, 2008

1. Progress of Work

The work is on schedule. Tailrace habitat improvements were completed prior to the early completion deadline. Spill flow (consistent with normal operations) occurred during portions of June and July. The spill flow was as expected and did not disrupt construction operations. Spill flows for this year are substantially complete. Work on the new river habitat channel, pump station, conveyance canal, and hydraulic control structure (boulder weir) are actively in progress, and on schedule.

Progress on the site has included:

- Each of the 13 piers for the pump station foundation has been drilled, tested, and completed.
- Pump station equipment has been delivered on schedule.
- Placement of fill in the lower tailrace channel to create spawning and rearing habitat is complete. Water quality monitoring was performed consistently throughout the operation; no water quality violations occurred. Upper tailrace channel habitat construction is ongoing, and is substantially complete.
- The pumped water conveyance canal earthwork and lining is complete, except for a short segment at each end. Outlet structure concrete placement is ongoing.
- Rough excavation and placement of large boulders associated with the river conveyance control structure is ongoing.

2. Status of Construction

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

Pumped water outlet structure excavation is complete and structural concrete construction is ongoing, on schedule

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

See project milestone schedule which follows.

Activity Name	Original Duration	Start	Finish	Duration % Complete
<b>LC07b Chelan River Project</b>	1006	11-Dec-06 A	21-Oct-10	46.35%
Costs	499	02-Jan-06 A	11-Jan-10	32.46%
Planning	679	28-Feb-07 A	30-Oct-09	57.29%
Tree Relo & Boulder Process (Mostly 08-SW04)	91	20-Mar-08 A	18-Jul-08 A	100%
Entrance Road Modifications	133	05-Mar-08 A	14-Aug-08 A	100%
Execution (Construction of 08-01)	732	11-Dec-06 A	28-Sep-09	63.66%
Pre-Construction Activities	51	12-May-08 A	02-Jun-08 A	100%
Pump Station Construction	695	11-Dec-06 A	05-Aug-09	67.06%
Reach 4 Construction	265	02-Jun-06 A	10-Jul-09	20.72%
Low Level Outlet Construction	506	01-Oct-07 A	28-Sep-09	47.43%
Revegetated Areas	257	22-Oct-09	21-Oct-10	0%
Turnover	0			0%
Closeout	27	28-Sep-09	03-Nov-09	0%
Testing	27	28-Sep-09	03-Nov-09	0%
Project Turnover	2	20-Oct-09	22-Oct-09	0%
Closeout	5	22-Oct-09	28-Oct-09	0%

### 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 is building the concrete outlet structure for the conveyance canal.

### 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
- August 15 Delivery of pump station equipment building
- September 2-5 Delivery of pump tubes

### 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 pier(s) 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.

#### 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.

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 and Central Washington Concrete. The cement will be supplied by Lehigh Cement.

Gates and valves proposed for the Low-Level Outlet are from J&S Valve and HydroGate. Submittals for this equipment are undergoing review and acceptance.

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 structural embankment 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 September 11<sup>th</sup>, 2008. The pumped water conveyance canal has been shotcreted. Concrete forms for the Pumped Water Outlet Structure are visible. Grading in the Hydraulic Control Structure area is seen in the foreground, as well as stockpiling of boulders for the construction.



Pumped water outlet structure slab forming and rebar installation. This is a scheduled 170 cy concrete placement. August 21<sup>st</sup>, 2008.



Wall forming for the outlet control structure. September 10<sup>th</sup>, 2008.





Shotcrete installation on top of conveyance canal liner. August 13<sup>th</sup>, 2008.



Removing the temporary earth berm from around the drilled piers. September 10<sup>th</sup>, 2008.



Receiving the pump tubes for the pumps. September 2<sup>nd</sup>, 2008.



All 5 pumps for the pump station. Equipment received July 15<sup>th</sup>, 2008.



T-Screens for the pumping station. Equipment received August 7<sup>th</sup>, 2008.



Construction of a log-jam rack. Includes shimming and bolting units together. August 29<sup>th</sup>, 2008.



Setting a V-log jam in the lower Habitat Channel, in the water. August 27<sup>th</sup>, 2008.



Backfilling a log-jam after being set into the water. September 2<sup>nd</sup>, 2008.

## 12. Erosion Control and Other Environmental Measures

A variety of steps have been taken thus far in the project to protect surface water and soil, in accordance with the project's approved Water Quality Protection Plan and Erosion & Sediment Control Plan. These include 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 noted.

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 remains in place for later use in protecting water quality during removal of the temporary earth berm used for concrete pier construction staging.

An oil boom has been installed downstream of the confluence of the Chelan powerhouse tailrace channel and the new channel used to contain spill from Lake Chelan Dam.

13. Other Items of Interest

There are none to report at this time.