July 5, 2007

Patrick Regan, P.E., Regional Engineer
Federal Energy Regulatory Commission
101 SW Main, Suite 905
Portland, Oregon 97204

Subject: Powerdale Hydroelectric Project, FERC Project Number 2659
November 2006 Flood Response Project Final Report

Dear Mr. Regan:

On November 7, 2006 the PacifiCorp Powerdale generation facility was damaged by flood and debris flow in the Hood River. Damage to the Powerdale project consisted of destroyed steel and wood-stave sections of flowline, flooding of the powerhouse and substation and significant sediment deposition at the diversion dam intake and powerhouse tailrace.

Enclosed is the November 2006 Flood Response Project Final Report which includes discussion of the stabilization activities performed on the fish ladder, flowline, and powerhouse. The final report also includes critical events and dates, contract status, photographs, and other areas of interest.

Enclosed are the original and two copies of this letter and the report. The letter and its attachments are considered public. If you have any questions please contact Briana Weatherly at 503.813.7039.

Sincerely,

R. A. Landolt
Managing Director, Hydro Resources

Encl: Project stabilization final report and photos - Public

cc: Hossein Ildari, Deputy Director
Federal Energy Regulatory Commission
Division of Hydropower Administration and Compliance
888 First Street, NE
Washington, DC 20426

This filing is considered Public
1. General:
   This project provided for the permitting and construction services necessary for response to the
damage incurred to the Powerdale hydroelectric project by the flood event of November 7, 2006. Based
on damage assessments, economic evaluations, and the already scheduled
decommissioning of the Powerdale facilities in 2010; it was decided not to return the plant to
service. Instead, the goal of the project was to stabilize the project facilities in order to reduce
additional future damage and to address public and environmental safety concerns. The scope of
the work performed is itemized below:

Dam:
   Cleared fish ladder and fixed attraction flow pump

Flowline:
   Wood Pipe Demo - 2530 lf; Wood to Wasco County Landfill. Steel bands recycled with
   Schnitzer steel in Portland. Concrete saddles laid down and left in place
   Wood Pipe Braced - 1000 lf; internally braced to prevent future collapse for public safety.
   Steel Pipe Demo - 700 lf. Steel pipe recycled with Schnitzer steel in Portland. Concrete
   saddles stock piled on site for future burial. Several saddles abandoned in-place due to accessibility.
   Bulkheads - Seven steel pipe bulkheads installed for public safety
   Recycling - 386 tons steel at $94/ton (a $ credit to the project)
   Walkway - Salvaged 700 lf walkway before steel pipe removed. Repaired all
   remaining walkway in-place
   Re-Vegetation - Primarily dry seed & straw mulch

Powerhouse:
   New Electric Service to Powerhouse
   Transformer oil tested
   Drain and leave Step up transformers – 4 each @ 1400 gallons
   Relocated tools and equipment from the powerhouse
   Placed fill in parking lot to provide access to substation during subsequent flood events.
   Relocated Storage Shed from parking lot.
2. Status of Construction:
Project construction started the week of November 27, 2006 with the initial mobilization of equipment to the site and was completed March 27, 2007. All wood and steel pipe designated for removal was recycled or disposed of off-site by December 22, 2006. In mid January, however, it was decided that an additional 180 linear feet of steel pipe needed to be removed due to the foundations being increasingly undermined and scoured by river flows. Following preparation and rigging of this additional pipe, it was removed on March 3, 2007 using a helicopter to extract the pipe from its remote and inaccessible location. The new electric service to the powerhouse was completed on March 2, 2007 and the oil was drained from the four step-up transformers adjacent to the powerhouse on March 27, 2007. The entire scope of work listed above was completed by March 27, 2007.

3. Construction Difficulties:
Poor weather conditions, variable and high river flows, and difficult access were challenges to the completion of this project and contributed significantly to the cost of the work.

