Draft Compatibility Determination

Draft Compatibility Determination for Right-of-Way permit for Installation and Maintenance of Microwave Repeater Tower

Refuge Use Category

Rights-of-way and Rights to Access

Refuge Use Type(s)

Rights-of-way (utility)

Refuge

Arctic National Wildlife Refuge

Refuge Purpose(s) and Establishing and Acquisition Authority(ies)

Section 303(2)(B) of ANILCA set forth the following purposes for Arctic Refuge.

"to conserve fish and wildlife populations and habitats in their natural diversity including, but not limited to, the Porcupine caribou herd (including participation in coordinated ecological studies and management of this herd and the Western Arctic caribou herd), polar bears, grizzly bears, muskox, Dall sheep, wolves, wolverines, snow geese, peregrine falcons and other migratory birds and Arctic char and grayling;"

"to fulfill the international treaty obligations of the United States with respect to fish and wildlife and their habitats;"

"to provide, in a manner consistent with the purposes set forth in subparagraphs (i) and (ii), the opportunity for continued subsistence uses by local residents; and"

"to ensure, to the maximum extent practicable and in a manner consistent with the purposes set forth in paragraph (i), water quality and necessary water quantity within the Refuge."

In 2017, the Tax Cuts and Jobs Act (Pub. L. 115–97; Stat. 2236) amended these ANILCA purposes by adding:

"to provide for an oil and gas program on the Coastal Plain."

Public Land Order 2214 established the original Arctic National Wildlife Range "for

the purpose of preserving unique wildlife, wilderness and recreational values…." These pre-ANILCA purposes apply only to those lands and waters in the original Range, and they remain in force and effect only to the extent they are not inconsistent with ANILCA or the Alaska Native Claims Settlement Act (ANILCA Section 305; 603 FW 2.8).

ANILCA Section 702(3) designated 7.16 million acres, most of the original Range, as Wilderness. Section 102(13) of the act clarifies the term "wilderness" has "the same meaning as when used in the Wilderness Act." The purposes of the Wilderness Act are additional purposes of the designated Wilderness portion of the Refuge. The purposes of the Wilderness Act are to: "Secure an enduring resource of wilderness; protect and preserve the wilderness character of areas within the National Wilderness Preservation System (NWPS); administer the NWPS for the use and enjoyment of the American people in a way that will leave these areas unimpaired for future use and enjoyment as wilderness; and gather and disseminate information regarding the use and enjoyment of wilderness areas."

ANILCA Sections 602(39)(42)(43) and 605(a) designated those portions of the Ivishak, Sheenjek, and Wind rivers within the boundaries of the Refuge as wild rivers pursuant to the Wild and Scenic Rivers Act, as amended by ANILCA Section 606. The purposes of the Wild and Scenic Rivers Act (1968) are to ensure: "certain selected rivers of the Nation which, with their immediate environments, possess outstandingly remarkable scenic, recreational, geologic, fish and wildlife, historic, cultural or other similar values, shall be preserved in free-flowing condition, and that they and their immediate environments shall be protected for the benefit and enjoyment of present and future generations."

National Wildlife Refuge System Mission

The mission of the National Wildlife Refuge System, otherwise known as Refuge System, is to administer a national network of lands and waters for the conservation, management, and where appropriate, restoration of the fish, wildlife, and plant resources and their habitats within the United States for the benefit of present and future generations of Americans (Pub. L. 105-57; 111 Stat. 1252).

Description of Use

Is this an existing use?

No.

What is the use?

A 20-year Right-of-Way (utility) Permit. The right to use and possibly alter the landscape through construction, maintenance, and operation of a single

telecommunications tower.

The U.S. Department of Agriculture Rural Utilities Service granted funding to the Arctic Slope Telephone Association Cooperative (ASTAC) to provide broadband internet service to Kaktovik. On November 3, 2022, ASTAC submitted an application to the U.S. Fish & Wildlife Service (USFWS) Alaska Region Realty Division for a Right-of-way (utility) transportation or utility systems (TUS) permit to construct and maintain a 360-foot, free-standing microwave tower on Arctic National Wildlife Refuge lands near Collinson Point in Simpson Cove.

A new right-of-way for a TUS across Refuge lands will be granted if the system is found to be compatible with Refuge purposes and meets the criteria outlined in Section 1104(g)(2) of ANILCA and the regulations at 43 CFR 36.7(a)(2), which includes a determination of whether there is any economically feasible and prudent alternative to routing the system through or in a Refuge. If approved, permits issued for a TUS will contain terms and conditions as required under regulations at 43 CFR 36.9(b) and 50 CFR 29.21 through 29.24. We are able to issue Right-of-Way (ROW) permits for up to a 50-year term per 50 CFR 29.21-3(a), however, typically we authorize permits for a 20-year term with the option for renewal.

Is the use a priority public use?

