

APPENDIX A
COORDINATION AND CONSULTATION

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APPENDIX A. COORDINATION AND CONSULTATION

A.1 GENERAL SCOPING CORRESPONDENCE

| DATE | FROM | TO |
|----------------|---|------------------------------|
| April 14, 2011 | NASA, Example Scoping Letter and Attachments, | Potentially Interested Party |

National Aeronautics and
Space Administration
Goddard Space Flight Center
Wallops Flight Facility
Wallops Island, VA 23337



Reply to Attn of: 250.W

April 14, 2011

Alaska Center for the Environment
807 G Street #100
Anchorage AK 99501

Dear Sir or Madam:

I am writing to you regarding the continued operations of the National Aeronautics and Space Administration's (NASA) Sounding Rockets Program at the University of Alaska Fairbanks' (UAF) Poker Flat Research Range (PFRR) near Fairbanks, Alaska. In September 2010, we requested input for an Environmental Assessment (EA) that we were preparing. After considering the comments provided by members of the public during the scoping process, we have now decided to prepare an Environmental Impact Statement (EIS). The EIS will evaluate the effects of NASA's continued operations at PFRR and will support the decision-making process for the U.S. Fish and Wildlife Service's (USFWS's) and the Bureau of Land Management's (BLM's) proposed issuance of permits for rocket impact and recovery at Arctic and Yukon Flats National Wildlife Refuges and the Steese National Conservation Area and the White Mountains National Recreation Area, respectively.

Owned and operated by UAF since 1968, the PFRR is a launch facility for sounding rockets, which carry scientific instruments into regions of the upper atmosphere and space that are inaccessible by other commonly used observation methods (e.g., satellites and balloons). The PFRR is located northeast of the unincorporated village of Chatanika, Alaska and consists of approximately 5,200 acres of land that house rocket and support facilities, launch pads, and tracking infrastructure. The primary types of missions conducted by NASA at PFRR are in partnership with university scientists who study the earth's atmosphere and its interaction with the space environment.

Pursuant to the National Environmental Policy Act (NEPA), the EIS will consider a range of alternatives that meet NASA's needs for obtaining the requisite earth and space science data afforded by high-latitude sounding rocket launches in support of its science and educational missions. Alternatives currently being considered for evaluation in the EIS include:

- Continuing the SRP in its present form and at the current level of effort;
- Continuing SRP launches from PFRR within the existing flight zones with differing requirements for identification and recovery of spent stages and payloads;
- Modifying the trajectories of the existing flight zones; and
- Conducting a subset of launches at other high-latitude launch sites, thereby avoiding the federally-managed lands.

The No Action Alternative is to discontinue sounding rocket launches from PFRR.

The EIS will analyze the effects of the alternatives on all applicable environmental media, including airspace, noise, safety, biological resources, socioeconomic, transportation, cultural resources, water resources, wetlands, air quality, land use, hazardous materials, recreation and visual resources, environmental justice, subsistence, and cumulative impacts. NASA anticipates that the areas of most interest to the public will be: the effects of rocket and payload landing and recovery on special interest lands (including Wilderness Areas and Wild Rivers), considerations to ensure public safety during rocket flight, and potential effects on subsistence uses on lands within the flight zones. Public and agency scoping may identify other environmental resources for consideration in the EIS.

The enclosed documents provide more detailed information regarding the PFRR and the history behind the EIS. Additionally, I encourage you to visit the project's website on a regular basis for the most up-to-date information about the project.

The website's address is http://sites.wff.nasa.gov/code250/pfrr_eis.html.

In scoping the EIS, we would like to request input from you regarding potential environmental concerns or project alternatives such that it can be considered in preparing the Draft document. As a part of this effort, we will be holding public meetings to provide further information and gather input from the public. The scoping meeting locations and dates identified at this time are shown below and on the enclosed flyer.

- Thursday, April 28, 1:00 to 3:00 p.m., at the Fort Yukon Tribal Hall, 3rd and Alder Street, in Fort Yukon, Alaska*
- Monday, May 2, 2:00 to 4:00 p.m., at the University of Alaska Fairbanks, William R. Wood Campus Center, 505 S. Chandalar Drive in Fairbanks, Alaska.
- Monday, May 2, 6:00 to 8:00 p.m. at Pioneer Park, Blue Room, 3rd Floor, 2300 Airport Way, in Fairbanks, Alaska.
- Tuesday, May 3, 2:00 to 4:00 p.m. and 6:00 to 8:00 p.m. at the U.S. Fish and Wildlife Service Alaska Regional Office, Gordon Watson Conference Room, 1011 East Tudor Road, in Anchorage, Alaska.

**Please note that the Fort Yukon meeting, originally scheduled for Friday, April 29, 2011, as indicated on the enclosed Federal Register notice, has been rescheduled for the date shown above due to conflicts that were not anticipated at the time the notice was published.*

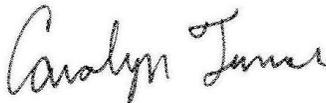
Each scoping meeting will begin with an open house where the public will have the opportunity to interact with members of the project team through one-on-one discussions. Approximately 30 minutes into the open house, NASA will provide an overview of the NEPA process and current PFRR operations. Following the presentations, public comments may be provided. During this time, all oral comments and questions will be recorded for consideration in preparing the Draft EIS. If you require special assistance to attend the meetings, please contact Joshua Bundick at the address below at least two (2) business days prior to the meeting. As an additional effort to inform the public of these meetings, we request your assistance in posting the enclosed flyer in a visible place within your community.

Comments may also be submitted by email, mail, phone, or fax, and will be accepted throughout the entire Draft EIS analysis process. However, for full early consideration and to best help shape and refine the proposal, please submit comments by June 1, 2011 to:

Joshua Bundick
Manager, Poker Flat Research Range EIS
NASA Goddard Space Flight Center's Wallops Flight Facility
Wallops Island, VA 23337
Phone: (757) 824-2319
Fax: (757) 824-1819
Email: Joshua.A.Bundick@nasa.gov

If you do not have input at this time, other means for involvement, including reviews of the Draft and Final EIS, will be offered in the future. You will be provided mailed notices regarding the availability of these documents unless you request to be removed from our distribution list. On behalf of the entire EIS team, I would like to thank you for your interest in this project. We look forward to working with you.

Sincerely,



Carolyn Turner
Associate Chief, Medical and Environmental Management Division

3 Enclosures:

1. *Federal Register* Notice
2. PFRR Flight Zone Map
3. Scoping Meeting Notification Flyer

qualitative feedback we mean information that provides useful insights on perceptions and opinions, but are not statistical surveys that yield quantitative results that can be generalized to the population of study. This feedback will provide insights into customer or stakeholder perceptions, experiences and expectations, provide an early warning of issues with service, or focus attention on areas where communication, training or changes in operations might improve delivery of products or services. These collections will allow for ongoing, collaborative and actionable communications between the Agency and its customers and stakeholders. It will also allow feedback to contribute directly to the improvement of program management.

Feedback collected under this generic clearance will provide useful information, but it will not yield data that can be generalized to the overall population. This type of generic clearance for qualitative information will not be used for quantitative information collections that are designed to yield reliably actionable results, such as monitoring trends over time or documenting program performance. Such data uses require more rigorous designs that address: The target population to which generalizations will be made, the sampling frame, the sample design (including stratification and clustering), the precision requirements or power calculations that justify the proposed sample size, the expected response rate, methods for assessing potential non-response bias, the protocols for data collection, and any testing procedures that were or will be undertaken prior to fielding the study. Depending on the degree of influence the results are likely to have, such collections may still be eligible for submission for other generic mechanisms that are designed to yield quantitative results.

The Agency received no comments in response to the 60-day notice published in the **Federal Register** of December 22, 2010 (75 FR 80542).

Below we provide NASA Headquarters projected average estimates for the next three years:¹

¹ The 60-day notice included the following estimate of the aggregate burden hours for this generic clearance federal-wide:

Average Expected Annual Number of Activities: 25,000.

Average Number of Respondents per Activity: 200.

Annual Responses: 5,000,000.

Frequency of Response: Once per request.

Average Minutes per Response: 30.

Burden Hours: 2,500,000.

Current Actions: New collection of information.

Type of Review: New Collection.

Affected Public: Individuals and Households, Businesses and Organizations, State, Local or Tribal Government.

Average Expected Annual Number of Activities: 1,000.

Respondents: 200,000 annually.

Annual Responses: 200,000.

Frequency of Response: Once per request.

Average Minutes per Response: 15 minutes.

Burden Hours: 50,000 hours (over three years).

An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid Office of Management and Budget control number.

Fran Teel,

Acting NASA Clearance Officer.

[FR Doc. 2011-8761 Filed 4-12-11; 8:45 am]

BILLING CODE 7510-13-P

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

[Notice (11-034)]

National Environmental Policy Act; Sounding Rockets Program; Poker Flat Research Range

AGENCY: National Aeronautics and Space Administration.

ACTION: Notice of intent to prepare an Environmental Impact Statement (EIS) and to conduct scoping for continuing sounding rocket operations at Poker Flat Research Range (PFRR), Alaska.

SUMMARY: Pursuant to the National Environmental Policy Act, as amended, (NEPA) (42 U.S.C. 4321 *et seq.*), the Council on Environmental Quality Regulations for Implementing the Procedural Provisions of NEPA (40 CFR parts 1500-1508), and NASA's NEPA policy and procedures (14 CFR part 1216, subpart 1216.3), NASA intends to prepare an EIS for its continued use of the University of Alaska-Fairbanks (UAF) owned and managed PFRR, outside of Fairbanks, Alaska. The U.S. Fish and Wildlife Service (USFWS), Bureau of Land Management (BLM), and UAF will serve as Cooperating Agencies as they possess both regulatory authority and specialized expertise regarding the Proposed Action that will be the subject of the EIS.

The purpose of this notice is to apprise interested agencies, organizations, tribal governments, and

individuals of NASA's intent to prepare the EIS and to request input regarding the definition of reasonable alternatives and significant environmental issues to be evaluated in the EIS.

In cooperation with BLM, UAF, and USFWS, NASA will hold public scoping meetings as part of the NEPA process associated with the development of the EIS. The scoping meeting locations and dates identified at this time are provided under **SUPPLEMENTARY INFORMATION** below.

DATES: Interested parties are invited to submit comments on environmental issues and concerns, preferably in writing, on or before June 1, 2011, to assure full consideration during the scoping process.

ADDRESSES: Comments submitted by mail should be addressed to Joshua Bundick, Manager, Poker Flat Research Range EIS, NASA Goddard Space Flight Center's Wallops Flight Facility, Wallops Island, Virginia 23337.

Comments may be submitted via e-mail to Joshua.A.Bundick@nasa.gov.

FOR FURTHER INFORMATION CONTACT: Joshua Bundick, Manager, Poker Flat Research Range EIS, NASA Wallops Flight Facility, Wallops Island, Virginia 23337; telephone (757) 824-2319; e-mail: Joshua.A.Bundick@nasa.gov. Additional information about NASA's Sounding Rocket Program (SRP) and the University of Alaska-Fairbanks' PFRR may be found on the internet at <http://sites.wff.nasa.gov/code810> and <http://www.pfrr.alaska.edu>, respectively. Information regarding the NEPA process for this proposal and supporting documents (as available) are located at http://sites.wff.nasa.gov/code250/pfrr_eis.html.

SUPPLEMENTARY INFORMATION:

Programmatic Background

NASA's SRP, based at the Goddard Space Flight Center's Wallops Flight Facility (WFF), supports the NASA Science Mission Directorate's strategic vision and goals for understanding the phenomena affecting the past, present, and future of Earth and the solar system and supports the Agency's educational mission. The suborbital missions enabled by the SRP provide researchers with opportunities to build, test, and fly new instrument concepts while simultaneously conducting world class scientific research. With its hands-on approach to mission formulation and execution, the SRP also helps ensure that the next generation of space scientists receives the training and experience necessary to move on to NASA's larger, more complex missions.

Launch Sites

Sounding rockets can be launched from permanently established ranges or from temporary launch sites using NASA's mobile range assets. Permanent ranges include WFF in Wallops Island, Virginia; PFRR near Fairbanks, Alaska; White Sands Missile Range (WSMR) in White Sands, New Mexico; Kwajalein Island, Marshall Islands Republic; Esrange, Kiruna, Sweden; and the Norwegian Rocket Range, Andøya, Norway. In the past, temporary launch sites have included Australia, Brazil, Greenland, and Puerto Rico. The majority of sounding rocket launches occur at WSMR, WFF, and PFRR.

Where the SRP conducts its work is highly dependent on the scientific goals of each mission. For example, if equatorial phenomena must be observed, a site such as Brazil is used. For middle latitudes, Wallops Island, Virginia, or White Sands, New Mexico, are selected. If the aurora borealis must be observed, a northern latitude is required, such as at PFRR.

PFRR Background

The PFRR, located northeast of the unincorporated village of Chatanika, Alaska, consists of approximately 2,100 hectares (5,200 acres) of land that house rocket and payload support facilities, launch pads, and tracking infrastructure. Since the late 1960s, NASA, other government agencies, and educational institutions have supported suborbital rocket launches from the PFRR. While the PFRR is owned and managed by the Geophysical Institute of UAF, the NASA SRP has exclusively funded and managed the support contract with PFRR for more than 25 years.

The northern location of the PFRR is strategic for launching sounding rockets for scientific research in auroral space physics and earth science. The PFRR is the only high-latitude, auroral-zone rocket launching facility in the United States where a sounding rocket can readily study the aurora borealis and the sun-Earth connection. Recent Earth science-based missions have furthered the understanding of ozone depleting substances in the upper atmosphere. Such studies are critical for the continual refinement of theories and research on the topics of ozone depletion, global warming, and climate change. Recent space physics-focused missions have measured the upper atmospheric winds and auroras in the ionosphere. The information collected further assists the nation's scientists in understanding the interactions between the sun and Earth as well as the origin

and evolution of the solar system. Technology development and validation enabled by the SRP at the PFRR is critical in furthering the development of Earth and space science instruments at a fraction of the size and cost that would result from using other launch methods. The PFRR facility also supports educational outreach programs where students and scientists from various universities are able to conduct aeronautics and space research.

Additionally, from an operational perspective, PFRR is an ideal location for sounding rocket missions. Directly north (downrange) from the launch site are vast areas of open, very sparsely populated lands of interior Alaska and the Arctic Ocean to the extreme north. Having the ability to launch rockets over such a vast area with very low population density is critical to ensuring public safety.

Existing SRP NEPA Documents and Context

In 2000, NASA published a Final Supplemental EIS (FSEIS) for the SRP. The 2000 FSEIS considered SRP operations at a programmatic level and expanded upon the original SRP EIS prepared in 1973, to include multiple launch sites, new launch vehicles, and updated environmental conditions. In its Record of Decision for the 2000 FSEIS, NASA decided to continue SRP operations at its current level of effort at all launch sites, including PFRR. Since then, NASA has launched approximately four (4) sounding rockets annually from PFRR primarily during the winter months. It is expected that this launch rate at PFRR would continue to satisfy NASA's needs into the reasonably foreseeable future.

NASA recently reviewed its 2000 SRP FSEIS and determined that the overall environmental analysis in the 2000 SRP FSEIS remains sufficient to support the Agency's broad programmatic decision to continue the SRP, however potential changes in both PFRR operations and the environmental context of the launch corridor north of PFRR warrant preparation of additional PFRR-specific environmental analysis to better inform Agency decisions regarding PFRR. For example, PFRR is now considering a more rigorous rocket and payload recovery process. Additionally, a large portion of downrange lands are undergoing wilderness review, which could ultimately affect how rocket and payload recoveries are handled.

Accordingly, NASA began the preparation of an Environmental Assessment to determine if those changes presented potentially a significant impact necessitating an EIS.

During the scoping process for the EA in the fall of 2010, NASA solicited input from over 75 potentially interested agencies and organizations. A number of conservation organizations expressed concern regarding NASA's continued operations at PFRR and requested that a more detailed assessment be performed. As such, NASA decided that an EIS would be the most appropriate level of NEPA documentation for the proposal. The subject EIS will tier from the programmatic 2000 FSEIS and provide a focused analysis of SRP operations at PFRR.

Cooperating Agency Actions

The PFRR EIS will serve as a decision-making tool not only for NASA but also for its two Federal Cooperating Agencies, BLM and USFWS. Directly north of the PFRR facility are its downrange flight zones, over which rockets are launched and within which spent stages and payloads impact the ground. Within these flight zones are landmasses owned or managed by several Federal, State and Native Alaskan organizations, including the USFWS, BLM, Alaska Department of Natural Resources, Doyon Regional Corporation, and the Native Village of Venetie Tribal Government. More specifically, the subject Federal lands within the PFRR flight corridor are BLM's North Steese Conservation Area and White Mountain National Recreational Area, and the UFWS-managed Arctic and Yukon Flats National Wildlife Refuges (NWRs). Historically, the managing entities have issued UAF annual or multi-year special-use authorizations and agreements for impact of rockets and recovery operations on these lands. BLM and USFWS are currently considering if and how future authorizations for rocket landing and recovery would be issued for the properties under their management. Additionally, both agencies are currently preparing long-term management plans for their respective landholdings. BLM is currently drafting its Eastern Interior Resource Management Plan; Arctic NWR is currently updating its Comprehensive Conservation Plan (CCP); and the revision of the Yukon Flats NWR CCP is expected to begin within the next two years. The results of these planning processes will play a significant role in how future launches from PFRR would occur. As such, the PFRR EIS will consider the effects of each agency's respective permitting actions within the context of their long-term management objectives.

Alternatives

The EIS will consider a range of alternatives that meet NASA's needs for obtaining the requisite earth and space science data afforded by high-latitude sounding rocket launches in support of both NASA's science and educational missions.

Alternatives currently being considered for evaluation in the EIS include:

- Continuing the SRP in its present form and at the current level of effort;
- Continuing SRP launches from PFRR within the existing flight zones with differing requirements for identification and recovery of spent stages and payloads;
- Modifying the trajectories of the existing flight zones; and
- Conducting a subset of launches at other high-latitude launch sites, thereby avoiding the federally-managed lands.

