



Department of Energy
National Nuclear Security Administration
Categorical Exclusion Determination Form



Categorical Exclusion ID#: NV-2020-027 REV1

Proposed Action Title: NNSC Seismic and Remote Diagnostic Monitoring

Program or Field Office: Nevada National Security Site (NNSC)

Location(s) (City/County/State): Various locations on the NNSC

Proposed Action Description

The purpose of this project is to install sensors in various areas of the Nevada National Nuclear Site (NNSC) for diagnostic monitoring by Management and Operating (M&O) Contractor field crews.

The sensors include, but are not limited to, accelerometers, geophones, seismometers, infrasound, metrological (MET) stations, radiometers, flux monitors, light detection and ranging (LIDAR), tethersondes, and cameras. 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. Everything would fit in an area 20 meters × 20 meters. This protocol would apply to both temporary and permanent sites. 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.

Other sensors, such as the MET stations, could require more area but are still planned to have minimal impact. This would include portable MET systems on small trailers and temporary towers. Radiometers, flux monitors, LIDAR, and tethersondes require very little area and almost no ground disturbance. Cameras would be mounted on the MET towers or on small portable tripods.

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.

For any new site, a GPS [global positioning system] location would be obtained and the required area would be staked prior to the start of work.

In addition to the proposed new sensors, there are currently nine semi-permanent stations, located around the perimeter of the NNSC and operated in conjunction with the University of Nevada, Reno, for monitoring general seismicity. There are also eight long-term stations, located in Area 27 at Rock Valley, for monitoring seismicity, as well as a permanent monitoring station located in Area 6 at the Device



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Assembly Facility. These stations are solar powered and do not require generators. These stations would continue to be monitored and serviced on a routine schedule annually.

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 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.



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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: Carrie Stewart

Date Determined: 09/23/2020