No. This is not a use of a national wildlife refuge involving hunting, fishing, wildlife observation and photography, or environmental education and interpretation. The National Wildlife Refuge System Administration Act of 1966 (16 U.S.C. 668dd-668ee) specifies that these are the six priority general public uses of the National Wildlife Refuge System.

Where would the use be conducted?

The information in sections ‘Where would the use be conducted?’, ‘When would the use be conducted?’, and ‘How would the use be conducted?’ is directly from, or interpreted from, the application ASTAC submitted.

The proposed tower location is N069.974722, W144.835833 on lands administered by the USFWS and proposed as designated wilderness. This proposed location is a remediated Distant Early Warning (DEW) Line site, and although the site is disturbed and a gravel pad remains, the site is managed as Refuge land in the same manner as lands and waters surrounding it.

Vehicles would be required to travel overland during construction to move equipment approximately 250 feet between the barge landing site and proposed tower location.

Approximately 40 cubic yards of drill spoils from pile installation would be spread across the existing gravel pad above the high-water mark. The applicant did not specify the total area affected.

In addition, the applicant states that maintenance activities would occur by barge to the extent practicable, which would include the use of a tracked skid-steer to transport fuel from the barge landing site to the fuel tanks. However, they also state that maintenance may also require vehicles to travel overland or via shore-fast ice, by helicopter, small vessel or landing craft, or snow machine. The applicant did not specify the total area potentially affected.

When would the use be conducted?

Construction would take place over two years. In year one of construction, employees would be onsite for one month between August 1st and September 30th. In year two, employees would be onsite for two months between July 15th and September 30th.

Tower and support structure maintenance would occur on an as-needed basis. Refueling of tanks for generators would occur annually, requiring vehicles to travel overland each year. The applicant states these would occur during the summer to the extent practical, but may also happen at other times of year, including during periods of snow cover to accommodate overland travel by snow machine.

The infrastructure associated with this proposed use would be present for the life of the tower, which was not defined by the applicant, but it would likely be for at least 20 years.

How would the use be conducted?

ASTAC proposes to install a microwave tower within the Arctic National Wildlife Refuge, which would connect on to the community of Kaktovik. The proposed tower would be 360 feet tall, free-standing, and have a base of approximately 53 feet on all sides. Upon completion of construction, the tower and prefabricated connex shelters that would remain would require an approximate 100-foot x 100-foot gravel pad. As determined by Aeronautical Study No. 2021-AAL-359-OE, the lighting requirement by the Federal Aviation Administration is a dual system consisting of red obstruction lights (L-864) for nighttime and medium-intensity at 200 feet, and flashing white beacon lights (L-865) for daytime and twilight use at 360 feet.

Installation of the tower would include two 10-foot x 20-foot prefabricated connex shelters, one for communications equipment and one for power generation and emergency use. The shelters would allow for unmanned operation of the tower. The modules would also include two 4,500-gallon diesel generators in secondary containment. The modules would be installed adjacent to the tower, with connection

to the tower via fiber optic cable tray approximately 10-12 feet above ground surface. In total, the tower and prefabricated connex shelters would require an approximate 100-foot x 100-foot gravel pad.

During construction, two additional spaces of approximately 100-foot x 100-foot each would be required for staging equipment and to contain camp trailers to house construction personnel. Including the tower site, staging area, and camp trailers, the anticipated activity footprint during construction would be at least 0.75 acres.

Construction would take place over two years. Barge access to the site within Refuge marine waters would be required. The barge landing area would include approximately 0.25 acres of coastline adjacent to the proposed tower location (see Figure 1). The first summer, a barge would deliver a tracked auger drill for foundation installation, the tower foundation and pilings, two connex camp trailers, and other equipment and supplies needed for one month of construction. From the barge landing, equipment would be transported along a gravel corridor approximately 250 feet to the tower site. A tracked auger drill for foundation installation would be moved along the route. In addition, other equipment and supplies (e.g., crane, pilings, connex trailers, tower sections, and diesel generators) would be moved along this route by unspecified means. The width of the proposed overland travel route was not provided by the applicant. The drill would be used to install four, 30-inch diameter piles, approximately 50 feet in depth. The pilings would provide a base for tower foundation. Pile installation would result in approximately 40 cubic yards of drill spoils. Drill spoils may contain bentonite clay. Drill spoils would be spread thinly across the existing gravel pad above the high-water mark.

An anticipated seven employees would be onsite for one month between August 1st and September 30th. Employees would be restricted to the gravel pad and barge landing while onsite. The camp would consist of two, 20-foot connexes. The camp would be powered with a temporary generator and include a 100-gallon diesel tank. Water would be brought in from Deadhorse. Waste collected onsite, including food waste, would be stored indoors until it could be removed via barge and brought to the Deadhorse landfill.

Wastewater would either be discharged onsite, or alternatively, collected and brought back to Deadhorse for discharge at an approved location, such as the wastewater treatment plant. Noise levels would increase temporarily during summer construction seasons. Generators are anticipated to be approximately 75 decibels (dB), however they would be operating inside of a pre-fabricated connex, which is anticipated to reduce noise to 60 dB at the generator site.

