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DEPARTMENT OF THE DEFENSE

Department of the Army, Corps of Engineers

Intent to Prepare a Draft Environmental Impact Statement for the Dam Safety Modification Study Report for Center Hill Dam, DeKalb County, Tennessee.

AGENCY: U.S. Army Corps of Engineers, DoD.

ACTION: Notice of Intent.

SUMMARY: Pursuant to the National Environmental Policy Act (NEPA) of 1969, as amended, the U.S. Army Corps of Engineers, Nashville District (USACE) is preparing a draft Environmental Impact Statement (EIS) to support the Dam Safety Modification Study Report (DSMSR) for Center Hill Dam. The study would evaluate the main dam spillway gate operability, the saddle dam fuse plug operation, and spillway additions to the new Roller Compacted Concrete (RCC) berm structure at the saddle dam, all for the purpose of lowering risk at Center Hill Dam, DeKalb County, Tennessee.

DATES: Comments regarding the NOI must be received by USACE within 30 days of publication of the NOI on or before May 20, 2018.

ADDRESSES: USACE-Nashville District, 110 9th Avenue South, RM 405A, Nashville, Tennessee 37203-3817.

FOR FURTHER INFORMATION CONTACT: Please direct your comments to Joy Broach, Aquatic Biologist, (615) 736-7956; email: joy.i.broach@usace.army.mil. Written comments can be mailed to the address above.

SUPPLEMENTARY INFORMATION:

1. *Background Information.* Center Hill Dam was designed in the 1930s, constructed in the 1940s, and impounded in the early 1950s. The dam was built on karst geology using accepted engineering practices of the day. Center Hill Dam consists of a 248' high by 1,400' long combination earthen embankment and concrete main dam, and a 125' high by 800' long earthen embankment auxiliary dam referred to as the saddle dam. The main dam has eight 34' x 57' spillway gates that rotate upward to safely pass flow during and after large rainfall events. To comply with updated design flood guidance, a self-eroding fuse plug section was retrofitted into the top of the saddle dam in 1992 to serve as an emergency spillway. The fuse plug operation almost doubles Center Hill's total spillway capacity to keep the main dam from overtopping during an extreme flood event. A Dam Safety Modification Study to reduce the risk of a foundation seepage dam failure was approved in late 2006 and consisted of three major construction contracts beginning in 2008. The first contract injected concrete grout into the foundation of the main dam embankment (soil portion of the dam) and was completed in 2010. The second contract installed a concrete barrier wall into the main dam embankment and was completed in 2015. This concrete barrier wall is the permanent seepage barrier protection for the main dam embankment. The third major contract for construction of a Roller Compacted Concrete (RCC) berm below the saddle dam began in September 2016 and is on-going. The purpose of the RCC berm is to reduce the risk of saddle dam failure caused by under-seepage or overtopping during an extreme flood event. A Post Implementation Evaluation (PIE) was completed in 2017 to assess the effectiveness of the above construction efforts to reduce the risk of dam failure. During the PIE, additional risk issues were noted concerning the 70-year old main dam spillway gates.

Electrical, mechanical and structural operability issues affect the reliability of controlled spillway releases. If the spillway gates do not reliably operate during an extreme flood event, the reservoir would raise and potentially result in a premature fuse plug operation. The fuse plug is designed to discharge approximately 400,000 cubic feet per second within 30 minutes. The consequences of premature discharge of an enormous volume of flood water are estimated to be above the Corps of Engineer's tolerable risk limit. The draft EIS would address the findings of the PIE and assess effectiveness of potential alternatives to further reduce risk and increase dam safety. The dam seepage repair construction contracts noted previously, have increased dam safety and were covered under previous NEPA documents.

2. Potential Alternatives. The draft EIS would address an array of alternatives that could reduce the risk of life loss, extensive downstream damage, functional loss of the project, and the loss of project benefits. The nature and extent of the alternatives would be determined based on the results of on-going engineering studies, public and agency input during the scoping period, and preparation of the draft EIS. Alternatives, either individually or in combination, that have potential to affect structures or operations of the dam may include the following:

a. Replacement of the current gate machinery with hydraulic machinery that can operate under water;

b. Addition of equipment to the current spillway gates to keep them open if the operating machinery is underwater;

c. Modification of the spillway gates or gate machinery to allow operation from the top of the dam;

d. Relocation of the gate operating machinery to the road level, which would require raising or relocating Highway 96 which currently crosses over the dam;

e. Removal of the existing fuse plug at the saddle dam and installation of spillway additions on top of the newly constructed RCC Berm to discharge flood water down the valley;

f. Modification of the emergency operations plan in the water control manual that determines how to manage floods at Center Hill Dam; and

g. Other alternatives as identified by on-going engineering studies, the public, and agencies.

3. *Issues To Be Addressed*. USACE is evaluating ways of raising, modifying, and/or replacing existing spillway gates and operating equipment to address spillway gate reliability for all range of possible flood events, especially large and more extreme flood events. The DSMSR and draft EIS would evaluate the Center Hill Dam Water Control Manual emergency operating procedures and potential alternative spillway options to determine if changes are warranted to minimize overall dam safety risk. The draft EIS would include, but is not limited to identification and evaluation of effects to aquatic and terrestrial habitats, cultural resources, state and federally listed species, socioeconomics, public safety, structures, hydrology and hydraulics, recreation, water supply, water quality, flood storage, hydropower production, land use, visual and aesthetic resources, and dam safety risk reduction at Center Hill Dam as a result of the proposed alternatives.

4. *Public Involvement and Scoping*. This NOI serves as the initial step to involve Federal and state agencies, Indian Tribes, local governments, and the public in an early and transparent process in accordance with NEPA requirements. The draft EIS would

address impacts to the human environment due to the proposed alternatives. Concerns would be identified based on public and agency input during the scoping process and during preparation of the draft EIS. All interested parties are encouraged to submit their name and e-mail address to the address noted above, to be placed on the project mailing list to receive fact sheets, newsletters and related public notices. All interested parties are invited to identify issues that should be addressed in the draft EIS. A scoping meeting is scheduled for May 3, 2018 from 6:00 – 8:00 p.m. at The Buffalo Valley Community Center, 2717 Buffalo Valley School Road, Buffalo Valley, Tennessee. The purpose of the public scoping meeting is to present information to the public regarding potential alternatives that would be addressed in the draft EIS, receive public comments, and to solicit input regarding dam safety concerns, alternatives to consider, and environmental or social issues of concern to the public.

6. *Availability of the Draft EIS*. USACE intends to circulate the draft EIS in the late 2018/early 2019 time frame. USACE will announce availability of the draft EIS in the Federal Register and other media, and will provide interested parties an opportunity to submit comments to be addressed in the final EIS.

Dated: April 13, 2018.

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