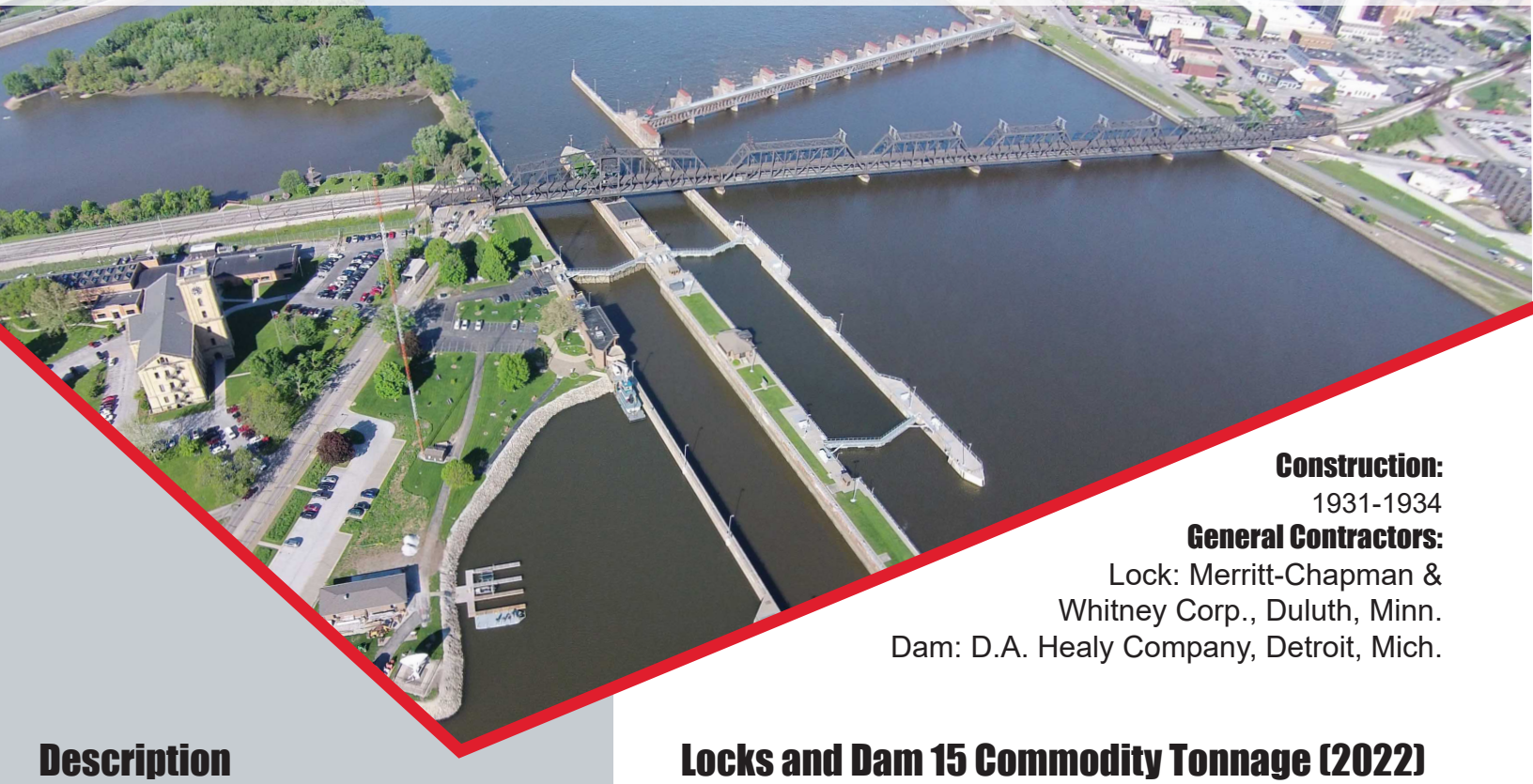
Locks & Dam 15 Mississippi River, *Rock Island, Illinois*



Construction:
1931-1934
General Contractors:
Lock: Merritt-Chapman & Whitney Corp., Duluth, Minn.
Dam: D.A. Healy Company, Detroit, Mich.

Description

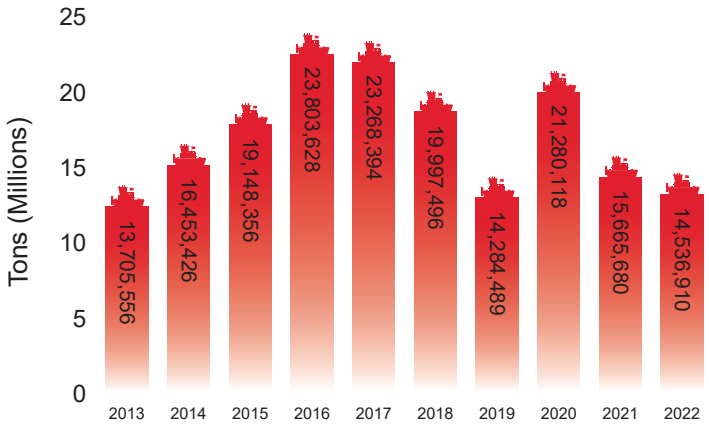
In the heart of the Quad Cities, Locks and Dam 15 is 483 miles above the confluence of the Mississippi and Ohio rivers. The dam and two locks stretch across the Mississippi River at one of its narrowest points at the foot of the Rock Island Rapids. The facility extends from the northwest tip of the U.S. Army's Rock Island Arsenal Island on the Illinois side, to a small area of downtown riverfront on the Iowa side. A roadway and railroad bridge span over the facility, joining the cities of Davenport, Iowa, and Rock Island, Illinois.

