



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 10 was transferred to St. Paul District's jurisdiction on October 1, 1939. The complex was completed at an estimated federal cost of \$6,647,000.

Annual Tonnage (20-Year Historical)

| <u>Year</u> | <u>Tons</u> | <u>Year</u> | <u>Tons</u> | <u>Year</u> | <u>Tons</u> | <u>Year</u> | <u>Tons</u> |
|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| 2017 | 18,877,442 | 2012 | 13,494,592 | 2007 | 15,642,174 | 2002 | 20,528,892 |
| 2016 | 18,909,783 | 2011 | 13,158,081 | 2006 | 16,429,337 | 2001 | 16,529,414 |
| 2015 | 14,338,743 | 2010 | 13,914,432 | 2005 | 15,820,138 | 2000 | 19,956,214 |
| 2014 | 12,506,261 | 2009 | 13,800,501 | 2004 | 15,185,622 | 1999 | 22,005,796 |
| 2013 | 10,971,970 | 2008 | 11,851,569 | 2003 | 17,624,731 | 1998 | 19,417,877 |

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Commodity Tonnage (2017)

| | |
|---|------------|
| All Units (Ferried Autos, Passengers, Railway Cars) | - |
| Coal, Lignite, and Coal Coke | 1,600,024 |
| Petroleum and Petroleum Products | 238,100 |
| Chemicals and Related Products | 2,860,448 |
| Crude Materials, Inedible, Except Fuels | 1,739,000 |
| Primary Manufactured Goods | 1,134,912 |
| Food and Farm Products | 11,247,544 |
| Manufactured Equipment & Machinery | 39,814 |
| Waste Material | 14,400 |
| Unknown or Not Elsewhere Classified | 3,200 |

Vessel & Lockage Data (2017)

| | |
|---------------------------------|--------|
| Average Delay - Tows (Hours) | 1.37 |
| Average Processing Time (Hours) | 0.53 |
| Barges Empty | 4,515 |
| Barges Loaded | 12,004 |
| Commercial Vessels | 1,922 |
| Commercial Flotillas | 1,908 |
| Commercial Lockages/Cuts | 2,877 |
| Non-Vessel Lockages | - |
| Non-Commercial Vessels | 18 |
| Non-Commercial Flotillas | 18 |
| Non-Commercial Lockages/Cuts | 18 |
| Percent Vessels Delayed (%) | 52 |
| Recreational Vessels | 1,627 |
| Recreational Lockages | 713 |
| Total Vessels | 3,567 |
| Total Lockages/Cuts | 3,608 |

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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