



Thomas J. O'Brien Lock and Controlling Works, Illinois Waterway, Illinois (Major Rehabilitation/Major Maintenance)

U.S. ARMY CORPS OF ENGINEERS

BUILDING STRONG®

Location

Entrance to Lake Michigan (River Mile 326.0), in Chicago, Illinois

State(s)

IL

Congressional District(s)

IL-11, IL-2, IL-3

Status

T. J. O'Brien Lock and Controlling Works were placed into operation in 1960. After over 50 years of service reliability and operation, problems are a recurring challenge and have significant impacts to the navigation users. T. J. O'Brien Lock and Controlling Works is the only commercial access from the Illinois Waterway to Lake Michigan. The completed Rehabilitation Evaluation Report was approved in 2004. The project is currently awaiting a new start which not expected until at least FY2017.



Description

The T.J. O'Brien Lock and Controlling Works is an aging structure which is at an increasing risk of failure. A component failure of the aging lock structure, mechanical equipment, or electrical distribution system would result in an unscheduled lock closure causing significant navigation traffic delays on the waterway for traffic entering and exiting Lake Michigan. The project is located at the entrance to Lake Michigan (River Mile 326.0), Calumet River, in Chicago, Illinois. The facility is a unit of the Inland Waterway Navigation System and is one of nine such facilities between Chicago, Illinois, and Versailles, Illinois. O'Brien Lock is a low lift sector gate lock. It provides a maximum lift of 5.0 feet for traffic passing from Lake Michigan to the Little Calumet River. The lock chamber is 1000 feet long by 110 feet wide. The adjacent dam is 257 feet in length and comprised of two sections. The fixed section is 204 feet of steel sheet pile cellular construction. The controlling segment, a reinforced concrete structure with four slide gate sections, is 53 feet in length. Significant features of the work include rehabilitation of the sector gate electric system, the lock electrical distribution system, and injection grouting of the lock land & river walls cells. The existing lock mechanical and electrical systems are original equipment installed in the 1960s. An electrical component failure of the lock electrical distribution system or the sector gate electrical system could result in lock failure, which could cause delays to navigation traffic. The sheet piling for the lock land wall and river walls have also been in service since the original construction of the lock. New lock dewatering bulkheads are needed to replace the old bulkheads that have been decommissioned due to age and deterioration.

Additional Project Information

The Rehabilitation Evaluation Report estimates that should one of the sheet pile cells rupture,



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T.J. O'Brien Lock would have an unscheduled closure to navigation for a minimum of 60-days. The transportation impacts associated with a 60 day closure would approach \$18.3 million dollars. TJ O'Brien Lock & Controlling Works is rated a Dam Safety Action Class (DSAC) 2, indicating an unsafe or potentially unsafe facility, on a scale of 5 (adequately safe) to 1 (unsafe). TJ O'Brien Lock has an Operational Condition Assessment (OCA) rating of C (poor) on a scale of A (good) to F (failed).

Major Work Item (This Fiscal Year)

FY2017: No work is planned in FY2017 since the project is not included in the President's budget. If funding was received, it would be used to develop Plans & Specifications for major rehabilitation / major maintenance of the facility.

Major Work Item (Next Fiscal Year)

FY2018: No work is planned in FY2018 since the project is not included in the President's budget. If funding was received, it would be used to develop Plans & Specifications for major rehabilitation / major maintenance of the facility.

Authority Details

River and Harbor Act of 1930

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