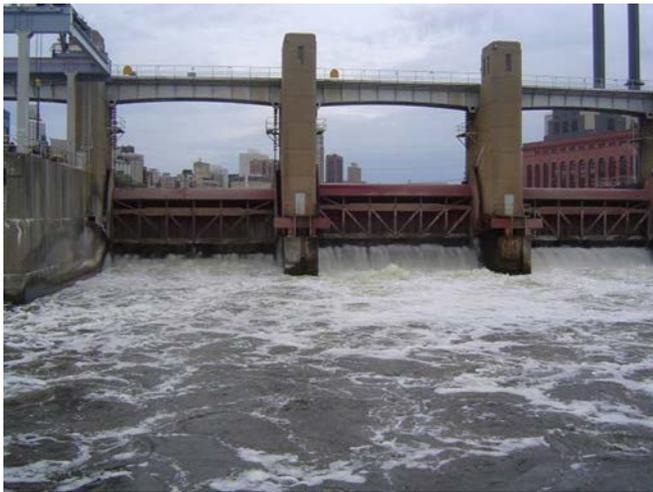




**US Army Corps
of Engineers**
St. Paul District

Information Paper

Operation and Maintenance: Dam Bridge & Gate Painting – Lower St. Anthony Falls through Lock and Dam 10



Dam Gates - Lower St. Anthony Falls, Minneapolis, Minnesota.

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Location/Description

The St. Paul District operates and maintains 13 locks and dams from Upper St. Anthony Falls in downtown Minneapolis, Minnesota, to Lock and Dam 10 in Guttenberg, Iowa. Each lock and dam is a critical step in the "stairway of water" that makes navigation possible between Minneapolis and St. Louis, Missouri. These facilities are aging structures, with locks and dams 2 through 10 originally constructed in the 1930s. These sites include a dam bridge and varying numbers of dam gates. The moveable dam gates are one of the most critical system components because they control pool elevation for navigation, flood control and environmental purposes.

Background

Typically, the gates are partially submerged in flowing water and subjected to abrasion from sediment and debris (trees and ice) carried by the river. These factors degrade the paint systems, diminishing their protection of the gate structures. This degradation contributes to significant corrosion of the gates and, consequently, an escalating backlog of needed repairs.

The original hazardous lead-based paint remains on five bridges, which have not been painted since their original construction in the 1930s.

Protecting the Nation’s investment of the inland waterways infrastructure through preventive maintenance is prudent, particularly when replacement costs are considered. The average cost of painting and repairing corrosion of gates is estimated at \$8.4 million per site. The average cost to replace gates is \$62 million per site. The average annual replacement cost is 40 percent more than the average annual cost of regular painting. The life expectancy of modern paint systems ranges from 15 to 25 years.

Site	Location	Length (ft)	Year Last Painted
LSAF	Minneapolis	168	1985
2	Hastings	570	1987
3	Red Wing	320	1988
4	Alma	990	2002
5	Minneiska	1200	1978
5A	Winona	575	1982
6	Trempealeau	750	2005
7	Dresbach	715	1995
8	Genoa	680	1991
9	Lynxville	610	1992
10	Guttenberg	560	1980

Status

The St. Paul District has been unable to award a painting contract for many years because of funding constraints. The Lock and Dam 5 plans and specifications have been prepared.



Corroded dam gate component replaced during repainting.