Approximately one re-supply trip would be required per week to deliver food and remove waste. An anticipated five barge trips would be expected during the first

summer. Upon completion of the first summer season, the drill would be demobilized off site, as well as other equipment no longer needed. The camp and portions of the tower would remain onsite through the winter. All stored items would be manifested and secured to minimize water collection areas, reduce safety hazards, and remove wildlife attractants.

During the second summer construction season, ASTAC would mobilize a 180-foot-tall crane, the prefabricated connex shelters, and the diesel generators to the site via barge. Work to be completed the second season would include tower assembly, setting modules, and installing generators. To complete this work, an anticipated seven employees would be onsite for two months between July 15th and September 30th. To house these employees the camp would be opened and operated using the same processes as the first summer season. Approximately one re-supply trip would be required per week to deliver food and remove waste. An anticipated eight barge trips would be expected during the second summer.

Power generation would consist of two diesel-powered generators of between 6 KW and 10 KW each, fueled by two 4,500-gallon double-wall diesel fuel tanks on pilings with appropriate containment. Tanks would be mobilized to site full.

Construction support features, including items in laydown areas and the temporary camp facilities, would be removed upon completion of construction to normalize drainage and surface flow, reducing thermal impact. Upon completion of the second summer season, only items within the 100-foot x 100-foot tower area would remain, and the tower would be prepared for up to 18 months of unmanned operation.

Why is this use being proposed or reevaluated?

ASTAC has been interested in installing a microwave tower on the Coastal Plain since 2017. When a location on private land became infeasible for the company, they submitted a ROW application to FWS on November 3, 2022. ASTAC would utilize funding from the U.S. Department of Agriculture to provide broadband services for high-speed internet, data connectivity, and emergency communications for the community of Kaktovik.

On November 15, 2021, President Biden signed the Infrastructure Investment and Jobs Act (Pub. L. 117-58) into law. This Act includes a significant investment of $65 billion to help close the digital divide and ensure that all Americans have access to reliable, high speed, and affordable broadband. This investment builds upon the funding for broadband deployment provided in the American Rescue Plan, the Consolidated Appropriations Act, 2021, the Federal Communications Commission's Universal Service program, and U.S. Department of Agriculture's Rural Utilities Service broadband programs. The intent of the investment is to lay critical groundwork for widespread access and affordability of broadband, creating new jobs and economic

opportunities, providing increased access to healthcare services, enriching educational experiences of students, and improving overall quality of life for all Americans.

Availability of Resources

Each permit request will be evaluated by the Refuge Manager to determine whether the current Refuge resources are adequate to evaluate and monitor the requested permit. Oversight of this right-of-way permit would require significant staff effort before and during construction, a moderate amount of staff time would be required annually during the life of the project, and again, a significant amount of effort during decommissioning at the end of the project life. Prior to construction, staff time would be focused on site visits, evaluating specific construction plans, and working with contractors to conduct baseline surveys of the potentially affected area. Staff time during construction would include development of mitigation measures, execution of the right-of-way permit with appropriate bonding and other required documents, development and implementation of special use permits, and field monitoring to assure compliance with provisions of the operations plan and permit. Annual monitoring would focus on compliance with the operations plan and permits and adherence to mitigation measures. During the years of construction, we estimate these tasks to require the equivalent of approximately 25% of one full-time employee per year. The cost to the Service for this employee (average of a GS-12) would be $36,557 per year. We would also conduct biological impact studies before construction, during construction, and regularly within the first few years after construction. We estimate the average annual cost of the work to be approximately $20,000. Additional costs on an annual basis for aircraft, travel, and supply costs are estimated at $12,500 per year.

Upon review of the permit application a signed cost recovery agreement would be necessary prior to processing of the application because the cost to process and administer the permit is estimated to be greater than the currently established special use permit administration fee.

Anticipated Impacts of the Use

Potential impacts of a proposed use on the Refuge's purpose(s) and the Refuge System mission

This CD addresses impacts to resources related to the Refuge's purposes. It considers the proposed tower site and access to the site. Additional assessments and analyses would be required if the proposed use were to be found compatible, which may include an Environmental Assessment and/or an Environmental Impact Statement (NEPA analysis) to analyze whether the proposed action would have significant

impacts. Other future analyses could include the following: ANILCA Section 810 analysis; separate Compatibility Determinations for any activities not thoroughly described in the original TUS application; and compliance with any other applicable laws and implementing regulations, such as the Marine Mammal Protection Act, Endangered Species Act, National Wildlife Refuge System Administration Act, as amended, and ANILCA Title XI and implementing regulations at 43 CFR part 36.