The main lock is 110 feet wide by 600 feet long; the auxiliary lock is 110 by 360 feet. Both have a maximum chamber lift of 16 feet with an average of 13 feet and takes about seven minutes to fill or empty. Each lock gate weighs nearly 133 tons. The 1,203-foot-long movable dam is the largest roller dam in the world consisting of 11 non-submersible 100-foot-long roller gates with 11 control houses. Nine gates are 110 feet by 26 feet and two are 110 feet by 21.75 feet. It takes approximately one hours for water to travel from Lock and Dam 14, in Pleasant Valley, Iowa, to Lock and Dam 15.

Locks and Dam 15 Commodity Tonnage (2022)

Food and Farm Products	7,358,400
Chemicals and Related Products	3,144,480
Crude Materials, Inedible, Except Fuels	1,366,940
Primary Manufactured Goods	1,348,400
Petroleum and Petroleum Products	695,500
Coal, Lignite, and Coal Coke	566,840
Manufactured Equipment & Machinery	27,550
Waste Material	24,000
Unknown or Not Elsewhere Classified	4,800
Total Tonnage	**14,536,910**

Annual Tonnage (10 Year- Historical)



U.S. ARMY CORPS OF ENGINEERS – ROCK ISLAND DISTRICT
CLOCK TOWER BUILDING, P.O. BOX 2004, ROCK ISLAND, IL 61204-2004
Corporate Communications Office, (309) 794-5729, www.mvr.usace.army.mil

History/Significance

Construction of Lock 15 began April 9, 1931, and was completed in December 1932. Construction of the dam began in 1932 and was completed in May 1934. The facility was placed in operation March 7, 1934.

Locks and Dam 15 was the first facility built as part of the 9-Foot Channel Project and served as a prototype for the rest of the system. Dam 15 is unusual in that it's the only dam on the Mississippi River made entirely of roller gates. It was constructed at the narrowest part of the channel and is subject to ice and debris jams. The dam is built at a 16.5-degree angle to gain additional dam area for maintaining the nine-foot-deep navigation channel. The roller gates used in the dam are non-submersible and a small hydroelectric power plant, which generates electricity to partially operate the facility, is housed in the first control structure. An open-truss service bridge with a bulkhead-lifting crane extends across the length of the dam.

The average number of men employed was 221. For construction of the dam, the maximum number of men employed was 280 during the latter part of November 1933.

The lock and dam elements of the complex were completed at a federal cost of $7,480,000.

Locks and Dam 15 underwent rehabilitation in the mid 1990's. Major work completed included lock electrical replacement, lock gate and valve machinery replacement, lock concrete repairs, lock gate and valve refurbishment, and roller dam gate machinery and chain replacement. Rehabilitation work was intended to increase the lock's useful service window by 25 years. The lock gates and upper anchorages were replaced within the last 5 years. The service bridge was painted in 2021. The upper bull nose monolith and the lowest 12 monoliths of the lower guide wall were completely replaced in 2021.

Vessel & Lockage Data (2021)

Average Delay - Tows (Hours)	1.63
Barges Empty	3,726
Barges Loaded	10,000
Commercial Vessels	1,732
Commercial Lockages	2,513
Other Vessels	33
Other Lockages	31
Recreational Vessels	1,099
Recreational Lockages	261
Total Vessels	2,864
Total Lockages	2,805

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 near Cairo, Illinois, and up the Illinois Waterway to the T.J. O'Brien Lock in Chicago.

The system is often compared to a stairway with the "treads" being the pools of water created by each dam, with the locks serving as "risers," carrying boats from one river pool to the next like an elevator. This system of locks and dams provides what the rivers in their natural states couldn't – a dependable nine-foot depth for commercial navigation.

Operating the locks and dams is a continuous job as tows and recreational vessels lock through year-round, if weather conditions permit. The structures have long outlived their life expectancy but continue to operate efficiently thanks to the hard work and dedication of USACE employees who operate and maintain the structures.

The inland waterway navigation system is essential to the economy of the Midwest as well as the nation and world. More than 580 facilities ship and receive commodities within the Nation's Corn Belt Ports Statistical Area. 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). On an annual basis, the 9-foot channel project provides billions of dollars in transportation cost savings to the navigation industry.

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