



NIRB Uuktuutinga Ihivriughikhamut #125404

Arviat Wind Energy Project

Uuktuutinga Qanurittuq: New

Havaap Qanurittunia: Municipal and Industrial Development

Uuktuutinga Ublua: 7/30/2018 7:52:18 PM

Period of operation: from 0001-01-01 to 0001-01-01

Piumayaat Angirutinga: from 0001-01-01 to 0001-01-01

Havauhikhaq Ikayuqtinga: Hamlet of Arviat SAO
Hamlet - Arviat
PO Box 150
Arviat Nunavut X0C 0E0
Canada
Hivayautit Nampanga:: 8678572841, Kayumiktukkut Nampanga::

Hulilukaarutit

Inigiya	Hulilukaarut Qanurittuq	Nunannga Qanurittaakhaanik	Initurlinga qanuritpa	Initurlinga utuqqarnitat unaluuniit Ingilraaqnitat Uyarannuqtut akhuurninnga	Qanitqiyauyuq qanitqiamut nunallaat kitulluuniit ahiruqtaliyainnit nuna
Prospective Wind Turbine Siting	Other	Municipal	Hamlet of Arviat lands. Esker west of the Hamlet of Arviat. Some non-permenents shacks and cabins in the prospective turbine area.	No known archaeological or paleontological value, as determined through discussions with Nunavut Territorial Archaeologist.	Within the municipal boundaries of the Hamlet of Arviat. 5 km west of the Hamlet of Arviat. 15 km from nearest protected area (Sentry Island). 23 km from nearest point of McConnell River Migratory Bird Sanctuary.

Nunaliin Ilauyun, Aviktuqhimayuniitunullu Ikayuuhiarunguyun

Nunauyuq	Atia	Timiuyuq	Upluani Uqaqatigiyaungmata
Arviat	Steve England	Hamlet of Arviat	2016-06-06

Angiuttauvaktunik

Naunaiqlugu nunanga talvani havauhikhaq ittuq:

Kivalliq

Angiuttauvaktunik

Munariniqmut Ayuittiaqtuq	Angirutinga Qanurittuq	Tadja Qanurittaakhaanik	Ublua Tuniyauyuq/Uuktuqtuq	Umikvikhaa Ublua
Nunavut Imaligiyyit Katimayit	NPC project materials forwarded to identified regulatory authority for review, in conjunction with NPC letter to NIRB confirming that project requires NIRB screening.	Active		
Indigenous and Northern Affairs Canada	NPC project materials forwarded to identified regulatory authority for review, in conjunction with NPC letter to NIRB confirming that project requires NIRB screening.	Active		
Kivalliq Inuit Katimayit	NPC project materials forwarded to identified regulatory authority for review, in conjunction with NPC letter to NIRB confirming that project requires NIRB screening.	Active		
Avatiliriyitkut Kaanata	NPC project materials forwarded to identified regulatory authority for review, in conjunction with NPC letter to NIRB confirming that project requires NIRB screening.	Active		
Nunavut Kavamanga, Avatiliriyikkut	NPC project materials forwarded to identified regulatory authority for review, in conjunction with NPC letter to NIRB confirming that project requires NIRB screening.	Active		
Nunavut Kavamanga, Pivalliyuliyikkut	NPC project materials forwarded	Active		

Ingilrayuliyitkullu	to identified regulatory authority for review, in conjunction with NPC letter to NIRB confirming that project requires NIRB screening.			
Nunavut Kavamanga, Nunalingni Kavamatkunnilu Pivikhaqautikkut	NPC project materials forwarded to identified regulatory authority for review, in conjunction with NPC letter to NIRB confirming that project requires NIRB screening.	Active		

Project transportation types

Transportation Type	Qanuq Atuqtauniarmangaa	Length of Use
Water	Project equipment will Arrive in Arviat via sea-lift service	
Land	Equipment and materials will be transport from sea-lift arrival point to site via road access	

Project accomodation types

Nunauyuq

Ihuaqtivaluin Atuqtauyukhan

Hanalrutit atuqtaunahuat (ukuallu ikuutat, pampiutainnik, tingmitinik, akhaluutinik, hunaluuniit)

