

PMC-ND  
(1.08.09.13)

# U.S. DEPARTMENT OF ENERGY

## OFFICE OF ENERGY EFFICIENCY AND RENEWABLE ENERGY

### NEPA DETERMINATION



**RECIPIENT:** Washington State University

**STATE:** WA

**PROJECT TITLE:** Hybrid HEFA-HDCJ Process for the Production of Jet Fuel Blendstocks

<b>Funding Opportunity Announcement Number</b>	<b>Procurement Instrument Number</b>	<b>NEPA Control Number</b>	<b>CID Number</b>
DE-FOA-0001926	DE-EE0008505	GFO-0008505-001	GO8505

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 federal funding to Washington State University (WSU) to evaluate the technical and economic feasibility of using hydro-processed esters and fatty acids (HEFA) facilities for co-processing of refined pyrolysis oils or hydrothermal liquefaction (HTL) oils with yellow greases. Bio-oils and upgraded hydrocarbon products (e.g. jet fuel) would be processed under conditions comparable to those used in existing commercial HEFA units. The project would be completed over two Budget Periods (BPs), with a Go/No-Go Decision Point in between each BP.

Proposed project activities under BP1 would focus on project verification and would be limited to laboratory-scale hydrotreatment testing and verification runs. BP2 activities would focus on production and characterization of bio-oil fractions and processed products. Specific activities would include bio-crude oil production via HTL of woody biomass feedstock (approximately 600 gallons), separation of pyrolysis oil into fractions, bio-oil characterization, jet fuel production via co-hydrotreatment of refined pyrolysis and HTL bio-oils with yellow grease (approximately 100 gallons), chemical composition analysis of fuel cuts, combustion studies, and market analyses.

All project activities would be performed at existing, purpose-built laboratory facilities operated by WSU and/or its project partners. WSU would oversee all project activities and would perform fuel characterization, bench-scale co-hydrotreatment studies, and market analysis at its campus in Pullman, WA. HTL testing, continuous co-hydrotreatment testing, and jet fuel production would be performed at the Pacific Northwest National Laboratory ('PNNL' – Richland, WA). Combustion studies would be performed by University of Dayton using an existing combustion rig at the Air Force Research Laboratory Wright-Patterson Air Force Base in Ohio. This facility regularly conducts combustion experiments/analysis similar to the activities that would be performed as part of this project. No change in the use, mission or operation of existing facilities would be required, nor would any additional authorizations or permits be required to complete project activities.

The project would involve the use and handling of organic solvents, catalysts and pressurized/flammable gases.

Machinery and energized systems would also be operated at elevated temperatures and pressures. Any risks associated with the handling of project materials and equipment would be mitigated through adherence to existing health and safety policies and procedures, including Chemical Hygiene Plans and Accident Prevention Plans. Project work would be overseen by each institution's respective health and safety office. WSU and all its project partners would comply with all applicable Federal, state, and local health, safety and environmental rules and regulations. Any hazardous waste produced as part of the project would be handled, transported, and disposed of by certified entities.

## NEPA PROVISION

DOE has made a final NEPA determination.

Include the following condition in the financial assistance agreement:

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.

Notes:

Bioenergy Technologies Office  
This NEPA determination requires a tailored NEPA provision.  
Review completed by Jonathan Hartman, 02/13/2019

## 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: \_\_\_\_\_



Casey Strickland

NEPA Compliance Officer

Date: 2/14/2019

## 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: \_\_\_\_\_