

U.S. DEPARTMENT OF ENERGY - NETL

# CATEGORICAL EXCLUSION (CX) DESIGNATION FORM

Project No.: DE-FE0029787 Recipient Name: GTI Project Location: Des Plaines, IL

Sub-recipient(s) and Locations:

Dr. Arunabha Basu (consultant) - Aurora, IL (CX for prime recipient and sub-contractors IBA and SUNY Syracuse have been previously approved).

NETL Sponsoring Org.: FE/TDIC/Coal/Carbon Capture Team NETL Contact: Bruce Lani

Brief Title of Proposed Action: High Energy Systems for Transforming CO2 to Valuable Products

Brief Description of Activities:

This project uses high-energy electron beams (E-Beam) to break chemical bonds so that CO2 can be transformed into valuable products such as acetic acid, methanol, and carbon monoxide.

## THE PROPOSED ACTION FALLS WITHIN THE FOLLOWING CATEGORICAL EXCLUSION(S) FROM APPENDICES A AND B TO SUBPART D OF DOE NEPA IMPLEMENTING PROCEDURES (10 CFR 1021):

### General Administration/Management

- A1 - Routine business actions
- A9 - Info gathering, analysis, documentation, dissemination, and training
- A11 - Technical advice and planning assistance

### Facility Operations

- B1.3 - Routine maintenance and custodial services
- B1.7 - Communication system and data processing equipment acquisition, installation, operation, removal
- B1.15 - Support building or structure, non-waste storage, construction/operation

### Safety and Health

- B2.1 - Modifications to enhance workplace habitability
- B2.2 - Installation/improvement of building/equipment instrumentation
- B2.3 - Installation of equipment for personnel safety and health

### General Research

- B3.1 - Site characterization/environmental monitoring
- B3.6 - R&D or pilot facility construction/operation/decommissioning
- B3.7 - New infill exploratory, experimental oil/gas/geothermal well construction and/or operation
- B3.9 - Certain CCT demonstration activities, emissions unchanged
- B3.11 - Outdoor tests, experiments on materials and equipment components

### Electrical Power and Transmission

- B4.4 - Power management activities (storage, load shaping, and balancing)
- B4.6 - Transmission support addition/modifications at developed facility site
- B4.11 - Construction of power substations and interconnection facilities
- B4.13 - Upgrading and rebuilding existing power lines (< 20 miles)

### Conservation, Fossil, and Renewable Energy Activities

- B5.1 - Actions to conserve energy, no indoor air quality degradation
- B5.3 - Modification/abandonment of wells
- B5.5 - Short crude oil/gas/steam/geothermal/carbon dioxide pipeline const/oper within an existing right-of-way (< 20 miles) between existing facilities
- B5.13 - Experimental wells for injection of small quantities of carbon dioxide (< 500,000 tons)
- B5.15 - Small scale renewable energy research/development/pilot projects
- B5.22 - Alternative fuel vehicle fueling stations
- B5.23 - Electric vehicle charging stations

### Other

- Specify category:
- Specify category:
- Specify category:

This action (1) would not present any extraordinary circumstances such that the action might have a significant impact upon the human environment; (2) is not connected to other actions with potentially significant impacts; (3) is not related to other actions with cumulatively significant impacts; and (4) is not inconsistent with 10 CFR 1021.211 - Interim Actions or 40 CFR 1506.1 - Limitations during the NEPA process.

### SELECT ONE OF THE FOLLOWING:

- This Categorical Exclusion includes all tasks and phases in the Statement of Work or Statement of Project Objectives for this project.
- This Categorical Exclusion is only valid for the following tasks/phases . The DOE initiator acknowledges the responsibility to obtain a NEPA determination prior to initiating any activities outside the scope of this Categorical Exclusion.

### SELECT ONE OF THE FOLLOWING:

- This Categorical Exclusion includes all locations and activities for this project.
- Additional sites, sub-recipients, or activities cannot be identified at this time. The DOE initiator acknowledges the responsibility to obtain a NEPA determination prior to initiating any activities outside the scope of this Categorical Exclusion.

**NOTE: ANY CHANGE(S) TO THE PROJECT SCOPE OR LOCATIONS MAY REQUIRE A NEW NEPA DETERMINATION.**

DOE Initiator Signature: BRUCE LANI Digitally signed by BRUCE LANI  
Date: 2017.06.05 11:24:25 -0400

Date: 06 / 05 / 2017  
month day year

NEPA Compliance Officer: Jesse Garcia Digitally signed by Jesse Garcia  
DN: cn=Jesse Garcia, o=NETL, ou=ECCO, email=jesse.garcia@netl.doe.gov, c=US  
Date: 2017.06.05 10:24:59 -0500

Date: 06 / 06 / 2017  
month day year

The following special condition is provided for the consideration of the Contracting Officer:

CX covers activities to be conducted within existing office space.