Lock & Dam 10

(Guttenberg, Iowa)
Mississippi River

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

Construction: 1934-1937
General Contractors:
Lock: Hanlon and Oakes, St. Paul, Minnesota
Dam: McCarthy Improvement Company, Davenport, Iowa

Congressional District: IA-1; WI-3

Description

Lock and Dam 10 is located at Mississippi River Mile 615.0 in Guttenberg, Iowa.

The main lock is located along the right descending bank and consists of one lock chamber 110 feet wide by 600 feet long with an upper pool elevation of 611.0 feet, a tailwater elevation of 603.0 feet, and a vertical lift of 8.0 feet. Miter gates are at each end of the lock chamber. There is a partial auxiliary lock consisting of an upstream set of miter gates and a short concrete riverwall section.

The movable dam consists of a concrete dam 763 feet long with four roller gates (20 feet high by 80 feet long), six non-submersible Tainter gates (20 feet high by 40 feet long), and two submersible Tainter gates (20 feet high by 40 feet long), and is located adjacent to the auxiliary lock. Completing the dam system is an earthen embankment approximately 4,600 feet long, located between the movable dam and high ground on the Wisconsin side of the river, with a concrete overflow spillway 1,200 feet long.

The site has a public observation platform and restrooms open from dawn to dusk from April to November.

History/Significance

The Lock was put in operation in November 1937.

Built under the supervision and direction of the Rock Island District, Lock and Dam No. 10 was transferred to the St. Paul District's jurisdiction on October 1, 1939. The complex was completed at an estimated cost of $6,647,000.

Annual Tonnage (20-Year Historical)

Year	Tons	Year	Tons	Year	Tons	Year	Tons
1992	16,827,746	1997	18,118,771	2002	20,528,892	2007	15,642,174
1993	12,698,354	1998	19,328,300	2003	17,623,231	2008	11,851,569
1994	15,344,207	1999	22,006,600	2004	15,185,622	2009	13,800,501
1995	18,518,352	2000	19,911,214	2005	15,820,251	2010	13,914,432
1996	19,207,408	2001	16,509,914	2006	16,426,337	2011	13,158,081

Commodity Tonnage & Lockages (2011)

Coal	1,682,827
Petroleum	283,800
Chemicals	1,989,992
Crude Materials	1,992,929
Manufactured Goods	969,291
Farm Products	6,220,082
Manufactured Machinery	3,760
Waste Material	0
Containers & Pallets	1,600
Unknown	13,800

Subtotals:	Grain	5,829,340
	Steel	45,208
Lockages:	Commercial Boats:	1,105
	Recreation Boats:	3,611
	Light Boats:	69
	Other Boats:	25
	Total Boats:	4,810
	Total Cuts:	3,234

The 9-Foot Channel Project

Lock and Dam 10 is one of 29 locks and dams on the Upper Mississippi River that provide a water stairway of travel for commercial and recreational traffic from Minneapolis to the Gulf of Mexico.

The existing 9-foot Channel Navigation Project was largely constructed in the 1930s and extends down the Upper Mississippi River from Minneapolis-St. Paul to its confluence with the Ohio River and up the Illinois Waterway to the Thomas J. O'Brien Lock in Chicago. It includes 37 Locks and approximately 1,200 miles of navigable waterway in Illinois, Iowa, Minnesota, Missouri and Wisconsin.

The maintenance needs of the aging infrastructure are increasing at a rate much greater than the operations and maintenance funding provided for the system which adversely affects reliability of the system. Long-established programs for preventive maintenance of major lock components have essentially given way to a fix-as-fail strategy, with repairs sometimes requiring weeks or months to complete. Depending on the malfunction, extended repairs can have major consequences for shippers, manufacturers, consumers, and commodities investors.

Additionally, the system's 600-foot locks do not accommodate today's modern tows without splitting and passing through the lock in two operations. This procedure requires uncoupling barges at midpoint which triples lockage times and exposes deckhands to increased accident rates.

There are more than 580 manufacturing facilities, terminals, grain elevators, and docks that ship and receive tonnage in the Upper Mississippi River basin. Grains (corn and soybeans) dominate traffic on the system. Other commodities, mainly cement and concrete products, comprise the second largest group. A modern 15-barge tow transports the equivalent of 1,050 large semi-trucks (26,250 cargo tons, 875,000 bushels, or 17,325,000 gallons). Annually, the 9-foot project generates an estimated $1 billion of transportation cost savings compared with the operation and maintenance costs of approximately $115 million.