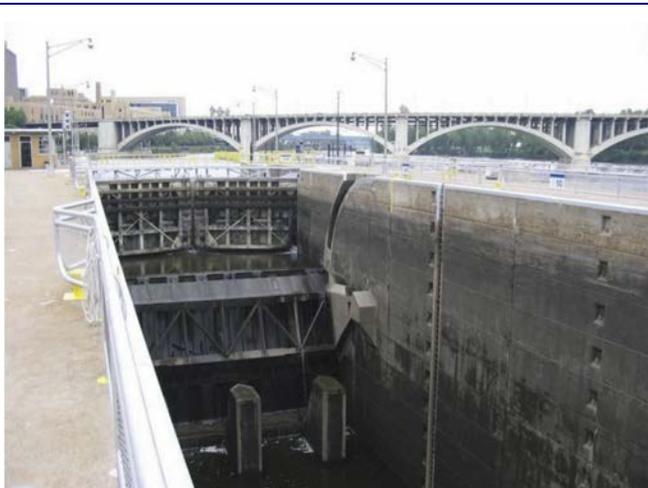




**US Army Corps
of Engineers**
St. Paul District

Information Paper

Upper St. Anthony Falls Tainter Gate Rehabilitation, Upper Mississippi River



*Upper St. Anthony Falls Lock and Dam Tainter Gate,
Minneapolis, Minnesota.*

Contact

Bonnie Greenleaf, Project Manager
(651) 290-5476 (651) 290-5258 (fax)
bonnie.k.greenleaf@usace.army.mil

Description

The Upper St. Anthony Falls (USAF) Lock and Dam is part of the Inland Waterway Navigation System of the Upper Mississippi River Basin. While the lock was originally authorized for navigation, Section 2010 of the Water Resources Reform and Development Act of 2014 (WRRDA 2014) directed the Secretary of the Army to close the Upper St. Anthony Falls lock to navigation traffic. The lock was closed June 10, 2015.

A Tainter gate was installed at the upstream end of the USAF lock chamber. The Tainter gate provides redundancy for the upstream miter gates and, importantly, it also allows flows to be passed through the lock chamber during flood events. WRRDA 2014 explicitly states that the project is still authorized to conduct emergency lock operations necessary to mitigate flood damage.

Background

The Tainter gate’s electrical control system has not been upgraded for many decades.

Attempts to operate the gate have failed on various occasions and reliability is a concern. There is also question over the condition of the system’s hydraulics because the ram cylinder rooms and operating machinery rooms are constantly wet. The lower parts of the cylinders and hydraulic piping are usually underwater.

Purpose

The purpose of the rehabilitation of Upper St. Anthony Falls Tainter gate is to replace the existing operating equipment with a system that is reliable, easy to use and resistant to damage from water infiltration in the galleries.

Status

The Upper St. Anthony Falls Tainter gate rehabilitation project was initiated in fiscal year (FY) 2016. A value engineering study was completed February 2016. Currently, the design is about 35% completed. We are scheduled to approve plans and specifications, award construction contracts, and commence rehabilitation in FY 2017. Funding for the project is in the FY 2017 President’s Budget.

Authority

The Mississippi River 9-foot channel was authorized as part of the Rivers and Harbors Act, approved July 3, 1930.

Construction of the locks at Upper and Lower St. Anthony Falls was authorized by the Rivers and Harbors Act of 1937, which approved extension of the 9-foot channel to the Minneapolis upper harbor.

Fiscal

Planning, Engineering and Design (PED) cost	\$300,000
Rehabilitation Cost	<u>\$4,160,000</u>
Estimated total project cost	\$4.46 million