CATEGORICAL EXCLUSION (CX) DESIGNATION FORM

NETL F 451.1-1-1 P.1
Revised: 08.27.2024
Reviewed: 08.27.2024
(previous editions obsolete)

Funding Authority (Base, BIL, IRA, CDS): Base

DOE Funding Office (FECM, EERE, OE, etc.): CESER

Solicitation (FOA) Number: FOA-00003217

Award Number: DE-CR0000071

Prime Recipient Name and Location(s):

University of North Dakota - Grand Forks, ND

Sub-recipient Name and Location(s):

SDSU - Brookings, SD; UW- Laramie, WY; Kirkwall - Fargo, ND; Minnkota Power - Grand Forks, ND; Grand Forks Sheriff - Grand Forks, ND

NETL Org.: TDC/EDSD/R&D

NETL Project Manager: Jenna Price

Title of Proposed Action: Enhancing Substation Physical Security: A Federated Learning Approach for Radar, Acoustic, and Came

Brief Description of Proposed Action:

Data collection will occur at a firing range. A minimum of 30-50 audio signatures will be collected for each type of firearm to ensure adequate representation of various distances, angles, and environmental conditions. Additionally, each signature will be recorded at varying ranges, including close-range (0-50 feet), medium-range (50-200 feet), and long-range (200+ feet) from the sensor to capture variations in sound characteristics. The data will then be used to train a computer processor to detect malicious signatures (i.e. gunfire). The system of sensors and computers will then be integrated at an existing test facility.

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 Agency Actions

- ☐ A1 - Routine DOE business actions
- ☑ A9 - Information gathering, analysis, and dissemination
- ☐ A11 - Technical advice and assistance to organizations

Facility Operation

- ☐ B1.3 - Routine maintenance
- ☐ B1.7 - Electronic equipment
- ☐ B1.13 - Pathways, short access roads, and rail lines
- ☐ B1.15 - Support buildings
- ☐ B1.31 - Installation or relocation of machinery and equipment

Safety and Health

- ☐ B2.1 - Workplace enhancements
- ☐ B2.2 - Building and equipment instrumentation
- ☑ B2.3 - Personnel safety and health equipment

Site Characterization, Monitoring, and General Research

- ☐ B3.1 - Site characterizations and environmental monitoring
- ☐ B3.2 - Aviation activities (aerial survey and mapping)
- ☑ B3.6 - Small-scale research and development, laboratory operations and pilot projects
- ☐ B3.7 - New terrestrial infill exploratory and experimental wells
- ☐ B3.9 - Projects to reduce emissions and waste generation
- ☑ B3.11 - Outdoor tests and experiments on materials and equipment components

Electrical Power and Transmission

- ☐ B4.4 - Power marketing services and activities
- ☐ B4.6 - Additions and modifications to transmission facilities
- ☐ B4.11 - Electric power substations and interconnection facilities
- ☐ B4.12 - Construction of powerlines (up to 10 miles, or up to 20 miles if within previously disturbed or developed powerline or pipeline rights-of-way)
- ☐ B4.13 - Upgrading and rebuilding existing power lines
- ☐ B4.14 - Construction and operation of electrochemical-battery or flywheel energy storage systems

Conservation, Fossil, and Renewable Energy Activities

- ☐ B5.1 - Actions to conserve energy or water
- ☐ B5.3 - Modification or abandonment of wells
- ☐ B5.4 - Repair or replacement of pipelines
- ☐ B5.5 - Short pipeline segments (up to 20 miles)
- ☐ B5.13 - Experimental wells for injection of small quantities of carbon dioxide (up to 500,000 tons per geologic formation)
- ☐ B5.14 - Combined heat and power or cogeneration systems
- ☐ B5.15 - Small-scale renewable energy research and development and pilot projects
- ☐ B5.16 - Solar photovoltaic systems
- ☐ B5.18 - Wind turbines
- ☐ B5.21 - Methane gas recovery and utilization systems
- ☐ B5.22 - Alternative fuel vehicle fueling stations
- ☐ B5.23 - Electric vehicle charging stations

☐ **Other**

Specify category/categories in space below:

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 on actions during the NEPA process.

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NETL F 451.1-1-1 P.2
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SELECT ONE OF THE FOLLOWING:

☐ This Categorical Exclusion includes all tasks, phases, recipients, and locations for the proposed action.

☑ This Categorical Exclusion does not includes all tasks, phases, recipients, and locations for the proposed action. Only the following tasks, phases, recipients, or locations specified below are included as part of this Categorical Exclusion:

All but Minnkota - exact location for demonstration TBD

NCO Comment Only: The following comment is provided for the consideration of the Contract Specialist or Contracting Officer:

This CX applies to Phase 1 work only (Tasks 1.0 through 3.0) . Phase 2 efforts (Task 4.0) will be subject to further NEPA review pending designation of specific demonstration location.

The NETL Project Manager acknowledges the responsibility to obtain a NEPA determination prior to initiating or modifying any activities outside the scope of this Categorical Exclusion.

DOE Project Manager Signature: JENNA PRICE Digitally signed by JENNA PRICE Date: 2024.10.22 14:37:47 -04'00' Date: 10 / 22 / 2024
month day year

NEPA Compliance Officer Signature: JOHNNA SHOLTIS Digitally signed by JOHNNA SHOLTIS Date: 2024.11.01 10:20:02 -04'00' Date: 11 / 01 / 2024
month day year

NETL F 451.1-1-1 P.3
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U.S. DEPARTMENT OF ENERGY – NATIONAL ENERGY TECHNOLOGY LABORATORY

CATEGORICAL EXCLUSION (CX) DESIGNATION FORM

The purpose of this form is to request and obtain approval for a Categorical Exclusion (CX) determination under the National Environmental Policy Act (NEPA) for National Energy Technology Laboratory activities and extramural awards.

Instructions

Provide the following information:

- Funding Authority
- DOE Funding Office
- Solicitation (FOA) Number
- Award Number
- Prime Recipient Name and Location(s)
- Sub-recipient Name and Location(s)
- NETL Organization
- NETL Project Manager
- Title of Proposed Action
- Brief Description of Proposed Action

Check all the boxes that apply; be sure to include anything not listed using the Other category blanks that are provided.

Acquire the signature of the initiator as well as the NEPA Compliance Officer.

In the space above the signatures, a place is provided to list any considerations that you think would be valuable to the contracting officer.