The No Action Alternative is to discontinue sounding rocket launches from PFRR. NASA anticipates that the areas of potential environmental impact from each alternative of most interest to the public will be: The effects of rocket and payload landing and recovery on special interest lands (including Wilderness Areas and Wild Rivers), considerations to ensure public safety during rocket flight, and potential effects on subsistence uses on lands within the flight zones.

Scoping Meetings

NASA and its Cooperating Agencies plan to hold three public scoping meetings to provide information on the PFRR EIS and to solicit public comments regarding environmental concerns and alternatives to be considered in the EIS. The public scoping meetings are scheduled as follows:

- Friday, April 29, 2011, at the Tribal Hall, Third and Alder Streets, Fort Yukon, Alaska, 1 p.m.–4 p.m.
- Monday, May 2, 2011, at the University of Alaska-Fairbanks, William R. Wood Student Center, 505 South Chandalar Drive, Fairbanks, Alaska, 2 p.m.–4 p.m.
- Monday, May 2, 2011, at the Pioneer Park, Blue Room, 2300 Airport Way, Fairbanks, Alaska, 6 p.m.–8 p.m.
- Tuesday, May 3, 2011, at the United States Fish and Wildlife Service Alaska Regional Office, Gordon Watson Conference Room, 1011 East Tudor Road, Anchorage, Alaska, 2 p.m.–4 p.m. and 6 p.m.–8 p.m.

As the EIS is prepared, the public will be provided several opportunities for

involvement, the first of which is during scoping. Even if an interested party does not have input at this time, other avenues, including reviews of the Draft and Final EIS, will be offered in the future. The availability of these documents will be published in the **Federal Register** and through local news media to ensure that all members of the public have the ability to actively participate in the NEPA process.

In conclusion, written public input on alternatives and environmental issues and concerns associated with NASA's SRP launches at PFRR that should be addressed in the EIS are hereby requested.

Olga M. Dominguez,

Assistant Administrator, Office of Strategic Infrastructure.

[FR Doc. 2011-8844 Filed 4-12-11; 8:45 am]

BILLING CODE 7510-13-P

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

[Notice: (11-035)]

NASA Advisory Council; Space Operations Committee; Meeting.

AGENCY: National Aeronautics and Space Administration.

ACTION: Notice of meeting.

SUMMARY: In accordance with the Federal Advisory Committee Act, Public Law 92-463, as amended, the National Aeronautics and Space Administration announces a meeting of the NASA Advisory Council (NAC) Space Operations Committee.

DATES: Tuesday, May 3, 2011, 8 a.m.–2 p.m. local time.

ADDRESSES: Doubletree Hotel, 2080 North Atlantic Ave, Cocoa Beach, FL 32931.

FOR FURTHER INFORMATION CONTACT: Mr. Jacob Keaton, NAC Space Operations Committee Executive Secretary, National Aeronautics and Space Administration Headquarters, Washington, DC 20546, 202/358-1507, jacob.keaton@nasa.gov.

SUPPLEMENTARY INFORMATION: The agenda for the meeting includes the following topics:

- Space Operations Mission Directorate FY2012 Budget.
- Commercial Crew Development Program status.
- Commercial Orbital Transportation System status.
- 21st Century Launch Complex status.
- Recommendation preparation and discussion.

The meeting will be open to the public up to the seating capacity of the room. It is imperative that the meeting be held on this date to accommodate the scheduling priorities of the key participants.

P. Diane Rausch,

Advisory Committee Management Officer, National Aeronautics and Space Administration.

[FR Doc. 2011-8845 Filed 4-12-11; 8:45 am]

BILLING CODE 7510-13-P

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

[Notice: (11-036)]

NASA Advisory Council; Audit, Finance and Analysis Committee; Meeting

AGENCY: National Aeronautics and Space Administration.

ACTION: Notice of meeting.

SUMMARY: In accordance with the Federal Advisory Committee Act, Public Law 92-463, as amended, the National Aeronautics and Space Administration announces a meeting of the Audit, Finance and Analysis Committee of the NASA Advisory Council.

DATES: Tuesday, May 3, 2011, 9 a.m.–11:45 a.m., Local Time.

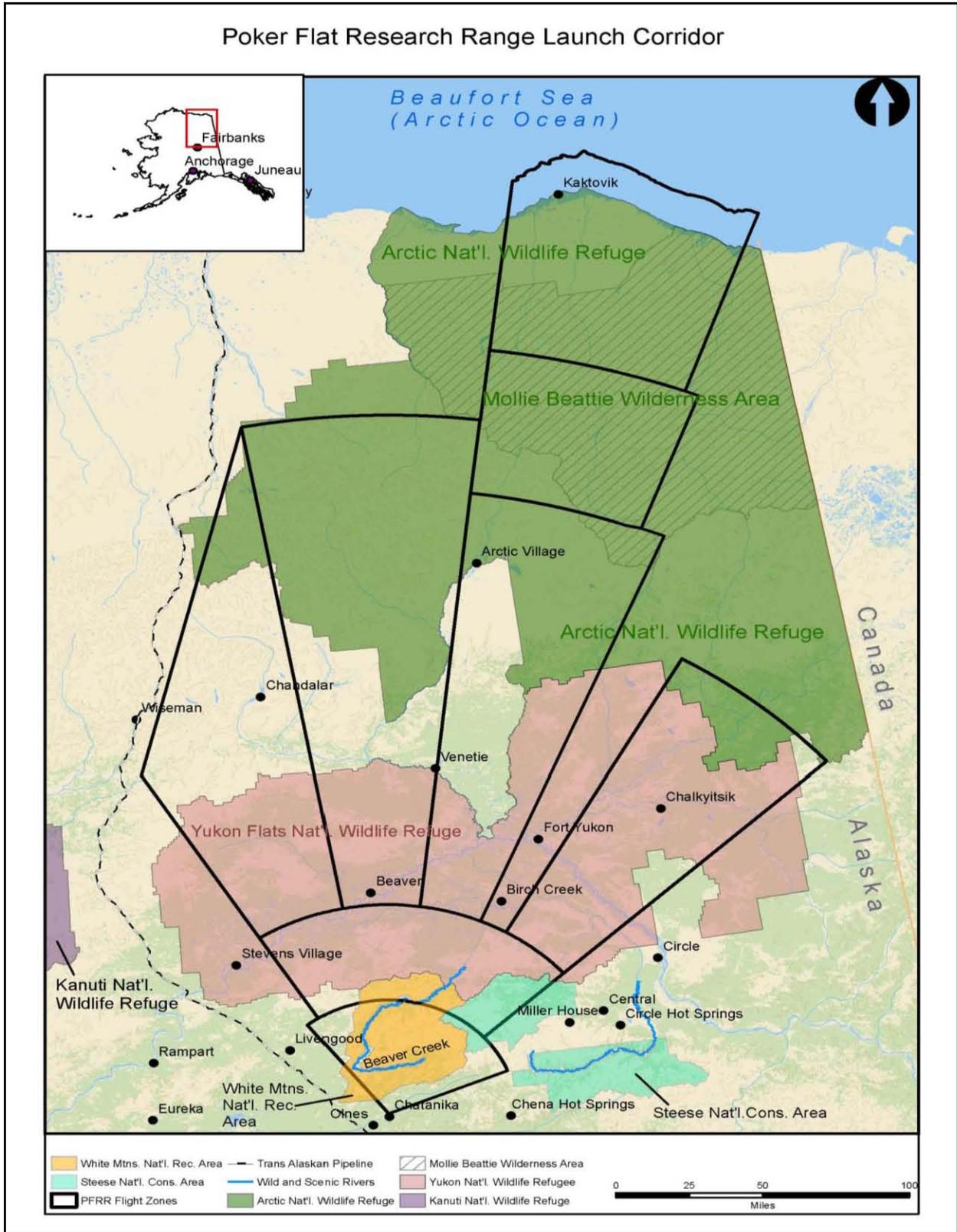
ADDRESSES: NASA Headquarters, Conference Room 8D48, 300 E Street, SW., Washington, DC 20546.

FOR FURTHER INFORMATION CONTACT: Ms. Charlene Williams, Office of the Chief Financial Officer, National Aeronautics and Space Administration Headquarters, Washington, DC 20546, Phone: 202-358-2183, fax: 202-358-4336.

SUPPLEMENTARY INFORMATION: The agenda for the meeting includes the following topics:

- Overview of the GAO Quick Look Book.
- Overview of the NASA Strategic Plan.
- Committee Discussion.

The meeting will be open to the public up to the seating capacity of the room. It is imperative that the meeting be held on this date to accommodate the scheduling priorities of the key participants. Visitors will need to show a valid picture identification such as a driver's license to enter the NASA Headquarters building (West Lobby—Visitor Control Center), and must state that they are attending the Audit, Finance, and Analysis Committee meeting in room 8D48 before receiving an access badge. All non-U.S. citizens





Environmental Impact Statement

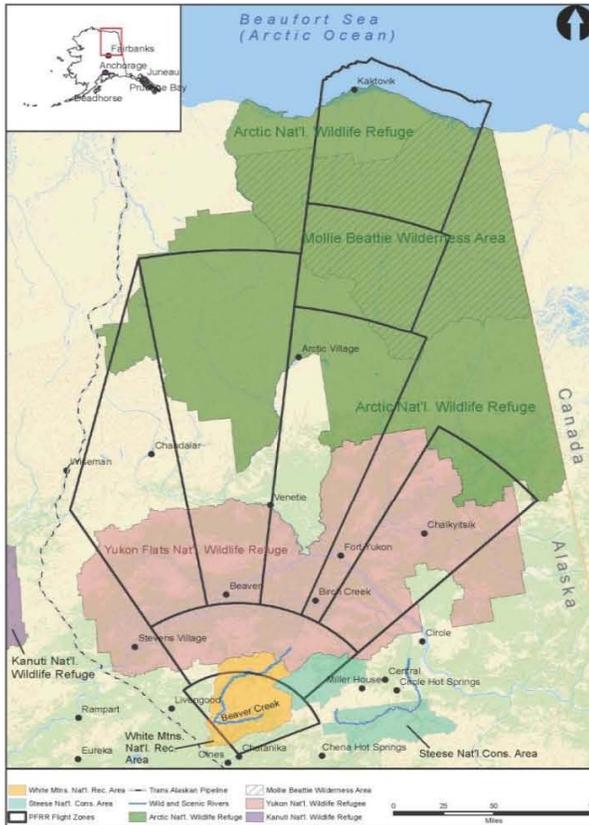
Public Scoping Meetings - Please Attend

The National Aeronautics and Space Administration (NASA) is preparing an Environmental Impact Statement (EIS) for its Sounding Rockets Program (SRP) at the University of Alaska Fairbank's (UAF's) Poker Flat Research Range (PFRR) 30 miles northeast of Fairbanks, Alaska.

Owned and operated by UAF since 1968, the PFRR is a launch facility for sounding rockets, which carry scientific instruments into regions of the upper atmosphere and space that are inaccessible by other commonly used observation methods (e.g., satellites and balloons). The primary types of missions conducted by NASA at PFRR are in partnership with university scientists who study the Earth's atmosphere and its interaction with the space environment.

Pursuant to the National Environmental Policy Act (NEPA), the EIS will evaluate the effects of NASA's continued operations at PFRR. The EIS will address a range of action alternatives as well as a No Action alternative.

NASA is hosting public scoping meetings prior to preparing the Draft EIS to provide further information regarding NASA's Sounding Rocket Program and to request input from the public and government representatives regarding potential environmental concerns or project alternatives. All interested parties are invited.



Poker Flat Research Range Launch Corridor

Additional information may be found on the internet at http://sites.wff.nasa.gov/code250/pfrr_eis.html

Scoping Meetings

Thursday, April 28, 2011
1 - 3 p.m.

Fort Yukon Tribal Hall
3rd and Alder Street
Fort Yukon, Alaska 99740

Monday, May 2, 2011
2 - 4 p.m.

University of Alaska Fairbanks
William R. Wood
Campus Center
Multi-level Lounge
505 S. Chandalar Drive
Fairbanks, AK 99775

Monday, May 2, 2011
6 - 8 p.m.

Pioneer Park, Blue Room
3rd Floor
2300 Airport Way
Fairbanks, AK 99701

Tuesday, May 3, 2011
2 - 4 p.m. and 6 - 8 p.m.

U.S. Fish and Wildlife
Service Regional Office
Gordon Watson
Conference Room
1011 East Tudor Rd.
Anchorage, AK 99503

Comments will be accepted throughout the entire Draft EIS analysis process. However, for full early consideration and to best help shape and refine the proposal, please submit comments by **June 1, 2011** to:

Joshua Bundick, Manager
Poker Flat Research Range EIS
NASA Goddard Space Flight
Center's Wallops Flight Facility
Wallops Island, VA 23337
Phone: (757) 824-2319
Fax: (757) 824-1819
Email: Joshua.A.Bundick@nasa.gov

If you require special assistance to attend the meetings, please contact Joshua Bundick at least two (2) business days prior to the meeting.

A.2 TRIBAL AND NATIONAL HISTORIC PRESERVATION ACT CORRESPONDENCE

| DATE | FROM | TO |
|--------------------|--|---|
| April 14, 2011 | NASA, Example Consultation Letter | Federally Recognized Tribes |
| April 14, 2011 | NASA | Alaska State Historic Preservation Office |
| April 19, 2011 | Naqsragnuit Tribal Council | NASA |
| May 3, 2011 | Gwichyaa Zhee Gwich'in Tribal Government | NASA |
| September 20, 2011 | Beaver Traditional Council | NASA |
| November 9, 2011 | NASA | Advisory Council on Historic Preservation |
| November 29, 2011 | Advisory Council on Historic Preservation | NASA |
| December 9, 2011 | NASA, Example Section 106 Consulting Party Letter | Potential Stakeholder |
| January 5, 2012 | Beaver Traditional Council | NASA |
| January 9, 2012 | Native Village of Venetie Tribal Council | NASA |
| January 30, 2012 | City of North Pole | NASA |
| May 15, 2012 | Doyon, Limited | NASA |
| August 1, 2012 | NASA, Letter Advising of Effects Determination Submittal | Alaska State Historic Preservation Office |
| August 1, 2012 | NASA, Letter Advising of Effects Determination Submittal | Doyon, Limited |
| August 10, 2012 | Alaska State Historic Preservation Office | NASA |

National Aeronautics and
Space Administration
**Goddard Space Flight Center
Wallops Flight Facility
Wallops Island, VA 23337**



Reply to Attn of: 250.W

April 14, 2011

Patrick Hanson
Tribal Chief
Native Village of Venetie Tribal Government
PO Box 81080
Venetie, AK 99781

Dear Tribal Chief Hanson:

I am writing to you regarding the continued operations of the National Aeronautics and Space Administration's (NASA) Sounding Rockets Program at the University of Alaska Fairbanks' (UAF) Poker Flat Research Range (PFRR) near Fairbanks, Alaska. In September 2010, we requested input for an Environmental Assessment (EA) that we were preparing. After considering the comments provided by members of the public during the scoping process, we have now decided to prepare an Environmental Impact Statement (EIS).

The EIS will evaluate the effects of NASA's continued operations at PFRR and will support the decision-making process for the U.S. Fish and Wildlife Service and the Bureau of Land Management's proposed issuance of permits for rocket impact and recovery at Arctic and Yukon Flats National Wildlife Refuges and the Steese National Conservation Area and White Mountains National Recreation Area, respectively.

In scoping the EIS, we would like to request input from you regarding potential environmental concerns or project alternatives such that it can be considered in preparing the draft document. We are particularly interested in your thoughts about how the launch and subsequent recovery of NASA's scientific rockets and payloads may affect Tribal interests, including areas of spiritual importance and subsistence use. Additionally we would invite any input as to whether you believe there are any historic properties as defined by the National Historic Preservation Act that may be affected by our undertaking.

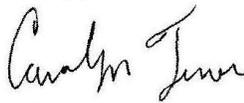
Additionally, should you so desire, we would like to engage in government-to-government consultation to establish a productive, collaborative partnership for current and future proposals at PFRR. If you would like to pursue such consultation, we suggest that the U.S. Fish and Wildlife Service and the Bureau of Land Management be included as consulting parties. Enclosed for your convenience is a consultation questionnaire. Please fill out the form indicating your level of interest and return it in the pre-addressed, postage-paid envelope.

We will be hosting scoping meetings in Anchorage, Fairbanks, and Fort Yukon, Alaska in late April/early May 2011. The enclosed materials provide additional information regarding the upcoming scoping process. If you are unable to attend the scoping meetings and would like to meet with us at a later date, we will gladly schedule another meeting when it is convenient for you.

If you do not find it necessary to provide input at this time, we will still keep you apprised of the project's progress by providing a copy of the Draft EIS once it is available. Any comments that you may have at that time will be fully considered in developing the Final EIS.

Thank you for your time and consideration of our request. If you would like to meet with our project team or have any comments regarding future consultations, please contact Ms. Jennifer Groman at (202) 358-0455 or by e-mail at Jennifer.A.Groman@nasa.gov. Alternately, you may contact Mr. Joshua Bundick, the project manager for the EIS, at (757) 824-2319 or email at Joshua.A.Bundick@nasa.gov. On behalf of the entire EIS project team, we look forward to working with you.

Sincerely,



Carolyn Turner
Associate Chief, Medical and Environmental Management Division

4 Enclosures

1. Federal Register Notice
2. PFRR Flight Zone Map
3. Scoping Flyer
4. Consultation Questionnaire

National Aeronautics and
Space Administration
Goddard Space Flight Center
Wallops Flight Facility
Wallops Island, VA 23337



Reply to Attn of: 250.W

April 14, 2011

Judith E. Bittner
Chief, Office of History and Archaeology, and State Historic Preservation Officer
550 West 7th Ave., Suite 1310
Anchorage, Alaska 99501-3565

Dear Ms. Bittner:

I am writing to you regarding the continued operations of the National Aeronautics and Space Administration's (NASA) Sounding Rockets Program (SRP) at the University of Alaska Fairbanks' (UAF) Poker Flat Research Range (PFRR) near Fairbanks, Alaska. In September 2010, we requested input for an Environmental Assessment (EA) that we were preparing. After considering the comments provided by members of the public during the scoping process, we have now decided to prepare an Environmental Impact Statement (EIS). The EIS will evaluate the effects of NASA's continued operations at PFRR and will support the decision-making process for the U.S. Fish and Wildlife Service (USFWS) and the Bureau of Land Management (BLM)'s proposed issuance of permits for rocket impact and recovery at Arctic and Yukon Flats National Wildlife Refuges and the Steese National Conservation Area and White Mountain National Recreation Area, respectively.

