



[7590-01-P]

NUCLEAR REGULATORY COMMISSION

[NRC-2012-0271]

Geologic Trench Excavations for Paleoliquefaction Study at Dyer County, Tennessee Site

AGENCY: Nuclear Regulatory Commission.

ACTION: Environmental assessment and finding of no significant impact; issuance.

SUMMARY: The U.S. Nuclear Regulatory Commission (NRC) has prepared an environmental assessment (EA) to evaluate the potential environmental impacts that may arise as a result of excavating trenches to observe geologic features for a paleoliquefaction research project at a site located in Dyer County, Tennessee. The NRC has concluded that a finding of no significant impact (FONSI) is appropriate.

DATES: The EA and FONSI referenced in this document are available **[INSERT DATE OF PUBLICATION IN THE *FEDERAL REGISTER*]**.

ADDRESSES: Please refer to Docket ID **NRC-2012-0271** when contacting the NRC about the availability of information regarding this document. You may obtain publicly-available information related to this document using any of the following methods:

- **Federal Rulemaking Web Site:** Go to <http://www.regulations.gov> and search for Docket ID **NRC-2012-0271**. Address questions about NRC dockets to Carol Gallagher;

telephone: 301-415-3463; e-mail: Carol.Gallagher@nrc.gov. For technical questions, contact the individual listed in the FOR FURTHER INFORMATION CONTACT section of this document.

- **NRC's Agencywide Documents Access and Management System (ADAMS):**

You may obtain publicly-available documents online in the ADAMS Public Documents collection at <http://www.nrc.gov/reading-rm/adams.html>. To begin the search, select "ADAMS Public Documents" and then select "[Begin Web-based ADAMS Search.](#)" For problems with ADAMS, please contact the NRC's Public Document Room (PDR) reference staff at 1-800-397-4209, 301-415-4737, or by e-mail to pdr.resource@nrc.gov. The ADAMS accession number for each document referenced (if it available in ADAMS) is provided the first time that a document is referenced. The EA and the associated FONSI are publicly available in ADAMS under Accession No. ML16257A012.

- **PDR:** You may examine and purchase copies of public documents at the NRC's PDR, Room O1-F21, One White Flint North, 11555 Rockville Pike, Rockville, Maryland 20852.

FOR FURTHER INFORMATION CONTACT: Sarah Tabatabai, Office of Nuclear Regulatory Research, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001; telephone: 301-415-2382; e-mail: Sarah.Tabatabai@nrc.gov.

SUPPLEMENTARY INFORMATION:

I. Introduction

The NRC is performing a paleoliquefaction research project at a site in Dyer County, which is located in northwestern Tennessee, to characterize past earthquakes in the central and eastern United States. Paleoliquefaction is a term describing specific geologic features attributed to seismic events that occurred before ground-motion measurements were taken or before detailed records were kept. Paleoliquefaction studies facilitate preparing and planning

for future earthquakes by determining when past earthquakes occurred, along with their frequency and size. Liquefaction is the transformation of saturated granular material from a solid to a liquefied state as a result of increased pore-water pressure; thus, it leaves evidence behind in the geologic record. Typically the liquefied soil manifests as sand in the form of sand dikes (when the liquefied sand intrudes existing cracks or fissures) or sand blows (when the liquefied sand erupts and spills over). The results from this research will be used to update models implemented in probabilistic seismic hazard analyses to characterize ground motion at new nuclear power plant sites in accordance with section 100.23(d)(1) of title 10 of the *Code of Federal Regulations* (10 CFR). The results of this research may also be implemented to re-evaluate seismic hazards at existing nuclear power plant sites.

The research project will entail the excavation of four trenches by a backhoe at the project site. Each trench will measure about 3 feet wide (i.e., the width of a backhoe bucket), 5 feet deep, and range in length from 33 to 82 feet long. The proposed trenches are intentionally sited to enable the study of earthquake-induced liquefaction features. The excavation of the four trenches will be conducted by an NRC contractor. The estimated study time during which the trenches will remain in existence is approximately 2 weeks. The trenches will be backfilled at the conclusion of this study.

The NRC has prepared an EA to evaluate the potential environmental impacts that may arise as a result of this research project in accordance with the requirements of 10 CFR part 51, of the NRC's regulations that implement Section 102(2) of the National Environmental Policy Act of 1969, as amended. Based on the EA, and in accordance with 10 CFR 51.31(a), the NRC has concluded that a FONSI is appropriate. Geologic trenching for this project will commence following publication of this Notice.

II. EA Summary

The NRC has prepared the EA to evaluate the potential environmental impacts of the excavation of four trenches at the project site. In accordance with Section 7 of the Endangered

Species Act of 1973, as amended (16 U.S.C. 1531 et seq.), the NRC staff requested informal consultation with the United States Fish and Wildlife Service. No concerns were identified for Federally listed species or designated critical habitat. This project is temporary, minimally invasive, and will occur outside the critical nesting times for migratory birds.

The NRC determined that there will be no adverse effects to any historic or cultural resources that may be located at the Pritchett site.

The NRC has determined that there will be no significant impacts to any other resource areas (e.g., surface water, groundwater, air quality) as a result of the proposed trench excavations, followed by the backfilling of these trenches at the conclusion of the study.

III. Finding of No Significant Impact

On the basis of the EA, the NRC has concluded that there are no significant environmental impacts from the proposed work and has determined not to prepare an environmental impact statement. The EA and the associated FONSI are publicly available in ADAMS under Accession No. ML16257A012.

Dated at Rockville, Maryland this 15 day of September, 2016.

For the Nuclear Regulatory Commission.

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