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

RECIPIENT: HRF - University of Massachusetts Amherst **STATE:** MA

PROJECT TITLE: Hydro Research Foundation University Research Awards

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
	EE0002668/EE0006506	GFO-0006506-024	

Based on my review of the information concerning the proposed action, as NEPA Compliance Officer (authorized under DOE Order 451.1A), 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.)
B3.6 Small-scale research and development, laboratory operations, and pilot projects	Siting, construction, modification, operation, and decommissioning of facilities for smallscale research and development projects; conventional laboratory operations (such as preparation of chemical standards and sample analysis); and small-scale pilot projects (generally less than 2 years) frequently conducted to verify a concept before demonstration actions, provided that construction or modification would be within or contiguous to a previously disturbed or developed area (where active utilities and currently used roads are readily accessible). Not included in this category are demonstration actions, meaning actions that are undertaken at a scale to show whether a technology would be viable on a larger scale and suitable for commercial deployment.
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.

Rationale for determination:

The U.S. Department of Energy (DOE) is proposing to provide federal funding to the Hydro Research Foundation (HRF) to award grants to individual research projects through its University Research Awards Program. The intent of the grants is to

support innovative research related to conventional or pumped-storage hydropower, stimulate interest among students and universities in this research arena, and provide students with a foundation for productive careers related to the hydropower industry.

DOE completed a previous NEPA review (GFO-0002668-002 CX A9, A11 3/23/2015) that included development of a Hydro Fellowship Program that would competitively award grants for hydropower-related, graduate-level research projects for one- to two-year periods of study. This NEPA determination applies to activities associated with one of the projects which has been selected to receive a grant award from the HRF.

The awardee at University of Massachusetts Amherst would use HRF grant funding provided by DOE to improve performance of existing eel ramp pass designs, assist in standardization of ramp pass design and operating criteria, and reduce the cost for installation and operation of eel ramp passes at hydropower projects. Proposed activities would include controlled laboratory experiments and prototype development and fabrication. Climbing behaviors of eels of various sizes (70-300 millimeter total length) would be evaluated under controlled laboratory conditions using short (1-2 meter long), adjustable-slope test ramps with variable ramp flow. The proposed project would evaluate aspects of natural climbing behaviors such as ascent rate, body bend angle, slip coefficient, etc. on simple substrates of varying roughness. The data collected would be incorporated into novel prototype climbing ramp substrate designs. All laboratory activities would occur at the USGS S.O. Conte Anadromous Fish Research Laboratory (CAFRL) in Turners Falls, MA. The laboratory complies with government safety, emergency, and hazardous waste handling/removal regulations. There are not expected to be toxic emissions or hazardous wastes produced as a result of the proposed activities. The laboratory is currently used for work that is similar to the proposed activities; therefore, no new construction or building modifications would be required.

The proposed project requires a fish collection permit issued by the Massachusetts Department of Inland Fish and Wildlife. CAFRL has obtained a permit for 2015 with the project recipient included as a sub-permittee (see attached permit). Additional annual collection permits would be obtained for subsequent years of study. The research is also authorized by an approved USGS Study Plan and USGS/University of Massachusetts Institutional Animal Care and Use Committee (IACUC) protocols. Eels would be collected from upstream migrant eel ramp traps currently operated at Holyoke Dam by Holyoke Gas and Electric Co from May until September. Eels enter traps at night, ascend wetted ramp structures and are retained in trap boxes. Eels in trap boxes are transferred to holding tanks; experimental eels would be selected from these holding tanks and transported to CAFRL. The eels themselves are not federally-listed, and there are no other threatened or endangered fish species in the vicinity of the project; therefore, no adverse effects are expected as a result of the proposed project.

Based on review of the project information and the above analysis, DOE has determined the activities associated with the proposed project would not have a significant individual or cumulative impact to human health and/or environment. DOE has determined the proposed project is consistent with actions contained in DOE categorical exclusion A9 "information gathering," B3.6 "Small-scale research and development, laboratory operations, and pilot projects" and B3.16 "Research activities in aquatic environments" is categorically excluded from further NEPA review.

NEPA PROVISION

DOE has made a final NEPA determination for this award

Insert the following language in the award:

If you intend to make changes to the scope or objective of your project you are required to contact the Project Officer identified in Block 11 of the Notice of Financial Assistance Award before proceeding. You must receive notification of approval from the DOE Contracting Officer prior to commencing with work beyond that currently approved.

Note to Specialist :

Water Power Program
This NEPA Determination does NOT require a tailored NEPA provision.
NEPA review completed by Logan Sholar, 5/29/15

SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.

NEPA Compliance Officer Signature: _____ Date: 6/4/2015

NEPA Compliance Officer

FIELD OFFICE MANAGER DETERMINATION