Owned and operated by UAF since 1968, the PFRR is a launch facility for sounding rockets, which carry scientific instruments into regions of the upper atmosphere and space that are inaccessible by other commonly used observation methods (e.g., satellites and balloons). The PFRR is located northeast of the unincorporated village of Chatanika, Alaska and consists of approximately 5,200 acres of land that house rocket and support facilities, launch pads, and tracking infrastructure. The primary types of missions conducted by NASA at PFRR are in partnership with university scientists who study the earth's atmosphere and its interaction with the space environment.

Pursuant to the National Environmental Policy Act (NEPA), the EIS will consider a range of alternatives that meet NASA's needs for obtaining the requisite earth and space science data afforded by high-latitude sounding rocket launches in support of its science and educational missions. Alternatives currently being considered for evaluation in the EIS include:

- Continuing the SRP in its present form and at the current level of effort;
- Continuing SRP launches from PFRR within the existing flight zones with differing requirements for identification and recovery of spent stages and payloads;
- Modifying the trajectories of the existing flight zones; and
- Conducting a subset of launches at other high-latitude launch sites, thereby avoiding the federally-managed lands.

The No Action Alternative is to discontinue sounding rocket launches from PFRR.

The EIS will analyze the effects of the alternatives on all applicable environmental media, including airspace, noise, safety, biological resources, socioeconomics, transportation, cultural resources, water resources, wetlands, air quality, land use, hazardous materials, recreation and visual resources, environmental justice, subsistence, and cumulative impacts. NASA anticipates that the areas of most interest to the public will be: the effects of rocket and payload landing and recovery on special interest lands (including Wilderness Areas and Wild Rivers), considerations to ensure public safety during rocket flight, and potential effects on subsistence uses on lands within the flight zones. Public and agency scoping may identify other environmental resources for consideration in the EIS.

With this correspondence, NASA would like to initiate the Section 106 process of the National Historic Preservation Act (NHPA) of 1966 (as amended, and as described in implementing regulations at 36 CFR 800) requiring consultation between NASA and the State Historic Preservation Office (SHPO) for federal undertakings. We are in the early stages of gathering information concerning the Area of Potential Effects and determining the level of data collection required. Any assistance you could provide in identifying concerns you may have about the potential effects of the proposed action on significant cultural resources would be appreciated. NASA intends to coordinate public involvement for the purpose of Section 106 review under NHPA with public involvement in the EIS.

As the project proponent, NASA is serving as the lead agency for NEPA and NHPA consultation with the Alaska SHPO. The U.S. Department of the Interior's BLM and USFWS would undertake actions connected to the proposed undertaking and are participating in NASA's NEPA process and Section 106 consultation. The effects of their actions will be considered in all project-related environmental documentation, including the EIS and any historic resources analysis. As such, please include all three agencies in future NHPA-related correspondence regarding NASA's SRP at PFRR.

The enclosed documents provide more detailed information regarding the PFRR and the history behind the EIS. Additionally, I encourage you to visit the project's website on a regular basis for the most up-to-date information about the project. The website's address is http://sites.wff.nasa.gov/code250/pfrf_eis.html.

In scoping the EIS, we are also requesting input from other agencies and the public regarding potential environmental concerns or project alternatives such that it can be considered in preparing the Draft document. As a part of this effort, we will be holding public meetings to provide further information and gather input from the public. The scoping meeting locations and dates identified at this time are shown below and on the enclosed flyer.

- Thursday, April 28, 1:00 to 3:00 p.m., at the Fort Yukon Tribal Hall, 3rd and Alder Street, in Fort Yukon, Alaska*
- Monday, May 2, 2:00 to 4:00 p.m., at the University of Alaska Fairbanks, William R. Wood Campus Center, 505 S. Chandalar Drive in Fairbanks, Alaska.
- Monday, May 2, 6:00 to 8:00 p.m. at Pioneer Park, Blue Room, 3rd Floor, 2300 Airport Way, in Fairbanks, Alaska.

- Tuesday, May 3, 2:00 to 4:00 p.m. and 6:00 to 8:00 p.m. at the U.S. Fish and Wildlife Service Alaska Regional Office, Gordon Watson Conference Room, 1011 East Tudor Road, in Anchorage, Alaska.

**Please note that the Fort Yukon meeting, originally scheduled for Friday, April 29, 2011, as indicated on the enclosed Federal Register notice, has been rescheduled for the date shown above due to conflicts that were not anticipated at the time the notice was published.*

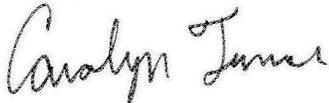
Each scoping meeting will begin with an open house where the public will have the opportunity to interact with members of the project team through one-on-one discussions. Approximately 30 minutes into the open house, NASA will provide an overview of the NEPA process and current PFRR operations. Following the presentations, public comments may be provided. During this time, all oral comments and questions will be recorded for consideration in preparing the Draft EIS. If you require special assistance to attend the meetings, please contact Joshua Bundick at the address below at least two (2) business days prior to the meeting. As an additional effort to inform the public of these meetings, we request your assistance in posting the enclosed flyer in a visible place within your community.

Comments may also be submitted by email, mail, phone, or fax, and will be accepted throughout the entire Draft EIS analysis process. However, for full early consideration and to best help shape and refine the proposal, please submit comments by June 1, 2011 to:

Joshua Bundick
Manager, Poker Flat Research Range EIS
NASA Goddard Space Flight Center's Wallops Flight Facility
Wallops Island, VA 23337
Phone: (757) 824-2319
Fax: (757) 824-1819
Email: Joshua.A.Bundick@nasa.gov

If you have any specific questions regarding the Section 106 process, please contact Mr. Randy Stanley, our Facility Historic Preservation Officer, at (757) 824-1309 or at Randall.M.Stanley@nasa.gov. Inquiries regarding the EIS should be directed to Mr. Bundick at the above address. On behalf of the entire EIS team, I would like to thank you for your interest in this project. We look forward to working with you.

Sincerely,



Carolyn Turner
Associate Chief, Medical and Environmental Management Division

3 Enclosures:

1. Federal Register Notice
2. Map
3. Scoping Meeting Notification Flyer

CONSULTATION QUESTIONNAIRE

Naqsrarmiut Tribal Council

Project Name: NASA Sounding Rockets Program at Poker Flat Research Range Environmental Impact Statement

Please check the appropriate response(s) from the list below and use the back of this form or additional sheets if you wish to make comments:

We have no traditional religious, cultural properties, or other interests that may be affected by the proposed project and further consultation is not required.

There are or may be issues of concern associated with this proposed project and we request further consultation. We prefer:

Meeting with NASA and its cooperating agencies at a tribal facility.

Communicating with NASA and its cooperating agencies by scheduled teleconference.

We want to continue to receive project information by mail and participate in the public involvement process.

Name of *Naqsrarmiut Tribal Council* designated contact for this proposed project:

FREIDA RULLAND Phone: 907.6661-8419

Please print email: akp.epa@hughes.net

Signed: [Signature] Date: 04/19/2011

Additional Comments:

Please mail response in provided postpaid envelope to:

Joshua Bundick
Poker Flat Research Range EIS
Mailcode 250.W
NASA Wallops Flight Facility
Wallops Island, VA 23337

CONSULTATION QUESTIONNAIRE

Gwichyaa Zhee Gwich'in Tribal Government

Project Name: NASA Sounding Rockets Program at Poker Flat Research Range Environmental Impact Statement

Please check the appropriate response(s) from the list below and use the back of this form or additional sheets if you wish to make comments:

We have no traditional religious, cultural properties, or other interests that may be affected by the proposed project and further consultation is not required.

There are or may be issues of concern associated with this proposed project and we request further consultation. We prefer:

Meeting with NASA and its cooperating agencies at a tribal facility.

Communicating with NASA and its cooperating agencies by scheduled teleconference.

We want to continue to receive project information by mail and participate in the public involvement process.

Name of *Gwichyaa Zhee Gwich'in Tribal Government* designated contact for this proposed project:

GRETE CHYTHLOOK Phone: 907-662-2581

Please print email: grete.chythlook@fortyukon.org

Signed: *Grete Chythlook* Date: 4/25/11

Additional Comments:

this meeting is already scheduled for April 28, 2011 @ 1:00 pm in Fort Yukon.

Thank you!

Please mail response in provided postpaid envelope to: Joshua Bundick
Poker Flat Research Range EIS
Mailcode 250.W
NASA Wallops Flight Facility
Wallops Island, VA 23337

7578241819

Environmental Office

02:38:27 p.m.

04-25-2011

9/9

CONSULTATION QUESTIONNAIRE

Beaver Traditional Council

Project Name: NASA Sounding Rockets Program at Poker Flat Research Range Environmental Impact Statement

Please check the appropriate response(s) from the list below and use the back of this form or additional sheets if you wish to make comments:

We have no traditional religious, cultural properties, or other interests that may be affected by the proposed project and further consultation is not required.

There are or may be issues of concern associated with this proposed project and we request further consultation. We prefer:

Meeting with NASA and its cooperating agencies at a tribal facility.

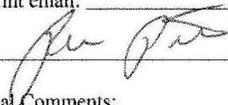
Communicating with NASA and its cooperating agencies by scheduled teleconference.

We want to continue to receive project information by mail and participate in the public involvement process.

Name of ***Beaver Village*** designated contact for this proposed project:

_____ Phone: _____

Please print email: _____

Signed:  _____ Date: 09/20/11

Additional Comments:

Please mail response in provided postpaid envelope to:

Joshua Bundick
Poker Flat Research Range EIS
Mailcode 250.W
NASA Wallops Flight Facility
Wallops Island, VA 23337

National Aeronautics and
Space Administration
**Goddard Space Flight Center
Wallops Flight Facility
Wallops Island, VA 23337**



Reply to Attn of: 250.W

November 9, 2011

Mr. Tom McCulloch
Advisory Council on Historic Preservation
1100 Pennsylvania Avenue, NW, Suite 803
Old Post Office Building
Washington, DC 20004

Dear Mr. McCulloch:

I am writing to you regarding the continued operations of the National Aeronautics and Space Administration's (NASA) Sounding Rockets Program at the University of Alaska Fairbanks' Poker Flat Research Range (PFRR) near Fairbanks, Alaska. In 2010, we began preparing an Environmental Assessment (EA) for this action in accordance with the National Environmental Policy Act (NEPA). After considering the comments provided by members of the public during the scoping process, we are now preparing an Environmental Impact Statement (EIS). The EIS will evaluate the effects of NASA's continued operations at PFRR and will support the decision-making process for the U.S. Fish and Wildlife Service (USFWS) and the Bureau of Land Management (BLM)'s proposed issuance of permits for rocket impact and recovery at Arctic and Yukon Flats National Wildlife Refuges and the Steese National Conservation Area and White Mountains National Recreation Area, respectively.

Concurrent with the NEPA process, NASA will also fulfill its obligations under Section 106 of the National Historic Preservation Act (NHPA). As the project proponent, NASA is serving as the lead Federal agency for NEPA and NHPA consultation with the Alaska State Historic Preservation Office (SHPO), Tribes, and other interested parties. The U.S. Department of the Interior's BLM and USFWS would undertake actions connected to the proposed undertaking and are participating in NASA's NEPA process and Section 106 consultation. The effects of their actions will be considered in all project-related environmental documentation, including the EIS and any historic resources reports. NASA has initiated Section 106 consultation with the Alaska SHPO and has requested input from potentially affected Tribes. We are currently collecting information concerning the Area of Potential Effects and determining the level of data collection required.

With this correspondence, we would like to invite the Advisory Council on Historic Preservation's (ACHP) participation in the PFRR Section 106 process. Given the unique nature of our undertaking, and the diverse interests in the lands that may be affected, we feel that ACHP would be a valuable member of our working group, especially in the event that Memoranda of Agreement or Programmatic Agreements are developed as part of this effort.

The enclosed documents provide more detailed information regarding the PFRR and the history behind the EIS. Additionally, I encourage you to visit the project's website on a regular basis for the most up-to-date information about the project. The website's address is http://sites.wff.nasa.gov/code250/pfir_eis.html.

If you have any specific questions regarding the Section 106 process, please contact me at (757) 824-1309 or at Randall.M.Stanley@nasa.gov. Inquiries regarding the EIS should be directed to the Document Manager, Mr. Josh Bundick, at (757) 824-2319 or Joshua.A.Bundick@nasa.gov. On behalf of the entire project team, I would like to thank you for your consideration of our request. We look forward to working with you.

Sincerely,



Randall Stanley
Facility Historic Preservation Officer

2 Enclosures:

1. *Federal Register* Notice
2. Map

cc:

HQ/EMD/Ms. J. Groman
BLM/Mr. R. Mills
USFWS/Ms. D. Corbett

Milford Wayne Donaldson, FAIA
Chairman

Clement A. Price Ph.D.
Vice Chairman

John M. Fowler
Executive Director



November 29, 2011

Mr. Charles F. Bolden Jr.
Administrator
National Aeronautics and Space Administration
NASA Headquarters
Washington DC 20546-0001

REF: Continuing Sounding Rocket Operations, Poker Flat Research Range, Alaska

Dear Mr. Bolden:

In response to a notification and request by the National Aeronautics and Space Administration (NASA), the Advisory Council on Historic Preservation will participate in consultation to assist NASA in meeting its Section 106 responsibilities for the referenced program. NASA has invited our participation due to the "unique nature of our undertaking and the diverse interests in the lands that may be affected." Our decision to participate in this consultation is based on the Criteria for Council Involvement in Reviewing Individual Section 106 Cases, contained within our regulations (36 CFR Part 800). The criteria are met because the continued operation of this program has the potential to affect important historic properties in Alaska and could present procedural problems due to the need to coordinate with the U.S. Fish and Wildlife Service and the Bureau of Land Management, which are Cooperating Agencies with NASA.

Section 800.6(a)(1)(iii) of our regulations requires that we notify you, as the head of the agency, of our decision to participate in consultation. By copy of this letter, we are also notifying Mr. Randall Stanley, Wallops Flight Facility's Federal Preservation Officer, and Ms. Jennifer Groman, NASA's Historic Preservation Officer of our decision to participate.

Our participation in this consultation will be handled by Dr. Tom McCulloch, who can be reached at 202-606-8554 or at tmcculloch@achp.gov. We look forward to working with NASA on this program.

Sincerely,

John M. Fowler
Executive Director

ADVISORY COUNCIL ON HISTORIC PRESERVATION
1100 Pennsylvania Avenue NW, Suite 803 • Washington, DC 20004
Phone: 202-606-8503 • Fax: 202-606-8647 • achp@achp.gov • www.achp.gov

National Aeronautics and
Space Administration
Goddard Space Flight Center
Wallops Flight Facility
Wallops Island, VA 23337



Reply to Attn of: 250.W

December 9, 2011

Patrick Hanson
Tribal Chief
Native Village of Venetie Tribal Government
P.O. Box 81080
Venetie, AK 99781

Dear Tribal Chief Hanson:

I am writing to you regarding the continued operations of the National Aeronautics and Space Administration's (NASA) Sounding Rockets Program at the University of Alaska Fairbanks' (UAF) Poker Flat Research Range (PFRR) near Fairbanks, Alaska. In April 2011, we requested your input for the Environmental Impact Statement (EIS) that we are currently preparing. At the present time, we are working with the Alaska State Historic Preservation Office (SHPO), Advisory Council on Historic Preservation (ACHP), U.S. Fish and Wildlife Service, and Bureau of Land Management to identify and assess the potential effects of launch and recovery operations on cultural and historic resources.

Section 106 of the National Historic Preservation Act (NHPA) of 1966 requires Federal agencies to consider the effects of their actions on historic properties. The Section 106 process seeks to incorporate historic values into project planning through consultation among the Federal and state agencies, and other parties with an interest in the effects of the undertaking on historic properties.

Tribes, individuals, or organizations with a demonstrated interest in the effects of the undertaking on historic properties may be consulting parties. The various consulting parties work together to discuss options, provide multiple viewpoints, and strive to seek common agreement on the incorporation of historic preservation values into the project.

NASA is beginning the NHPA Section 106 consultation process and is seeking input from project stakeholders who may have an interest in becoming consulting parties. You have been identified as potentially having traditional religious or cultural properties that may be affected and accordingly you may want to be involved in this process.

With the Alaska SHPO and the ACHP, NASA will determine and make contact with all Section 106 consulting parties in the coming weeks. Keeping interested parties and community members fully informed and involved is one of NASA's goals as we evaluate the environmental impacts of our proposed actions. Accordingly, members of our project team will be traveling to interior

Alaska in January 2012 to meet with interested groups. If you would like to meet with members of our project team to discuss the EIS, the Section 106 process, or the enhanced recovery and rewards program, please indicate your interest and someone will contact you to coordinate the details of the meeting. We will do our best to accommodate all requests for meetings, as practicable.

Enclosed for your convenience is a consultation questionnaire. Please fill out the form indicating your level of interest and return it in the pre-addressed, postage-paid envelope. Alternately, you are welcome to send an e-mail indicating your level of interest to one of the persons listed below.

If you do not find it necessary to provide input at this time, we will still keep you apprised of the project's progress by providing a copy of the Draft EIS once it is available. Any comments that you may have at that time will be fully considered in developing the Final EIS.

Additionally, we encourage you to follow the project's progress on our website at: http://sites.wff.nasa.gov/code250/pfrr_eis.html.

Thank you for your time and consideration of our request. If you would like to meet with our project team or have any comments regarding future consultations, please contact me at (757) 824-1309 or by e-mail at Randall.M.Stanley@nasa.gov. Or, you may contact Mr. Joshua Bundick, the EIS Document Manager, at (757) 824-2319 or email at Joshua.A.Bundick@nasa.gov. On behalf of the entire project team, we look forward to working with you.

