Lock & Dam 7

(La Crescent, Minnesota)
River

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

Construction: 1933-1940
General Contractors:
Lock: Nolan Brothers and Minneapolis Dredging Co., Minneapolis, Minn., and Dearborn Electrical Construction Co., Chicago, Ill.
Dam: Warner Construction Co., Chicago, Ill.

Congressional District: MN-1; WI-3

Description

Lock and Dam 7 is located at Mississippi River Mile 702.5 near La Crescent, Minnesota, 4.5 miles above LaCrosse, Wisconsin.

The main lock is located along the right descending bank and consists of a single lock chamber 110 feet wide by 600 feet long with an upper pool elevation of 639.0 feet, a tailwater elevation of 631.0 feet, and a vertical lift of 8.0 feet. There are miter gates at each end of the lock chamber. There is a partial auxiliary lock consisting of an upstream set of miter gates and short concrete riverwall section.

The movable dam consists of a concrete structure 940 feet long with five roller gates (20 feet high by 80 feet long), nine non-submersible Tainter gates (15 feet high by 35 feet long), and two submersible Tainter gates (15 feet high by 35 feet long), and is located adjacent to the auxiliary lock. Completing the dam system are two earthen embankment segments: the French Island embankment approximately 7,000 feet long, located between the movable dam and French Island, with a concrete overflow spillway 1,000 feet long; and the Onalaska embankment approximately 1,600 feet long, located between French Island and Onalaska, with a concrete overflow spillway 677 feet long.

The site has a public observation platform, outside displays, a visitors center, and restrooms open from dawn to dusk from April through mid-October.

History/Significance

The Lock was put in operation in April 1937. Originally scheduled to be nearer to La Crosse, this complex was relocated because of water level problems connected with the La Crosse site. The design of the complex was heavily influenced by French Island, which was incorporated into the design as a natural dike, and the Dresbach Slough, which was reopened to provide the upper approach to the lock.

At the completion of its major rehabilitation, the Corps restored the original control building into a visitors center, which is on the National Historic Register. The displays interpret the Corps role in assisting with management of the river resources.

The complex was built at a cost of $6,776,000.

Annual Tonnage (20-Year Historical)

Year	Tons	Year	Tons	Year	Tons	Year	Tons
1992	11,616,510	1997	13,499,798	2002	14,460,872	2007	10,429,410
1993	9,261,702	1998	14,185,600	2003	12,297,061	2008	7,258,768
1994	12,020,406	1999	15,857,400	2004	10,786,169	2009	9,546,522
1995	13,164,482	2000	14,809,119	2005	10,391,612	2010	9,732,976
1996	14,305,614	2001	11,981,487	2006	10,931,036	2011	9,477,117

Commodity Tonnage & Lockages (2011)

Coal	385,427
Petroleum	292,805
Chemicals	1,790,961
Crude Materials	1,735,791
Manufactured Goods	723,123
Farm Products	4,517,588
Manufactured Machinery	15,872
Waste Material	0
Containers & Pallets	1,600
Unknown	13,950

Subtotals:	Grain	4,235,146
	Steel	31,750
Lockages:	Commercial Boats:	903
	Recreation Boats:	5,261
	Light Boats:	304
	Other Boats:	60
	Total Boats:	6,528
	Total Cuts:	3,523

The 9-Foot Channel Project

Lock and Dam 7 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.