

U.S. Department of Energy Office of Legacy Management National Environmental Policy Act Environmental Checklist

Project/Activity: Geophysical and Seismic Investigations at the Shoal, NV, Site

A. Brief Project/Activity Description

The U.S. Department of Energy (DOE) Office of Legacy Management (LM) needs to further characterize the water table, evaluate the prevailing horizontal groundwater flow direction, and identify faults/major fracture zones that may affect groundwater flow and contaminant transport at the Shoal Site. The Shoal Site is located about 40 miles by road from Fallon, in Churchill County, NV. This environmental checklist evaluates two related geophysical activities.

The initial geophysical work would consist of conducting a controlled-source audio magnetotelluric electromagnetic survey at the site to determine if a more comprehensive survey is warranted. The 3-day feasibility test would consist of three to four transits with six to eight stations per transit and assumes an average rate of 8 stations per day. If favorable results are obtained, a more comprehensive survey would be conducted that would consist of 17 transits with 17 stations per transit and a grid spacing of approximately 250 feet (289 total stations).

The second activity is a proposed seismic survey to determine if seismic reflection data can image fractures and possibly the water table at the Shoal Site. This test would likely use a 440 pound accelerated hammer as the seismic source and would attempt to image the area below the water table (estimated 1,000 feet) to depths up to 1.6 miles.

All work would be conducted on previously disturbed surfaces or on roads.

B. Environmental Concerns

Evaluate the following elements and indicate by checking "yes" or "no" if any phase of the project/activity would result in a change or impact that is subject to regulatory permits, controls, or plans or that would require additional evaluation. If the "yes" column is checked, provide a brief explanation below and attach sheets with additional detail as necessary or appropriate.

Element	Yes	No	Element	Yes	No
Air emissions/air quality	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Exposure/impacts to public or workers	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Noise	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Need for public awareness/involvement	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Solid waste generation	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Transportation/traffic control required	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Mixed waste management	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Access to/use of DOE property	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Chemical storage on site	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Visual resources impacted	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Pesticide/herbicide use	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Cultural/archaeology resources present	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Toxic substances management	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Wetland/floodplain impacted	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Regulated quantities of petroleum used or stored on site	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Protected species present: federal, state, or tribe listed	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Radioactive materials/soils	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Migratory birds breeding or nesting	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Surface (ground) disturbance	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Wild/scenic rivers impacted	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Surface water use/contamination	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Prime/unique farmlands present	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Surface water quality	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Groundwater use/contamination	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Groundwater quality affected	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Other considerations	<input type="checkbox"/>	<input checked="" type="checkbox"/>

C. Explanation and Qualification of All “Yes” Responses

Noise: The seismic testing activity would result in temporary noise associated with the use of a ‘thumper.’ There are no nearby residents, and adjacent areas are used by the Navy for practice bombing runs. However, noise would not be associated with the electromagnetic survey, which would be conducted as a separate activity.

Access to/use of DOE property: Public roads would be used to access the site. DOE has withdrawn the site from the U.S. Bureau of Land Management.

D. Eligibility/Conditions

The proposed action fits within a class of actions listed in Appendix A or B to Subpart D of Title 10 *Code of Federal Regulations* Part 1021 (10 CFR 1021). DOE has determined that these classes of actions do not individually or cumulatively have a significant effect on the human environment (see 10 CFR 1021.410). There are no extraordinary circumstances related to the proposed action that may affect the significance of the environmental effects of the proposed action, and the proposed action is not "connected" to other actions with potentially significant impacts. Finally, the action is not related to other proposed actions with cumulatively significant impacts and is not precluded by 40 CFR 1506.1 or 10 CFR 1021.211.

E. Recommendation

The proposed action of conducting a seismic survey would be considered categorically excluded from further environmental evaluation under 10 CFR 1021, Appendix B to Subpart D, B 3.1 (a), “Onsite and offsite site characterization and environmental monitoring, including geophysical (such as gravity, magnetic, electrical, seismic, and radar), geochemical and engineering surveys and mapping, including the establishment of survey marks.”

Meets Criteria

Does Not Meet Criteria

Unsure


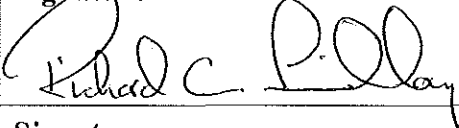
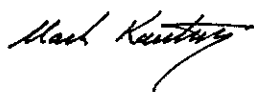

F. NEPA Determination

The scope of actions proposed under Section A of this Environmental Checklist, and the information relevant to the potential for environmental impacts in Section B have been reviewed, and the following has been determined:

- The proposed actions meet the criteria for categorical exclusion.
- The proposed actions do not meet the criteria for categorical exclusion; therefore, I recommend that the LM NEPA Planning Board be convened based on my recommendation (see attached rationale) to complete:
- | | |
|--|--|
| <input type="checkbox"/> an Interim Action | <input type="checkbox"/> an Environmental Assessment |
| <input type="checkbox"/> an Environmental Impact Statement | <input type="checkbox"/> a Supplemental Analysis |

Concurrences

Project/Activity: Geophysical and Seismic Investigations at the Shoal, NV, Site

LM Site Name Shoal, NV Site	LM Site Program Off-Sites Program	
Contractor NEPA Coordinator Sandy Beranich	Signature 	Date 4-1-10
Contractor Site Lead Rick Findlay	Signature 	Date 4-1-10
LM Site Manager Mark Kautsky	Signature 	Date 4-8-2010
LM NEPA Compliance Officer Richard Bush	Signature 	Date 4/8/10

Distribution upon signature:

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S. Beranich, Stoller NEPA Coordinator and Compliance Lead for Shoal

R. Findlay, Stoller Site Lead

R. Hutton, Stoller Program Manager for Nevada Off-Sites

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