



Department of Energy
National Nuclear Security Administration
Categorical Exclusion Determination Form



Categorical Exclusion ID#: NV-2020-027 REV 3

Proposed Action Title: Seismic and Remote Diagnostic Monitoring

Program or Field Office: Nevada Field Office

Location(s) (City/County/State): Nevada National Security Site, Nye County, NV

Proposed Action Description

This project would involve the installation, maintenance, and diagnostic monitoring of sensors in various areas of the NNSS and at approved offsite locations.

The sensors include, but are not limited to, accelerometers, geophones, seismometers, infrasound, meteorological (MET) stations, radiometers, flux monitors, light detection and ranging (LIDAR), tethersondes, and cameras. Other seismic equipment at the locations may include seismograph stations, telemetry systems, a local earthquake catalog, and a continuous data archive. Cameras would be mounted on the MET towers or on small portable tripods. In general, all the instruments are intended to have a small footprint and minimal impact on the environment. Instruments would be installed for specific experiments and removed at the end of the experiment unless there are immediate plans for follow-up experiments.

Seismic sensors would generally be buried to an appropriate depth, requiring excavation and surface disturbance. Excavation would be completed with hand tools. Geophone installation would require a small hole less than 1 foot (ft) in diameter and not more than 1 ft deep. Seismometers may require a small vault generally less than 2.5 ft in diameter and 3 ft deep. Instrumentation boxes and solar panels would be staged near the sensor. MET stations would be on small trailers or tripods. Everything would fit in an area 22 yards × 22 yards. This protocol would apply to both temporary and permanent sites.

The data collected would support multiple projects at the NNSS, including but not limited to the Low Yield Nuclear Monitoring project and Transparency Monitoring.

Telemetry repeater sites are currently located at Shoshone, Motorola, Balloon Hill, and Echo Peak. More repeater sites would be installed for ongoing and future projects. Towers would be less than 30 ft tall and may require the excavation of a 2-ft × 2-ft × 2-ft deep base and possibly guy wires for stabilization. Total area for the tower and guy wires would be less than 60 ft × 60 ft. Repeater sites would operate using existing commercial power where available or



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solar/battery systems.

Routine maintenance would include battery checks, repair, and replacement of instruments as appropriate. Whenever possible, systems would be powered with solar/battery systems. Some sensors, such as the LIDAR units, require more power. In those cases, the smallest gasoline generator capable of powering the unit would be used.

Sites would be accessed via established paved, graveled, or dirt roads. Equipment (sensor and hand tools) is portable and can be hand carried to and from the locations; therefore, off-road vehicle access would not be required for installation of the instrumentation. All efforts would be made to place equipment in previously disturbed, accessible areas.

If required, access to off-site locations would be coordinated with landowners, including other federal agencies, prior to accessing the location and conducting project activities.

Categorical Exclusion(s) Applied

10 CFR 1021 B3.1 Site characterization and environmental monitoring

Regulatory Requirements in 10 CFR 1021

For the complete DOE National Environmental Policy Act regulations regarding categorical exclusions, including the full text of each categorical exclusion, see Subpart D of 10 CFR 1021.

To find that a proposal is categorically excluded, DOE shall determine the following:

- (1) The proposal fits within a class of actions listed in Appendix A or B to 10 CFR Part 1021, Subpart D;
- (2) There are no extraordinary circumstances related to the proposal that may affect the significance of the environmental effects of the proposal; and
- (3) The proposal has not been segmented to meet the definition of a categorical exclusion. The proposal is not connected to other actions with potentially significant impacts (40 CFR 1508.25(a)(1)), is not related to other actions with individually insignificant but cumulatively significant impacts (40 CFR 1508.27(b)(7)), and is not precluded by 40 CFR 1506.1 or 10 CFR 1021.211 concerning limitations on actions during preparation of an environmental impact statement.

The classes of actions listed in 10 CFR Part 1021, Subpart D, Appendix B, include the following



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conditions as integral elements of the classes of actions. To fit within the classes of actions in Appendix B, a proposal must be one that would not: (1) threaten a violation of applicable statutory, regulatory, or permit requirements for environment, safety, and health, or similar requirements of DOE or Executive Orders; (2) require siting and construction or major expansion of waste storage, disposal, recovery, or treatment facilities (including incinerators), but the proposal may include categorically excluded waste storage, disposal, recovery, or treatment actions or facilities; (3) disturb hazardous substances, pollutants, contaminants, or CERCLA-excluded petroleum and natural gas products that preexist in the environment such that there would be uncontrolled or unpermitted releases; (4) have the potential to cause significant impacts on environmentally sensitive resources, including, but not limited to, those listed in paragraph B(4) of 10 CFR Part 1021, Subpart D, Appendix B; (5) involve genetically engineered organisms, synthetic biology, governmentally designated noxious weeds, or invasive species, unless the proposed activity would be contained or confined in a manner designed and operated to prevent unauthorized release into the environment and conducted in accordance with applicable requirements, such as those of the Department of Agriculture, the Environmental Protection Agency, and the National Institutes of Health.

NEPA Compliance Officer Determination

Based on my review of information conveyed to me and in my possession concerning the proposed action, as NEPA Compliance Officer (as authorized under NNSA NAP 451.1 and DOE P 451.1), I have determined that the proposed action fits within the specified class(es) of action and I have reviewed the proposal for integral elements. I have determined that there are no extraordinary circumstances present and that the proposal has not been segmented to meet the definition of a categorical exclusion. Therefore, the application of a categorical exclusion is appropriate.

NEPA Compliance Officer: Patricia Gallo

Date Determined: March 22, 2023