Fish and Wildlife Populations and Habitats

The applicant has proposed using overland vehicle travel for construction and annual maintenance of the tower. ANILCA regulations state that the use of off-road vehicles (ORV) in locations other than established roads, parking areas, and designated routes of travel is prohibited (43 CFR 36.11(g)(1)). Permits may be issued authorizing ORV use on existing trails if such use is determined to be compatible with the purposes of the refuge (43 CFR 36.11(g)(2)). There are no designated routes of travel on Arctic Refuge and no existing trails or authorizations for ORV use in the area of the proposed use. This prohibition is in place to prevent disturbance to wildlife and habitat degradation.

Migratory Birds

Conservation of migratory birds is a specific purpose of the Refuge. The Migratory Bird Treaty Act protects all migratory birds. According to the USFWS (U. S. Fish and Wildlife Service 2015*a*), 157 bird species have been recorded in the Arctic Refuge on the northern foothills of the Brooks Range, in the Arctic Refuge Coastal Plain (ARCP), and in adjacent marine waters. Of the species known to occur in the ARCP, 12 are recognized as Bureau of Land Management sensitive species (Bureau of Land Management 2019), 11 are birds of conservation concern (U. S. Fish and Wildlife Service 2021*a*), and 45 are recognized as at-risk species by the Alaska Department of Fish and Game (2015). The Arctic Refuge Revised Comprehensive Conservation Plan (CCP) (U. S. Fish and Wildlife Service 2015*a*) provides detailed descriptions of birds on Arctic NWR and these references are incorporated into this compatibility determination by reference.

With some exceptions described below, birds in the ARCP are migratory and present May to September. The migration routes and wintering areas of bird species that breed on Arctic Refuge encompass much of the North American and South American continents and central and southern Pacific islands; some species may winter in southern Africa, Australasia, east and southeast Asia, and coastal Antarctica.

The ARCP supports a large number of birds during the pre-breeding, nesting, rearing, and migration staging periods. For these reasons, portions of the ARCP and adjacent marine waters are recognized as important bird areas by Audubon and Birdlife International. At least several hundred thousand breeding and nonbreeding birds use the ARCP during spring migration, summer breeding, and fall staging and migration

(summarized in U. S. Fish and Wildlife Service 2015*a*, Pearce et al. 2018, U. S. Fish and Wildlife Service and Bureau of Land Management 2018).

Migratory birds suffer considerable mortality from collisions with man-made structures (Manville 2005). Birds are particularly at risk of collision when visibility is impaired by inclement weather (Weir 1976, Avery et al. 1978), which is common along the Beaufort Sea coast. Birds that are attracted to tower lights and aggregate in the lighting zone circle the tower and collide with the tower, other birds, or fall to the ground from exhaustion (Erickson et al. 2005, Gauthreaux Jr and Belser 2006, Longcore et al. 2013). Anderson and Murphy (1988) monitored bird behavior and strikes to a 12.5 km power line in the Lisburn area (the southern portion of the Prudhoe Bay oil fields) during 1986 and 1987. They documented line strike mortality of 18 different species of birds. Results indicated that the strike rate was related to flight behavior, in particular the height of flight. Johnson and Richardson (1982) in their study of migratory bird behavior along the Beaufort Sea coast reported that 88% of eiders flew below an estimated altitude of 10 m (32 ft) and well over half flew below 5 m (16 ft). This tendency for some species to fly low along coastal areas of northern Alaska puts migratory birds at risk of striking even relatively low objects in their path.

Migratory birds are most at risk of collision with structures in nesting habitat and during migration. As an example, although human structures, including buildings and powerlines, are sparse on the North Slope to date, ACP-breeding spectacled eiders likely have comparatively higher collision risk than breeding birds on the Yukon-Kuskokwim Delta due to more extensive human development in the Prudhoe Bay oil fields, near Utqiaġvik, and along the Beaufort Sea coast, where several offshore oil facilities are operating or in construction.

The proposed construction of the tower violates some key USFWS-issued best practices for construction and operation of communication towers to avoid or minimize impacts to migratory birds (U. S. Fish and Wildlife Service 2021*b*). This best practices document states “Towers should not be sited in or near wetlands, other known bird concentration areas…”; “Towers should avoid ridgelines, coastal areas, wetlands or other known bird concentration areas”; “It is recommended that new towers should be not more than 199 feet above ground level (AGL)”; and “Lights are a primary source of bird aggregation around towers, thus minimizing all light is recommended: No tower lighting is the preferred option…”.

The proposed tower would be 360 feet tall, sited adjacent to a wetland, and on the coast. The tower would be lit with red lights for nighttime and flashing white lights for daytime and twilight; therefore, impacts may occur from both the tower itself, as well as lighting. Impacts would likely include mortalities.

<u>Polar bears</u>

One of the purposes of the Refuge is to conserve polar bear populations and habitat in their natural diversity. The USFWS stock assessment reports (SARs) contain detailed information on the status, seasonal distribution, abundance, and life history of marine mammals in the Beaufort Sea. The USFWS publishes current SARs for polar bears (https://www.fws.gov/project/marine-mammal-stock-assessment-reports). Additional information on polar bears can be found in the Beaufort Sea Incidental Take Regulations Final Rule (81 FR 52276). Further, the Arctic Refuge CCP (U. S. Fish and Wildlife Service 2015*a*) provides detailed descriptions of polar bears on Arctic Refuge. These documents are incorporated into this compatibility determination by reference.