Sincerely,



Randall Stanley
Facility Historic Preservation Officer

2 Enclosures

1. PFRR Flight Zone Map
2. Consultation Questionnaire

Beaver Council
Box 24029
Beaver, AK
99724

SECTION 106 CONSULTATION QUESTIONNAIRE

Project Name: NASA Sounding Rockets Program at Poker Flat Research Range
Environmental Impact Statement

Please check the appropriate response(s) from the list below and use the back of this form or additional sheets if you wish to make comments:

We have no traditional religious, cultural properties, or other interests that may be affected by the proposed project and further consultation is not required.

There are or may be issues of concern associated with this proposed project and we wish to be included as a Section 106 Consulting Party. We prefer:

Meeting with NASA and its cooperating agencies at a tribal facility.

Communicating with NASA and its cooperating agencies by scheduled teleconference.

We want to continue to receive project information by mail and participate in the public involvement process.

Name of designated contact for this proposed project:

Rhonda O Pitta Phone: 628-61216

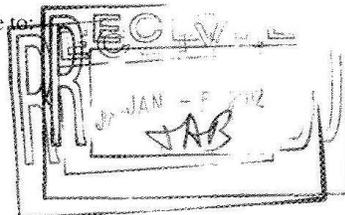
Please print email: ferdpl@hotmail.com

Signed: [Signature] Date: _____

Please explain your reason for interest in the PFRR EIS's Potential Effects on Cultural Resources:

Please mail response in provided postpaid envelope to:

Joshua Bundick
Poker Flat Research Range EIS
Mailcode 250.W
NASA Wallops Flight Facility
Wallops Island, VA 23337



Native Village of Venetie
Box 81080
Venetie, Alaska
99781

106 CONSULTATION QUESTIONNAIRE

Project Name: NASA Sounding Rockets Program at Poker Flat Research Range Environmental Impact Statement

Please check the appropriate response(s) from the list below and use the back of this form or additional sheets if you wish to make comments:

We have no traditional religious, cultural properties, or other interests that may be affected by the proposed project and further consultation is not required.

There are or may be issues of concern associated with this proposed project and we wish to be included as a Section 106 Consulting Party. We prefer:

Meeting with NASA and its cooperating agencies at a tribal facility.

Communicating with NASA and its cooperating agencies by scheduled teleconference.

We want to continue to receive project information by mail and participate in the public involvement process.

Name of designated contact for this proposed project:

Lance Whitwell Phone: 907-849-8105

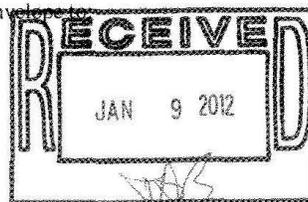
Please print email: venetie.tribal@yahoo.com

Signed: [Signature] Date: 1-3-12

Please explain your reason for interest in the PFRR EIS's Potential Effects on Cultural Resources:

A large portion of tribal land is within the corridor

Please mail response in provided postpaid envelope to:
Joshua Bundick
Poker Flat Research Range EIS
Mailcode 250.W
NASA Wallops Flight Facility
Wallops Island, VA 23337



Mayor Isaacson
CITY OF NORTH POLE
1 Snowman Lane
North Pole, Alaska 99705

SECTION 106 CONSULTATION QUESTIONNAIRE

Project Name: NASA Sounding Rockets Program at Poker Flat Research Range
Environmental Impact Statement

Please check the appropriate response(s) from the list below and use the back of this form or additional sheets if you wish to make comments:

We have no traditional religious, cultural properties, or other interests that may be affected by the proposed project and further consultation is not required.

There are or may be issues of concern associated with this proposed project and we wish to be included as a Section 106 Consulting Party. We prefer:

Meeting with NASA and its cooperating agencies at a tribal facility.

Communicating with NASA and its cooperating agencies by scheduled teleconference.

We want to continue to receive project information by mail and participate in the public involvement process.

Name of designated contact for this proposed project:

Mayor Dave Isaacson Phone: 907-488-8584

Please print email: mayor@northpolealaska.com

Signed: [Signature] Date: 1/30/12

Please explain your reason for interest in the PFRR EIS's Potential Effects on Cultural Resources:

Poker Flats is
a local + statewide economic driver but we want to ensure
valid concerns are addressed. North Pole (area) residents
work at Poker Flats and related agencies.
(I apologize for the delayed response due to an admin glitch)

Please mail response in provided postpaid envelope to:
Joshua Bundick
Poker Flat Research Range EIS
Mailcode 250.W
NASA Wallops Flight Facility
Wallops Island, VA 23337



Doyon Limited
Lands and Natural Resources Dept.
1 Doyon Place, Suite 300
Fairbanks, Alaska 99701-2941



SECTION 106 CONSULTATION QUESTIONNAIRE

Project Name: NASA Sounding Rockets Program at Poker Flat Research Range
Environmental Impact Statement

Please check the appropriate response(s) from the list below and use the back of this form or additional sheets if you wish to make comments:

We have no traditional religious, cultural properties, or other interests that may be affected by the proposed project and further consultation is not required.

There are or may be issues of concern associated with this proposed project and we wish to be included as a Section 106 Consulting Party. We prefer:

Meeting with NASA and its cooperating agencies at a tribal facility.

Communicating with NASA and its cooperating agencies by scheduled teleconference.

We want to continue to receive project information by mail and participate in the public involvement process.

Name of designated contact for this proposed project:

JEFF FILUT/JIM MERY Phone: 459-2000

Please print email: FILUTJE@DOYON.COM / MERYJE@DOYON.COM

Signed: [Signature] Date: 5/15/2012

Please explain your reason for interest in the PFRR EIS's Potential Effects on Cultural Resources:

DOYON OWNED LAND DOWNRANGE

Please mail response in provided postpaid envelope to:
Joshua Bundick
Poker Flat Research Range EIS
Mailcode 250.W
NASA Wallops Flight Facility
Wallops Island, VA 23337



National Aeronautics and
Space Administration
Headquarters
Washington, DC 20546-0001



Reply to Attn of: J. Groman

August 1st, 2012

Ms. Judith E. Bittner
Chief, Office of History and Archaeology, and State Historic Preservation Officer
550 West 7th Ave., Suite 1310
Anchorage, Alaska 99501-3565

Dear Ms. Bittner:

Judy,

Since we initiated Section 106 consultation with your office via our April 14, 2011 letter, we have continued our assessment of the National Aeronautics and Space Administration's (NASA) Sounding Rockets Program (SRP) at the University of Alaska Fairbanks' (UAF) Poker Flat Research Range (PFRR) near Fairbanks, Alaska. Also, in accordance with the National Environmental Policy Act of 1969 (NEPA), as amended, we have been preparing a Draft Environmental Impact Statement (DEIS). A copy of the DEIS will be made available to all consulting parties near the end of September 2012.

As outlined in our previous letter, UAF is seeking authorizations on behalf of NASA from the U.S. Fish and Wildlife Service (USFWS) and the Bureau of Land Management (BLM) to allow for the continued impact and recovery of sounding rockets launched from PFRR. These authorizations are required because both agencies administer lands downrange from PFRR: USFWS administers the Arctic and Yukon Flats National Wildlife Refuges (NWRs), and BLM administers the White Mountains National Recreation Area (NRA) and Steese National Conservation Area. NASA, as lead agency, is preparing the DEIS to fulfill all three Federal agencies' NEPA obligations. Consistent with the approach taken for NEPA, NASA has assumed the role as lead Federal agency for ensuring that all three action agencies' collective National Historic Preservation Act obligations are also met.

As part of the DEIS preparation and the Section 106 review, NASA identifies the Area of Potential Effect (APE) to be the vast PFRR launch corridor within which the rockets fly and falling items, released at different phases of the launch, impact the ground surface. Furthermore, following a launch, search and recovery efforts would occur within this area. Please see the enclosed map of downrange areas that depicts the APE (**Enclosure 1**).

In accordance with 36 CFR 800.4, NASA has considered the identification of historic properties within the APE. Recent planning efforts undertaken by USFWS and BLM, particularly the 2012 *Eastern Interior Resource Management Plan*, the 2012 *Revised Arctic Refuge Comprehensive Conservation Plan*, and the 2010 *Yukon Flats NWR Land Exchange EIS*, have provided valuable information regarding the type and extent of known historic properties within the Federally managed lands. Based upon available information, the majority of downrange lands contain

between approximately 20-30 sites per million acres. The Steese National Conservation Area, which is rarely impacted by sounding rockets, contains approximately 50 sites per million acres. The referenced reports acknowledge that there are likely more sites that have not yet been identified or assessed for National Register eligibility due to both the remote nature and sheer size of the subject lands.

To that end, given that the land area encompassed by the APE is approximately 28.2 million acres, it is impractical to survey those areas for resources yet to be identified. Consequently, NASA sought input from its cooperating agencies and a host of consulting parties, including Alaska Native organizations and the Advisory Council on Historic Preservation (ACHP) regarding the best approach for identifying these resources. As a result of its inquiries, NASA assumes that there are unidentified archeological sites and other potentially historic properties within the APE. Rather than attempting to identify the properties themselves, NASA has focused on the potential impacts to any given historic property based on the scope and frequency of the undertaking. Given that the potential for impacts is based on the possibility of a rocket related item landing on or immediately adjacent to a historic property and causing damage, NASA examined the way the items re-enter and are recovered. **Enclosure 3** provides a pictorial summary of the most common landing and recovery scenarios as observed within the past several years. Since the majority of launches occur in winter, the physical impact to the ground surface is very limited.

Based on this assessment and conversations with Alaska Natives, SHPO, and your office about the nature of how items fall back to earth, and the tools and methods employed during recovery, NASA has determined that it is highly unlikely that any historic properties in the APE will be affected by the proposed undertaking. The main concern raised by Alaska Natives was associated with any potential negative effects to subsistence activities. NASA and UAF have been launching suborbital rockets from PFRR since the late 1960s. During that time, subsistence activities continued within the launch corridor without known interruption. Additionally, the low frequency of launches and recoveries, coupled with landowner-imposed Standard Operating Procedures (outlined in **Enclosure 4**), would ensure that NASA's activities would not present a measurable effect above those aircraft-dependent activities also occurring within the APE, including guided hunting, wildlife survey, and mining. Discussions with Alaska Natives also indicated a general support for recovering items in downrange lands, and to the extent practicable, their participation in this effort.

In summary, it is impractical for NASA to identify all historic properties within the APE. However, based on the very small extent of land affected by either an item landing or during its removal, the infrequency and seasonality of launches, and the breadth of downrange lands, it is highly unlikely that any of the items will have an impact on possible historic properties. Consequently, NASA concludes that based on our analysis and input from consulting parties there would be *no historic properties affected* by the proposed undertaking; this determination applies to all five alternatives that are proposed in the DEIS. NASA requests your concurrence with this determination, and submits the enclosed Request for State Historic Preservation Office (SHPO) Section 106 Review (36 CFR 800), which describes this undertaking in more detail for your consideration (**Enclosure 4**). We hope that your office will concur with our finding of *no historic properties affected* and will take the opportunity to provide comments on our DEIS when it becomes available. Complementary to the assessment provided with this correspondence, NASA has included sections on Cultural Resources in the DEIS.

If you have any questions regarding the Section 106 process, please contact me at (202) 358-0455 or at Jennifer.A.Groman@nasa.gov, or Randall Stanley, Wallops Flight Facility Historic Preservation Officer, at (757) 824-1309 or Randall.M.Stanley@nasa.gov. Inquiries regarding the DEIS should be directed to Mr. Joshua Bundick at 757-824-2319 or at Joshua.A.Bundick@nasa.gov.

We thank you for your assistance and invite your office to comment on our determination and the forthcoming DEIS.

Respectfully,



Jennifer Groman
NASA Federal Preservation Officer

4 Enclosures:

1. APE Map
2. Background Information
3. Photographs of Sounding Rocket Items
4. Request for SHPO Section 106 Review

cc:

ACHP/Dr. T. McCullouch
BLM/Mr. R. Mills
Doyon, Limited/Mr. J. Mery
Native Village of Venetie Tribal Government/Mr. C. Frank
UAF/Ms. K. Rich
USFWS/Ms. D. Corbett

Enclosure 1: Area of Potential Effect

- The land, water, and airspace within Poker Flat Research Range Flight Zones 1, 2, 3, 4, 4 extended, 4 arctic extension, and 5; and
- The land, water, and airspace within a 400 km (248 mi) circle centered approximately 1,000 km (620 mi) north of the PFRR launch site.

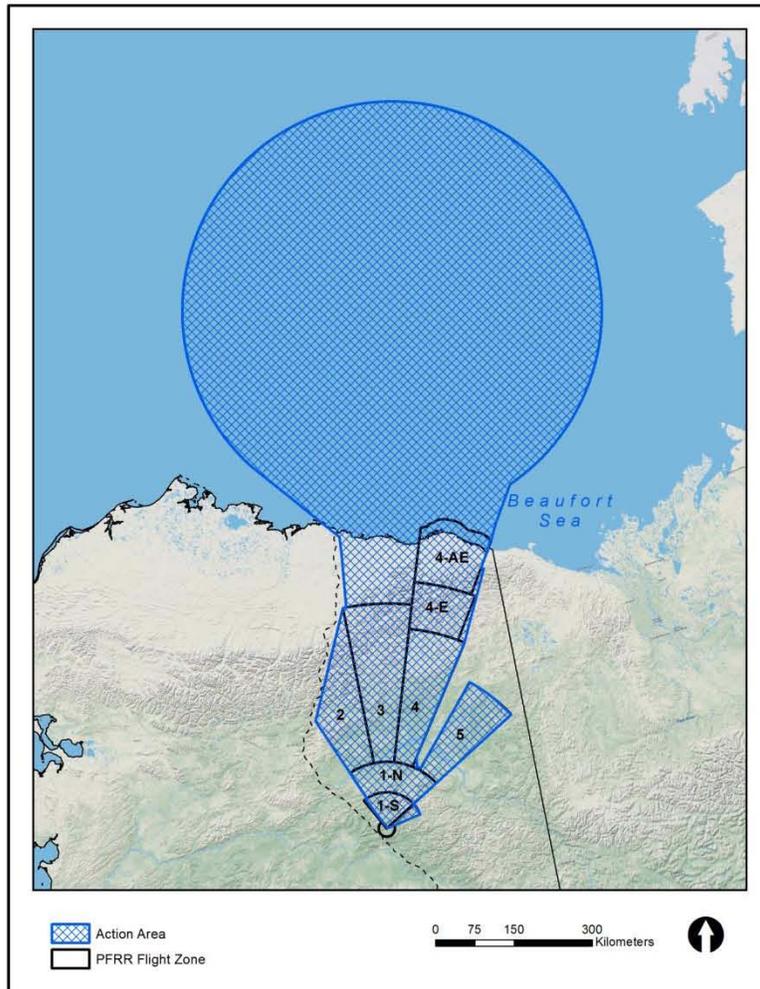


Figure 1. Area of Potential Effect

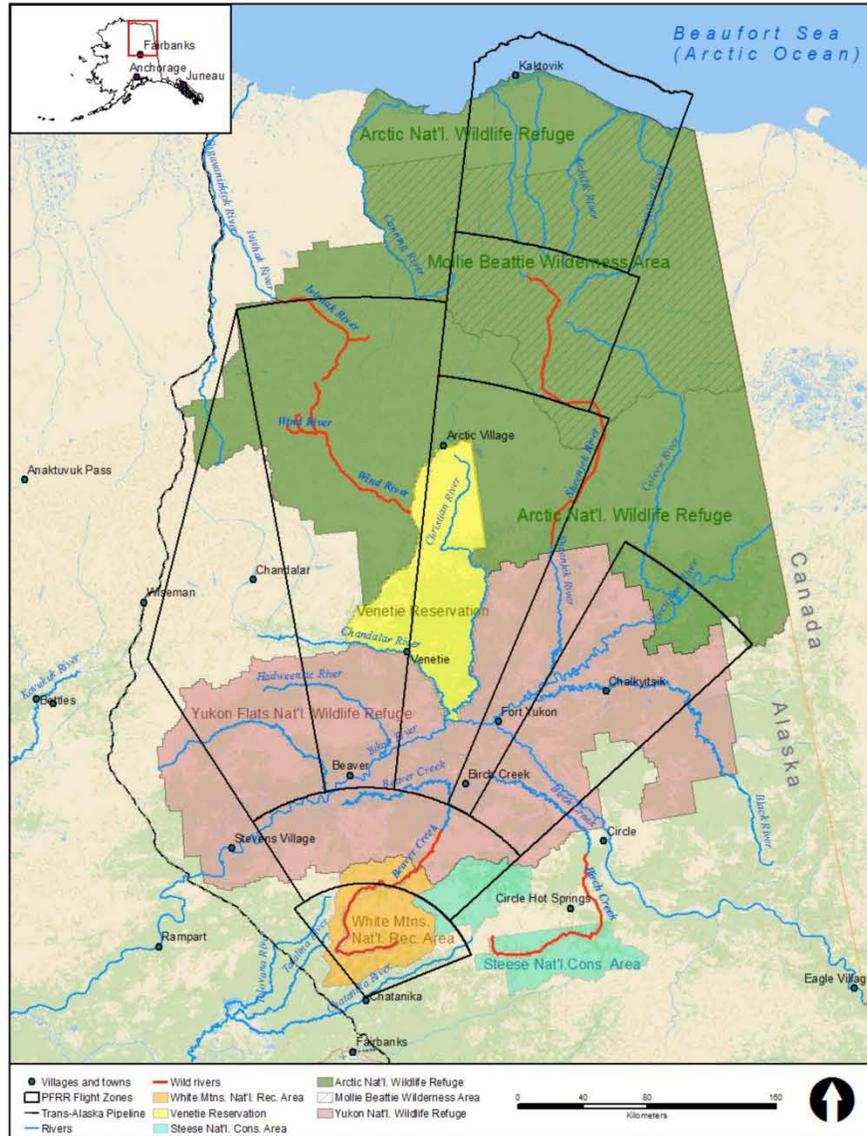


Figure 2. Lands within Area of Potential Effect

Enclosure 2: Background Information

Sounding Rockets

Sounding rockets take their name from the nautical term "to sound," which means to take measurements. Since 1959, NASA-sponsored space and earth science research has used sounding rockets to test instruments used on satellites and spacecraft and to provide information about the Sun, stars, galaxies and Earth's atmosphere and radiation. This type of testing is unique because it cost-effective and time efficient. A large range of phenomena can only be explored with *in situ* probes on sounding rockets, which gather vertical profiles of measured parameters and are essential for the study of the upper atmosphere. Other commonly employed tools to study earth and space science phenomena, including orbiting satellites and ground based observation stations, cannot collect the requisite data that is afforded by a sounding rocket launch. For example, in some cases, Earth-orbiting satellites cannot gather adequate measurements as the satellites are traveling too fast or are too high. In other cases, measurements taken during sounding rocket flights are used to calibrate or verify remote measurements taken from orbiting or land-based instruments.

