



US Army Corps  
of Engineers  
Wilmington District

## John H. Kerr Dam and Reservoir VA and NC (O&M)

### FY 2016 Planned Actions:

- Operations and maintenance of dam for flood risk management and hydropower facility
- Operations and maintenance of recreation facilities plus environmental stewardship of Federal property
- Recommendations of the Kerr Section 216 study to be implemented under the project's existing authority



CONGRESSIONAL DISTRICT: NC 1, 6, and VA 5

DATE: 23 February 2015

1. **AUTHORIZATION:** Flood Control Act of 1944 (PL 78-534).
2. **LOCATION AND DESCRIPTION:** The project is located on the Roanoke River, 178.7 river miles above its mouth, in Mecklenburg County, Virginia, and 18 miles upstream of the North Carolina and Virginia line. The dam is located in Mecklenburg County, VA. The reservoir extends upstream on the Roanoke River for 56 miles and on the Dan River for 34 miles. The project consists of a concrete gravity dam with wing and saddle dikes on the right and left banks, with a total length of 22,285 feet. The reservoir is operated as a unit of a coordinated system of reservoirs in the Roanoke River basin for flood risk management, generation of hydroelectric power, regulation of low water flow, and for other purposes. Hydropower installed capacity is 204 megawatts which increased to 268 megawatts in FY 2011.
3. **FEDERAL FUNDING ALLOCATION FOR FY 2014:** \$10,864,000
4. **FY 2015 FEDERAL FUNDING ALLOCATION:** \$10,623,000. Funds are being used to continue operation and maintenance requirements for flood risk management, hydropower, recreation and environmental stewardship. Tainter gate repairs were completed in FY 2015 using prior year funding.

PROJECT INFORMATION – John H. Kerr Dam and Reservoir, VA and NC (O&M) – Continued

5. **FY 2016 BUDGET AMOUNT:** \$10,976,000. Funds would be used for normal operations and maintenance of project and to develop plans and specifications for the critical toe drain repair to the right wing dike. Additional funds in the amount of \$38,041,000 could be used as follows:

• Design and subsequent replacement of weir 9 section of dam safety items for the critical repairs on the failing toe drain system on the right wing dike of John H. Kerr Dam.	\$ 3,900,000
• Replacement of weir 6 section (dam safety item of critical toe drain system repair JHK wing dike)	\$ 2,400,000
• Replacement of weir 4 section (dam safety increment of critical toe drain system repair JHK wing dike)	\$ 2,200,000
• Replacement of the remaining weir sections (completion of the dam safety increments of critical toe drain system repair JHK wing dike)	\$ 7,700,000
• Install toe drain system at Island Creek Dam (DSAC III)	\$ 4,400,000
• Remove lead paint from the spillway bridge and Tainter gates and repaint this critical infrastructure.	\$ 7,500,000
• Redesign outlet gate at Island Creek Pumping Station (DSAC III rating) which currently will not operate under differential pressure.	\$ 200,000
• Install check valves downstream of three butterfly valves and provide critical routine maintenance of Island Creek and wing dike operations within John H. Kerr Reservoir.	\$ 325,000
• Perform shoreline stabilization and land acquisition of highly eroded areas.	\$ 2,992,000
• Perform core analysis; additional piezometer inspections/repairs; and conduct seismic structural analysis as recommended in Information Reports Requirement Management Program (IRRMP) document (dam rated DSAC III).	\$ 271,000
• Update water control plan and reservoir regulation manual.	\$ 1,031,000
• Obtain 9 parcels of land necessary for public and Government project access.	\$ 546,000
• Repair and pave roads and ramps in recreation areas.	\$ 500,000
• Perform overtopping analysis, earthquake dynamic analysis, probable maximum flood, maximum pool elevation analysis at Island Creek, thickness testing of critical bridge structure, and update tailwater curve.	\$ 424,000
• Upgrade recreational facilities throughout the project.	\$ 594,000
• Negotiate/re negotiate new and existing water supply agreements (new drought of record Dec 2002).	\$ 330,000