Polar bears have a circumpolar distribution in the Northern Hemisphere. The Southern Beaufort Sea (SBS) stock is the subpopulation most likely to occur at the proposed site in Arctic NWR. The USFWS listed the polar bear as a threatened species under the Endangered Species Act (ESA) in May 2008 (73 FR 28212). The ESA listing decision was based on the rapidly diminishing sea ice cover and thickness in the Arctic Ocean due to climate change, primarily during summer (73 FR 28212; Durner et al. 2009).

The best available analyses suggest that the SBS stock is declining (Obbard et al. 2010, Bromaghin et al. 2015, U. S. Fish and Wildlife Service 2015*b*). Polar bears of the SBS stock range over large areas, with annual activity areas of collared individuals ranging from 2,805 to 230,426 square miles (Amstrup et al. 2000). Movements are increasing as sea ice cover diminishes. As the rate of westward and northward drift of sea ice has increased with decreasing thickness and extent in the Beaufort Sea, polar bears have shown corresponding increases in the amount of time spent active and in travel speed and distance, resulting in increased energy expenditure and food requirements (Durner et al. 2017).

It has been known for a long time, as stated by indigenous hunters (U. S. Fish and Wildlife Service 1995, Joint Secretariat 2015), that polar bears become increasingly abundant on the mainland and barrier islands during the open-water season in late summer and the fall subsistence whaling season. USFWS biologists flew aerial surveys along the entire Beaufort Sea coast between Point Barrow and the Canada border in fall 2000 to 2014 (Wilson et al. 2017). Their results suggest that approximately 15% of the subpopulation occurs along the coastline during any given week between late August and late October. Most sightings on coastal surveys (82 percent) were recorded on barrier islands, with 11 percent on the mainland and 6 percent on landfast ice (see 74 FR 56068).

Peak numbers of polar bears observed on land generally occurred in late September and early October (U. S. Fish and Wildlife Service 1995, Schliebe et al. 2001, 2008, Kalxdorff et al. 2002). The number of polar bears on shore is related to sea ice

dynamics, although the distribution of bears on shore was influenced most strongly by the availability of food from subsistence whaling (Wilson et al. 2017). Bear numbers on shore have increased in late summer and autumn in certain locations, with the greatest concentrations occurring at Barter Island, Cross Island, and Point Barrow, where bears feed on bone piles of butchered bowhead whales taken during the autumn subsistence hunt (Miller et al. 2006, Schliebe et al. 2008, Atwood et al. 2016, Lillie 2018).

Under the Endangered Species Act of 1973, as amended, the USFWS designated critical habitat for polar bears in Alaska in 2011 (75 FR 76086). Three units of critical habitat were designated, corresponding to the following primary constituent elements of critical habitat described in the final rule:

- Sea ice habitat, used for feeding, breeding, denning, and movements, in US territorial waters;
- Terrestrial denning habitat, on land along the northern coast of Alaska, with characteristics suitable for capturing and retaining snow drifts of sufficient depth to sustain maternal dens through winter, occurring within 20 miles of the coast between the US-Canada border on the east and the Shaviovik and Kavik Rivers on the west (including the Arctic NWR coastal plain (ARCP), and within 5 miles of the coast from the Shaviovik and Kavik Rivers west to Point Barrow;
- Barrier island habitat, used for denning, refuge from human disturbance, and movements along the coast for access to denning and feeding habitats, comprising barrier islands and associated mainland spits, along with the water, ice, and terrestrial habitat within 1 mile of those features, designated as a no-disturbance zone.

The proposed site of the tower and barge routes are within polar bear barrier island critical habitat and the proposed work would occur during the open water season when this habitat is most often used by polar bears. Construction is estimated to require 13 barge trips. These would occur between July 15 and September 30. Maintenance may require barge trips annually for the life of the tower, which is likely decades. Barge traffic operating in open water may cause disturbance of bears swimming in the ocean.

Construction would occur over two years for a total of three months between July 15 and September 30. Behavioral responses by polar bears to disturbance may include, but are not limited to, retreating from the area; avoidance by maternal females with young cubs; approach by curious bears attracted by sights, sounds, and odors; and termination of hunting or feeding. These responses may cause physical stress to polar bears. The barrier island critical habitat receives a disproportionately high level of use by polar bears (Wilson et al. 2017); thus, activities affecting this critical habitat could have a larger impact on polar bears than is indicated on the basis of proportional

representation. The proposed site is also within polar bear terrestrial critical habitat, although construction and maintenance would occur outside the denning season.

