DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS
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WASHINGTON, DC 20314-1000

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MEMORANDUM FOR ASSISTANT SECRETARY OF THE ARMY (CIVIL WORKS)

SUBJECT: Kentucky Lock Addition, Lower Cumberland and Tennessee Rivers, Tennessee, Post Authorization Change Report

1. Purpose. To provide for your review and concurrence the enclosed Kentucky Lock Addition Post Authorization Change Report (PACR). The report presents a revised cost estimate and updated analysis of the authorized project to support the authorization of a new project cost. The PACR documents the need to increase the authorized project cost from $1,446,219,000 (FY 2026 price level) to $2,741,549,000 (FY 2026 price level). This reflects the 96 percent confidence level of the certified cost estimate, accounting for uncertainty in the funding profile. The recommended changes necessitating the increase to the cost limit imposed by section 902 of the Water Resources Development Act of 1986, as amended (33 U.S.C. §§ 2280), are within the existing authority of the project.

2. Authorized Project. The Kentucky Lock Addition Project was authorized in Section 101(a)(13) of the Water Resources Development Act (WRDA) of 1996 (Public Law 104-303) at a cost of $393,200,000. A new project cost of $1,166,809,000 was authorized in Section 401(7)4 of WRDA 2020 (Public Law 116-260). The Project involves constructing a 110-foot by 1,200-foot lock immediately landward of the existing 110-foot by 600-foot lock at Kentucky Lock and Dam located at mile 22.4 of the Tennessee River. The existing 110-foot by 600-foot lock will remain operational and be used as an auxiliary lock.

3. Post-Authorization Change. The project is currently in the construction phase. Approximately $790 million has been spent on the Project, which is estimated to be 60% physically complete. Major construction activities completed to-date include utility upstream cofferdam construction (completed in FY 2007), bridge construction (FY 2011), upstream lock monolith construction and miter gate installation (FY 2017), downstream cofferdam construction (2021), and downstream lock excavation (FY 2022). Major ongoing construction activities include downstream lock monolith construction and miter gate installation (anticipated completion in FY 2027). Future construction contracts include the approach wall contract, which includes construction of the upstream and downstream approach walls, removal of the upstream and downstream cofferdams, and excavation of the approach channels (anticipated award in FY 2028), as well as the lock operational contract, which includes construction of the electrical and mechanical systems, operational buildings, and maintenance access bridge, as well as final utility relocations and site layout (anticipated award in FY 2030).

The $1,294,781,000 (FY 2026 price level) increase in project cost is due to the following factors:

a. $600 million in contingency to account for project-specific risk drivers and align with current risk-based contingency procedures, including $205 million to account for funding uncertainty;

b.$398 million due to design and construction methodology changes and cost increases resulting from increasing design maturity;

c. $143 million due to changes in construction schedule and acquisition strategy that exceeded initial assumptions and contingencies;

d. $82 million due to escalation required as a result of the extended duration of the project; and

e. $72 million due to market conditions, including increases in contractor overhead, electrical and mechanical subcontractor costs, and direct labor rates.

A Chief's Discretionary Authority (CDA) analysis has been completed, which resulted in the determination that the design changes, aside from the section 902 exceedance, are within the CDA.

4. Due to project cost increases, the quantified national economic development (NED) benefits are insufficient to re-establish the Project as the plan that maximizes net NED benefits (NED Plan). The enclosed PACR establishes the Project as the total net benefits plan. Engineer Regulation (ER) 1105-2-103 requires Assistant Secretary of the Army for Civil Works (ASA(CW)) approval to recommend a plan other than the NED Plan for Congressional authorization. The ASA(CW) approved an NED policy exception for the Project on 11 March 2026.

