DAM SAFETY UPDATE
LOWER MONUMENTAL LOCK AND DAM

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

What residents near dams should know

Living with dams and along rivers comes with risk. Know your risk. One of the Corp's (USACE) primary missions is to ensure that inland navigation traffic can move safely, reliably, and efficiently and with minimal impact on the environment.

Living with locks and dams is a shared responsibility of residents, local emergency management, and 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

Lower Monumental Lock and Dam is a run-of-river dam that maintains a navigable pool for river traffic but does not store flood waters. It is located six miles south of Kahlotus, Wash., on the Snake River 41.6 miles above its confluence with the Columbia River and at the upper end of Lake Sacajawea, upstream of Ice Harbor Lock and Dam. Lake Herbert G. West, with a drainage area of 108,500 square miles, extends upstream from Lower Monumental Dam on the Snake River 28.7 miles to Little Goose Lock and Dam. Lower Monumental provides navigation, hydroelectric power generation, recreation, and incidental irrigation.

Lower Monumental consists of a spillway, powerhouse, navigation lock, two earth fill embankments, and fish passage facilities. Construction of Lower Monumental began in June 1961 and the project was placed in operation in May 1969. The dam is 3,791 feet long with a normal operating hydraulic height of 100 feet. The powerhouse has 810 megawatts of electrical generation capacity.

Risks Associated with Dams in General

Every day, thousands of vessels move people, animals, and products across the country via the nation's inland rivers and harbors. This water traffic is a vital component of the nation's economy. However, the navigation infrastructure is aging. Over half of the locks and dams are over 50 years old, and the consequences of this aging infrastructure are increasing incidents of downtime with disruption to river navigation, and a higher risk of major component failures, both of which have significant economic risks. To manage these risks, USACE has a routine program that inspects and monitors its locks and 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 Lower Monumental Lock and Dam

Based upon the most recent risk assessment of Lower Monumental Lock and Dam in 2016, USACE considers this dam to be a “Low Risk” dam (pending) among its more than 700 dams. The risks are primarily driven by structural instability due to a significant seismic event, and embankment overtopping during an extreme flood event.

The potential for loss of life due to an extreme flood event are highest in Tri-Cities (Richland, Kennewick, Pasco), Washington, and Portland, Oregon, which are located 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 performing a spillway gate fit-for-service evaluation and a potential failure mode analysis. A major revision of the emergency action plan is expected to be completed in FY2017.