

PMC-ND
(1.08.09.13)

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



RECIPIENT:The Board of Regents of the University of Oklahoma

STATE: OK

PROJECT TITLE : Fractionation and Catalytic Upgrading of Bio-Oil

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
	DE-EE0006287	GFO-0006287-001	GO6287

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 Board of Regents of the University of Oklahoma to address the Carbon, Hydrogen, and Separation Efficiency barriers identified by DOE-EERE in the Bioenergy Technology Office's CHASE FOA. DOE funding would be used to improve existing commercial and previously proposed technologies for catalytically upgrading pyrolysis products. This project would investigate the selective fractionation of biomass pyrolysis products by two parallel methods, thermal fractionation of raw biomass via torrefaction/pyrolysis, and supercritical solvent extraction of full bio-oil and thermal fractionation cuts.

This NEPA determination applies to Budget Period 1 activities only. A Go/No Go decision will be made between Budget Periods 1 and 2. At that time, the recipient will be required to submit an application for Budget Period 2 activities, including further NEPA documentation.

Pyrolysis of biomass, fractionation, development and characterization of catalysts for biomass conversion, and upgrading reactions in vapor and liquid phases would occur at the Sarkey's Energy Center on the University of Oklahoma (Oklahoma) Norman Campus located at 100 East Boyd St., Norman, Oklahoma. Oklahoma completed an environmental questionnaire addressing the protocols for laboratory safety, risk management, chemical handling and waste disposal. The laboratory complies with standard safety procedures and all processes and procedures are monitored by appropriate staff. The laboratory has all applicable permits in place, and would not need additional permits for the proposed activities. All handling and disposal of gases, chemicals, wastes and liquid effluents comply with appropriate regulations. All hazardous materials would be managed and disposed of in accordance with federal, state, and local environmental regulations.

Computer based research would occur at the University of Pittsburgh and the University of Wisconsin, Madison. Feasibility experiments would occur at the Idaho National Laboratory. All work completed at DOE National Laboratories (INL) may be subject to additional NEPA review by the appropriate DOE NEPA Compliance Officer.

Based on review of the project information and the above analysis, DOE has determined the proposed research and development activities would not have a significant individual or cumulative impact to human health and/or environment. DOE has determined the proposed project is consistent with actions contained in DOE categorical exclusion A9 "information gathering, analysis and dissemination," and B3.6 "small-scale research and development projects" and is categorically excluded from further NEPA review.