4. Contract Status:
The following is a list of firms that PacifiCorp contracted with:
- JR Merit Inc. - Vancouver, WA - Principle Contractor
- Volt Technical Services. - Portland, OR - project inspection services
- Columbia Inspection Inc. Portland, OR - Wood testing services.
- Coburn Electric Co. - Hood River, OR - Electrical modifications to the powerhouse
- Weidmann Electrical Technology - Sacramento, CA - transformer oil testing
- Thermo Fluids Inc. - Los Angeles, CA - Oil recycle and disposal services

5. Critical Events & Dates:
- November 7, 2006 - Flood damage incurred
- November 8, 2006 - Started damage assessment; notified various agencies including FERC-PRO
- November 16, 2006 - Met with permitting agencies
- November 22, 2006 - Letter report provided to FERC-PRO
- November 27, 2006 - Started mobilizing equipment and labor to the site
- December 7, 2006 - First wood pipe removed from site and Letter to FERC-PRO
- December 11, 2006 - First steel pipe removed and recycled
- January 15, 2007 - Decided additional 180 feet of steel pipe needed to be removed
- February 6, 2007 - Status letter to FERC-PRO
- March 2, 2007 - New electric service into powerhouse completed
- March 3, 2007 - Removed final 180 ft. of steel pipe via helicopter
- March 27, 2007 - Drained and recycled oil from step-up transformers
- March 27, 2007 - Project complete

6. Reservoir Filling:
Not applicable to this project. The flowline was not returned to service and the forebay is being operated to benefit fish passage and management by Oregon Department of Fish and Wildlife.
7. Foundations:
Concrete foundations for the wood pipe were laid down for safety and left exposed on the ground for subsequent burial during the 2010 decommissioning of the Powerdale hydroelectric facilities.

8. Sources of Major Construction Material:
Rock and soil fill for access road construction was obtained from a local borrow pit.

9. Materials Testing & Results:
Pipe wood and transformer oil testing was performed prior to recycling and disposal.

10. Instrumentation:
Instrumentation was not part of this project.

11. Photographs:
Selected project photographs showing activities & conditions are in Appendix 1

12. Erosion Control & Other Environmental Measures:
Sediment fence and organic wattles were installed to prevent soil erosion and soil migration into the river. Disturbed areas were graded and sloped as necessary to also reduce erosion and to provide drainage and stability. Rock was used along steeper slopes near the river to provide stability and to reduce the risk of long term erosion. Disturbed areas were re-vegetated with native grass seed and covered with straw mulch.

13. Other Items of Interest:
- **Project Costs**: The following is a high level summary of the direct project costs:

<table>
<thead>
<tr>
<th>Description</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wood pipe removal</td>
<td>$240,000</td>
</tr>
<tr>
<td>Steel pipe removal</td>
<td>$790,000</td>
</tr>
<tr>
<td>Install electric service to powerhouse</td>
<td>$28,000</td>
</tr>
<tr>
<td>Internal labor, expenses and materials</td>
<td>$105,000</td>
</tr>
<tr>
<td><strong>Total Direct Costs</strong></td>
<td><strong>$1,163,000</strong></td>
</tr>
</tbody>
</table>

- **Project Permitting and Approvals**: In addition to Commission review and approval of the project, the following agencies were consulted and approvals or permits obtained:
  1. Oregon Department of State Lands – for work below ordinary high water mark
  2. US Army Corp of Engineers – Nationwide permit 33
  3. Oregon Department of Fish and Wildlife - for working outside the in-water work period.
  4. Hood River County – for work within shoreline and floodplain zones.
  5. US Fish and Wildlife Service – scope of stabilization activities

14. Appendices:
Appendix 1 - Project Photographs
APPENDIX 1

Project Photographs
Steel and Wood Flowline Collapsed, Powerhouse Flooded

Flood Damage

November 2006 Flood Response Project
Powerplant Hydroelectric Project, FERC No. 2659
Powerdale Hydroelectric Project, FERC No. 2659
November 2006 Flood Response Project

Steel Pipe Removal
WOOD PIPE REMOVAL
November 2006 Flood Response Project
Powderly Hydroelectric Project, FERC No. 2659
Steel Pipe Removal via Helicopter, Power Supply to Powerhouse, and Drained Step Up Transformers