NIRB Uuktuutinga Ihivriuqhikhamut #125722
Mobile Wind Resource Assessment Project

Uuktuutinga Qanurittuq: New

Havaap Qanurittunia: Scientific Research

Uuktuutinga Ublua: 6/29/2022 1:16:04 PM

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

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

Havauhikhaq Ikayuqtinga: Oliver Pennock
Northern Energy Capital
Suite 502, 151 West Hastings,
Vancouver BC V6B 1H4
Canada
Hivayautit Nampanga:: 403-669-2541, Kayumiktukkut Nampanga::

QANURITTUT

Tukihiannaqtunik havaariyauyumayumik uqauhiuyun

Qablunaatitut: Northern Energy Capital (NEC) on behalf of Kivalliq Alternative Energy will conduct a preliminary renewable energy study for the community of Baker Lake, Nunavut. Baker Lake currently relies on four diesel generators to meet the local electricity demand. The intent of this study is to collect wind data to assess the feasibility of a utility-scale wind energy project in order to offset the reliance on diesel energy. The study will consider the use of wind turbines and a battery energy storage system. Wind energy does not pollute the air like diesel energy production. Diesel consumption releases particulate matter and fumes causing human health problems and environmental damage. Clean wind energy will promote human and environmental health in the community. NEC will install a device to measure wind speed, direction, and frequency over a 12-month period from Fall 2022 to Fall 2023. The wind monitoring equipment will be placed on the northern boundary of Baker Lake. The non-invasive equipment occupies a small footprint and is powered by a single propane tank. The equipment operates autonomously with regular servicing performed by local contractors hired by NEC. Thank you everyone for your support in this project.

Uiviititut: (only for the City of Iqaluit)

Inuktitut: ᐅᑭᐅᖅᑕᖅᑐᒥᑦ ᐆᒻᒪᖅᖁᑎᓕᕆᔨᒃᑯᑦ (NEC) ᐱᔾᔪᔾᔨᑉᓗᑎᒃ ᑭᕙᓪᓕᕐᒥᑦ ᐊᓯᐊᒍᖔᖅ ᐆᒻᒪᖅᖁᑎᓕᕆᔨᒃᑯᑦ ᓯᕗᓂᐊᒍᑦ ᐊᑐᖅᑕᐅᒃᑲᓐᓂᕈᖕᓇᖅᑐᑦ ᐆᒻᒪᖅᖁᑎᓂᒃ ᖃᐅᔨᓴᐃᓂᐊᖅᑐᑦ ᖃᒪᓂᑦᑐᐊᕐᒧᑦ, ᓄᓇᕗᑦ. ᖃᒪᓂᑦᑐᐊᖅ ᒫᓐᓇᐅᔪᖅ ᐊᑐᖅᑲᑦᑕᖅᑐᖅ ᓯᑕᒪᓂᒃ ᐅᖅᓯᐊᓗᒃᑰᖅᑐᓂᒃ ᐆᒻᒪᖅᖁᑎᓕᐅᕈᑎᓂᒃ ᓄᓇᓕᖕᒧᑦ ᐃᑯᒻᒪᖅᖁᑎᖃᖅᑎᑦᑎᑉᓗᑎᒃ. ᖃᐅᔨᓴᐃᓂᖅ ᑲᑎᖅᓯᐃᓂᐊᖅᑐᖅ ᐊᓄᕆᒥᑦ ᐱᔾᔪᓂᒃ ᓈᓴᐅᑎᓂᒃ/ᑎᑎᖅᖃᓂᒃ ᐊᔪᙱᓐᓇᓴᕐᒪᖔᑦ ᐆᒻᒪᖅᖁᑎᓕᐅᕆᓂᐅᑉ ᐊᖏᑎᒋᓂᖓᓄᑦ ᐊᓄᕆᒥᑦ ᐆᒻᒪᖅᖁᑎᓕᐅᕆᓂᖅ ᐊᑐᕈᖕᓃᖔᕐᓗᓂ ᐅᖅᓯᐊᓗᒃᑐᖅᑐᒥᒃ ᐆᒻᒪᖅᖁᑎᓕᐅᕆᓂᖅ. ᖃᐅᔨᓴᐃᓂᖅ ᐃᓯᒪᒋᔭᖃᕐᓂᐊᖅᑐᖅ ᐊᓄᕆᒧᑦ ᑲᐃᕕᑦᑐᓂᒃ ᐊᒻᒪ ᐹᑐᓖᒥᒃ ᑐᖅᖁᖅᓯᓯᒪᕝᕕᖕᒥᑦ. ᐊᓄᕆᒥᑦ ᐆᒻᒪᖅᖁᑎᓕᐅᕆᓂᖅ ᐱᐅᖏᑦᑐᓕᐅᕆᖃᑦᑕᙱᑦᑐᖅ ᐊᓂᖅᓵᖅᑐᖅᑕᑉᑎᖕᓂᑦ ᐅᖅᓯᐊᓗᖕᒥᑦ ᐊᑐᖅᑐᓂᑦ ᐅᒻᒪᖅᖁᑎᓕᐅᕈᑎᑎᑐᑦ. ᐅᖅᓯᐊᓗᒃ ᓴᑉᑯᐃᖃᑦᑕᖅᑐᑦ ᒥᑭᔫᑎᓂᒃ ᐊᒻᒪᓗ ᐳᔪᕐᓂᒃ ᐃᓄᐃᑦ ᐋᓐᓂᐊᖃᖅᑕᐃᓕᒪᓂᖏᓐᓂᒃ ᐃᖢᐃᓗᑕᓕᐅᖅᖢᓂ ᐊᒻᒪᓗ ᐊᕙᑎᒥᒃ ᓯᖁᐃᑉᓗᓂ. ᓴᓗᒪᔪᒥᒃ ᐊᓄᕆᒥᑦ ᐆᒻᒪᖅᖁᑎᓕᐅᕆᓂᖅ ᐃᑲᔪᐃᓂᖃᕐᓂᐊᖅᑐᖅ ᓄᓇᓕᖕᒥᑦ ᐃᓄᐃᑦ ᐊᒻᒪᓗ ᐱᕈᖅᐸᓪᓕᐊᓂᖃᖃᑎᒌᒃᑐᑦ ᖃᓄᐃᖏᑦᑎᐊᕐᓂᖏᓐᓄᑦ. NEC-ᑯᑦ ᐃᓕᓯᓂᐊᖅᑐᑦ ᐆᒃᑐᕋᐃᔾᔪᑎᒥᒃ ᐊᓄᕆᐅᑉ ᓇᑭᕐᓂᖓᓂᑦ, ᓇᒧᙵᐅᓂᖓᓂᑦ, ᐊᒻᒪᓗ ᖃᑉᓰᖅᑕᖃᑦᑕᕐᓂᖓᓂᑦ ᑕᖅᖀᑦ 12 ᐃᓗᐊᓂᑦ 2022 ᐅᑭᐊᒃᓵᖓᓂᑦ ᐱᒋᐊᕐᓗᒍ 2023 ᐅᑭᐊᒃᓵᕐᒧᑦ ᑎᑭᓪᓗᒍ. ᐊᓄᕆᒥᒃ ᖃᐅᔨᓴᐃᔾᔪᑏᑦ ᐃᓕᔭᐅᓂᐊᖅᑐᑦ ᐅᐊᖕᓇᖅᐸᓯᖓᓄᑦ ᑭᒡᓕᒋᓴᐅᔪᒥᑦ ᖃᒪᓂᑦᑐᐊᕐᒥᑦ. ᐱᖁᑏᑦ ᐊᑐᖅᑕᐅᔪᑦ ᒥᑭᔪᒥᒃ ᐃᓂᐅᔪᒥᒃ ᐊᑐᕐᓂᐊᖅᑐᑦ ᐊᒻᒪᓗ ᐆᒻᒪᖅᖁᑎᖃᖅᑎᑕᐅᔪᖅ ᐊᑕᐅᓯᕐᒧᑦ ᐳᑉᓕᖃᐅᓯᕝᕕᖕᒧᑦ. ᐱᖁᑎ ᐃᖕᒥᓂᒃ ᐊᐅᓛᖃᑦᑕᖅᑐᖅ ᖃᐅᔨᓴᖅᑕᐅᖃᑦᑕᕐᓂᐊᕐᓗᓂ ᐊᒻᒪᓗ ᐱᓕᕆᐊᖑᖃᑦᑕᕐᓂᐊᕐᓗᓂ ᓄᓇᓕᖕᒥᑦ ᑳᓐᑐᕌᒃᖃᖅᑐᓄᑦ ᐱᓕᕆᑎᑕᐅᔪᓂᑦ NEC-ᑯᓐᓄᑦ. ᒪᑦᓇᐅᔪᓯ ᐃᑲᔪᖅᑐᐃᓂᑉᓯᖕᓄᑦ ᑖᑉᓯᒥᙵᑦ ᐱᓕᕆᐊᕐᒥᑦ.

