

News Release

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FOR IMMEDIATE RELEASE

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Investigation identifies likely cause of Wanapum Dam fracture

Repairs likely to keep reservoir behind dam low all summer

BEVERLY, Wash.— Preliminary results of an extensive 11-week investigation by Grant PUD and its consultants has determined that the primary contributing factor to a fracture developing within the dam's spillway, was a mathematical error during the pre-construction design of Wanapum Dam.

The fracture forming on spillway monolith No. 4 may have been exacerbated by a weak construction joint. These results will be submitted to Grant PUD's Board of Consultants for final review.

A team of engineers discovered the mathematical error while examining the original design calculations of the Wanapum Dam spillway. When engineers recalculated the original design formulas they found that additional concrete and/or reinforced steel should have been included in the construction of the monolith.

The original designers of the dam miscalculated that the weight of the spillway's concrete provided enough strength to resist the force of the water pushing against it. Over time this weak point on spillway pier No. 4 succumbed to the force of the water pushing against it until after approximately 50 years of operation, the fracture formed. Had Grant PUD engineers known of the design miscalculation earlier, the spillway could have been reinforced prior to a fracture forming.

The investigation indicates that the fracture may have originated a number of years ago and spread gradually over time, ultimately allowing enough water into the fracture to push the upper portion of the structure visibly out of place. Grant PUD's monitoring programs never identified this section of the dam as being susceptible to this type of potential failure and did not identify the issue at the time the fracture began. Moving forward, this section of the dam will be monitored and evaluated throughout

the repair phase and as the dam resumes normal operations. Grant PUD is committed to following all FERC-approved dam safety and monitoring programs.

To repair spillway pier No. 4, additional steel reinforcement installed through the concrete structure into bedrock is anticipated. The remaining 12 spillway pier monoliths have a design similar to monolith No. 4 and additional steel reinforcement will likely be necessary to secure all of the spillway pier monoliths into bedrock. The independent board of consultants will review and FERC must approve any repairs prior to implementation by Grant PUD.

Repairs to the spillway are likely to occur throughout the summer allowing the utility to potentially raise the reservoir behind Wanapum Dam in the fourth quarter of 2014 by an additional 19 feet to an operating elevation of 560-562 feet above sea level. Shortly after this intermediate river level is reached, limited public access to the Wanapum shoreline and reservoir will likely be restored.

For additional information, visit: <http://www.grantpud.org/your-pud/media-room/wanapum-dam-spillway-response>.

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