Designated Wilderness

As recognized by the applicant in the Environmental Assessment conducted for a previous iteration of the tower's location (private lands less than one mile from the currently proposed location), "The Camden Bay tower is amongst hundreds of miles of undeveloped Beaufort Sea coast. The tower is expected to be the most dominating visual element on the landscape" (UMIAQ Environmental 2021). Based on horizon alone, the tower may be viewable from over 20 miles away on a clear day. Therefore, this tower could be seen from designated wilderness which is approximately 17 miles away. This would detract from wilderness character, which the Refuge is required to preserve per the 1964 Wilderness Act and the original establishing purposes of the Arctic National Wildlife Range.

Cumulative Impacts

Numerous other authorized or planned uses of the Arctic Refuge Coastal Plain are also expected to cause loss and degradation of polar bear, migratory bird, and other wildlife habitat and disturbance, including the Refuge oil and gas program authorized in the Tax Cuts and Jobs Act (Pub. L. 115–97; Stat. 2236) and the Department of Defense Project Archer-Crossbow authorized by Section 1310 of ANILCA.

ANICLA 1310(b) allows for the establishment, operation, and maintenance of new air and water navigation aids and related facilities for national defense purposes, with conditions to minimize the adverse effects of such activities. The USFWS issued a ROW permit to the United States Air Force in 2022 for specific installations within the Arctic Refuge Coastal Plain under 1310(b). This ROW contributes to cumulative effects to migratory birds, polar bear conservation, tundra habitats, wilderness character, and view shed.

The USFWS has received a Right of Way (ROW) application (ANILCA 1110(b)) for a snow trail across upland habitats on the Arctic Refuge Coastal Plain. The application is for a 20-year period of use and requests a 200′ wide ROW and the annual construction of a 25′ wide snow trail that would allow for transportation of goods for communities and the bi-directional movement of community vehicles. Potential cumulative impacts of this proposed use would include effects to polar bears and their critical habitat; tundra, soils and permafrost; proposed wilderness and wilderness character; and water quality and quantity.

Subsistence activities occur throughout the Arctic Refuge Coastal Plain. Subsistence users primarily access traditional resources by boat and snow machine. A recent traditional access determination indicates off-road vehicles might be used for subsistence resource access by rural residents, subject to reasonable regulations,

pursuant ANICLA Section 811(b) and should be considered as a cumulative impact within the ARCP to migratory birds, tundra, soils, permafrost, proposed wilderness character, and water quality.

Therefore, ASTAC's proposed use would add to the cumulative impacts to wildlife and habitat on the Arctic Refuge Coastal Plain, including short-term disturbances from vehicles, aircraft, or humans, as well as longer term impacts from infrastructure development.

Public Review and Comment

The draft compatibility determination will be available for public review and comment for 15 days from March 31, 2023 to April 14, 2023. A hard copy of this document will be available at the Refuge headquarters in Fairbanks, Alaska and will be made available electronically on the refuge's website at https://www.fws.gov/refuge/arctic. Concerns expressed during the public comment period will be addressed in the final Compatibility Determination.

Please submit comments to Nathan Hawkaluk, Acting Arctic Refuge Manager, by email at arctic_refuge@fws.gov; by U.S. mail at 101, 12th Ave, Room 236, Fairbanks, Alaska, 99701; or by telephone at (907) 456-0549. Individuals in the United States who are deaf, deafblind, hard of hearing, or have a speech disability may dial 711 (TTY, TDD, or TeleBraille) to access telecommunications relay services. Individuals outside the United States should use the relay services offered within their country to make international calls to the point-of-contact in the United States.

Determination

Is the use compatible?

No

Stipulations Necessary to Ensure Compatibility

The proposed use by the applicant cannot be modified with stipulations sufficient to ensure compatibility.

Justification

In determining whether a use materially interferes with or detracts from the Refuge's purposes, the Service's Compatibility Policy (603 FW 2) states that inherent in fulfilling the System mission is not degrading the ecological integrity of the Refuge. Compatibility is a threshold issue, and "the proponent(s) of any use or combination of uses must demonstrate to the satisfaction of the refuge manager that the proposed

use(s) pass this threshold test" (603 FW 2.11(A)). Service policy states that "even unintentional minor harassment or disturbance during critical biological times, in critical locations, or repeated over time may exceed the compatibility threshold" (603 FW 2.11(B)(2)). Finally, Service policy states "when considered separately, a use may not exceed the compatibility threshold, but when considered cumulatively in conjunction with other existing or planned uses, a use may exceed the compatibility threshold" (603 FW 2.11(B)(1)). For the following reasons, the disturbance and degradation that would result from the proposed action exceed the compatibility threshold:

