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U.S. DEPARTMENT OF ENERGY - NETL

CATEGORICAL EXCLUSION (CX) DESIGNATION FORM

Project No.: DE-FE0025350 Recipient Name: Gas Technology Inst. Project Location: Des Plaines, IL

Sub-recipient(s) and Locations:

Media and Process Technology - Pittsburgh, PA; Florida International University - Miami, FL; SmartBurn, LLC - Madison, WI.

NETL Sponsoring Org.: SCC - Adv. Energy Systems Div. NETL Contact: Steven Markovich

Brief Title of Proposed Action: Flue Gas Water Vapor Latent Heat Recovery for Pressurized Oxy-Combustion

Brief Description of Activities:

The recipient will be designing, fabricating, installing, and testing a transport membrane condenser for use in high-pressure, high-moisture content oxy-coal combustion flue gases.

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
- [x] A1 – Routine business actions
- [x] 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
- [x] 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:
- [x] 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:
- [x] 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: Steven R. Markovich Digitally signed by Steven R. Markovich DN: c=us, o=u.s. government, ou=department of energy, ou=Energy IT Services, ou=National Energy Technology Laboratory, ou=People, cn=Steven R. Markovich Date: 2015.07.07 08:01:16 -04'00' Date: 07 / 07 / 2015 (month day year)

NEPA Compliance Officer: Jesse Garcia Digitally signed by Jesse Garcia DN: cn=Jesse Garcia, o=NETL, ou=ECD, email=jesse.garcia@netl.doe.gov, c=US Date: 2015.07.09 12:13:22 -05'00' Date: 07 / 09 / 2015 (month day year)

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

This CX covers activities to be conducted within existing lab/office facilities.