

Arizona Department of Water Resources

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NEWS RELEASE



Janet Napolitano,
Governor

Herb Guenther,
Director

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ADWR removes Granite Creek Dam from unsafe list

Granite Creek Dam in Prescott is no longer classified as in an unsafe condition, Arizona Department of Water Resources Director Herb Guenther said today.

The dam, which impounds the waters of Watson Lake, had been on the list of unsafe, non-emergency dams since 1980. It was considered unsafe due to structural and spillway inadequacies. The agency reclassified the dam as a result of an extensive examination of the structure by a consultant hired by the City of Prescott.

The city hired URS Corp. to perform a comprehensive structural stability analysis of the dam. Engineers from the Denver office of URS did the analysis of Granite Creek Dam. The analysis assessed the behavior of the dam under three possible conditions:

- Usual, which means normal operation of the dam,
- Unusual - during a large storm event with a "probable maximum flood," and
- Extreme – where seismic loading conditions might occur.

Consultants evaluated the results for different simulated dam failure modes. They included:

- Concrete overstressing, in which forces applied to the dam exceed the strength of the concrete. This could cause crushing or cracking.
- Sliding stability, in which forces applied to the dam exceed the strength of the interface between the dam and foundation rock. This could cause the dam to move downstream, and
- Rock block stability - Granite Creek is an arch dam. As such, the forces applied to the dam are transferred to the rock abutments which provide support. In the simulations, if the transferred force exceeds the strength of the abutment rock, a "block" of the rock would move out and the dam would lose support.

Based on the results from the analysis, the dam is considered to have adequate safety against failure modes for the assumed loading conditions.

Granite Creek Dam is located on Granite creek in Yavapai County, approximately 5 miles northwest of the center of the city of Prescott. The dam is owned and operated by the City of Prescott. It is a 76 foot high concrete arch dam constructed in 1920.

A similar study in 2005 showed the same result for nearby Willow Creek Dam. ADWR removed Willow Creek Dam from the list of unsafe non-emergency dams.

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