1. The proposed use of the Refuge violates the Service's regulations regarding use of vehicles.
2. The associated required lighting systems of the proposed tower would detract from the Refuge's purpose of protecting and preserving the wilderness character of areas within the National Wilderness Preservation System.
3. The proposed use occurs in polar bear critical habitat and may cause the unintentional disturbance of polar bears. Construction, barge traffic, and annual maintenance would occur during the period polar bears are likely to be transiting along the Beaufort Sea coastline. Maintenance visits would be repeated annually, thus impacts would occur annually (cumulatively) for the life of the tower. Therefore, we find that the proposed action exceeds the compatibility threshold for the Refuge purpose to conserve polar bear populations and their habitats.
4. The tower would always be present on the landscape, including during critical periods for migratory birds, such as migration; would not meet many of the key best practices for tower construction and placement to minimize impacts to migratory birds; would be built within an important migratory bird corridor along the Beaufort Sea coastline; and impacts would occur annually (cumulatively) for the life of the tower. Therefore, we find that the proposed use exceeds the compatibility threshold for the Refuge purpose to conserve migratory bird populations and their habitats.
5. Considering all the other planned and ongoing uses in this area of the Refuge (that we are required to authorize by law), the cumulative impacts of authorizing this additional proposed use of the Refuge would materially interfere with and detract from our ability to administer the Arctic Refuge Coastal Plan for the conservation of fish and wildlife and habitats.

Signature of Determination

Refuge Manager Signature and Date

Signature of Concurrence

Assistant Regional Director Signature and Date

Literature Cited/References

Alaska Department of Fish and Game. 2015. Alaska Wildlife Action Plan. Alaska Department of Fish and Game, Juneau, Alaska.

Amstrup, S. C., G. M. Durner, I. Stirling, N. J. Lunn, and F. Messier. 2000. Movements and distribution of polar bears in the Beaufort Sea. Canadian Journal of Zoology 78:948–966.

Anderson, B. A., and S. M. Murphy. 1988. Lisburn terrestrial monitoring program 1986 and 1987: The effects of the Lisburn powerline on birds. Final report. Alaska Biological Research Inc., Fairbanks, Alaska.

Atwood, T. C., E. Peacock, M. A. McKinney, K. Lillie, R. Wilson, D. C. Douglas, S. Miller, and P. Terletzky. 2016. Rapid environmental change drives increased land use by an Arctic marine predator. PLoS One 11:e0155932.

Avery, M. L., P. F. Springer, N. S. Dailey. 1978. Avian mortality at man-made structures-an annotated bibliography. U. S. Fish and Wildlife Service, Washington, D. C.

Bromaghin, J. F., T. L. McDonald, I. Stirling, A. E. Derocher, E. S. Richardson, E. V. Regehr, D. C. Douglas, G. M. Durner, T. Atwood, and S. C. Amstrup. 2015. Polar bear population dynamics in the southern Beaufort Sea during a period of sea ice decline. Ecological Applications 25:634–651.

Bureau of Land Management. 2019. Bureau of Land Management, Alaska special status species list-2019. Alaska Special Status Plant and Animal Species List, Alaska State Office, Bureau of Land Management, Anchorage, Alaska.

Durner, G. M., D. C. Douglas, S. E. Albeke, J. P. Whiteman, S. C. Amstrup, E. Richardson, R. R. Wilson, and M. Ben-David. 2017. Increased Arctic sea ice drift alters adult female polar bear movements and energetics. Global Change Biology 23:3460–3473.

Durner, G. M., D. C. Douglas, R. M. Nielson, S. C. Amstrup, T. L. McDonald, I. Stirling, M. Mauritzen, E. W. Born, Ø. Wiig, E. DeWeaver, M. C. Serreze, S. E. Belikov, M. M. Holland, J. Maslanik, J. Aars, D. A. Bailey, and A. E. Derocher. 2009.

Predicting 21st-century polar bear habitat distribution from global climate models. Ecological Monographs 79:25–58.

Erickson, W. P., G. D. Johnson, and D. P. Young Jr. 2005. A summary and comparison of bird mortality from anthropogenic causes with an emphasis on collisions. Pages 1029–1042 in C. J. Ralph and Terrell D., editors. Bird conservation implementation and integration in the Americas. Volume 2. General technical report PSW-GTR-191, Pacific Southwest Research Station, U. S. Forest Service, Albany, California.

Gauthreaux Jr, S. A., and C. G. Belser. 2006. Effects of artificial night lighting on migrating birds. Pages 67–93 in C. Rich and T. Longcore, editors. Ecological consequences of artificial night lighting. Island Press, Washington, D. C.

Johnson, R., and W. Richardson. 1982. Waterbird migration near the Yukon and Alaska coast of the Beaufort Sea: II. Molt migration of seaducks in summer. Arctic 35:291–301.

Joint Secretariat. 2015. Inuvialuit and Nanuq: A polar bear Traditional Knowledge study. Joint Secretariat, Iñuvialuit Settlement Region, Inuvik, NWT, Canada.

Kalxdorff, S., S. Schliebe, T. Evans, and K. Proffitt. 2002. Aerial surveys of polar bears along the coast and barrier islands of the Beaufort Sea, Alaska, September–October 2001. U. S. Fish and Wildlife Service, Marine Mammals Management, Anchorage, Alaska and LGL Alaska Research Associates, Inc., Anchorage, Alaska.

