

FEDERAL ENERGY REGULATORY COMMISSION
Office of Energy Projects
Division of Dam Safety and Inspections
Portland Regional Office
805 SW Broadway, Suite 550
Portland, Oregon 97205

JUN 02 2010

P-935-WA
P-2071-WA
P-2111-WA

Mr. Randy A. Landolt
Managing Director, Hydro Resources
PacifiCorp Energy
825 NE Multnomah, Suite 1500
Portland, OR 97232

Subject: Lewis River Tainter Gate Detailed Inspection Reports for PacifiCorp Energy
Projects

Dear Mr. Landolt:

This is in response to your January 29, 2010 letter and subject reports received in this office on February 3, 2010 for the tainter gates at the Merwin, Yale, and Swift No. 1 Projects, FERC Nos. 935, 2071, and 2111, NATDAM Nos. WA00149, WA00148, WA00135, and WA00147. We reviewed the detailed inspection reports and have the following comments:

Merwin Tainter Gates – The report included findings that all five tainter gates are in poor condition. This included findings that many nuts and rivets had up to 90 percent section loss and some of these were located in important locations for stability, e.g., near or on the trunnion support. It included cracking in the Gate 2 trunnion casting and a trunnion mount and out of plane bending in the short members at the trunnion mount.

Yale Tainter Gates – The findings stated that Gate 1 has out of plane bending in the lower left diagonal brace. Gate 2 has a cracked weld in the left thrust block and out of plane bending in the lower right diagonal brace and some missing rivets. Gate 4 has missing bolts in the right outboard radial strut connection. Gate 4 has out of plane bending in the lower right diagonal brace along with missing rivets. Gate 5 has three loose bolts on the right radial strut near the trunnion.

Swift No. 1 Tainter Gates – The findings stated that several areas had broken bolts. The trunnion mounts had deteriorating concrete/grout which indicates movement in the trunnion. The left trunnion riser block in Gate 1 is cracked.

The report advised that the bolts appeared to be broken by some mechanism other than rust, but no forensic evaluation of the broken bolts was made. Was the failure of the bolts caused by fatigue cracking from movement of the structural members?

Our review found that the reports did not include an evaluation of these results by a structural engineer. Some of these findings seem a cause for great concern. For instance, at Merwin, loss of enough rivets or bolts near a trunnion could cause a catastrophic failure of the gate. At Swift No. 1, fatigue cracking would imply overstressing of the gate support. In addition, every trunnion mount had broken concrete, possibly caused by gate movement. At Yale, the out-of-plane bending in several similar members might indicate overstressing. Also, there was no evaluation of potential deterioration in the trunnion pins as many dam owners have done.

The condition survey calls into question whether these gates should continue to retain water at this time, particularly the Merwin gates. For the reasons discussed above, we do not concur with the plans and schedules in the January 29 letters for responding to deficiencies found by the inspections.

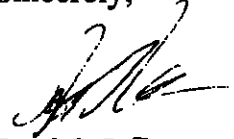
D2SI-PRO staff met on May 5, 2010 with Mr. Roger Raeburn of your office to discuss these issues. The January 29, 2010 transmittal letter indicated that the Part 12 Consultant had been provided with this information, and Mr. Raeburn reported that the Consultant found the condition of the gates acceptable for continued normal operation. We expressed our concern that no engineering evaluation of these reports was provided with the reports. We agreed that PacifiCorp Energy would have the Part 12 Consultant provide, as soon as possible, concurrence with the continued loading of these gates.

To date we have not received this information. Without engineering evaluations of these gates, we cannot concur with continuing to keep the reservoirs to their full height at the top of the gates. Within 15 days of the date of this letter, please provide structural engineering evaluations of the detailed gate inspection reports. This evaluation should include a discussion of how sound the gates are for continued operation and how soon repairs should be made.

We note that the Merwin gates may need extensive rehabilitation which may necessitate construction of a bulkhead to maintain the lake level. Please also include a discussion of the need for a bulkhead.

If you have any questions regarding the subject matter, please call Mr. David Lord of this office at (503) 552-2728.

Sincerely,

A handwritten signature in black ink, appearing to read 'P. J. Regan', written in a cursive style.

Patrick J. Regan, P.E.
Regional Engineer