

A. Background

BLM Office: Arctic Field Office LLAKF010

Lease/Serial/Case File No.: FF096745

Applicant: IRIS/USArray
Robert Busby, TA Manager
1200 New York Ave, NW Suite 400
Washington, DC 20005

Agent: Diana Martin, Permit Coordinator
University of Alaska Fairbanks
903 Koyukuk Dr. 307B
Fairbanks, Alaska 99775

Dates of Proposed Activity: February 1, 2014 – December 31, 2017

Proposed Action Title/Type: ROW Earthquake Monitoring System

Description of Proposed Action: On December 2, 2013, IRIS/USArray (USArray) applied for a FLPMA Title V Right-of-Way (ROW) to install and maintain an earthquake monitoring system at Barrow, Alaska. The proposed location (Figure 1, red dot) is on land that is withdrawn for use as a geomagnetic observatory by the United States Geological Survey (USGS), upon which the Department of Energy has a Bureau of Land Management (BLM) ROW to maintain an Atmospheric Radiation Measurement Program.

The USArray is an earthquake-monitoring network, operated and maintained by IRIS, (a non-profit consortium of US Universities) on behalf of the National Science Foundation. It uses continuously operating seismic stations to measure ground motion caused by earthquakes and volcanic processes. The seismic station would operate continuously and consists of the sensor, electronics, a radio antenna and a surface mount communications module. The station would occupy a footprint not to exceed 20 ft. × 20 ft. The equipment does not produce any noise or motion. To protect the sensor and reduce interference from surface noise, the seismometer would be placed in a Polyvinyl chloride (PVC) cased hole 3ft. to 15 ft. below the surface of the ground. The holes would be augured or cored, and would be approximately 6 in. to 8 in. in diameter. Ground conditions at the site would dictate the hole depth.

The electronics and power system would be housed in an above ground-insulated enclosure. The box would be secured to a frame anchored to the ground. Available alternate current (AC) power will be the primary source of power. Power and data cables would be run through conduit from the seismometer to the enclosure (Figure 2). The enclosure would house a power system with rechargeable lithium ion batteries, in case of a power interruption. The enclosure would hold a Quanterra Q330 data logger connected to a three-component broadband seismometer residing in the hole. Ground motion data is recorded continuously at 40 samples per second.

Average power of the entire system is about 7 watts. Weather and pressure data is recorded at one sample every second, with infrasound also recorded at 40 samples per second.

Data from the station would be transmitted to the internet, through radio links or a satellite link, received at the Array Network Facility at UC San Diego Super Computing Center for processing, and archived at the IRIS Data Management Center in Seattle, Washington. All data are freely available to the public and to scientific researchers.

Installation would take about two to three days with a maximum of 4 to 5 people and is expected to take place in February or March of 2014. Thirty feet of workspace in all directions will be required for installation. Personnel would only conduct maintenance in the event of a malfunction.

The authorization would include access to the site from the road system, across the Barrow Air Force site. From the road USArray anticipates using a snow machine across the tundra to the site (See figure 1).

USArray anticipates a minimal short-term (<1 week) increase in particulate matter (dust emissions) and noise could occur from the excavation activities involved with the project, and possibly a negative visual impact. However, there are many items in the vicinity from other agencies operating in the area.