5. Project Justification. The Kentucky Lock Addition represents the total net benefits plan and is justified based on significant monetized and non-monetized benefits to the nation. Project benefits are described within the context of the four accounts established in the 1983 *Economic and Environmental Principles and Guidelines for Water and Related Land Resources Implementation Studies*: national economic development (navigation efficiencies and hydropower production), regional economic development (regional employment and income), environmental quality (air quality), and other social effects (national security, space technology and exploration, and health and public safety). Monetized NED and RED estimates reflect a cost estimate of $2,537,045,000 (FY 2026 price level), representing the 80 percent confidence level of the certified cost estimate. Adjusting these values to reflect the 96 percent confidence level of the

certified cost estimate would not affect project justification, which is based on total net benefits (NED BCR would remain below unity, and RED estimates would increase).

a. National Economic Development. The Kentucky Lock Addition was authorized as the NED Plan at the time of the Project's initial authorization in 1996 and when the Project's authorized cost was updated in 2020 (see paragraph 2). At the current FY 2026 discount rate of 3.25 percent, the project is now estimated to produce $46,892,000 in average annual NED benefits, at an average annual NED cost of $108,296,000, resulting in $61,404,000 in negative net average annual NED benefits, and BCR of 0.4 (FY 2026 price level, 50-year period of analysis, and 2035 base year).

b. Regional Economic Development. The project will contribute to the regional economy through construction expenditures and facilitating commercial navigation and supporting activities (e.g., cargo handling services, warehousing, fuel sources) and recreational activity. Notably, remaining construction expenditures through 2034 will support 18,000 full-time equivalent jobs, $1.2 billion in labor income, $1.3 billion in value added, and $2.1 billion in economic output within the local 4-county region. These regional economic benefits will serve as a vital economic engine within a region largely defined as economically disadvantaged.

c. Environmental Quality. The Project will result in direct air quality benefits by promoting greater efficiency of waterway transport through the Kentucky-Barkley Navigation System. The Project will reduce fuel consumption and emissions by reducing queuing delays and associated idling, increasing lockage capacity and reducing the number of lockages per tow, and decreasing the frequency and duration of maintenance closures of Kentucky Lock that necessitate rerouting to Barkley Lock and/or alternative rail and roadway transport. Improved efficiency and reliability of Kentucky Lock may also reduce turbidity and associated impacts to native mussel habitats.

d.Other Social Effects. The Project will have other positive societal benefits, including benefits to national security, space technology and exploration, and health and public safety. The Project would increase the efficiency with which military assets originating at Fort Campbell are transported through the system and reduce risks associated with diversion to Barkley Lock (i.e., narrow winding channel along the Cumberland River and accessibility due to hydropower releases) during scheduled and unscheduled closures of Kentucky Lock. Kentucky Lock is also vital to the safe and efficient transport of components of the National Aeronautics and Space Administration's Space Launch System, which are transported along the Tennessee River to the Marshall Space Flight Center in Huntsville, Alabama. Lastly, decreased emissions (see paragraph 5.c.) will result in decreased health risks for individuals with underlying medical conditions, and decreased reliance on roadway transport has the potential to reduce traffic fatalities.

6. Environmental Compliance. There have been no major changes to the Project's environmental circumstances or considerations since the project was authorized, and the project is still consistent with the Record of Decision signed in 1998. However, out-year design and construction changes have been made to the project, with environmental effects analyzed in the 2001 Supplemental Environmental Impact Statement, 2006 and 2011 Environmental Assessments, and 2026 Supplemental Information Report, as well as updates to associated environmental compliance documentation (e.g., water quality certifications and biological opinions). These assessments and all associated environmental compliance documentation remain valid for the project. Additional environmental and cultural analysis is in progress to evaluate updated environmental regulations (e.g., fish spawning restrictions) and design documents not analyzed in previous National Environmental Policy Act Documents.

7. Recommendation. I report that the Project remains engineeringly feasible, environmentally acceptable, and economically justified based on the benefits provided. I recommend the enclosed Post Authorization Change Report be transmitted to Congress as a basis for increasing the authorized project cost of the Kentucky Lock Addition to $2,741,549,000 (FY 2026 price level).

Encl

JASON E. KELLY
Major General, USA
Deputy Commanding General
for Civil and Emergency Operations