PROJECT INFORMATION – John H. Kerr Dam and Reservoir, VA and NC (O&M) – Continued

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<ul style="list-style-type: none"> <li>• Perform natural resource management programs which include shoreline management and erosion control; and provide remaining critical environmental stewardship programs such as shoreline management, invasive species control, and forest management.</li> </ul>	\$ 286,000
<ul style="list-style-type: none"> <li>• Monitor and control of pest management program for hydrilla (<i>hydrilla verticillata</i>) during active periods.</li> </ul>	\$ 100,000
<ul style="list-style-type: none"> <li>• Perform critical routine preventative maintenance that is a critical aspect for accomplishment of the hydropower mission by limiting forced outages to less than 2% and maximizing the peak availability.</li> </ul>	\$ 346,000
<ul style="list-style-type: none"> <li>• Perform additional water management program functions to assure that water control actions are occurring in conformance to water control plans and providing benefits in accordance with project authorization.</li> </ul>	\$ 325,000
<ul style="list-style-type: none"> <li>• Continue the annual maintenance of the structure and equipment associated with the controlled release and storage of water.</li> </ul>	\$ 250,000
<ul style="list-style-type: none"> <li>• Perform feasibility study and further development in South Dike Park area partially developed by VADOT as mitigation; and determine if adequate for boat ramp for fishing tournaments (100+ a year at lake)</li> </ul>	\$ 250,000
<ul style="list-style-type: none"> <li>• Renovate campsites, replace creosote and rotted timbers on 100 campsites in North Bend, Rudds and Buffalo Campgrounds with environmentally friendly recycled materials that will withstand flooding, insects, and rot.</li> </ul>	\$ 225,000
<ul style="list-style-type: none"> <li>• Repair foot bridges and trail surface for 7-mile multipurpose Munford Trail at Eagle Point.</li> </ul>	\$ 200,000
<ul style="list-style-type: none"> <li>• Develop the historic management plan to come into compliance with Section 110 of the NHPA, ER/EP 1130-2-540, and EO 13287.</li> </ul>	\$ 149,000
<ul style="list-style-type: none"> <li>• Renovate play areas at Rudds campground and Longwood campground. Old play areas need repair and are not Americans with Disabilities Act (ADA) compliant.</li> </ul>	\$ 50,000
<ul style="list-style-type: none"> <li>• Repair piezometer on wing and saddle dikes.</li> </ul>	\$ 115,000
<ul style="list-style-type: none"> <li>• Perform seismic structural stability analysis.</li> </ul>	\$ 115,000
<ul style="list-style-type: none"> <li>• Replace aging sewer system with EZ Treatment pods at Rudds campground.</li> </ul>	\$ 100,000
<ul style="list-style-type: none"> <li>• Perform required tasks to enforce the Native American Graves Protection and Repatriation Act and the Bald Eagle management plan.</li> </ul>	\$ 109,000
<ul style="list-style-type: none"> <li>• Funding for labor, contract, and supplies/materials for development, fabrication, and installation of new interactive exhibits at the Tanner Regional Environmental Education Center.</li> </ul>	\$ 108,000
<b>Total</b>	<b>\$38,041,000</b>

PROJECT INFORMATION – John H. Kerr Dam and Reservoir, VA and NC (O&M) – Continued

6. **OTHER INFORMATION:** The amount of backlog maintenance has been a serious issue for a considerable amount of time due to previous funding shortfalls. The project has two separate toe drain systems issues, the J.H. Kerr right wing dike which requires costly and extensive repairs to improve structural stability of the dam and the Island Creek dam which needs a system installed. The funding of these activities would help reduce operations and maintenance costs in the future as the systems will continue to degrade with time.

Also, the tentatively selected plan for the John H Kerr Dam and Reservoir Section 216 Feasibility Study only recommends modified flow releases for the benefit of downstream bottomland hardwood resources below the dam. Thus, this recommendation can be implemented within the existing authority of this project. Accordingly, the 216 study is being transitioned into an update to the John H. Kerr Water Control Manual, which would be scheduled for approval by Corps' higher headquarters toward the end of calendar year 2015 once the NEPA process has been completed.