



DAM SAFETY UPDATE

ICE HARBOR 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 Corps' (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.



Corps Photo by David G. Rigg

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

Ice Harbor 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 on the Snake River about 10 miles above its confluence with the Columbia River. Lake Sacajawea, which lies directly upstream of the dam and has a drainage area of 109,000 square miles, extends upstream 32 miles up the Snake River until it reaches Lower Monumental Lock and Dam. Ice Harbor provides navigation, hydroelectric power generation, recreation, and incidental irrigation.

Ice Harbor consists of a spillway, powerhouse, navigation lock, an earth fill embankment, and fish passage facilities. Construction of Ice Harbor began in March 1956 and the project was placed in operation in December 1961. The dam is 2,822 feet long with a normal operating hydraulic height of 100 feet. The powerhouse has 603 megawatts of electrical generation capacity. The lake is surrounded by 3,576 acres containing recreation and wildlife habitat management areas.

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 Ice Harbor Lock and Dam

Based upon the most recent risk assessment of Ice Harbor Lock and Dam in 2014, USACE considers this dam to be a “Low Risk” dam among its more than 700 dams. The risks are primarily driven by the potential for breach due to overtopping of the dam 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 scheduled to start in FY2017.

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