

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



RECIPIENT: University of California, Davis

STATE: CA

PROJECT TITLE : Effects of white sturgeon (*Acipenser transmontanus*) passage through a novel hydropower turbine and implications for long-term survival

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
DE-FOA-0002801	DE-EE0011089	GFO-0011089-001	GO11089

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.)

B3.3 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.

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.

Rationale for determination:

The U.S. Department of Energy (DOE) is proposing to provide funding to University of California - Davis (UC Davis) to design and fabricate turbine runner blades that would reduce fish mortality rates. The runner blades would be tested along with a Restoration Hydro Turbine (RHT) created by Natel Energy, Inc. (Natel), a turbine intended to provide safe passage for fish, including the target fish species, White Sturgeon.

Award activities would include the husbandry and rearing of White Sturgeon juveniles, the development of runner blades and an RHT, site preparation, and live fish passage testing. UC Davis (Davis, CA) would rear and deliver the fish to Natel (Alameda, CA) for testing and to carry out data analyses. Natel would develop the RHT and conduct fish passage trials, including collecting blood samples, behavioral data, and other stress markers for testing and analysis. Mortality and sub-lethal effects on White Sturgeon juveniles would be recorded and analyzed. After passage trials, fish would be returned to UC Davis for long-term (4-8 weeks) observation.

Natel would need to complete all applicable permitting processes prior to undertaking installation or fish testing activities. UC Davis would be required to adhere to the existing university animal use protocol from the Institutional Animal Care and Use Committee. All fish would be obtained from a hatchery; thus, no state or federal permits would be required.

All proposed project work would occur at preexisting purpose-built facilities. Natel's existing recirculating aquaculture system would be expanded to accommodate two additional holding tanks, biofiltration tanks, and sump tanks. The system is located outdoors on a paved area next to the Natel building; therefore, equipment installation would not involve any ground disturbance or clearing. Award activities would involve typical hazards associated with hydropower testing facilities and animal husbandry, including possible disease transmission, animal bites, operation of potentially hazardous equipment, and site-specific environmental hazards. 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 impacts on these resources which would be considered significant or require DOE to consult with other agencies or stakeholders. A diversity, equity, and inclusion (DEI) plan would be implemented to encourage the inclusion of individuals from underrepresented groups in fields of science, technology, engineering, and mathematics (STEM).

NEPA PROVISION

DOE has made a final NEPA determination.

Notes:

Water Power Technologies Office (WPTO)
NEPA review completed by Alex Colling on 01/09/24.

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: 1/10/2024
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