

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



RECIPIENT: University of Massachusetts Amherst

STATE: MA

PROJECT TITLE : Novel D-Cylinder Fish Ladder Evaluation

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
DE-FOA-0002801	DE-EE0011087	GFO-0011087-001	GO11087

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.)

B3.16 Research activities in aquatic environments

Small-scale, temporary surveying, site characterization, and research activities in aquatic environments, limited to: (a) Acquisition of rights-of-way, easements, and temporary use permits; (b) Installation, operation, and removal of passive scientific measurement devices, including, but not limited to, antennae, tide gauges, flow testing equipment for existing wells, weighted hydrophones, salinity measurement devices, and water quality measurement devices; (c) Natural resource inventories, data and sample collection, environmental monitoring, and basic and applied research, excluding (1) large-scale vibratory coring techniques and (2) seismic activities other than passive techniques; and (d) Surveying and mapping. These activities would be conducted in accordance with, where applicable, an approved spill prevention, control, and response plan and would incorporate appropriate control technologies and best management practices. None of the activities listed above would occur 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.

B3.3 Research related to conservation of fish, wildlife, and cultural resources

Field and laboratory research, inventory, and information collection activities that are directly related to the conservation of fish and wildlife resources or to the protection of cultural resources, provided that such activities would not have the potential to cause significant impacts on fish and wildlife habitat or populations or to cultural resources.

Rationale for determination:

The U.S. Department of Energy (DOE) is proposing to provide funding to the University of Massachusetts, Amherst (UMass) to conduct research on and optimize a D-cylinder fish ladder for migratory fish found along the Atlantic coast.

Award activities would include project planning, fish collection, passage and collection of migratory fish and injury assessment, data collection, telemetric tagging, data analysis, and outreach. United States Geological Survey S.O. Conte Research Lab (Conte Lab; Turners Falls, MA) would carry out the set up and hydraulic and biological evaluations of the D-Cylinder and Denil fish ladders as well as conducting modeling activities. Fish species would be collected from multiple locations along the Connecticut River at the Holyoke Dam and Robert Barrett Fishway (Holyoke, MA), West Springfield Fishway (Hampden County, MA), Wethersfield Cove Boating (Wethersfield, CT), Mary Stube Fishway (Old Lyme, CT), and Chicopee River Boat Launch (Chicopee, MA), and Cabot Power Station

(Montague, MA). UMass (Amherst, MA) would carry out data analysis and technical reporting.

Fish collection would be carried out by boat electrofishing and by utilizing existing fishway traps, such as anchored and drifting gill nets with small webbing. Multiple species of migratory fish would be collected from the aforementioned locations along the Connecticut River. Upon capture, fish would be transported to the Conte Lab and included in fish ladder trials that would take place over several months. Fish movement through the ladders would be recorded with PIT telemetry and underwater video cameras. The flume facility at Conte Lab would be prepared for fish passage trials, including necessary updates to the ladder, PIT telemetry system, video camera installation, and instrumentation installation.

Multiple MassWildlife permits would be required to conduct work at the Conte Lab, in addition to permit renewals in 2025. Scientific Collection Permit 044.23SCF for fish collection, Letter Permit 035LP23 for fish laboratory research, and Letter Permit 061.18L for river herring import from CT to MA would be required.

The section of the Connecticut River where project activities (including electrofishing sampling) would occur is within the geographic distribution of two Endangered Species Act (ESA) listed species: Shortnose sturgeon and Atlantic sturgeon. Information provided by the National Oceanic and Atmospheric Administration Fisheries indicate that there are few if any sturgeon inhabiting tributaries of the Connecticut River, in particular the Chicopee River where much of the electrofishing would be carried out. In addition, sturgeon are benthic species that do not school, and thus are unlikely to be in the upper water column where electroshocking would occur. The experienced biological technicians conducting the proposed electrofishing will be able to identify sturgeon presence and vacate the area in the highly unlikely event that a sturgeon wanders into the collection area. DOE has determined that there would be no effects to ESA species or critical habitat from the proposed project activities.

Award activities would involve typical hazards associated with electrofishing and deploying equipment in and around bodies of water. Additional hazards would include indoor laboratory hazards during the flume facility preparation. Existing health, safety, and environmental policies and procedures would be followed to mitigate hazards to acceptable levels. All activities would comply with existing federal, state, and local laws, regulations, and permits.

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 adverse impacts on these resources.

Any work proposed to be conducted at a federal facility may be subject to additional NEPA review by the cognizant federal official and must meet the applicable health and safety requirements of the facility.

NEPA PROVISION

DOE has made a final NEPA determination.

Notes:

Water Power Technologies Office
Review completed by Alex Colling on 2/13/2024.

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:  **Electronically Signed By: Andrew Montano** Date: 2/15/2024
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: _____ Date: _____
Field Office Manager