

PMC-ND

(1.08.09.13)

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



RECIPIENT: University of California Riverside

STATE: CA

PROJECT TITLE: THF Co-Solvent Biomass Fractionation to Catalytic Fuel Precursors with High Yields

<b>Funding Opportunity Announcement Number</b>	<b>Procurement Instrument Number</b>	<b>NEPA Control Number</b>	<b>CID Number</b>
DE-FOA-0000974	DE-EE007006	GFO-0007006-001	

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:

- 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 the University of California Riverside (UCR) to advance transformative Tetrahydrofuran (THF) co-solvent technology (Co-Solv) to achieve high yields of fuel precursors (FPs) such as furfural (FF), 5-hydroxymethylfurfural (HMF), or levulinic acid (LA) compatible with heterogeneous catalytic conversion to fungible fuel blend stocks and to capitalize on its extremely high lignin extraction to produce valuable co-products to increase process revenues.

The proposed activities would include design, development, assembly, and testing of the Co-Solv pretreatment reactor and two different catalytic reactors, all of which would have an approximate one-liter capacity. Indoor, bench-scale activities would occur at existing facilities at University of California Riverside in Riverside, CA and at University of Tennessee Knoxville in Knoxville, TN over approximately a two-year period. The facilities are designed for this type of research; therefore, no modifications or new permits, additional licenses and/or authorizations would be necessary as a result of the proposed project.

The proposed project would generate small amounts (one to four liters per week) of solvent-rich woody waste which would be handled according to the requirements of the Departments of Environmental Health & Safety for hazardous waste disposal and incineration. All other hazardous materials disposal would be managed in accordance with federal, state, and local environmental regulations. Existing university and laboratory health and safety policies and procedures would be followed including employee training, proper protective equipment, engineering controls, monitoring, and internal assessments.

Based on review of the project information and the above analysis, DOE has determined that the proposed activities would not have a significant individual or cumulative impact to human health and/or environment and are consistent with actions outlined in DOE categorical exclusions A9 "Information gathering, analysis, and dissemination" and B3.6 "Small-scale research and development, laboratory operations, and pilot projects" and is therefore 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.

Note to Specialist :

Bioenergy Technologies Office

This NEPA determination does not require a tailored NEPA provision.

Review completed by Logan Sholar on 7/23/2015

**SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.**

NEPA Compliance Officer Signature:



Electronically  
Signed By: Kristin Kerwin  
NEPA Compliance Officer

Date: 8/13/2015

**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.

**BASED ON MY REVIEW I CONCUR WITH THE DETERMINATION OF THE NCO :**

Field Office Manager's Signature:

Field Office Manager

Date: