Lock & Dam 8

(Genoa, Wisconsin)
Mississippi River

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

Construction: 1933-1938
General Contractors:
Lock: Jutton-Kelly Company, Milwaukee, Wisc.
Dam: Siems-Helmers, Inc., St. Paul, Minn.

Congressional District: MN-1; WI-3

Description

Lock and Dam 8 is located at Mississippi River Mile 679.2 near Genoa, Wisconsin, 173.4 miles below Minneapolis.

The main lock is located along the left descending bank and consists of one lock chamber 110 feet wide by 600 feet long with an upper pool elevation of 631.0 feet, a tailwater elevation of 620.0 feet, and a vertical lift of 11.0 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 foundation material consists of piles in sand, gravel and broken clay.

The movable dam consists of a concrete structure 934 feet long with five roller gates (20 feet high by 80 feet long), eight 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 is an earthen embankment approximately 15,000 feet long, located between the movable dam and high ground on the Minnesota side of the river, with two submersible sheetpile cell spillways, 938 and 1,338 feet long, respectively. The foundation consists of piles in sand and gravel.

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 April 1937. The design of Lock and Dam 8 was not dictated by unusual river hydrology so much as for the need for a lock and dam system at that point of the river so that the 9-foot channel system might function properly. Eighty-six accidents and one fatality occurred during dam construction; no accidents or fatalities were reported during construction of the lock. The complex was completed at an estimated federal cost of $7,728,000.

Annual Tonnage (20-Year Historical)

Year	Tons	Year	Tons	Year	Tons	Year	Tons
2017	14,729,342	2012	10,118,566	2007	11,077,630	2002	15,331,794
2016	14,554,997	2011	10,277,231	2006	11,712,327	2001	12,755,176
2015	10,671,661	2010	10,442,426	2005	11,090,000	2000	15,870,548
2014	9,754,119	2009	10,085,073	2004	12,569,495	1999	16,826,021
2013	8,660,029	2008	7,928,446	2003	13,160,824	1998	15,295,618

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Commodity Tonnage (2017)

All Units (Ferried Autos, Passengers, Railway Cars)	-
Coal, Lignite, and Coal Coke	25,500
Petroleum and Petroleum Products	237,500
Chemicals and Related Products	2,614,568
Crude Materials, Inedible, Except Fuels	1,586,800
Primary Manufactured Goods	1,125,680
Food and Farm Products	9,119,300
Manufactured Equipment & Machinery	16,794
Waste Material	-
Unknown or Not Elsewhere Classified	3,200

Vessel & Lockage Data (2017)

Average Delay - Tows (Hours)	1.2
Average Processing Time (Hours)	0.57
Barges Empty	4,016
Barges Loaded	9,402
Commercial Vessels	1,571
Commercial Flotillas	1,553
Commercial Lockages/Cuts	2,353
Non-Vessel Lockages	-
Non-Commercial Vessels	24
Non-Commercial Flotillas	24
Non-Commercial Lockages/Cuts	24
Percent Vessels Delayed (%)	38
Recreational Vessels	2,769
Recreational Lockages	985
Total Vessels	4,364
Total Lockages/Cuts	3,362

The 9-foot Channel Navigation Project

The 9-foot Channel Navigation Project includes 37 lock and dam sites (42 locks) on 1,200 river miles in Illinois, Iowa, Minnesota, Missouri and Wisconsin. Constructed largely in the 1930s, it extends from Minneapolis-St. Paul on the Upper Mississippi River to its confluence with the Ohio River and up the Illinois Waterway to the T.J. O'Brien Lock in Chicago.

The maintenance needs of this aging infrastructure have surpassed annual operations and maintenance funding. This limited funding has adversely affected reliability of the system and has primarily resulted in a fix-as-fail strategy, with repairs sometimes requiring days, weeks or months. Depending on the nature of a failure and extent of repairs, shippers, manufacturers, consumers and commodity investors can experience major financial consequences. Additionally, today's 1,200'-long tows must split and lock through in two operations within the Project's 600' chambers. This procedure doubles and triples lockage times, increases costs and wear to lock machinery, and exposes deckhands to higher accident rates.

More than 580 facilities ship and receive commodities within the Project. Grains (corn and soybeans) dominate traffic; cement and concrete products are the second largest group. A modern 15-barge tow transports the equivalent of 1,050 semi-trucks (26,250 tons, 937,387 bushels of corn, or 240 rail cars). In 2016, the 9-foot channel project generated an estimated $2 billion of transportation cost savings compared to its approximately $246 million operation and maintenance cost.

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