Hanalrutit Qanurittuq	Qaffiuyut	Aktikkulaanga – Qanurittullu	Qanuq Atuqtauniarmangaa
Crane	1	TBD	Wind Turbine installation
Vehicles	2	Freight trucks	Transport materials from Barge to Site
Cat 329 Excavator	1	Heavy Equipmment	Earth works for access road, site prep, and grading
Volvo Excavator	1	Heavy Equipment	Earth works for access road, site prep, and grading
Cat D6 Dozers	2	Heavy Equipment	Site prep, foundation excavation, staging fill materials
Cat D8T Dozer	1	Heavy Equipment	Site prep, foundation excavation, staging fill materials
Cat 420e Backhoe	1	Heavy Equipment	Site prep, foundation excavation, staging fill materials. Setting small equipment onsite
950 CAT Loader	1	Heavy Equipment	Load foundation material (if required)
Dump Truck	1	Heavy Equipment	Hauling foundation fill material (if required)

Qanurittuq Urhuqyuaq unalu Qayangnaqtut Hunavaluit Aturninnga

Qanurittuq urhuqyuaq hunavaluit aturninnga:	Urhuqyuaq Qanurittuq	Qaffiuyut qattaryut	Qattaryuk Aktikkulaanga	Atauttimut Qaffiuyut	Ilanga	Qanuq Atuqtauniarmangaa
Diesel	fuel	5	2	10	Cubic Meters	Fuel construction listed equipment

Imaqmik Aturninnga

Ubluq qanuraaluk (m3)	Aturumayain imavaluin utiqittagaani qanuq	Atulirumayain imavaluin utiqittagani humi
0		

Iqqakuq

Ikkakunik Munakgiyauyunik

Havauhikhaq Hulilukaarut	Qanurittuq Iqqakut	Ihumagiyauyuq Qanuraaluktut Atuqtait	Qanuq Iqqakuurniarmangaa	Halummaqtirarnirutikhan piyutin
Information is not available				

Avatiliriniqmut Ayurhauingit:

Not Applicable. This is not a tourism or research related project.

Additional Information

SECTION A1: Project Info

SECTION A2: Allweather Road

SECTION A3: Winter Road

SECTION B1: Project Info

SECTION B2: Exploration Activity

SECTION B3: Geosciences

SECTION B4: Drilling

SECTION B5: Stripping

SECTION B6: Underground Activity

SECTION B7: Waste Rock

SECTION B8: Stockpiles

SECTION B9: Mine Development

SECTION B10: Geology

SECTION B11: Mine

SECTION B12: Mill

SECTION C1: Pits

SECTION D1: Facility

SECTION D2: Facility Construction

SECTION D3: Facility Operation

SECTION D4: Vessel Use

SECTION E1: Offshore Survey

SECTION E2: Nearshore Survey

SECTION E3: Vessel Use

SECTION F1: Site Cleanup

SECTION G1: Well Authorization

SECTION G2: Onland Exploration

SECTION G3: Offshore Exploration

SECTION G4: Rig

SECTION H1: Vessel Use

SECTION H2: Disposal At Sea

SECTION I1: Municipal Development

See Attached PDF document: Municipal Development

Qanurittuq Ittunik Avatinga: Avatingalluanga

Much of the landscape in the vicinity of the Hamlet of Arviat is either wet low-lying tundra or sand and gravel ridges. The two wind turbines will be installed on the esker approximately 5 km west of Arviat. It is important that wind turbines are constructed on high points of land that will not be flooded during the spring and summer melt and run off. Each turbine will have a concrete foundation installed at ground level. Each foundation will cover an area approximately 10-20 meters in diameter. Very little land will be utilized by the operating facility. Essentially the turbine foundation areas and possibly a small amount of additional land for electrical equipment; although, this equipment may also be situated internal to the wind turbine tower. (The exact configuration and orientation will be determined during future design and engineering phases in 2019). During construction, laydown areas will be required as staging areas for wind turbine components (tower sections, nacelle, blades) prior to lift and erection. Care will be taken to ensure that sediment is controlled during construction. During operation, the project will serve to reduce the diesel consumed for power generation in the Hamlet, and subsequently achieve significant reductions in greenhouse gases generated.

