

PMC-ND
(1.08.09.13)

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



RECIPIENT: Percheron Power, LLC

STATE: WA

PROJECT TITLE : Harnessing the Hydro-Electric Potential of Engineered Drops

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|--|--------------------------------------|----------------------------|-------------------|
| Funding Opportunity Announcement Number | Procurement Instrument Number | NEPA Control Number | CID Number |
| DE-FOA-0000486 | DE-EE0005428 | GFO-0005428-004 | GO5428 |

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:

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| B5.15 Small-scale renewable energy research and development and pilot projects | Small-scale renewable energy research and development projects and small-scale pilot projects, provided that the projects are located within a previously disturbed or developed area. Covered actions would be in accordance with applicable requirements (such as local land use and zoning requirements) in the proposed project area and would incorporate appropriate control technologies and best management practices. |
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Rationale for determination:

The U.S. Department of Energy is proposing to provide funding to Percheron Power, LLC (Percheron) to design, permit, install and test a demonstration low-head hydropower generation facility on an existing canal system near Montrose, Colorado. Percheron would utilize a new type of turbine and technology, referred to as an Archimedes Hydrodynamic Screw (AHS) to demonstrate that this is a viable low flow hydro-electric technology system with broad applicability to both engineered and natural drops throughout the U.S.

Projects tasks are broken out into two DOE Budget periods (BP). A previous NEPA determination was completed on BP1 activities (Tasks 1.0, 2.0 and 5.0). This determination is being conducted for BP2 activities (Tasks 3.0 and 4.0).

Budget Period 1

Task 1: Licensing/Permitting
Task 2: Design (preliminary)

Budget Period 2

Task 3: Construction/Installation on Site
Task 4: Testing and Commissioning
Task 5: Project Management and Reporting (both budget periods)

The project site is on the South Canal of the U.S. Bureau of Reclamation's (BOR) Uncompahgre Irrigation Project. The project would utilize a natural drop in the irrigation canal. The canal structure would be modified to include excavation of the existing canal, re-grading, and construction of a new concrete section of canal to accommodate the AHS turbines, with an integral side bypass channel to allow canal flows to bypass the turbines as needed.

The project would involve construction activities by licensed contractors, including the use of heavy equipment. Percheron would ensure that all contractors follow all required federal, state, and local health and safety standards and environmental regulations and would approve each contractor's Site Safety and Environmental Protection Plan prior to allowing the work to begin.

The footprint of the hydropower facility is completely within the historical use area associated with the construction and operation of the South Canal. Percheron, BOR, and the Colorado State Historic Preservation Office (SHPO) have signed a Memorandum of Agreement. Per this agreement Percheron and the BOR were required to complete a Level II documentation of the project site. This has been completed and confirmation was provided to DOE/BOR sent by SHPO on March 25, 2014. Cultural resources and endangered plant inventories were also completed and included a 200-ft.-wide corridor on the northwest side of the canal and a 100-ft.-wide corridor on the southeast side of the canal.

Inventories did not indicate either archeological or ESA-listed species to be in the project area. Construction staging and construction is planned to occur only within these previously inventoried areas. In the event of discovery of evidence of possible cultural or paleontological resources, Percheron would immediately cease all ground-disturbing activities in the vicinity and notify Reclamation and work shall not be resumed until approved by Reclamation and the SHPO.

Percheron received a Lease of Power Privilege from the BOR and the Uncompahgre Valley Water Users Association) on September 15, 2014. Subsequently, BOR completed a NEPA determination that categorically excludes this project from further review per their NEPA implementing regulations. This categorical exclusion is based on further analysis of the area in BOR's Finding of No Significant Impact for their South Canal Hydropower Project Environmental Assessment dated February 2012.

As part of the agreement with BOR, Percheron has agreed to utilize the adjacent existing buried power line and existing roads for operations and maintenance activities. Dust and erosion-control Best Management Practices for drainage and sediment control would also be implemented. This project would not affect any wetlands, or riparian areas per the National Wetlands Inventory or any FWS refuges.

Based on DOE's review of the BOR analyses/determinations and the above information, DOE has determined that Percheron's project would not result in significant impacts to the human or natural environment. This project is consistent with activities identified in categorical exclusion B5.15 (Small-scale renewable energy research and development projects and small-scale pilot projects, provided that the projects are located within a previously disturbed or developed area); and therefore 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.

Insert the following language in the award:

You are required to:
Comply with the stipulations and requirements set forth in the Bureau of Reclamation's Lease of Power Privilege agreement and in the Memorandum of Agreement with the Colorado State Historic Preservation Office.

Note to Specialist :

- 1. Water Power Program
- 2. This project requires a tailored provision
- 3. Review completed by Laura Margason on October 7, 2014

SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.

NEPA Compliance Officer Signature: _____

 Electronically Signed By: Lori Gray *Lori Gray*
 NEPA Compliance Officer

 Date: 10/7/2014

FIELD OFFICE MANAGER DETERMINATION

Field Office Manager review required

NCO REQUESTS THE FIELD OFFICE MANAGER REVIEW FOR THE FOLLOWING REASON:

- Proposed action fits within a categorical exclusion but involves a high profile or controversial issue that warrants Field Office Manager's attention.
- Proposed action falls within an EA or EIS category and therefore requires Field Office Manager's review and determination.