Each NASA sounding rocket consists of one to four ground-launched; solid-propellant rocket motors, or *stages*, stacked in series, the purpose of which is to propel a scientific experiment, or *payload*, to the upper atmosphere (**Figure 1**). These rocket motors are configured to meet scientific requirements driven by payload size, flight time, and target altitude desired by the researchers. Individual motors range in size from 14 to 31 inches in diameter and are 76 to 223 inches (6 to 18.5 feet) long. At the time they have consumed all of their fuel, or become *spent*, most rocket stage weights are in the 600- to 1,800-pound range, however several of the final stages are lighter, with weights between 200 and 300 pounds. Payloads generally range in size from 30 to 210 inches (2.5 to 17.5 feet) long, are of similar diameter to the rocket motor on which they are flown, and weigh from less than 100 pounds to over 1,000 pounds. As NASA sounding rockets are suborbital, their upper stages or payloads do not enter an Earth orbit, rather they return to Earth along parabolic trajectories (**Figure 2**).

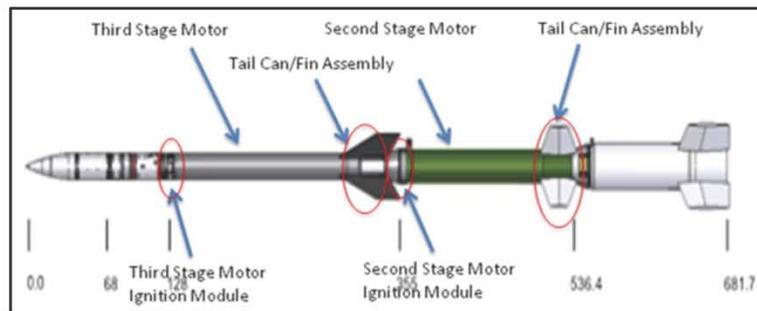


Figure 1. Example of a 3-stage sounding rocket

Following the ignition of the first rocket motor, or stage, which occurs at the launch site, as each rocket motor uses its fuel, it separates from remaining body of the rocket and falls back to Earth. Meanwhile, the scientific experiment, or payload, continues into space and begins collecting data. All metallic and other solid heavier-than-air objects that are propelled into the atmosphere

by sounding rockets land back on Earth in more or less ballistic trajectories. The objects include spent rocket stages, payloads; nose cone doors (released in flight for instruments to “see” their targets); and spin weights, which were released to change rotation of a rocket stage of a launch. Scientific payloads are carried to altitudes from 30 miles to more than 800 miles, with the overall time in space typically ranging from 5 to 20 minutes. The amount and final landing location of rocket hardware is highly mission-dependent, and varies based upon the rocket configuration and the ultimate scientific objectives. Depending on the nature of the experiment, some payloads may include parachute systems such that they can be recovered from their landing locations for analysis or subsequent re-use. Post-flight recovery operations are generally conducted with a combination of fixed and rotary wing aircraft.

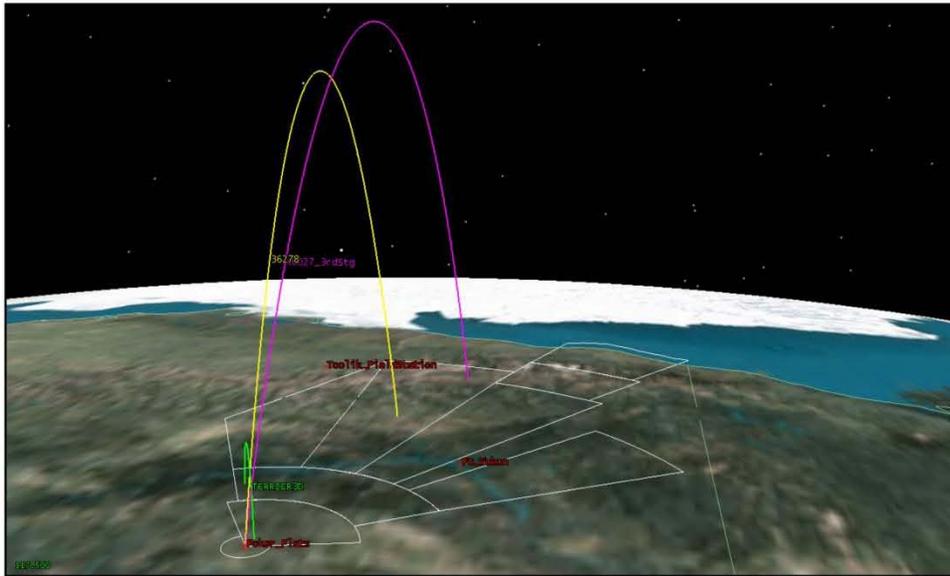


Figure 2. Trajectories of several recently launched PFRR sounding rockets

Sounding rockets can be launched from permanently established ranges or from temporary launch sites using NASA’s mobile range assets. Permanent ranges include WFF in Wallops Island, Virginia; PFRR near Fairbanks, Alaska; White Sands Missile Range (WSMR) in White Sands, New Mexico; Kwajalein Island in the Marshall Islands Republic; Esrange Space Center near Kiruna, Sweden; and the Norwegian Sounding Rocket Ranges in Andøya, Norway and Ny-Alesund, Svalbard. In the past, there have been temporary launch sites in Australia, Brazil, Greenland, and Puerto Rico. The majority of sounding rocket launches occur at WFF, PFRR, and WSMR. Where NASA SRP conducts its work is highly dependent on the scientific goals of each mission. For example, if equatorial phenomena must be observed, a site such as Brazil is used. For middle latitudes, WFF or WSMR is selected. If the aurora borealis must be observed, a site at very high latitudes is required, such as at PFRR.

Poker Flat Research Range

Owned and operated by the University of Alaska Fairbanks (UAF) since 1968, the Poker Flat Research Range (PFRR) is located northeast of the unincorporated village of Chatanika, Alaska and consists of approximately 5,200 acres of land that house rocket and support facilities, launch pads, and tracking infrastructure. PFRR is owned and managed by the Geophysical Institute of UAF; however, NASA has exclusively funded and managed the support contract with PFRR for more than 25 years. The primary types of missions conducted by NASA at PFRR are in partnership with university scientists who study the earth's atmosphere and its interaction with the space environment. Since its inception, PFRR has launched approximately 219 NASA sounding rockets and 116 for other entities. The location of PFRR is strategic for launching sounding rockets for scientific research in auroral space physics and earth science. PFRR is the only high-latitude, auroral-zone rocket launching facility in the United States where a sounding rocket can readily study the aurora borealis and the sun–earth connection. The information collected further assists the Nation's scientists in understanding the interactions between the sun and earth as well as the origin and evolution of the solar system. Technology development and validation enabled by NASA SRP at PFRR is critical in furthering the development of earth and space science instruments at a fraction of the size and cost that would result from using other launch methods. PFRR also supports educational outreach programs in which students and scientists from various universities conduct aeronautics and space research.

Consultation with Potentially Interested Parties

Pursuant to American Indian/Alaska Native Policy and Implementation Guidance, beginning in April 2011 with the scoping process for the EIS, NASA mailed letters providing project information and offering government-to-government consultation to the nine Federally recognized Tribes within and adjacent to the PFRR flight corridor. Included with the letters was a postage paid consultation questionnaire, which could be used to provide a project point of contact and express the Tribe's level of interest in the project. NASA also faxed copies of the project information package to the Tribal offices. The below nine Tribes were sent the letter and questionnaire:

- Beaver Traditional Council, Beaver
- Birch Creek Tribal Council, Birch Creek
- Chalkyitsik Village Council, Chalkyitsik
- Circle Native Community, Circle
- Gwitchyaa Zhee Gwich'in Tribal Government, Fort Yukon
- Naqsragnuit Tribal Council, Anaktuvuk Pass
- Native Village of Kaktovik Council, Kaktovik
- Native Village of Stevens Tribal Government, Stevens Village
- Native Village of Venetie Tribal Government, Venetie

Of the nine Tribes, Beaver Traditional Council, Gwitchyaa Zhee Gwich'in Tribal Government, and the Naqsragnuit Tribal Council responded to NASA's request. Beaver Traditional Council indicated that they had no potentially affected interests or concerns regarding the project. The Gwitchyaa Zhee Gwich'in Tribal Government and Naqsragnuit Tribal Council requested to meet with NASA at a tribal facility.

In December 2011, NASA mailed requests for interest in serving as Section 106 consulting parties to the potentially interested Tribal, cultural, and local government organizations listed below:

- Council on Athabascan Tribal Governments
- Tanana Chiefs Conference
- Fairbanks North Star Borough
- North Slope Borough
- Tanana-Yukon Historical Society
- Arctic Slope Regional Corporation
- Chalkyitsik Native Corporation
- Doyon Limited
- Kaktovik Inupiat Corporation
- Nunamiut Corporation
- City of Allakaket
- City of Anaktuvuk Pass
- City of Fairbanks
- City of Fort Yukon
- City of Kaktovik
- City of North Pole
- Beaver Traditional Council
- Birch Creek Tribal Council
- Chalkyitsik Village Council
- Circle Native Community
- Gwitchyaa Zhee Gwich'in Tribal Government
- Naqsragnuit Tribal Council
- Native Village of Kaktovik Council
- Native Village of Stevens Tribal Government
- Native Village of Venetie Tribal Government
- Arctic Village Council
- Beaver Kwit'chin
- Canyon Village Traditional Council
- Venetie Tribal Council
- Venetie Village Council

Following this request, NASA received a response from the Beaver Traditional Council, the Native Village of Venetie Tribal Government, and the City of North Pole. Beaver indicated that it did not have concern regarding potential effects on properties of cultural significance; Venetie requested to meet with NASA to discuss the project. The City of North Pole indicated that it did not have any concerns regarding potential effects on cultural resources specifically; however it wished that all valid concerns be addressed through NASA's environmental review process. In May 2012, Doyon, Limited expressed an interest in meeting with NASA regarding the Section 106 process.

Meetings

As a result of the interest expressed in the project, NASA, USFWS, and UAF met with the Tribal Council of the Gwitchyaa Zhee Gwich'in Tribal Government in April 2011 and the Native Village of Venetie Government in February 2012. Notices of the meetings were distributed to local venues within the Villages as well as broadcast on the local Yukon Flats radio station, KZPA 900 AM. In addition, NASA personnel participated in a call-in show on KZPA to give an overview of the project and answer questions.

The primary topics of concern expressed in both meetings were that 1) Villages were not well informed of launches; 2) Students from local Villages should be given a tour of PFRR and have the opportunity to explore scientific and engineering fields; 3) Hazardous materials in rockets should be evaluated as they could affect wildlife, and in turn, affect subsistence users; 4) the

Rewards Program would be beneficial to Village residents; and 5) Village residents should be employed to assist in searches for rocket hardware.

Regarding Venetie specifically, the Council expressed concern that the circa 1989 Memorandum of Agreement-prescribed level of compensation (around \$12k yearly) for the use of tribal land is inadequate and needs to be raised. UAF representatives are in the process of accomplishing this through a Memorandum of Agreement (MOA) that is in place.

In addition to the meetings with the Tribal governments, NASA, USFWS, and UAF personnel also gave presentations at the Fort Yukon and Venetie schools.

Following the Naqsragnuit Tribal Council's indication of an interest in the project, both NASA and UAF staff followed up with the specified point of contact through both e-mail and phone calls, however no additional responses were obtained. NASA is currently working to schedule a teleconference with Doyon at a mutually agreeable time.

Future Coordination

To ensure that all potentially affected Tribes are informed of the status of the project, the EIS mailing list includes all nine Federally recognized tribes and those organizations contacted during the identification of consulting parties. All parties will receive copies of any document distributed to the public, including copies of the Draft and Final EIS.

NASA recognizes that the government-to-government consultation process is ongoing and will continue to engage in written and phone communications directed specifically to the Tribes to encourage their engagement at any time. Additional meetings will be scheduled as requested.

Contact with Federal and State Agencies

Since commencing the NEPA process for this undertaking, NASA has held multiple conversations not only with its cooperating agencies, but also the Alaska SHPO and Advisory Council on Historic Preservation (ACHP) to discuss the Section 106 consultation process. Below is a brief summary of those conversations:

- On April 14, 2011, NASA mailed a letter to the SHPO requesting scoping input on the EIS and to request the initiation of the Section 106 consultation process.
- On August 2, 2011, NASA representatives Joshua Bundick (WFF NEPA document manager) and Randall Stanley (WFF Historic Preservation Officer) participated in a teleconference with USFWS Refuge staff and the local BLM field archaeologist. USFWS and BLM staff discussed their respective policies and procedures for managing cultural resources on lands within their jurisdiction. It was mutually agreed upon that NASA would assume the role as lead Federal agency for the Poker Flat Section 106 process.
- On August 11, 2011, NASA's cultural resources consultant, SAIC, held a phone discussion with Ms. Shina DuVall of the Alaska SHPO. Lorraine Gross, SAIC's cultural resources subject matter expert, provided an overview of the project, and Ms. DuVall discussed the general Alaska Section 106 consultation process. It was mutually agreed upon that additional information would be needed to determine the area of potential effect, the level of disturbance associated with each launch or recovery option, and the level of resource identification necessary for this consultation.

- On September 16, 2011, NASA’s Joshua Bundick and Randall Stanley, USFWS, BLM, and NASA’s cultural resources consultant, Lorraine Gross of SAIC, held a teleconference with Ms. Shina DuVall of the Alaska SHPO. NASA provided an overview of the sounding rockets program at PFRR, and Ms. Duvall discussed the general Alaska Section 106 consultation process. It was mutually agreed upon that additional information would be needed to complete the consultation. The concept of developing a Programmatic Agreement for PFR was informally presented and discussed.
- On November 9, 2011, NASA invited the ACHP to participate in the Section 106 process for this undertaking; in a November 29, 2011 letter, ACHP accepted NASA’s offer.
- On February 7, 2012, NASA’s Joshua Bundick, Randall Stanley, and Jennifer Groman (Federal Preservation Officer), took part in a conference call with Ms. Shina Duvall from the Alaska SHPO. During this teleconference, Mr. Bundick discussed his recent trip to Alaska to meet with various government entities and Alaska tribes concerning the DEIS. The concerns raised were also discussed among the group.
- After reviewing the internal DEIS, in a March 29, 2012 memorandum, Mr. Robin Mills, BLM Eastern Interior Archaeologist, concurred with NASA’s conclusions that there would be the potential for “little to no impacts” to cultural resources on BLM lands from the proposed alternatives. Mr. Mills also recommended no further survey was warranted.

Enclosure 3: Photos demonstrating landing of rocket items in APE

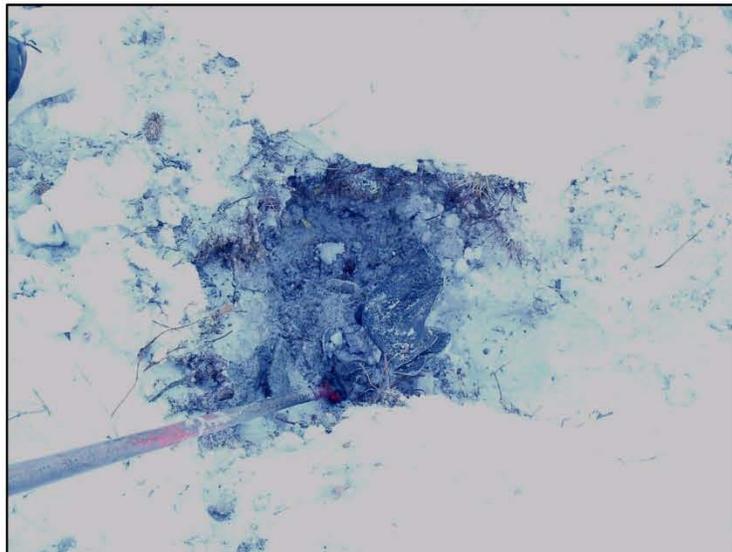
Nearly Complete Burial



Ground Penetration without Embedding



Hand Digging of impacts that embed





Before



After

Impact on Rocky Terrain



Parachuted Payload Landing



Enclosure 4: Request for SHPO Section 106 Review (36 CFR 800)

REQUIRED AGENCY INFORMATION

Federal or State Involvement? Yes, Funding (NASA, Lead Federal Agency);
Permit/approval (BLM, USFWS, State of Alaska)

Federal or State Agency contact information: Jennifer Groman, NASA Federal Preservation Officer, 202-358-0455, Jennifer.A.Groman@nasa.gov

Signature of agency official: _____

Secondary Contact Information: Randall M. Stanley, NASA Wallops Flight Facility Historic Preservation Officer, 757-824-1309, Randall.M.Stanley@nasa.gov

I. GENERAL INFORMATION

Project Name: NASA Sounding Rockets Program at the University of Alaska Fairbanks Poker Flat Research Range

Landowners: University of Alaska Fairbanks; Alaska Department of Natural Resources; Bureau of Land Management; U.S. Fish and Wildlife Service; Native Village of Venetie Tribal Government; Doyon, Limited; multiple Village corporations.

Project Address / Location: Northeast of the unincorporated village of Chatanika, Alaska. The APE is extremely large, however its boundaries are shown on **Enclosure 1** and generally described below.