Qanurittuq Ittunik Avatinga: Inuuhimayunut Avatinga

The project is located wholly on municipal lands of the Hamlet of Arviat. The project is not near any sites of historical or environmental significance (including Sentry Island, the Nuvuk Proposed Territorial Park, and McConnell River Migratory Bird Sanctuary). Siting discussions and consultation has been conducted with the local Hunters Trappers Organization and Hamlet of Arviat administrators. Local knowledge was instrumental in selecting the sites for the prospective wind turbines. A preliminary desktop environmental assessment has also been performed. The assessment, and subsequent discussions with the environmental consultant, suggests that the project does not reside within polar bear denning habitat, nor the caribou migration corridor. It is recommended to conduct migratory and breeding bird studies in spring and fall 2019. Local knowledge can support these studies. Any mitigation measures will be identified as a result of the bird studies.

Qanurittuq Ittunik Avatinga: Inungit-maniliurutingit Avatinga

The socioeconomic impacts of the project are very positive. Currently all Hamlets in Nunavut rely 100% on block funding from the Government of Nunavut to run their operations. This funding is focused on specific core responsibilities such as water/sewer programs, road maintenance programs, waste management, and by-law operations. The current municipal funding formula has not been updated in 6 years and has a population cap of 2300 people, which means that Arviat has more than 700 people in the community that are unfunded by the Territorial Government. According to the Hamlet's estimates, only 60–65% of the community's core needs are funded, putting major strain on the most basic service levels. Funds are very limited for recreation programming, training programs, wellness programming, fire protection services, search and rescue services, and youth/elder programs. Many of these programs and services are currently funded from the community lottery license via bingos and external funding agencies. The Hamlet will secure a significant annual revenue stream for the operating life of the project, which will be transferred directly to Hamlet general revenue. This will provide the Mayor and Council reliable multi-year funding to start

addressing the Hamlet's many infrastructure and program shortfalls. This project will drastically increase the quality of life for all residents by reducing the carbon footprint and giving the Hamlet a new reliable funding stream. The project will also allow the Hamlet to access funding necessary to build a modern community recreation centre. The Hamlet of Arviat is fully supportive of this project and the cohesive and beneficial project partnership with NRStor Remotes.

Miscellaneous Project Information

Naunaiyainiq ukuninnga Ayurhautingit unalu Piumayaat Ikkliyuumiutinahuarutit

Wind turbines do not produce emissions or pollutants associated with their operation. The wind turbines that will be deployed for this project do not contain gearboxes and therefore do not contain large volumes of lubricating oils that could leak and pollute the soil. Wildlife studies will be conducted in spring and fall 2019. Those studies will determine whether there are any recommended mitigation measures. Other impacts can be studied and mitigated as required by NIRB.

Tamatkiumayunik Ihuikgutivaktunik

Over 25 years of operation, the wind project is estimated to reduce diesel consumed for electricity production in Arviat by approximately 35 million litres (or 1.4 million litres per year). Over 25 years of operation, the wind project is estimated to reduce greenhouse gas emissions by eliminating nearly 190,000 tonnes of CO₂ production (over 7,500 tonnes reduced per year).

