

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



RECIPIENT: Great Lakes Water Authority

STATE: MI

PROJECT TITLE : Hydrothermal Liquefaction to Convert Organic Wet Wastes to Transportation Fuels

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
DE-FOA_0002636	DE-EE0010307	GFO-0010307-001	GO10307

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.)

B3.6 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 Great Lakes Water Authority (GLWA) to determine the optimal models for converting regional organic wastes and sewage sludge ("feedstock") to biocrude via hydrothermal liquefaction (HTL).

Award activities would consist of evaluating and characterizing regional feedstock from the GLWA Water Resource Recovery Facility (WRRF) (Detroit, MI) service area to use in HTL activities. Feedstock would be shipped to and characterized by Pacific Northwest National Laboratory (PNNL) (Richland, WA). Findings would be used to optimize models. Wayne State University (Detroit, MI) would carry out community outreach and stakeholder engagement to obtain information related to feedstock to further optimize the models.

To complete technical validation related to developed models, a mobile HTL unit would be installed and operated for approximately six weeks at WRRF using feedstock received by the facility as part of existing operations. Resulting biocrude would be processed and analyzed by PNNL. Byproducts from HTL would be analyzed and subjected to additional treatments at PNNL, WRRF, and the University of Michigan (Ann Arbor, MI). Additional treatments would include anaerobic digestion, activated sludge process, and supercritical water oxidation.

Award activities would occur at purpose-built, pre-existing facilities. Award activities would involve the handling and use of hazardous materials, including sewage, organic wastes, chemical reagents, and compressed gases. Existing corporate, government, and university environmental health and safety (EHS) procedures would be followed, including employee training, proper protective equipment, engineering controls, and monitoring. Hazardous waste generated during the award activities would be handled and disposed of according to the PNNL and GLWA policies and procedures. The collection and transport of wastewater sludges from municipal WRRFs would be done in accordance with local, state, and federal regulations.

DOE has determined that the project activities would have no potential to cause effects to resources of concern.

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:

Bioenergy Technologies Office (BETO)
Review completed by Alex Colling on 12/02/2022.

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: _____


NEPA Compliance Officer

Date: 12/7/2022

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: _____