



# Columbia-Snake River Navigation Lock System Extended Outage – December 2016-March 2017

U.S. ARMY CORPS OF ENGINEERS

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The U.S. Army Corps of Engineers is planning an extended navigation lock maintenance outage beginning Dec. 12, 2016. The 14-week-long closure will affect all Corps navigation locks on the Columbia and Snake rivers. Critical major repairs, routine maintenance and improvements will include:

**Bonneville Lock and Dam** – The lock controls will be updated, which includes removing existing navigation lock systems and control interfaces, and installing new redundant systems with important safety elements. The

navigation lock will be dewatered during the extended lock outage. The modernized equipment will improve automated functions and make the controls easier to use for navigation lock operators.

**The Dalles Lock and Dam** – The upstream gate and critical portions of the navigation lock controls require replacement. The downstream gate was replaced during the fiscal year 2011 (FY11) extended lock outage. The gudgeon anchors, however, were not included during the FY11 closure and will be replaced during the fiscal year 2017 (FY17) extended lock outage.

**John Day Lock and Dam** – Portland District has no extensive repairs planned for the John Day navigation lock. Maintenance crews will use the time to clean and check equipment, paint, clean staff gauges, change gear box fluids, repair upstream and downstream guidewall, and conduct preventive-maintenance actions and dam-safety inspections. The John Day Dam will not be dewatered lower than the chamber floor.

**McNary Lock and Dam** – Walla Walla District plans to complete downstream miter gate repairs that were delayed in order to return the lock to service on schedule during the 2015 annual maintenance outage.



**Ice Harbor Lock and Dam** – New operating machinery for the downstream gate at Ice Harbor is a very high priority for the Walla Walla District. Critical components of the machinery and control systems require replacement during the extended closure.

**Lower Monumental Lock and Dam** – A new downstream lock gate was installed at Lower Monumental during the FY11 extended maintenance closure. The second phase of this installation is the replacement of the machinery and control systems that operate the gate -- the existing equipment has reached the end of its service life.

**Little Goose Lock and Dam** – Following an emergency outage in 2014 to repair a failing gudgeon arm, additional work is required during the FY17 outage to complete replacement of the aging components of the gate. This project will involve replacement of the remaining original gudgeon arm and linkage, and replacement of the pintle assembly for both gate leaves. Structural repairs will include resurfacing the quoin and miter, and crack repairs to structural members. Repairs are critical to ensure reliable gate operation.

**Lower Granite Lock and Dam** – Although Lower Granite does not have large-contract repairs planned, Corps maintenance personnel will conduct annual routine lock maintenance and repairs during the scheduled outage. Non-routine work includes replacing the upstream gate wire ropes.



These repairs and maintenance are necessary for continued operations and to maintain safe and reliable passage through the Columbia-Snake River navigation system. Aging infrastructure sometimes requires extensive non-routine repairs and rehabilitation that cannot be completed within the traditional two week-long annual routine maintenance outages. Extended lock closures are very unusual and carefully coordinated between districts to prioritize needed lock repairs and minimize the duration of closures. This work will improve the long-term functionality and safety of these locks and improve the reliability of the Columbia-Snake river navigation system as a whole.

This extended lock outage plan is a coordinated effort between the Corps' Portland and Walla Walla districts. Building on a successful FY11 extended lock outage, the Corps is again working closely with key river system stakeholders to enable them to plan ahead for the coming FY17 outage.

To maximize maintenance opportunities at all of our locks, additional work items may be added within the extended-outage schedule, dependent upon available resources.

The Columbia-Snake federal navigation system is vital to the economic health of the Pacific Northwest. As part of the Corps' mission, the Walla Walla and Portland districts have been maintaining safe navigation through the system of locks and dams since their installation beginning in the 1930s. Because of the age and reliability of these structures, major work is necessary to extend their serviceability as essential links along the commercial navigation route from the Pacific Ocean 465 miles inland to Lewiston, Idaho.

This navigation system is the top wheat-export gateway in the nation. It plays a major role in ensuring that our country's farmers and manufacturers have the ability to economically export their goods into the competitive international marketplace. Inland commercial navigation helps generate jobs, facilitates imports and exports, and contributes to a stronger economy, environment and quality of life for the region.



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