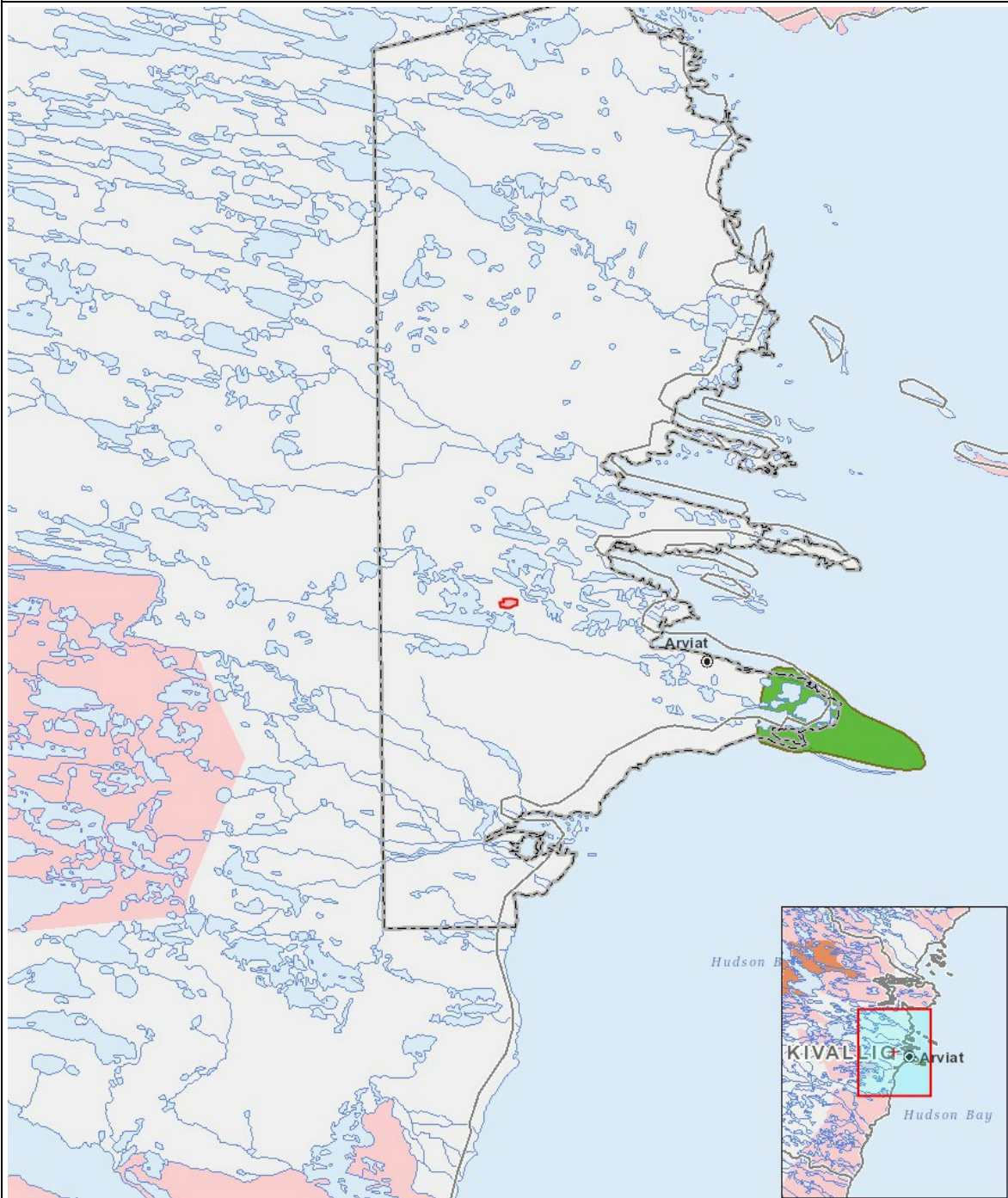
Impacts

Ilitariyauniq Avatiliriniqmut Ayurhautingit

	PHYSICAL	Designated environmental areas	Ground stability	Permafrost	Hydrology / Limnology	Water quality	Climate conditions	Eskers and other unique or fragile landscapes	Surface and bedrock geology	Sediment and soil quality	Tidal processes and bathymetry	Air quality	Noise levels	BIOLOGICAL	Vegetation	Wildlife, including habitat and migration patterns	Birds, including habitat and migration patterns	Aquatic species, incl. habitat and migration/spawning	Wildlife protected areas	SOCIO-ECONOMIC	Archaeological and cultural historic sites	Employment	Community wellness	Community infrastructure	Human health
Havakvinga																									
Other	-	-	-	-	-	-	U	-	U	-	-	N	-	-	U	U	-	-	-	P	-	-	-	-	
Aulapkaininnga																									
Other	-	-	-	-	-	P	U	-	-	-	P	U	-	-	U	-	-	-	-	P	-	-	-	-	
Piiqtauniq																									
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

(P = Nakuuyuq, N = Nakuungittut unalu mikhilimaittuq, M = Nakuungittut unalu mikhittaaqtuq, U = Naluyayuq)

Havaariyauyukhamut Nayugaa



List of Project Geometries

1	polygon	Prospective Wind Turbine Siting
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