USGS Quad Map Names: Circle, Livengood, Fort Yukon, Beaver, Charley River, Chandalar, Christian, Philip Smith Mountains, Sagavanirktok, Arctic, Mount Michelson, Flaxman Island, Barter Island

Meridians: Fairbanks, Umiat

NAD 83 Latitude/Longitude: Eastern Boundary: 141 degrees W; Western Boundary 150 degrees W; Northern Boundary: 77.5 degrees N; Southern Boundary: 65 degrees N

II. GROUND DISTURBING ACTIVITY

DOES THIS PROJECT INVOLVE GROUND DISTURBANCE? Yes

Description of the length, width, and depth of ground disturbance: Portions of sounding rockets fall to ground anywhere in the area identified in the APE. Upon impacting the ground, each item will likely create a minor divot, however it will be highly dependent upon the actual landing site. Finless payload items rarely penetrate the ground surface. If the item, such as a rocket motor, were to land "nose down" after a normal launch, the width of the disturbance

would not be expected to exceed 1 meter in diameter; the depth to which the item would penetrate would vary, but could be as great as 3 meters if the item were to fully embed. If an item were to land on its side, length of the disturbance could be as great as 5 meters long, width on the order of 1 meter, and depth less than 1 meter. See **Enclosure 3** for pictures. Unless items are imbedded in soft soil, there is limited need to dig to remove the items. Digging around the item could result in approximately a 1-meter area of additional disturbance around the item if it were embedded. It is expected that all recovery related ground disturbance would be with hand tools, including shovels and pick axes. Once removed, the item would be transported via fixed or rotary wing aircraft; in rare cases on foot by the recovery crew. Therefore, ground disturbance related to transportation would be negligible.

Previous and current land use, condition, and disturbance: Nearly all lands within the APE are managed specifically for conservation and/or recreational purposes. With the exception of areas immediately surrounding rural villages, some historic placer mining within BLM lands, limited seismic line clearing within Yukon Flats Refuge and along the Coastal Plain of Arctic Refuge, mineral exploration on Doyon lands within the Yukon Flats, and various hunting or trapping cabins, the lands within the APE are relatively undisturbed except by natural processes. The lands directly north of the PFRR launch site, within which most of the first stages of sounding rockets impact, are designated as Special Use “for rocket impact” by the State of Alaska.

Are there archaeological resources on the property? Yes

How was this determined? Consultations with landowners and review of Federal planning documents (i.e., Environmental Impact Statements), which contain summaries of identified resources.

III. DESCRIPTION OF THE PROJECT (UNDERTAKING)

Detailed written description of the project: **Enclosure 2** provides a general description of sounding rockets, including their size and composition, as well as an overview of PFRR. Below provides a description of the alternatives NASA is considering for continuing its sounding rockets operations at PFRR:

Alternatives Evaluated in the DEIS

NASA has identified five alternatives as potentially satisfying the objectives identified in the purpose and need for consideration in the DEIS. Under all five alternatives, NASA would continue to fund UAF’s PFRR and conduct scientific investigations using sounding rockets. NASA forecasts that an average of about *four launches per year* would be conducted at PFRR, but *could range up to eight launches per year*. This launch rate is typical of past years, but, because of the very nature of scientific research and discovery, it is not possible to predict accurately what future needs might be. New discoveries or scientific needs might require more or fewer launches to accomplish NASA’s scientific goals.

Similarly, past scientific research has mandated that *most launches be conducted during the winter months (October through April)*, with most of the launches occurring at night or in darkness. While this is the expected mode of future operations, new scientific needs might raise the desirability of other launch periods. If such needs were to arise, additional analysis of the range safety requirements, as well as potential mitigation factors to reduce environmental impacts, would be required.

Standard Operating Procedures (SOPs)

The following are SOPs have been detailed in the DEIS for the removal of payloads and stages from within downrange lands and would apply to all five alternatives. Collectively, these restrictions and conditions imposed by USFWS and BLM provide the operational restraints on the program and dictate the practices that must be followed and ensure protections to both natural and cultural resources. Those with particular relevance to the protection of cultural resources are shown in bold:

- **The use of off-road vehicles (except snow machines) on USFWS properties is prohibited.**
- When flying over USFWS properties, all aircraft are recommended to maintain a minimum altitude of 2,000 feet above ground level, except during takeoff and landing, and when safety considerations require a lower altitude. Low-level slinging of gear from site to site is prohibited.
- **Large-scale clearing of vegetation for aircraft landing and takeoff is prohibited. Only minor clearing of brush and other minor obstructions is permitted. Any excavation or disturbance during recovery must be filled.**
- Fuel caches are allowed only in designated areas on the USFWS properties, and must be approved by the NWR manager before they are established. Storage must meet the standards of the USFWS, Alaska Region, Fuel Storage Policy.
- PFRR must ensure that its operations do not interfere with or harass NWR visitors or impede access to any site.
- **PFRR operations cannot interfere with subsistence activities of rural users or restrict the access of subsistence users.**
- **The removal or disturbance of historical, recent, ethnological, or archaeological artifacts is prohibited.**
- PFRR must ensure that a transponder or other radio location aid is incorporated with each payload to facilitate tracking and recovery after launch.
- PFRR must clean equipment used to recover rocket debris to prevent the spread of invasive and noxious weeds and plant species at recovery sites.

It is expected that post launch searches would be conducted following launch, and prior to new snowfall, whereas most recovery efforts would be conducted during non-winter months due to safety and more favorable weather conditions. *The key difference among the alternatives is the level of search and recovery effort that each would entail.*

- The **No Action Alternative** would not entail any recovery of items unless dictated by scientific need. The maximum recovery expected would be 1 payload per year.
- **Alternative 1** would entail a formal commitment to a “clean range” which would be guided by a formal Recovery Plan. In summary, a post-launch aerial search would occur for all newly launched, land-impacting items. If located, NASA would perform a recovery operation during non-winter months if it were deemed safe and in the best interest of the downrange lands. In essence, some items could be left partially or fully in place if effecting a full recovery would result in greater than negligible vegetative clearing, substantial excavation, or entry into areas where ruts could be formed (e.g., bogs). Employing the same philosophy, items within downrange lands from past launches would also be recovered when reported by users of downrange lands if determined to be environmentally responsible.
- **Alternative 2** would be similar to Alternative 1, however full recovery of items would be required unless it were deemed unsafe for recovery personnel to perform the operation. Given this philosophy, it is expected that the largest amount of material would be removed from downrange lands over time. However, some localized, short- and long-term evidence of the recovery operation could occur depending on the specific situation. If adopted, both landowners and NASA would be willing to accept these impacts in exchange for having fewer sounding rocket items in downrange lands. While the SOPs discussed above would apply to this alternative, it is possible that greater clearing or digging could be required, therefore requiring some modification to the extent of allowable actions.
- **Alternative 3** would be the same as Alternative 1, however it would also include a voluntary restriction on planning future stage or payload impacts within designated Wild or Scenic River corridors. Currently, Beaver Creek and the Sheenjek, Ivishak, and Wind Rivers are located within the PFRR launch corridor.
- **Alternative 4** would be the same as Alternative 2, however it would also include a voluntary restriction on planning future stage or payload impacts within designated Wild or Scenic River corridors.

Please refer to Chapter 2 of the DEIS for a complete description of each of these alternatives.

Attach localized project map: Please see **Enclosure 1**, which is a map of the PFRR launch corridor.

Attach photographs of the project area: Please see **Enclosure 3**, which provides photographs of the undertaking.

IV. AREA OF POTENTIAL EFFECTS (APE)

Identify the APE on the USGS map and localized project map: NASA has identified the boundaries of the PFRR launch corridor as the APE. Please refer to **Enclosure 1**. Given the size of the APE, it is not practical to provide the APE on each individual topographic map.

Explain how the APE was developed and how it encompasses potential direct and indirect effects: The APE encompasses all land and water areas over which the rockets fly and falling items, released at different phases of the launch, impact the ground surface. Furthermore, following a launch, search and recovery efforts would occur within this area.

V. IDENTIFICATION OF HISTORIC PROPERTIES

Describe the steps taken (methodology) to identify cultural resources in the APE:

NASA acknowledges that both previously identified and unknown cultural resources occur within the existing launch corridor. However it is impractical for NASA to identify all historic properties. NASA has relied upon data provided by other Federal Agencies and within the Alaska Heritage Resources Survey. In general, as summarized in the U.S. Fish and Wildlife's *Arctic Refuge Revised Comprehensive Conservation Plan/Environmental Impact Statement*, the resources within the APE include:

- Coastal settlements, consisting of semi-subterranean driftwood or whalebone houses, in some cases associated with cemeteries and/or additional structures. Post-contact and pre-contact houses are present along the coast of the Beaufort Sea.
- Inland settlements, consisting of semi-subterranean driftwood or whalebone houses, also in some cases associated with cemeteries and/or additional structures.
- Tent ring complexes, consisting of arrangements of stones used to secure skin tents to the ground, often with associated hearths in and outside of the ring. These features are found along river corridors on elevated terraces and likely relate to seasonal caribou hunting by coastal people. In some cases, these complexes are situated near or adjacent to caribou drive lines or fences.
- Caribou drive lines and fences are found on the north and south sides of the Brooks Range. These linear arrangements of stone cairns (in the north) and spruce (in the south) were used to funnel the movements of caribou herds into corrals where hunters harvested them.
- Lithic scatters, consisting of surface and subsurface collections of artifacts and debris resulting from the procurement, preparation, and manufacture of stone tools.
- Historic cabins built by indigenous peoples, early explorers, and trappers that offer insights into the early contact period.
- Prospecting and mining sites established during the late 19th and early 20th centuries.
- Graves and cemeteries.

NASA has also invited Alaska Natives in the APE to consult and help identify historic properties that they might think may be affected by the undertaking. During discussions with the villages, none have identified historic properties but rather have focused on subsistence practices. NASA has identified procedural protocol to avoid impacts to these practices and species of interest to the villages. Moreover, the infrequent nature of launches would not present a measurable risk of disturbing subsistence activities. While recovery operations would most likely occur during non-winter months when the majority of subsistence hunting occurs, in consideration of the low frequency of launches (and therefore recoveries), the wide dispersion of recovery sites, and landowner-imposed requirements to minimize low altitude flights, effects would be minor.

Information provided by U.S. Fish and Wildlife and Bureau of Land Management are summarized by land parcel below:

Arctic National Wildlife Refuge

Over 530 archeological and historic and paleontological sites have been recorded within the boundaries of Arctic Refuge. Currently, 212 archeological and 188 historical sites have been recorded within the boundaries of Arctic Refuge.

Total Land Area: 19.64 million acres

Site Density: 27 sites/million acres or 0.007 sites/sq km

Yukon Flats National Wildlife Refuge

197 AHRS sites were reported to be located within the Refuge. Of these, 50 are identified as prehistoric (before contact with non-Natives), 106 are identified as historic (after contact with non-Natives), and the remainder have either not been assigned to a period or are modern (last 50 years) in age.

Total Land Area: 10.938 million acres

Site Density: 18 sites/million acres or 0.004 sites/sq km

White Mountains National Recreation Area

Known Sites: 26 historic; 3 prehistoric; 1 both; 30 total

Total Land Area: 1.02 million acres

Site Density: 29.5 sites/million acres or 0.007 sites/sq km

Steese National Conservation Area

Known Sites: 49 historic; 18 prehistoric; 67 total

Total Land Area: 1.28 million acres

Site Density: 52.3 sites/million acres or 0.013 sites/sq km

VI. DETERMINATION OF ELIGIBILITY

There are documented historic properties present within the project area, and it is likely that additional undocumented and potentially eligible properties also exist within the project area. Therefore, it is reasonable to assume that *historic properties (36 CFR 800.16[d]) are present within the APE.*

VII. FINDING OF EFFECT

Available information indicates that there is approximately a range between 18 to 50 sites recorded in the general area per 1 million acres of land. Due to the low number of projected launches that occur annually and the large area of the projected impact zone shown on the enclosed map, NASA feels that it is highly unlikely any known or unknown historic properties would be affected by this undertaking. Such likelihood is so low that NASA finds that *no historic properties would be affected [36 CFR 800.4(d)(1)].* NASA hereby requests that the Alaska SHPO concurs with this finding.

Consulting Parties: See **Enclosure 2** for a complete list of parties that were consulted on this undertaking and the outcomes of those consultations. In addition, those organizations expressing an interest in this undertaking have been provided a copy of this material, including all Enclosures.

National Aeronautics and
Space Administration
Headquarters
Washington, DC 20546-0001



Reply to Attn of: J. Groman

August 1st, 2012

Jim Mery
Senior Vice President Lands and Resources
Doyon Limited
1 Doyon Place, Suite 300
Fairbanks, AK 99701

Dear Mr. Mery:

Please find enclosed a copy of our Section 106 consultation package to Ms. Judith Bittner, Alaska State Historic Preservation Officer (SHPO), regarding the continuation of National Aeronautics and Space Administration's (NASA) Sounding Rockets Program (SRP) at the University of Alaska Fairbanks' (UAF) Poker Flat Research Range (PFRR) near Fairbanks, Alaska. We have provided you a copy of this information as you expressed interest in being a consulting party in the Section 106 Process associated with this undertaking.

Our letter to SHPO identifies the Area of Potential Effect (APE) and our Determination of Effect. The letter also explains NASA's efforts to identify historic properties within the APE. NASA has made a determination of "*no historic properties affected*" based on the unlikely probability of anything from the SRP landing on known or unknown historic property within the APE. We invite you to read our letter and the accompanying information for your review.

In parallel with the Section 106 process, we are preparing a Draft Environmental Impact Statement (DEIS) for this program. We anticipate the DEIS for this program will be available for your review in late September 2012.

If you have any questions regarding the Section 106 process, please contact me at (202) 358-0455 or at Jennifer.A.Groman@nasa.gov, or Randall Stanley, Wallops Flight Facility Historic Preservation Officer, at (757) 824-1309 or Randall.M.Stanley@nasa.gov. Inquiries regarding the DEIS should be directed to Mr. Joshua Bundick at 757-824-2319 or at Joshua.A.Bundick@nasa.gov.

We thank you for your assistance and invite you to comment on our determination and the forthcoming DEIS.

Respectfully,



Jennifer Groman
NASA Federal Preservation Officer

5 Enclosures:

1. Copy of letter to SHPO regarding determination of effects
2. APE Map
3. Background Information
4. Photographs of Sounding Rocket Items
5. Request for SHPO Section 106 Review

8.10.2012

3130-1R NASA

National Aeronautics and
Space Administration
Headquarters
Washington, DC 20546-0001



No Historic Properties Affected
Alaska State Historic Preservation Officer
Date: 8.10.2012
File No. 3130-1R NASA
SAW

Reply to Attn of J. Groman

August 1st, 2012

Ms. Judith E. Bittner
Chief, Office of History and Archaeology, and State Historic Preservation Officer
550 West 7th Ave., Suite 1310
Anchorage, Alaska 99501-3565

RECEIVED

AUG 06 2012

OHA

Dear Ms. Bittner:

Judy

Since we initiated Section 106 consultation with your office via our April 14, 2011 letter, we have continued our assessment of the National Aeronautics and Space Administration's (NASA) Sounding Rockets Program (SRP) at the University of Alaska Fairbanks' (UAF) Poker Flat Research Range (PFRR) near Fairbanks, Alaska. Also, in accordance with the National Environmental Policy Act of 1969 (NEPA), as amended, we have been preparing a Draft Environmental Impact Statement (DEIS). A copy of the DEIS will be made available to all consulting parties near the end of September 2012.

As outlined in our previous letter, UAF is seeking authorizations on behalf of NASA from the U.S. Fish and Wildlife Service (USFWS) and the Bureau of Land Management (BLM) to allow for the continued impact and recovery of sounding rockets launched from PFRR. These authorizations are required because both agencies administer lands downrange from PFRR: USFWS administers the Arctic and Yukon Flats National Wildlife Refuges (NWRs), and BLM administers the White Mountains National Recreation Area (NRA) and Steese National Conservation Area. NASA, as lead agency, is preparing the DEIS to fulfill all three Federal agencies' NEPA obligations. Consistent with the approach taken for NEPA, NASA has assumed the role as lead Federal agency for ensuring that all three action agencies' collective National Historic Preservation Act obligations are also met.

As part of the DEIS preparation and the Section 106 review, NASA identifies the Area of Potential Effect (APE) to be the vast PFRR launch corridor within which the rockets fly and falling items, released at different phases of the launch, impact the ground surface. Furthermore, following a launch, search and recovery efforts would occur within this area. Please see the enclosed map of downrange areas that depicts the APE (**Enclosure 1**).

In accordance with 36 CFR 800.4, NASA has considered the identification of historic properties within the APE. Recent planning efforts undertaken by USFWS and BLM, particularly the 2012 *Eastern Interior Resource Management Plan*, the 2012 *Revised Arctic Refuge Comprehensive Conservation Plan*, and the 2010 *Yukon Flats NWR Land Exchange EIS*, have provided valuable information regarding the type and extent of known historic properties within the Federally managed lands. Based upon available information, the majority of downrange lands contain

between approximately 20-30 sites per million acres. The Steese National Conservation Area, which is rarely impacted by sounding rockets, contains approximately 50 sites per million acres. The referenced reports acknowledge that there are likely more sites that have not yet been identified or assessed for National Register eligibility due to both the remote nature and sheer size of the subject lands.

To that end, given that the land area encompassed by the APE is approximately 28.2 million acres, it is impractical to survey those areas for resources yet to be identified. Consequently, NASA sought input from its cooperating agencies and a host of consulting parties, including Alaska Native organizations and the Advisory Council on Historic Preservation (ACHP) regarding the best approach for identifying these resources. As a result of its inquiries, NASA assumes that there are unidentified archeological sites and other potentially historic properties within the APE. Rather than attempting to identify the properties themselves, NASA has focused on the potential impacts to any given historic property based on the scope and frequency of the undertaking. Given that the potential for impacts is based on the possibility of a rocket related item landing on or immediately adjacent to a historic property and causing damage, NASA examined the way the items re-enter and are recovered. **Enclosure 3** provides a pictorial summary of the most common landing and recovery scenarios as observed within the past several years. Since the majority of launches occur in winter, the physical impact to the ground surface is very limited.