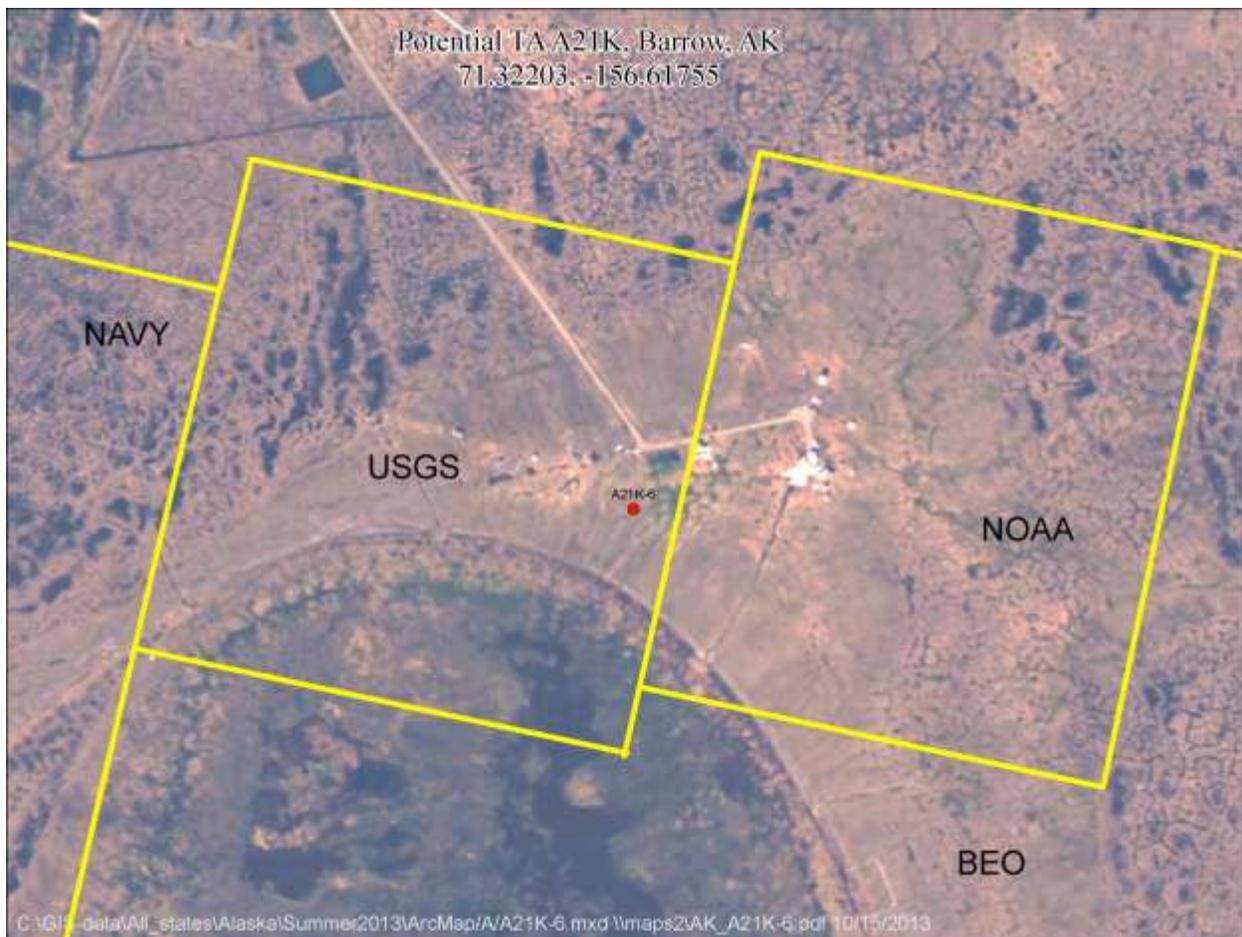


Figure 1: Project proximity to USGS/NOAA & Navy properties at Barrow

Alaska Transportable Array Seismic Station

Host-Supplied Power

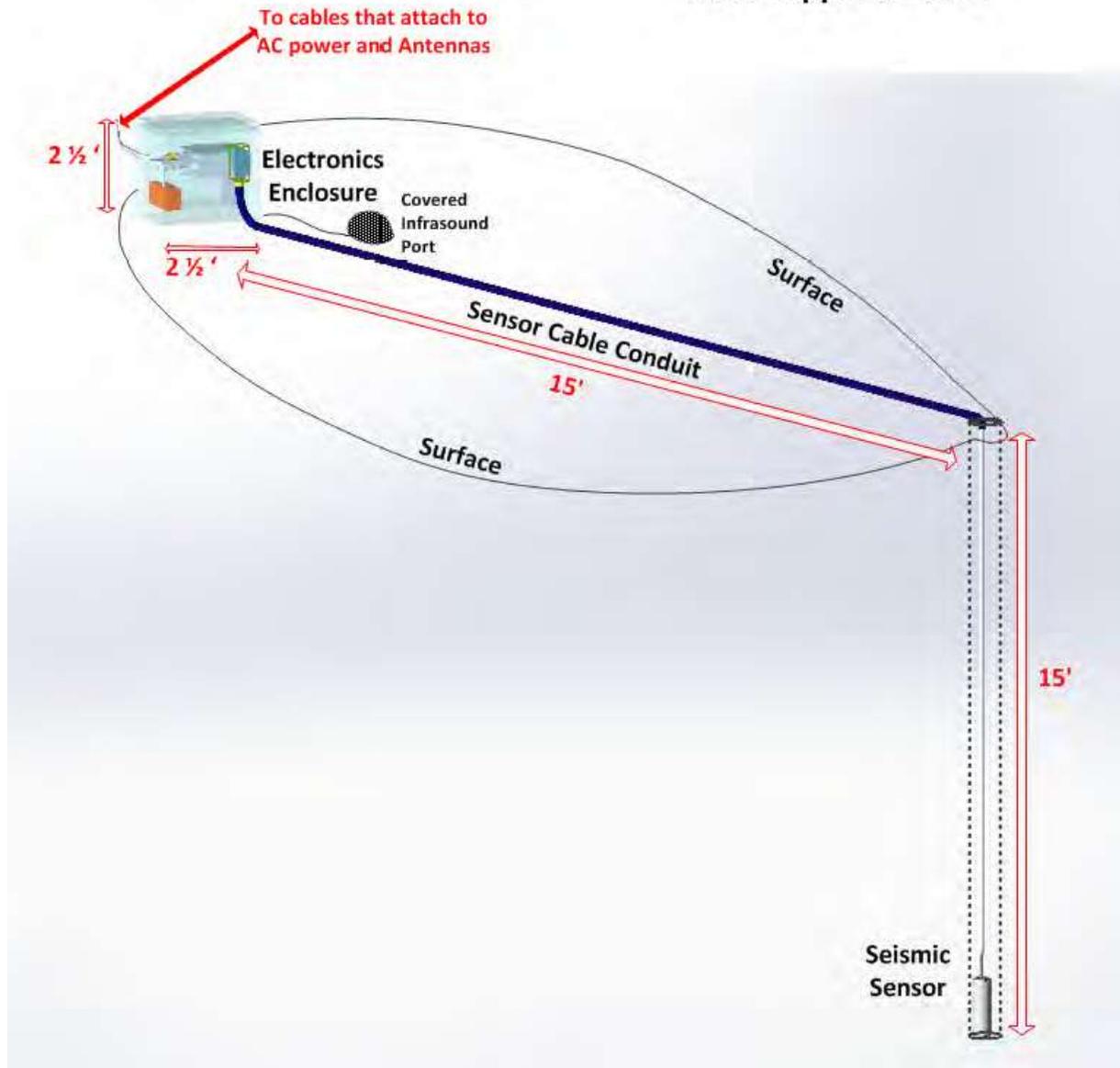


Figure 2: Schematic of Seismic Station

Site Legal Description:

71.32388°, -156.61536°

Section 26 NENW, Township 23 North, Range 18 West, Umiat Meridian

Access Site Legal Description:

Section 22 E2, Township 23 North, Range 18 West, Umiat Meridian (Excluding Private Land)

Section 23 SW, Township 23 North, Range 18 West, Umiat Meridian (Excluding Private Land)

Section 25 SW, Township 23 North, Range 18 West, Umiat Meridian (Excluding Private Land)

B. Land Use Plan Conformance Review

The proposed action is in conformance with the following planning document: National Petroleum Reserve-Alaska Integrated Activity Plan/Environmental Impact Statement (IAP/EIS) dated November 2012 and associated Record of Decision dated February 2013.

