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U.S. DEPARTMENT OF ENERGY - NETL

CATEGORICAL EXCLUSION (CX) DESIGNATION FORM

ARRA ☐ Yes ☒ No Grant No.: DE-FOA-0000403
DOE Sponsoring Org. (FE, OE, EE, etc.): FE
NETL Sponsoring Org.: SCC - Existing Plants Division
NETL Contact: Andrew P. Jones
Brief Title of Proposed Action:

Recipient Name: Prime: Linde LLC; multiple subs
Action or Project No.: DE-FE0007453
FY: FY2011 - FY2015
Performance Period: 10/1/11 - 9/30/15
Location: Multiple sites - NJ, CA, PA, Germany

Slipstream Pilot-Scale Demonstration of a Novel Amine-Based Post-Combustion Technology for CO2 Capture

Brief Description of Proposed Action:

Conduct modeling and analysis of the proposed CO2 capture process to assess the technical and economic viability of the approach, select design basis, and general project management activities. SUMMARY CX

THE PROPOSED ACTION FALLS WITHIN THE FOLLOWING CATEGORICAL EXCLUSION(S) FROM APPENDICES A AND B OF DOE NEPA IMPLEMENTING PROCEDURE:

General Administration/Management
- ☐ A1 – Routine business actions
- ☐ A2 – Administrative contract amendments
- ☐ A7 – Transfer of property, use unchanged
- ☐ A8 - Award of technical support/M&O/personal service contracts
- ☒ A9 – Info gathering, analysis, documentation, dissemination, and training
- ☒ A11 – Technical advice and planning assistance
- ☐ A12 – Emergency Preparedness planning
- ☐ A14 – Approval of technical exchange arrangements

Facility Operations
- ☐ B1.2 – Training exercises and simulation
- ☐ B1.3 – Routine maintenance and custodial services
- ☐ B1.4 – Air conditioning installation for existing structures
- ☐ B1.5 – Cooling water system improvements in existing structures
- ☐ B1.7 – Communication system and data processing equipment acquisition, installation, operation, removal
- ☐ B1.13 – On-site pathway or short access road construction/acquisition
- ☐ B1.15 – Support building or structure, non-waste storage, construction/ operation
- ☐ B1.16 – Removal of asbestos in accordance with regulations
- ☐ B1.22 – Building relocation to developed area/demolition/disposal
- ☐ B1.23 – Demolition/disposal of buildings, equipment, and structures
- ☐ B1.24 – Transfer, disposition, or acquisition of uncontaminated structures or equipment, environmental quality maintained
- ☐ B1.25 – Transfer, disposition, or acquisition of uncontaminated land for habitat preservation/wildlife management
- ☐ B1.26 – Small (<250,000 GPD) WWT facility const/oper/decom
- ☐ B1.27 – Disconnection of utilities
- ☐ B1.28 – Placement of unused facilities in environmentally safe condition
- ☐ B1.29 – Small on-site const/demolition waste disposal facility const/oper
- ☐ B1.30 – Transfer/transportation actions
- ☐ B1.31 – Relocation/operation of machinery or equipment, similar use
- ☐ B1.32 – Traffic flow adjustments, existing roads

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
- ☐ B2.5 – Facility safety and environmental improvements, replacement or upgrade of facility components, no change in useful life

General Research
- ☐ B3.1 – Site characterization/environmental monitoring
- ☐ B3.3 – Research related to conservation of fish and wildlife
- ☐ B3.6 – R&D or pilot facility construction/operation/decommissioning
- ☐ B3.7 – New infill exploratory, experimental oil/gas/geothermal well construction/operation construction/operation
- ☐ B3.8 – Outdoor ecological/environmental research in small area
- ☐ B3.9 – Certain CCT demonstration activities, emissions unchanged
- ☐ B3.11 – Outdoor tests, experiments on materials and equipment components

Power Resources Distribution/Facilities/Generation/Operations/Management
- ☐ B4.1 – Acquisition/utilization of excess electric power without: integration of new generation source(s), major physical changes to transmission system, or changes to normal generation operating limits
- ☐ B4.4 – Power service storage, load shaping, seasonal adjustments
- ☐ B4.6 – Transmission support addition/modifications at developed facility site
- ☐ B4.8 – Transmission agreements/modifications using one transmission system to transfer power to and from another system, without new generation sources or major physical changes to transmission systems
- ☐ B4.11 – Construction of power substations/support equipment/facilities with power delivery at < 230kV to include project power lines develop ment <10 miles or power line relocation <20 miles; no integration of major new generation resources into a main transmission system.

Conservation, Fossil, and Renewable Energy Activities
- ☐ B5.1 – Actions to conserve energy, no indoor air quality degradation
- ☐ B5.2 – Modification to oil/gas/geothermal pumps and piping, no flow changes or air emission effects
- ☐ B5.3 – Modification (not expansion)/abandonment of oil storage access/ brine injection/gas/geothermal wells; no site closure
- ☐ B5.4 – Repair/replacement of pipeline sections within maintenance provisions of a Section 404 permit
- ☐ B5.5 – Short crude oil/gas/steam/geothermal pipeline const/oper within a single industrial complex/existing right-of-way
- ☐ B5.12 – Workover of existing oil, gas, geothermal wells to restore production

Environmental Restoration/Waste Minimization
- ☐ B6.1 – Cleanup actions: small-scale, short-term (< $5M and 5 years)
- ☐ B6.3 – Environmental control system improvements in existing structures, recycle/release/disposal within permitted facility

Other
- ☐ Specify category:

This action would not (1) violate applicable ES&H requirements, (2) require siting of waste TSD or recovery facilities, (3) disturb hazardous substances (excluding substances that are naturally occurring in the project area), or (4) adversely affect environmentally sensitive resources. Furthermore, 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) and is not inconsistent with 10 CFR 1021.211 or 40 CFR 1506.1. Therefore, the proposed action may be categorically excluded from further NEPA review.

DOE INITIATOR SIGNATURE: Andrew P. Jones — Digitally signed by Andrew P. Jones DN: cn=Andrew P. Jones, o=DOE/NETL, ou=Existing Plants Division, email=andrew.jones@netl.doe.gov, c=US Date: 2011.09.15 09:16:23 -04'00'

DATE: 09 / 15 / 2011 (month day year)

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DATE: 10 / 13 / 2011 (month day year)

NCO Comment:

No lab or field work;CX approval for CX(-A) activities only. List of locations supplied to NCO. DE-FOA -0000403 Bench-Scale and Slipstream Dev and Testing of Post-Combustion CO2 Capture and Separation Tech