

PMC-ND

(1.08.09.13)

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



RECIPIENT: Applied Research Associates, Inc.

STATE: FL

**PROJECT TITLE:** Drop-In Renewable Jet Fuel from Brown Grease via the Biofuels ISOCONVERSION Process

<b>Funding Opportunity Announcement Number</b>	<b>Procurement Instrument Number</b>	<b>NEPA Control Number</b>	<b>CID Number</b>
DE-FOA-0001296	DE-EE0008506	GFO-0008506-001	

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.)

**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.

Rationale for determination:

The U.S. Department of Energy (DOE) is proposing to provide federal funding to Applied Research Associates, Inc. (ARA) to optimize a process (i.e. Hydrothermal Cleanup - 'HCU') to convert raw, wet waste (i.e. brown grease) into feedstock that would then be suitable for conversion into drop-in renewable jet fuel via ARA's Catalytic Hydrothermolysis (CH) process. Renewable jet fuel would be produced and tested utilizing the CH process. The project would be completed over three Budget Periods (BPs), with a Go/No-Go Decision Point in between each BP.

Proposed project activities for BP1 would consist of data gathering, reporting and analysis. BP2 activities would include a brown grease market survey, procurement of brown grease, procurement/evaluation of HCU aids (e.g. weak acids, salts, chelating agents), optimization of the HCU process, bench-scale CH conversion testing, and fuel sample characterization. BP3 activities would include pilot-scale HCU process validation (e.g. processing 450-1200 gallons of brown grease), production of clean brown grease, pilot-scale CH process validation (e.g. 450-1100 gallons of syncrude produced), syncrude hydrotreatment, product distillation into fuel fractions, and market analysis/production modeling.

ARA would complete material characterization/testing, HCU and CH process testing, hydrotreating, and distillation operations at its commercial laboratory facility in Panama City, FL. Additional material characterization/testing and product treatment (e.g. hydrotreatment, distillation), would be conducted at the commercial laboratory facilities of project partners, including Centauri Technologies (Pasadena, TX), Pressure Chemical (Pittsburgh, PA), and the University of Dayton Research Institute (Dayton, OH). Chevron-Lummus Global (Bloomfield, NJ) and Chemex Modular (New Waverly, TX) would also provide analytical support reviewing data, preliminary engineering and computer modeling. All locations are existing, purpose-built facilities in which work similar in nature to that included in the project's scope is regularly conducted. No change in the use, mission, or operation of existing facilities would result from any of the proposed project activities. Neither ARA nor any of its project partners would need to obtain any additional permits in order to realize the work activities proposed as part of this award.

The project would involve the use of high temperature/high pressure equipment, as well as the handling of flammable materials, industrial solvents and gases. Risks associated with carrying out project activities would be mitigated through adherence to established health and safety policies and procedures. Protocols would include employee training, the use of personal protective equipment, engineering controls, monitoring, and internal assessments. Feedstock and product testing would be performed in contained laboratory spaces or test cells. Drum quantities of feed, intermediate, or product materials would be stored in certified fuels storage lockers that meets all requirements for containment and security. All applicable Federal, State and local health, safety and environmental regulations would be observed.

At various points throughout the project, flammable/combustible fuels and/or crude products would be transported between project partners. In all instances, transportation of these products would meet U.S. Department of Transportation (DOT) shipping requirements for transport of hazardous materials. Epoxy-lined steel drums, poly drums, and/or other DOT-approved containers would be used as appropriate.

#### NEPA PROVISION

DOE has made a final NEPA determination.

Notes:

Bioenergy Technologies Office

This NEPA determination does not require a tailored NEPA provision.

Review completed by Jonathan Hartman, 12/11/2018

#### 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: 12/13/2018

#### 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