

PMC-ND
(1.08.09.13)

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



RECIPIENT:LanzaTech, Inc.

STATE: IL

PROJECT TITLE : A Hybrid Catalytic Route to Fuels from Biomass Syngas

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
DE-FOA-000067-5320	DE-EE0005356	GFO-0005356-002	GO5356

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:

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:

DOE is proposing to provide federal funding to LanzaTech, Inc. (LanzaTech) to perform laboratory research and development on biomass-derived jet fuel. DOE funding would be used to investigate the use of a hybrid biological and thermochemical process to convert syngas to jet fuel.

This is a revised NEPA Determination (ND) to the original ND on 03/30/2012.

The revised Statement Of Project Objectives reflects the following changes: work that was previously identified to be completed at the National Renewable Energy Laboratory would now be completed at the recipient's facility, Freedom Pines (Former site of Range Fuels - 926 Commerce Drive, Soperton, GA 30457). The activities at this facility would involve gasification of multiple biomass derived feedstocks to syngas, fermentation of syngas to produce ethanol-BDO containing broth, and concentration of ethanol and BDO for further processing, using existing equipment with the addition of a gasification unit.

The revised proposed project would still examine three biomass feedstocks including woody biomass, corn stover and perennial grasses to demonstrate how these high impact domestic biomass feedstocks can be used to replace petroleum. These feedstocks would be provided by existing commercial suppliers.

LanzaTech Freedom Pines is a Process Safety Management site. All work is to be conducted in accordance with established written procedures or authorized via Safe Work Permit. All new activities and processes are required to undergo a process safety management (PSM) and environmental assessment to identify and address hazards. A HAZOP verification will be conducted to ensure all necessary safeguards are in place prior to starting work. LanzaTech Freedom Pines has a certified HAZMAT Response Team with and all personnel have received and are current in First Aid, CPR and AED training. Personal gas monitors shall be worn at all times in the laboratory to ensure personal safety. Personal Protective Equipment shall be provided for all team members. There exists a Fire suppression system in place, automatic shutdown controls, PLC and inline GC. Safety system for gasification: gasification system has fixed area gas monitors and a fully integrated safety interlock system and automated control PLC. All byproduct materials will be disposed of in accordance with federal, state, and local environmental regulations. No hazardous materials are expected to be generated by this process.

All other activities are still covered by the previous NEPA determination B3.6 on 03/30/2012.

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 :

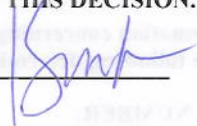
Submitted by Diana Heyder

This NEPA Determination does not require a tailored NEPA provision.

SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.

NEPA Compliance Officer Signature: _____

Electronically Signed By: Kristin Kerwin
NEPA Compliance Officer



Date: 5/29/2014

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: _____