DAM SAFETY UPDATE
DWORSHAK DAM AND RESERVOIR

U.S. ARMY CORPS OF ENGINEERS **BUILDING STRONG®**

What residents near dams should know

Living with flood risk-reduction infrastructure such as dams and levees comes with risk. Know your risk. Dams do not eliminate all flood risk, so it is important that residents downstream from the dam are aware of the potential consequences should the dam breach, not perform as intended, or experience major spillway or outlet works flows.

Living with dams is a shared responsibility of residents, local emergency management, and the Corps (USACE). Know your role. Listen to and follow instructions from local emergency management officials. Contact your local officials to learn about flood risk management decisions in your area. Consider purchasing flood insurance.

For additional information, see:
http://www.damsafety.org/media/Documents/DownloadableDocuments/LivingWithDams_ASDSO2012.pdf.
http://www.usace.army.mil/Missions/CivilWorks/DamSafetyProgram.aspx.
http://www.nww.usace.army.mil/Missions/DamSafety.aspx.

Project Description

Dworshak Dam is a concrete gravity dam located on the North Fork of the Clearwater River near Orofino, Idaho. The reservoir is 54 miles long with a drainage area of 2,440 square miles. Dworshak provides flood risk reduction, hydroelectric power generation, water supply, recreation, and fish and wildlife benefits. Construction of Dworshak began in July 1966 and the project was placed in operation in March 1973. The dam is 3,287 feet long with a maximum height of 717 feet. The powerhouse consists of three generating units with an installed electrical generation capacity of 400 megawatts.

Risks Associated with Dams in General

Dams reduce but do not eliminate the risk of economic and environmental damages and loss of life from flood events. When a flood exceeds a reservoir's storage capacity, large amounts of water may have to be released that could cause damaging flooding downstream. A fully-functioning dam could be overtopped when a rare, large flood occurs, or a dam could breach because of a deficiency, both of which pose risk of property damage and loss of life. This means there will always be flood risk that has to be managed. To manage these risks, USACE has a routine program that inspects and monitors its dams regularly. USACE implements short- and long-term actions on a prioritized basis, when unacceptable risks are found at any of its dams.

Risk Associated with Dworshak Dam

Based upon the most recent risk assessment of Dworshak Dam in 2016, USACE considers this dam to be a “Low Risk” dam among its more than 700 dams. The risks are primarily driven by potential for failure of the spillway gate strut arms and trunnion anchorage due to a large seismic event.

The potential for loss of life is highest within a couple of miles of the dam, with loss of life concerns decreasing substantially beyond 60 miles downstream of the dam. Advance warning of problems and events plays a major role in protecting life and property.

The recent change to Low Risk eliminates the need for an Interim Risk-Reduction Measures Plan (IRRMP). Low risk dams are not required to have an IRRMP, but the Walla Walla District may determine some risk reduction measures are still appropriate. In the past, the District reduced risk by revising the dam safety emergency action plan, conducting an emergency exercise, and further evaluating the seismic stability of the dam.