

**U.S. DEPARTMENT OF ENERGY
OFFICE OF ENERGY EFFICIENCY AND RENEWABLE ENERGY
NEPA DETERMINATION**



RECIPIENT: EPRI

STATE: NC

PROJECT TITLE : Low Impact Hydropower Assessment at Keokuk Energy Center

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
DE-FOA-0002731	DE-EE0011049	GFO-0011049-001	GO11049

Based on my review of the information concerning the proposed action, as NEPA Compliance Officer (authorized under DOE Policy 451.1), I have made the following determination:

CX, EA, EIS APPENDIX AND NUMBER:

Description:

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. (See also B3.1 of appendix B to this subpart.)
B1.31 Installation or relocation of machinery and equipment	Installation or relocation and operation of machinery and equipment (including, but not limited to, laboratory equipment, electronic hardware, manufacturing machinery, maintenance equipment, and health and safety equipment), provided that uses of the installed or relocated items are consistent with the general missions of the receiving structure. Covered actions include modifications to an existing building, within or contiguous to a previously disturbed or developed area, that are necessary for equipment installation and relocation. Such modifications would not appreciably increase the footprint or height of the existing building or have the potential to cause significant changes to the type and magnitude of environmental impacts.
B5.2 Modifications to pumps and piping	Modifications to existing pump and piping configurations (including, but not limited to, manifolds, metering systems, and other instrumentation on such configurations conveying materials such as air, brine, carbon dioxide, geothermal system fluids, hydrogen gas, natural gas, nitrogen gas, oil, produced water, steam, and water). Covered modifications would not have the potential to cause significant changes to design process flow rates or permitted air emissions.
B5.25 Small-scale renewable energy research and development and pilot projects in aquatic environments	Small-scale renewable energy research and development projects and small-scale pilot projects located in aquatic environments. Activities would be in accordance with, where applicable, an approved spill prevention, control, and response plan, and would incorporate appropriate control technologies and best management practices. Covered actions would not occur (1) within areas of hazardous natural bottom conditions or (2) within the boundary of an established marine sanctuary or wildlife refuge, a governmentally proposed marine sanctuary or wildlife refuge, or a governmentally recognized area of high biological sensitivity, unless authorized by the agency responsible for such refuge, sanctuary, or area (or after consultation with the responsible agency, if no authorization is required). If the proposed activities would occur outside such refuge, sanctuary, or area and if the activities would have the potential to cause impacts within such refuge, sanctuary, or area, then the responsible agency shall be consulted in order to determine whether authorization is required and whether such activities would have the potential to cause significant impacts on such refuge, sanctuary, or area. Areas of high biological sensitivity include, but are not limited to, areas of known ecological importance, whale and marine mammal mating and calving/pupping areas, and fish and invertebrate spawning and nursery areas recognized as being limited or unique and vulnerable to perturbation; these areas can occur in bays, estuaries, near shore, and far offshore, and may vary seasonally. No permanent facilities or devices would be constructed or installed. Covered actions do not include drilling of resource exploration or extraction wells, use of large-scale vibratory coring techniques, or seismic activities other than passive techniques.

Rationale for determination:

The United States Department of Energy (DOE) is proposing to provide federal funding to the Electric Power Research Institute (EPRI) for the development and testing of a hydropower generation system. Project activities would consist of fabrication; relocation, installation, and operation of machinery and equipment; modifications to existing water piping; research in an aquatic environment; and data collection and analysis.

Two different hydropower turbine systems would be tested and evaluated at the Keokuk Energy Center (KEC), a hydropower facility in Keokuk, IA. The first system, the smaller of the two, has already been fabricated and would be

tested first. The larger system would be fabricated at Amjet Turbine Systems LLC in Mt Pleasant, IA, and relocated to and installed at KEC. This system would require modifications to the existing water conveyance piping to accommodate an increase in diameter. Data analysis would occur at EPRI in Charlotte, NC.

All project activities would be completed in existing, purpose-built facilities. No new permits, or licenses would be needed to perform project activities. Potential hazards include the handling of electrical equipment and hazards associated with construction and activity at dams. Award recipients would adhere to established health and safety policies and procedures when performing project work, and would observe all applicable federal, state, and local health, safety, and environmental regulations.

DOE has considered the scale, duration, and nature of proposed activities to determine potential impacts on resources, including those of an ecological, historical, cultural, and socioeconomic nature. DOE does not anticipate impacts on these resources which would be considered significant or require DOE to consult with other agencies or stakeholders.

NEPA PROVISION

DOE has made a final NEPA determination.

Notes:

Water Power Technologies Office
NEPA review completed by Andrew McClellan, 11 January 2024

FOR CATEGORICAL EXCLUSION DETERMINATIONS

The proposed action (or the part of the proposal defined in the Rationale above) fits within a class of actions that is listed in Appendix A or B to 10 CFR Part 1021, Subpart D. To fit within the classes of actions listed in 10 CFR Part 1021, Subpart D, Appendix B, a proposal must be one that would not: (1) threaten a violation of applicable statutory, regulatory, or permit requirements for environment, safety, and health, or similar requirements of DOE or Executive Orders; (2) require siting and construction or major expansion of waste storage, disposal, recovery, or treatment facilities (including incinerators), but the proposal may include categorically excluded waste storage, disposal, recovery, or treatment actions or facilities; (3) disturb hazardous substances, pollutants, contaminants, or CERCLA-excluded petroleum and natural gas products that preexist in the environment such that there would be uncontrolled or unpermitted releases; (4) have the potential to cause significant impacts on environmentally sensitive resources, including, but not limited to, those listed in paragraph B(4) of 10 CFR Part 1021, Subpart D, Appendix B; (5) involve genetically engineered organisms, synthetic biology, governmentally designated noxious weeds, or invasive species, unless the proposed activity would be contained or confined in a manner designed and operated to prevent unauthorized release into the environment and conducted in accordance with applicable requirements, such as those listed in paragraph B(5) of 10 CFR Part 1021, Subpart D, Appendix B.

There are no extraordinary circumstances related to the proposed action that may affect the significance of the environmental effects of the proposal.

The proposed action has not been segmented to meet the definition of a categorical exclusion. This proposal is not connected to other actions with potentially significant impacts (40 CFR 1508.25(a)(1)), is not related to other actions with individually insignificant but cumulatively significant impacts (40 CFR 1508.27(b)(7)), and is not precluded by 40 CFR 1506.1 or 10 CFR 1021.211 concerning limitations on actions during preparation of an environmental impact statement.

The proposed action is categorically excluded from further NEPA review.

SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.

NEPA Compliance Officer Signature:  _____ Date: 1/16/2024
NEPA Compliance Officer

FIELD OFFICE MANAGER DETERMINATION

- Field Office Manager review not required
- Field Office Manager review required

BASED ON MY REVIEW I CONCUR WITH THE DETERMINATION OF THE NCO :

Field Office Manager's Signature: _____

Field Office Manager

Date: _____