The proposed action is in conformance with the Naval Petroleum Reserves Production Act, which allows for the authorization of uses consistent with the purposes of the Act.

C. Compliance with NEPA

The IAP/EIS Record of Decisions for the NPR-A developed stipulations and best management practices applicable to all activities in NPR-A. The stipulations and best management practices applicable to the proposed action will be provided, along with project-specific mitigation, to the applicant and are entitled: “FF096745 IRIS/USArray Barrow Seismic Project Stipulations”.

The Proposed Action is categorically excluded from further documentation under the National Environmental Policy Act (NEPA) in accordance with 516 DM 2, Appendix 1, or 516 DM 11.9. Specifically, the proposed action meets the criteria for a categorical exclusion under 516 DM 11.9, BLM H-1790-1 National Environmental Policy Act Handbook Appendix 3 Departmental Categorical Exclusions.

“Nondestructive data collection, inventory (including field, aerial, and satellite surveying and mapping), study, research, and monitoring activities.”

This categorical exclusion is appropriate in this situation because there are no extraordinary circumstances potentially having effects that may significantly affect the environment. The proposed action has been reviewed, and none of the extraordinary circumstances described in 516 DM 2 apply.

The proposed action has been reviewed to determine if any of the exceptions described in 43 CFR 46.210 and 46.215, apply.

The proposed action will not meet any of the extraordinary circumstances listed below.

Extraordinary Circumstances	Yes	No
2.1 Have significant impacts on public health or safety.		X
2.2 Have significant impacts on such natural resources and unique geographic characteristics as historic or cultural resources; park, recreation or refuge lands; wilderness areas; wild or scenic rivers; national natural landmarks; sole or principal drinking water aquifers; prime farmlands; wetlands (Executive Order 11990); floodplains (Executive Order 11988); national monuments; migratory birds; and other ecologically significant or critical areas.		X
2.3 Have highly controversial environmental effects or involve unresolved conflicts concerning alternative uses of available resources [NEPA Section 102(2) (E)].		X
2.4 Have highly uncertain and potentially significant environmental effects or involve unique or unknown environmental risks.		X

2.5 Establish a precedent for future action or represent a decision in principle about future actions with potentially significant environmental effects.		X
2.6 Have a direct relationship to other actions with individually insignificant but cumulatively significant environmental effects.		X
2.7 Have significant impacts on properties listed, or eligible for listing, on the National Register of Historic Places as determined by either the bureau or office.		X
2.8 Have significant impacts on species listed, or proposed to be listed, on the List of Endangered or Threatened Species or have significant impacts on designated Critical Habitat for these species.		X
2.9 Violate a Federal law, or a State, local, or tribal law or requirement imposed for the protection of the environment.		X
2.10 Have a disproportionately high and adverse effect on low income or minority populations (Executive Order 12898).		X
2.11 Limit access to and ceremonial use of Indian sacred sites on Federal lands by Indian religious practitioners or significantly adversely affect the physical integrity of such sacred sites (Executive Order 13007).		X
2.12 Contribute to the introduction, continued existence, or spread of noxious weeds or non-native invasive species known to occur in the area or actions that may promote the introduction, growth, or expansion of the range of such species (Federal Noxious Weed Control Act and Executive Order 13112).		X

D. Approval and Contact Information

I considered the proposed action and have determined that there is no potential for significant impacts.

/s/Lon Kelly
Authorized Officer, Arctic Field Office

February 21, 2014

Date

Contact Person:

For additional information concerning this CX review, contact:

Donna Wixon
Natural Resource Specialist
Bureau of Land Management
Arctic Field Office
1150 University Avenue
Fairbanks, Alaska 99709

Phone: 907-474-2301
Email: dwixon@blm.gov