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U.S. DEPARTMENT OF ENERGY - NETL

CATEGORICAL EXCLUSION (CX) DESIGNATION FORM

Project No.: DE-FE0028966 Recipient Name: Louisiana State Univ Project Location: Baton Rouge, LA

Sub-recipient(s) and Locations:

US Geological Survey (under Interagency Agreement DE-FE0026166) - Woods Hole, MA

NETL Sponsoring Org.: FE/TDIC/OG/Natural Gas Team NETL Contact: Richard Baker

Brief Title of Proposed Action: Impacts of Clays on Compressibility and Permeability of Sands for Gas Hydrates

Brief Description of Activities:

Lab based efforts to evaluate the effects of salinity, water chemistry, and other factors on the movement of fine grained particles within hydrate bearing sediments subjected to gas production.

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: lab scale experimental activities, micro-fluidic models
- ☐ 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: Richard Baker — Digitally signed by Richard Baker DN: cn=Richard Baker, o=NETL, ou=DOE-NETL - Oil and Gas, email=richard.baker@netl.doe.gov, c=US Date: 2016.09.02 08:10:01 -04'00' Date: 09 / 02 / 2016 (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: 2016.09.09 11:54:23 -05'00' Date: 09 / 09 / 2016 (month / day / year)

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

This project is conducted in conjunction with a USGS Interagency Agreement under number DE-FE0026166. Separate EQ and CX documents are provided under that project number. Both use the same SOPO. LSU is performing Tasks 1, 4 and 5; USGS is performing Tasks 2 and 3.