Based on this assessment and conversations with Alaska Natives, SHPO, and your office about the nature of how items fall back to earth, and the tools and methods employed during recovery, NASA has determined that it is highly unlikely that any historic properties in the APE will be affected by the proposed undertaking. The main concern raised by Alaska Natives was associated with any potential negative effects to subsistence activities. NASA and UAF have been launching suborbital rockets from PFRR since the late 1960s. During that time, subsistence activities continued within the launch corridor without known interruption. Additionally, the low frequency of launches and recoveries, coupled with landowner-imposed Standard Operating Procedures (outlined in **Enclosure 4**), would ensure that NASA's activities would not present a measurable effect above those aircraft-dependent activities also occurring within the APE, including guided hunting, wildlife survey, and mining. Discussions with Alaska Natives also indicated a general support for recovering items in downrange lands, and to the extent practicable, their participation in this effort.

In summary, it is impractical for NASA to identify all historic properties within the APE. However, based on the very small extent of land affected by either an item landing or during its removal, the infrequency and seasonality of launches, and the breadth of downrange lands, it is highly unlikely that any of the items will have an impact on possible historic properties. Consequently, NASA concludes that based on our analysis and input from consulting parties there would be *no historic properties affected* by the proposed undertaking; this determination applies to all five alternatives that are proposed in the DEIS. NASA requests your concurrence with this determination, and submits the enclosed Request for State Historic Preservation Office (SHPO) Section 106 Review (36 CFR 800), which describes this undertaking in more detail for your consideration (**Enclosure 4**). We hope that your office will concur with our finding of *no historic properties affected* and will take the opportunity to provide comments on our DEIS when it becomes available. Complementary to the assessment provided with this correspondence, NASA has included sections on Cultural Resources in the DEIS.

If you have any questions regarding the Section 106 process, please contact me at (202) 358-0455 or at Jennifer.A.Groman@nasa.gov, or Randall Stanley, Wallops Flight Facility Historic Preservation Officer, at (757) 824-1309 or Randall.M.Stanley@nasa.gov. Inquiries regarding the DEIS should be directed to Mr. Joshua Bundick at 757-824-2319 or at Joshua.A.Bundick@nasa.gov.

We thank you for your assistance and invite your office to comment on our determination and the forthcoming DEIS.

Respectfully,



Jennifer Groman
NASA Federal Preservation Officer

4 Enclosures:

1. APE Map
2. Background Information
3. Photographs of Sounding Rocket Items
4. Request for SHPO Section 106 Review

cc:

ACHP/Dr. T. McCullough
BLM/Mr. R. Mills
Doyon, Limited/Mr. J. Mery
Native Village of Venetie Tribal Government/Mr. C. Frank
UAF/Ms. K. Rich
USFWS/Ms. D. Corbett

A.3 ENDANGERED SPECIES ACT CORRESPONDENCE

| DATE | FROM | TO |
|-------------------|--------------------------------|--------------------------------|
| April 14, 2011 | NASA | U.S. Fish and Wildlife Service |
| May 23, 2011 | U.S. Fish and Wildlife Service | NASA |
| September 6, 2011 | NASA | NOAA Fisheries Service |
| September 6, 2011 | NOAA Fisheries Service | NASA |
| August 2, 2012 | U.S. Fish and Wildlife Service | NASA |

National Aeronautics and
Space Administration

**Goddard Space Flight Center
Wallops Flight Facility
Wallops Island, VA 23337**



Reply to Attn of: 250.W

April 14, 2011

Ted Swem
Branch Chief
Fairbanks Fish & Wildlife Field Office
U.S. Fish & Wildlife Service
101 12th Avenue, Room 110
Fairbanks, AK 99701

Dear Sir or Madam:

I am writing to you regarding the continued operations of the National Aeronautics and Space Administration's (NASA) Sounding Rockets Program (SRP) at the University of Alaska Fairbanks' (UAF) Poker Flat Research Range (PFRR) near Fairbanks, Alaska. In September 2010, we requested input for an Environmental Assessment (EA) that we were preparing. After considering the comments provided by members of the public during the scoping process, we have now decided to prepare an Environmental Impact Statement (EIS). The EIS will evaluate the effects of NASA's continued operations at PFRR and will support the decision-making process for the U.S. Fish and Wildlife Service's (USFWS's) and the Bureau of Land Management's (BLM's) proposed issuance of permits for rocket impact and recovery at Arctic and Yukon Flats National Wildlife Refuges and the Steese National Conservation Area and White Mountain National Recreation Area, respectively.

Owned and operated by UAF since 1968, the PFRR is a launch facility for sounding rockets, which carry scientific instruments into regions of the upper atmosphere and space that are inaccessible by other commonly used observation methods (e.g., satellites and balloons). The PFRR is located northeast of the unincorporated village of Chatanika, Alaska and consists of approximately 5,200 acres of land that house rocket and support facilities, launch pads, and tracking infrastructure. The primary types of missions conducted by NASA at PFRR are in partnership with university scientists who study the earth's atmosphere and its interaction with the space environment.

Pursuant to the National Environmental Policy Act (NEPA), the EIS will consider a range of alternatives that meet NASA's needs for obtaining the requisite earth and space science data afforded by high-latitude sounding rocket launches in support of its science and educational missions. Alternatives currently being considered for evaluation in the EIS include:

- Continuing the SRP in its present form and at the current level of effort;
- Continuing SRP launches from PFRR within the existing flight zones with differing requirements for identification and recovery of spent stages and payloads;

- Modifying the trajectories of the existing flight zones; and
- Conducting a subset of launches at other high-latitude launch sites, thereby avoiding the federally-managed lands.

The No Action Alternative is to discontinue sounding rocket launches from PFRR.

The EIS will analyze the effects of the alternatives on all applicable environmental media, including airspace, noise, safety, biological resources, socioeconomics, transportation, cultural resources, water resources, wetlands, air quality, land use, hazardous materials, recreation and visual resources, environmental justice, subsistence, and cumulative impacts. NASA anticipates that the areas of most interest to the public will be: the effects of rocket and payload landing and recovery on special interest lands (including Wilderness Areas and Wild Rivers), considerations to ensure public safety during rocket flight, and potential effects on subsistence uses on lands within the flight zones. Public and agency scoping may identify other environmental resources for consideration in the EIS.

With this correspondence, NASA would like to inquire as to whether USFWS believes there may be any species listed under the Endangered Species Act (ESA) of 1973 potentially within the general action area (see enclosed map of the PFRR flight corridors). Any assistance you could provide in identifying concerns you may have about the potential effects of the proposed action on listed species would be appreciated.

As the project proponent, NASA is serving as the lead agency for NEPA and ESA consultation with the USFWS. The U.S. Department of the Interior's BLM and USFWS would undertake connected actions and are participating in NASA's NEPA process and ESA consultation. The effects of their actions will be considered in all project-related environmental documentation, including the EIS and any biological assessments or evaluations. As such, please include all three agencies in future ESA-related correspondence regarding NASA's SRP at PFRR.

The enclosed documents provide more detailed information regarding the PFRR and the history behind the EIS. Additionally, I encourage you to visit the project's website on a regular basis for the most up-to-date information about the project. The website's address is http://sites.wff.nasa.gov/code250/pfrr_eis.html.

In scoping the EIS, we are also requesting input from other agencies and the public regarding potential environmental concerns or project alternatives such that it can be considered in preparing the Draft document. As a part of this effort, we will be holding public meetings to provide further information and gather input from the public. The scoping meeting locations and dates identified at this time are shown below and on the enclosed flyer.

- Thursday, April 28, 1:00 to 3:00 p.m., at the Fort Yukon Tribal Hall, 3rd and Alder Street, in Fort Yukon, Alaska*
- Monday, May 2, 2:00 to 4:00 p.m., at the University of Alaska Fairbanks, William R. Wood Campus Center, 505 S. Chandalar Drive in Fairbanks, Alaska.
- Monday, May 2, 6:00 to 8:00 p.m. at Pioneer Park, Blue Room, 3rd Floor, 2300 Airport Way, in Fairbanks, Alaska.

- Tuesday, May 3, 2:00 to 4:00 p.m. and 6:00 to 8:00 p.m. at the U.S. Fish and Wildlife Service Alaska Regional Office, Gordon Watson Conference Room, 1011 East Tudor Road, in Anchorage, Alaska.

**Please note that the Fort Yukon meeting, originally scheduled for Friday, April 29, 2011, as indicated on the enclosed Federal Register notice, has been rescheduled for the date shown above due to conflicts that were not anticipated at the time the notice was published.*

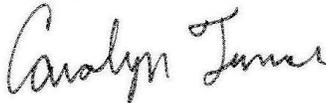
Each scoping meeting will begin with an open house where the public will have the opportunity to interact with members of the project team through one-on-one discussions. Approximately 30 minutes into the open house, NASA will provide an overview of the NEPA process and current PFRR operations. Following the presentations, public comments may be provided. During this time, all oral comments and questions will be recorded for consideration in preparing the Draft EIS. If you require special assistance to attend the meetings, please contact Joshua Bundick at the address below at least two (2) business days prior to the meeting. As an additional effort to inform the public of these meetings, we request your assistance in posting the enclosed flyer in a visible place within your community.

Comments may also be submitted by email, mail, phone, or fax, and will be accepted throughout the entire Draft EIS analysis process. However, for full early consideration and to best help shape and refine the proposal, please submit comments by June 1, 2011 to:

Joshua Bundick
Manager, Poker Flat Research Range EIS
NASA Goddard Space Flight Center's Wallops Flight Facility
Wallops Island, VA 23337
Phone: (757) 824-2319
Fax: (757) 824-1819
Email: Joshua.A.Bundick@nasa.gov

If you have any specific questions regarding the ESA process, please contact Mr. Joel Mitchell, our Natural Resources Program Manager, at (757) 824-1127 or at Joel.T.Mitchell@nasa.gov. Inquiries regarding the EIS should be directed to Mr. Bundick at the above address. On behalf of the entire EIS team, I would like to thank you for your interest in this project. We look forward to working with you.

Sincerely,



Carolyn Turner
Associate Chief, Medical and Environmental Management Division

3 Enclosures:

1. *Federal Register* Notice
2. PFRR Flight Zone Map
3. Scoping Meeting Notification Flyer



United States Department of the Interior

U.S. FISH AND WILDLIFE SERVICE
Fairbanks Fish and Wildlife Field Office
101 12th Avenue, Room 110
Fairbanks, Alaska 99701
May 23, 2011



Carolyn Turner
Associate Chief, Medical and Environmental Management Division
National Aeronautics and Space Administration
Goddard Space Flight Center
Wallops Flight Facility
Wallops Island, VA 23337

Re: Species listed under the Endangered Species Act within the Poker Flats Research Range Launch Corridor

Dear Ms. Turner:

Thank you for your letter dated April 14, 2011 requesting information on threatened and endangered species pursuant to section 7 of the Endangered Species Act of 1973, as amended (ESA). Based on your letter, we understand you are preparing an Environmental Impact Statement (EIS) to evaluate the effects of the National Aeronautics and Space Administration (NASA) Sounding Rockets Program's continued operations at the University of Alaska Fairbanks' Poker Flat Research Range (PFRR) near Fairbanks, Alaska. The EIS will also support U.S. Fish and Wildlife Service's (USFWS) and the Bureau of Land Management's (BLM) proposed issuance of permits for rocket impact and recovery at Arctic and Yukon Flats National Wildlife Refuges (NWR) and the Steese National Conservation Area and White Mountains National Recreation Area. The USFWS and BLM will serve as Cooperating Agencies in the preparation of the EIS.

Threatened Species

The U.S. Fish and Wildlife Service (USFWS) has reviewed the PFRR Flight Corridor map enclosed with your letter and has determined three species listed as threatened under the Act may occur in the northernmost portion of the Arctic NWR: spectacled eiders (*Somateria fischeri*), Alaska-breeding Steller's eiders (*Polysticta stelleri*), and polar bears (*Ursus maritimus*). Spectacled eiders nest in very low densities on the Arctic Coastal Plain within Arctic NWR. Although Steller's eiders historically nested in this area as well, they have not been observed in recent decades. Polar bears occupy sea ice and terrestrial habitats within Arctic NWR. For the purposes of Section 7 consultation, we assume polar bears may occur up to 25 miles inland from the Beaufort Sea coast. We also recommend contacting Craig Perham (907-786-3810; craig_perham@fws.gov) with the USFWS Alaska Region Marine Mammal Management Division to address potential effects to polar bears under the Marine Mammal Protection Act.

Designated critical habitat

The portion of the flight corridor that includes the Beaufort Sea and land within 20 miles (32 km) inland from the Beaufort Sea coast overlaps polar bear critical habitat. Please see detailed critical habitat maps or shapefiles provided at the USFWS Alaska Region Marine Mammal Management polar bear critical habitat website¹ for additional information on the extent of polar bear critical habitat within the action area.

Candidate species

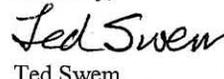
Yellow-billed loons (*Gavia adamsii*) breed at low densities within Arctic NWR and may also migrate through the region.

No listed species or designated critical habitats occur in Yukon Flats National Wildlife Refuges, the Steese National Conservation Area, or the White Mountains National Recreation Area.

This letter applies only to endangered and threatened species under USFWS jurisdiction.

Thank you for your cooperation in meeting our joint responsibilities under the Act. If you need further assistance, please contact Denise Walther at (907) 456-0277.

Sincerely,



Ted Swem
Branch Chief
Endangered Species

cc via e-mail:

Joel Mitchell, NASA
Joshua Bundick, NASA
Winona Brown, Yukon Flats NWR
Ann Marie Larosa, Arctic NWR
Lenore Heppler, BLM

¹ http://alaska.fws.gov/fisheries/mmm/polarbear/esa.htm#critical_habitat

National Aeronautics and
Space Administration
Goddard Space Flight Center
Wallops Flight Facility
Wallops Island, VA 23337



Reply to Attn of: 250.W

September 6, 2011

Mr. Brad Smith
Field Office Supervisor
National Marine Fisheries Service
Protected Resources Division
222 West 7th Avenue, #43
Anchorage, AK 99513-7577

Dear Mr. Smith:

On April 14, 2011, we wrote to you regarding the continued operations of the National Aeronautics and Space Administration's (NASA) Sounding Rockets Program (SRP) at the University of Alaska Fairbanks' (UAF) Poker Flat Research Range (PFRR) near Fairbanks, Alaska.

With this correspondence NASA would like to inquire as to whether the National Marine Fisheries Service (NMFS) believes there may be any species listed under the Endangered Species Act (ESA) of 1973 potentially within the general action area (see enclosed map of the PFRR flight corridors). Any assistance you could provide in identifying concerns you may have about the potential effects of the proposed action on listed species would be appreciated.

As the project proponent, NASA is serving as the lead agency for preparing the National Environmental Policy Act (NEPA) documentation and will also assume this role during any ESA consultation with the NMFS. The U.S. Department of the Interior's Bureau of Land Management (BLM) and U.S. Fish and Wildlife Service (USFWS) would undertake connected actions and accordingly are participating in NASA's NEPA process and ESA consultation. The effects of their actions will be considered in all project-related environmental documentation, including the Environmental Impact Statement (EIS) and any biological assessments or evaluations. As such, please include all three agencies in future ESA-related correspondence regarding NASA's SRP at PFRR.

The enclosed document provides more detailed information regarding the PFRR and the history behind the EIS. Additionally, I encourage you to visit the project's website on a regular basis for the most up-to-date information about the project. The website's address is http://sites.wff.nasa.gov/code250/pfrr_eis.html.

We respectfully request the courtesy of a reply within 30 days of receiving this letter. If you have any specific questions regarding the ESA process, please contact Mr. Joel Mitchell, our Natural Resources Program Manager, at (757) 824-1127 or at Joel.T.Mitchell@nasa.gov.

Inquiries regarding the EIS should be directed to Mr. Joshua Bundick at (757) 824-2319 or at Joshua.A.Bundick@nasa.gov.

On behalf of the entire EIS team, I would like to thank you for your interest in this project. We look forward to working with you.

Sincerely,

A handwritten signature in cursive script that reads "Carolyn Turner".

Carolyn Turner
Associate Chief, Medical and Environmental Management Division

2 Enclosures:

1. *Federal Register* Notice
2. PFRR Flight Zone Map

From: [Brad Smith](#)
To: [Bundick, Joshua A. \(WFF-2500\)](#);
Subject: Re: PFRR Section 7
Date: Tuesday, September 06, 2011 5:02:32 PM

Hi Joshua, thanks for this background material. It appears that portions of the launch corridor for the Poker Flats facility would extend over the Beaufort Sea. I could not tell whether the action includes azimuths that might involve the Chukchi Sea as well. For purposes of consultation under the ESA, the endangered bowhead whale occurs in both these waters, while the endangered humpback and fin whales are recorded within the Chukchi, but not the Beaufort. No critical habitat for any of these species occurs in or near this region. Additionally, NMFS has proposed to list the ringed and bearded seals as threatened (<http://www.fakr.noaa.gov/prules/75fr77496.pdf>).

Please contact me regarding any ESA consultation for this project, my desk number is 907-271-3023.

On 9/6/2011 10:56 AM, Bundick, Joshua A. (WFF-2500) wrote:

Hi Brad, it was nice speaking with you earlier today.

As we discussed, I have attached our April 2011 scoping letter (with incorrect address, but FYI) and September 2011 Section 7 tech info/species list request letter. I apologize for having sent the letter to the wrong address—that should explain why we hadn't heard anything from you..! Where both letters share the same attachments, I have just provided one "package" of attachments for you. I did not send the scoping meeting announcement flyer for obvious reasons....

Please take a look at the information, and let me know if you have any questions. We look forward to working with your office on this project.