Lillie, K. M. 2018. Development and fitness consequences of onshore behavior among polar bears in the southern Beaufort Sea subpopulation. Doctoral dissertation, Utah State University.

Longcore, T., C. Rich, P. Mineau, B. MacDonald, D. G. Bert, L. M. Sullivan, E. Mutrie, S. A. Gauthreaux, M. L. Avery, R. L. Crawford, A. M. Manville, E. R. Travis, and D. Drake. 2013. Avian mortality at communication towers in the United States and Canada: which species, how many, and where? Biological Conservation 158:410–419.

Manville, A. M. 2005. Bird strikes and electrocutions at power lines, communication towers, and wind turbines: state of the art and state of the science - next steps toward mitigation. Pp. 1051–1064 in Bird conservation implementation in the Americas: Proceedings 3rd International Partners in Flight Conference 2002, U. S. Forest Service General Technical Report PSW-GTR-191, Pacific Southwest Research Station, Albany, California (C. J. Ralph & T. D. Rich, eds.).

Miller, S., K. Proffitt, and S. Schliebe. 2006. Demographics and behavior of polar bears feeding on bowhead whale carcasses at Barter and Cross Islands, Alaska, 2002–2004. OCS Study MMS 2006-14 Final Report to Minerals Management Service, Alaska OCS Region, by U. S. Fish and Wildlife Service, Anchorage, Alaska.

Obbard, M. E., G. W. Thiemann, E. Peacock, and T. D. Debruyn. 2010. Polar bears:

Proceedings of the 15th working meeting of the IUCN/SSC polar bear specialist group, 29 June–3 July 2009, Copenhagen, Denmark. IUCN.

Pearce, J. M., P. L. Flint, T. C. Atwood, D. C. Douglas, L. G. Adams, H. E. Johnson, S. M. Arthur, and C. J. Latty. 2018. Summary of wildlife-related research on the coastal plain of the Arctic National Wildlife Refuge, Alaska, 2002–17. U. S. Geological Survey. Open-File Report 2018-1003.

Schliebe, S., S. Kalxdorff, and T. Evans. 2001. Aerial surveys of polar bears along the coast and barrier islands of the Beaufort Sea, Alaska, September–October 2000. U. S. Fish and Wildlife Service, Marine Mammals Management, Anchorage, Alaska and LGL Alaska Research Associates, Inc., Anchorage, Alaska.

Schliebe, S., K. D. Rode, J. S. Gleason, J. Wilder, K. Proffitt, T. J. Evans, and S. Miller. 2008. Effects of sea ice extent and food availability on spatial and temporal distribution of polar bears during the fall open-water period in the Southern Beaufort Sea. Polar Biology 31:999–1010.

UMIAQ Environmental, Arctic Slope Telephone Association Cooperative, Kaktovik Broadband Project. Environmental Assessment. November 10, 2021.

U. S. Fish and Wildlife Service. 1995. Habitat conservation strategy for polar bears in Alaska. Marine Mammals Management, U. S. Fish and Wildlife Service, Anchorage, Alaska.

U. S. Fish and Wildlife Service. 2015a. Arctic National Wildlife Refuge; revised comprehensive conservation plan and final environmental impact statement. U. S. Fish and Wildlife Service, Anchorage, AK.

U. S. Fish and Wildlife Service. 2015b. Polar bear (Ursus maritimus) 5-year review: Summary and evaluation. Alaska Region, U. S. Fish and Wildlife Service, Anchorage, Alaska.

U. S. Fish and Wildlife Service. 2021a. Birds of conservation concern 2021. U. S. Fish and Wildlife Service, Washington, D.C.

U. S. Fish and Wildlife Service. 2021b. Recommended Best Practices for Communication Tower Design, Siting, Construction, Operation, Maintenance, and Decommissioning. Migratory Bird Program, U. S. Fish and Wildlife Service, Falls Church, Virginia

U. S. Fish and Wildlife Service and Bureau of Land Management. 2018. Rapid-response resource assessments and select references for the 1002 area of the Arctic National Wildlife Refuge in anticipation of an oil and gas exploration, leasing and development program, per the Tax Act of 2017, Title II Sec. 20001. Prepared for Alaska Region of the U. S. Fish and Wildlife Service and Bureau of Land Management, Anchorage, Alaska.

Weir, R. 1976. Annotated bibliography of bird kills at man-made obstacles: a review of the state of the art and solutions. Unpublished report prepared for Department

of Fisheries & Environment, Canadian Wildlife Service - Ontario Region.

Wilson, R. R., E. V. Regehr, M. St. Martin, T. C. Atwood, E. Peacock, S. Miller, and G. Divoky. 2017. Relative influences of climate change and human activity on the onshore distribution of polar bears. Biological Conservation 214:288–294.

Figure(s)

Figure 1. Site plan provided by the applicant.