



UNITED STATES DEPARTMENT OF COMMERCE
National Institute of Standards and Technology
Gaithersburg, Maryland 20899

April 22, 2024

MEMORANDUM FOR THE RECORD

From: Mark Liao
NEPA Coordinator

Subject: Categorical Exclusion

Project Title: Next Generation University of Missouri Research Reactor
Location: University of Missouri
Columbia, Missouri 65211

The National Environmental Policy Act (NEPA) and associated implementing regulations (40 CFR Parts 1500-1508) require that all major actions by federal agencies be reviewed with respect to the environmental consequences on the human environment. The National Institute of Standards and Technology (NIST) is providing a congressionally directed funding grant for the design of the Next Generation University of Missouri Research Reactor. Consequently, NEPA and the associated implementing regulations apply to this project.

This memorandum summarizes the determination that the design of the Next Generation University of Missouri Research Reactor has been found to be categorically excluded from further environmental review under NEPA. However, implementation of the project (construction and operation) will require a full NEPA review as discussed below.

Description of the Action

This action includes design efforts only for the University of Missouri Next Generation Research Reactor.

This action includes the design and planning work necessary for the eventual construction of a 20-megawatt research reactor at the University of Missouri, Columbia Campus. The reactor design and outline functional specifications will be developed in sufficient detail to permit soliciting construction bid proposals for a state-of-the art, next generation medical isotope production and research reactor. The reactor will be specifically designed to produce critical

short-lived medical radioisotopes for use in diagnostic and therapeutic radiopharmaceuticals that are needed by cancer patients across the nation. Completion of the design will require engagement with numerous stakeholders, regulatory agencies and the public.

The existing University of Missouri Research Reactor (MURR) is now 55 years old. It is the sole domestic producer of a wide range and large number of medical isotopes and radiopharmaceuticals which are delivered every week all over America to companies, clinics, and hospitals. Because the most important medical isotopes have half-lives of hours or days, they cannot be stockpiled, and they need to be manufactured and distributed every week. Due to these short half-lives, it also means relying on foreign production for such treatments would introduce unacceptable transportation and supply chain risks (including potential export restrictions by foreign governments) that could cause delays in patient diagnosis, and/or cancellation of scheduled cancer treatments at major hospitals and clinics all over the country.

The existing MURR has only 15 years remaining on its current Nuclear Regulatory Commission (NRC) operating license, which was most recently renewed in 2017. It is estimated that design, approval, construction and commissioning of an expanded research reactor in Columbia will take at least a decade complete.

Prior to beginning construction of this project, NRC construction and operation permits must be obtained. As part of the permitting process, the NRC will prepare an Environmental Impact Statement (EIS) for the project in accordance with NEPA. To facilitate the NRC permit review and preparation of the EIS, an environmental evaluation and report must be prepared by the applicant and submitted to the NRC. This report is prepared concurrent with the conceptual design and alternatives evaluation. The NRC encourages applicants to discuss their plans with the NRC early in their planning. This will help to ensure that applications provide sufficient information for processing, including the environmental report.

Effects of the Action

No significant adverse impacts on the environment are expected from the limited scope of this action.

Categorical Exclusion

The activities associated with this project fall within the criteria of the following NIST Categorical Exclusion (CATEX):

A9: Information gathering, analysis, and dissemination. Information gathering (including, but not limited to, literature surveys, inventories, site visits, and audits), data analysis (including, but not limited to, computer modeling), document preparation (including, but not limited to, conceptual design, feasibility studies, and analytical energy supply and demand studies), and information dissemination (including, but not limited to,

document publication and distribution, and classroom training and informational programs), but not including site characterization or environmental monitoring.

The scope of the proposed project is limited specifically to data gathering, analysis, design and document preparation and meets the criteria of CATEX A9.

The proposed project: Design of the University of Missouri Next Generation Research Reactor is categorically excluded from the need for further environmental review under NEPA. Any change in the scope of the project will require additional NEPA review.

Mark Liao
NIST NEPA Coordinator

Date

Robert C. Vaughn
NIST Chief Facilities Management Office

Date