Best,

Josh

Joshua Bundick

Lead, Environmental Planning

NASA Wallops Flight Facility

Wallops Island, VA 23337

Office: (757) 824-2319

Fax: (757) 824-1819

Joshua.A.Bundick@nasa.gov

--

Brad K. Smith
Protected Resources Div.
Anchorage
(907) 271-3023
Brad.Smith@noaa.gov



United States Department of the Interior

U.S. FISH AND WILDLIFE SERVICE
Fairbanks Fish and Wildlife Field Office
101 12th Avenue, Room 110
Fairbanks, Alaska 99701



August 2, 2012

Joshua Bundick
Lead, Environmental Planning
NASA Wallops Flight Facility
Wallops Island, VA 23337

Re: section 7 consultation under the Endangered Species Act within the Poker Flats Research Range Launch Corridor

Dear Mr. Bundick:

This memorandum is in response to your July 24, 2012 request for concurrence for effects of the National Aeronautics and Space Administration (NASA) Sounding Rockets Program on endangered and threatened species, and critical habitats pursuant to Section 7 of the Endangered Species Act of 1973, as amended (ESA). NASA analyzed effects of the proposed action on three listed species, Steller's eiders (*Polysticta stelleri*), spectacled eiders (*Somateria fischeri*), and the polar bear (*Ursus maritimus*), and one candidate species, the yellow-billed loon (*Gavia adamsii*). The analysis also included an evaluation of the effects of the proposed action on polar bear critical habitat. NASA determined that the proposed action would have no effect on the avian species because of a lack of spatial overlap between these species and project effects, and we concur with this determination. Thus, the proposed action may only affect the polar bear and its critical habitat.

THE PROPOSED ACTION

Based on the biological assessment, we understand NASA's Sounding Rockets Program plans to continue operations at the University of Alaska Fairbanks' Poker Flat Research Range (PFRR) near Fairbanks, Alaska. Federal actions undertaken by the Bureau of Land Management (BLM) and the U.S. Fish and Wildlife Service (USFWS) are also considered in this consultation. These agencies manage lands within the eastern Interior of Alaska and issue authorizations to UAF (on NASA's behalf) for sounding rocket launches; specifically, BLM manages the Steese National Conservation Area and White Mountains National Recreation Area under the Federal Land Policy and Management Act of 1976, as amended; USFWS manages Arctic and Yukon Flats National Wildlife Refuges in accordance with its responsibilities under the National Wildlife Refuge System Administration Act of 1966, as amended.

Program activities

Although the Sounding Rockets program is proposed to continue indefinitely, this consultation considers effects for the next 10 years, the temporal boundary NASA selected for cumulative effects analysis in a forthcoming Environmental Impact Statement for its operations at PFRR.

NASA plans to continue launching two to four, but no more than eight multi-stage suborbital sounding rockets annually from PFRR near Fairbanks, Alaska. NASA expects no more than 4 Beaufort Sea-impacting rockets would be launched in a given year. If more than four rockets are launched in a given year, NASA expects that the remaining rockets would be of shorter-range configurations and would land well inshore (about 200 km) of the Beaufort Sea; thus, they would not affect listed species. The launches could occur across eight days or concentrated into two or three days. Launches are expected to occur during winter; however, a few non-winter launches could occur. If a non-winter launch were to be proposed, NASA would re-initiate Section 7 consultation at that time.

Description of sounding rockets

The rockets that could affect listed species or critical habitat are the Black Brant-class (or equivalent) vehicles, which employ either three or four rocket motors. NASA sounding rockets consist of one to four solid-propellant rocket motors staged in series. All rocket motors launched by NASA at PFRR would be spin-stabilized, unguided, and solid fueled. Propellants typically include ammonium perchlorate and aluminum or nitrocellulose and nitroglycerine.

Atop the motors are payloads (Figure 1). Payloads could be made of aluminum, steel, magnesium, other lightweight metals, or occasionally composites such as fiberglass or graphite/epoxy. Internal components consist mainly of electronic subsystems, batteries, pressure systems (pressure vessels, tubing, regulators, valves, etc.), and sensors and instruments such as magnetometers, optical devices, and antennas.

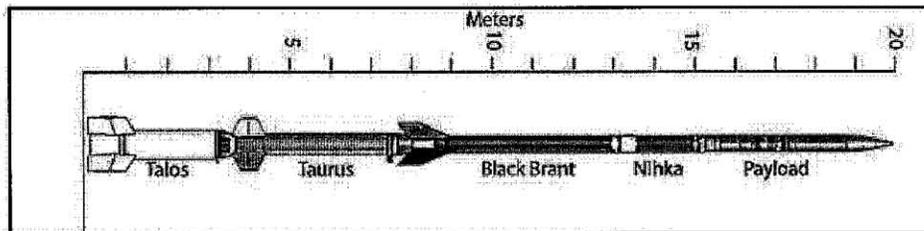


Figure 1. Black Brant XII sounding rocket. Other similar rockets within the Black Brant class of rocket could also be deployed.

Re-entry

Because NASA sounding rockets are suborbital, their upper motors or payloads do not enter an Earth orbit; rather, they return to Earth along parabolic trajectories. All metallic and other solid heavier-than-air objects that are propelled into the atmosphere by sounding rockets would land back on Earth. The objects include spent rocket motors, payloads; nose cone doors (released in flight for instruments to “see” their targets), and spin weights, which were released to change rotation of a rocket stage of a launch. It is expected that extreme re-entry dynamics would result in deployed booms and detectors being separated from their primary structures. However, the primary structures without aluminum skin sections would survive until impact. It is likely that these structures would undergo sufficient deformation such that they, along with any components

housed in these locations, would be dispersed around the impact point. It is possible that batteries could be located in these exposed assemblies, but this is not the typical case. Electronic boards, wiring, connectors and other small components are likely to be numerous in the debris field. Spent motors and enclosed portions of payloads would experience significant damage but are not likely to break apart to the extent that internal elements would be significantly exposed (e.g. residual propellant, telemetry components such as batteries, etc.).

THE ACTION AREA

The action area includes the land, water, and airspace within areas of northern Alaska and the Beaufort Sea as represented in Figure 2.

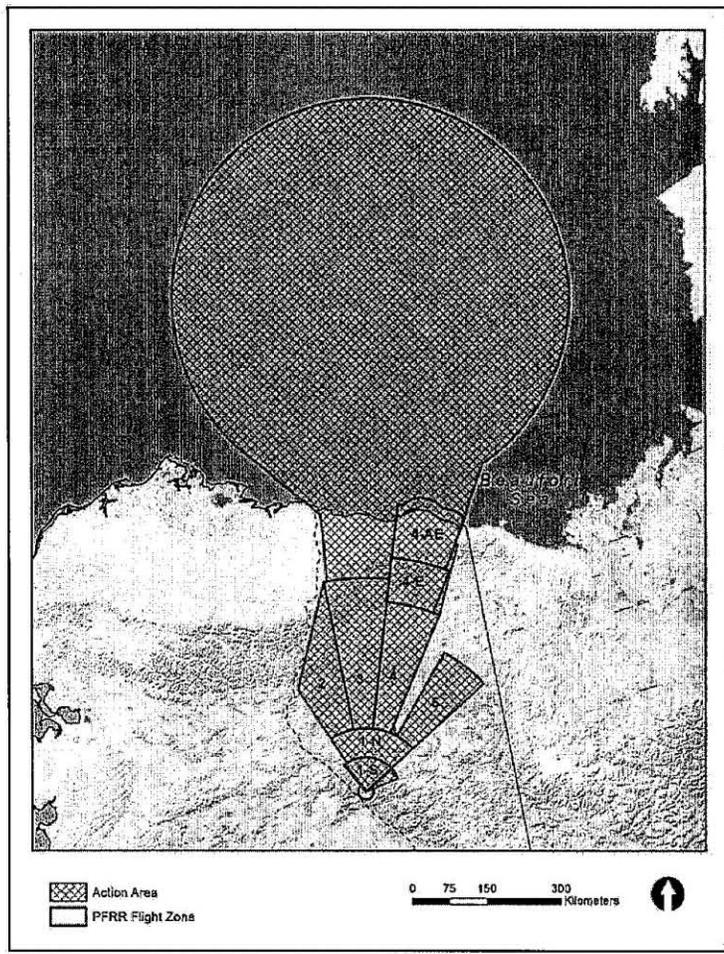


Figure 2. The action area for rockets launched by NASA from PFRR.

EFFECTS OF THE ACTION

Polar bear

On May 15, 2008, the polar bear was listed as threatened (73 FR 28212). Polar bears would likely be foraging, transiting, and denning in the action area, especially on barrier islands or on sea ice near shore. Polar bears also den in terrestrial areas of the action area. Potential impacts on polar bears from launch operations would be associated with re-entering debris landing within their habitat. Typically, debris would land far offshore in the Beaufort Sea or Arctic Ocean, but there is a small chance that they could land closer to shore in areas frequented by polar bears.

A potential concern for effects to polar bears could be flight debris-related injury, as polar bears are curious animals that typically investigate objects or smells that catch their attention (Stirling 1988). Polar bears have been observed to ingest a wide range of indigestible and hazardous materials and to feed at dumps (Clarkson and Stirling 1994). Instances of polar bear injury related to human made materials (e.g., pieces of a lead battery, ethylene glycol antifreeze) have been documented (Amstrup et al. 1989). However, these have been in unnatural settings (including roadsides treated with antifreeze and dye and the Churchill, Manitoba, municipal landfill) that are much different from the habitat within the PFRR flight corridor. The dump example involved individual bears habituated to finding supplemental food in landfills (Lunn and Stirling 1985).

Debris that lands on sea ice would be unlikely to harm a polar bear in the event one was to encounter it; additionally, polar bears are unlikely to encounter debris given the size of the action area and the relatively small debris field created by a rocket returning to earth. The item is expected to rapidly become covered by ice or drifting snow, essentially making it inaccessible to polar bears. As the ice melts the rocket hardware would subsequently sink into the ocean. If debris landed on multi-year sea ice, the chance that a polar bear would encounter it would be extremely low because polar bears usually use sea ice closer to shore where ice seals, their main prey, are more common. Additionally, the chance that rocket debris would hit a polar bear is very unlikely; thus, we expect effects from falling debris on bears to be discountable.

Assuming four launches per year, the maximum number of items that would enter the Beaufort Sea annually would be four payloads and up to four spent motors (from the final stage). Typical water depths within these areas would be at least 300 m. As discussed earlier, payloads and spent stages that enter the marine environment would sink. Unrecovered payloads contain materials (e.g., batteries) that would result in limited and localized contamination as the materials enter the aquatic environment. Considering the limited number of launches per year, the relatively small size and wide spatial dispersion of debris and its largely inert or non-reactive nature, we anticipate insignificant effects on polar bears.

The probability of a piece of flight hardware landing on a polar bear den was also estimated using information on known polar bear dens in the area. The chance that one of these launches directly impacting a polar bear den is less than one chance in 21 million (4.6×10^{-8}). Thus, we anticipate insignificant effects of polar bears denning in the action area.

Polar bears may hear the sounds generated by debris reentry; however, it is reasonable to conclude that such effects would be temporary, minor, and similar to other natural sounds in

their marine environment, such as the sounds of ice cracking, popping, and colliding (Greening and Zakarauskas 1994; Milne 1972; Milne and Ganton 1964; Xie and Farmer 1991). Therefore, effects of sound generated from rocket debris re-entry would be insignificant.

Polar bear critical habitat

The Service designated critical habitat for polar bears on November 24, 2010 (75 FR 76086). The Action Area overlaps with the three units of designated polar bear critical habitat: sea ice, terrestrial denning, and barrier islands (Figure 3). Typically, debris would land far offshore in the Beaufort Sea or Arctic Ocean; but, a small chance exists that debris could land in one of the critical habitat units. Critical denning habitat would not typically be affected by these launches as it is outside the normal debris fallout area. The chance that debris would typically impact the sea ice critical habitat unit is less than one chance in 150 (6.6×10^{-3}). While not calculated, the chance of rocket debris impacting barrier island critical habitat is also extremely low. Table 1 shows the probability of a typical spent rocket motor or payload landing within sea ice (feeding) and terrestrial denning polar bear critical habitat. Additionally, assuming an average sea ice thickness of 1 meter (Kwok and Rothrock 2009), it is highly unlikely that re-entry would result in a penetration depth that would exceed the average ice thickness. Payloads and spent motors would likely impact the ice and undergo elastic and plastic deformation while creating an impact crater but would not pierce the ice and immediately sink into the water (Wilcox 2012). Given the extremely low probability of rocket debris landing within and permanently occupying polar bear critical habitat, and the minor effects to sea ice's physical feature if debris did impact sea ice, we anticipate effects on critical habitat to be discountable and insignificant.

Table 1. Probability of impact on polar bear critical habitat and dens

| Distance from the PFRR Launch Site (kilometers) | Polar Bear Critical Habitat | Potential Impact Ellipse (square kilometers) | Amount of Polar Bear Critical Habitat Within Ellipse (square kilometers) | Probability of a Spent Stage or Payload Landing in Polar Bear Critical Habitat |
|---|---|--|--|--|
| 1,000 | Feeding habitat | 503,375 | 14,964 | 6.6×10^{-3} |
| 1,000 | Denning habitat | 503,375 | 0 | 0 |
| 1,000 | Polar bear dens within potential impact area ^a | 503,375 | 0.022 | 4.6×10^{-8} |

^a. An estimated 69 known polar bear dens could be within the area potentially impacted by a typical National Aeronautics and Space Administration launch into the Beaufort Sea (Based on information from Amstrup and Gardner 1994) based on information collected over the years by the National Oceanic and Atmospheric Administration. Assuming each den covers an area of approximately 3 square meters (30 square feet) (Stirling 1988); this analysis assumes a safety zone within a 10-meter (33-foot) radius of the den. The potential area of disturbance around a polar bear den that could result in either damage to the den or injury or death to the polar bear is estimated to be approximately 315 square meters (380 square yards) per den, or 0.022 square kilometers (0.0085 square miles) for 69 dens.

Note: To convert kilometers to miles, multiply by 0.62137; square kilometers to square miles, by 0.38610.

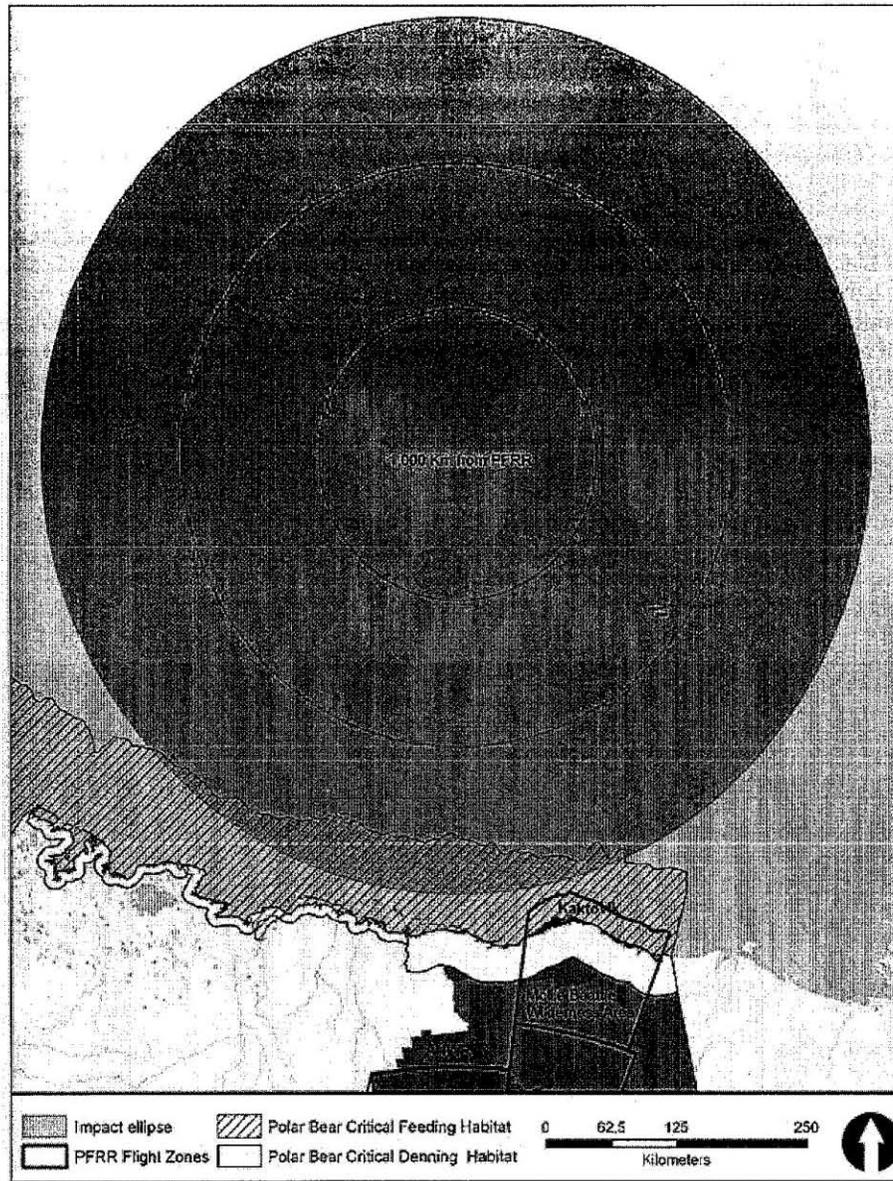


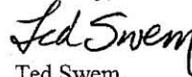
Figure 3. Overlap of the Action Area (impact ellipse and PFRR flight zones) and polar bear critical habitat.

Summary

While the proposed action may affect polar bears, potential effects would be discountable and insignificant. Likewise, the proposed action would have only insignificant and discountable effects on polar bear critical habitat. The Service therefore concurs that that the proposed action is not likely to adversely affect polar bears and designated critical habitat. We also concur that that the proposed action has no effect on listed eiders and is not likely to jeopardize the continued existence of yellow-billed loons.

Thank you for your cooperation in meeting our joint responsibilities under the ESA. If you need further assistance, please contact Shannon Torrence at (907) 455-1871.

Sincerely,



Ted Swem
Branch Chief
Endangered Species

Cc:

Mark Bertram, Yukon Flats NWR
Ann Marie Larosa, Arctic NWR
Lenore Heppler, BLM

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