Personnel

Personnel on site: 4

Days on site: 4

Total Person days: 16

Operations Phase: from 2022-09-04 to 2022-09-05

Operations Phase: from 2022-09-05 to 2023-09-05

Post-Closure Phase: from to

Hulilukaarutit

Inigiya	Hulilukaarut Qanurittuq	Nunannga Qanurittaakhaanik	Initurlinga qanuritpa	Initurlinga utuqqarnitat unaluuniit Ingilraaqnitat Uyarannguqtut akhuurninnga	Qanitqiyauyuq qanitqiamut nunallaat kitulluuniit ahiruqtailiyainnit nuna
Proposed SODAR Location	Equipment installation	Municipal	The project will operate on untitled municipal land in Baker Lake, NU. The proponent was previously issued a land use and development permit for the land in April 2016.	n.a	The site is 1km Northeast of Baker Lake.

Nunaliin Ilauyun, Aviktuqhimayuniitunullu Ikayuuhiarunguyun

Nunauyuq	Atia	Timiuyuq	Upluani Uqaqatigiyaungmata
Qamaniittuaq	Frank, Peter, Lars, Eugene	Peters Expediting Limited	2022-04-29

Angiuttauvaktunik

Naunaiqlugu nunanga talvani havauhikhaq ittuq:

Kivalliq

Angiuttauvaktunik

Munariniqmut Ayuittiaqtuq	Angirutinga Qanurittuq	Tadja Qanurittaakhaanik	Ublua Tuniyauyuq/Uuktuqtuq	Umikvikhaa Ublua
Nunavunmi Ihivriuqniqmut Timiqutigiyanga	The proponent acknowledges the Nunavut Research Institute should they need to validate the Wind Resource Assessment.	Not Yet Applied		
Government of Nunavut, Community Government & Services	The proponent submitted a Land Use Permit application. The Hamlet of Baker Lake tentatively approved the request and are awaiting a determination from NIRB.	Applied, Decision Pending		
Government of Nunavut, Community Government & Services	The proponent submitted a Development Permit application. The Hamlet of Baker Lake tentatively approved the request.	Applied, Decision Pending		

Project transportation types

Transportation Type	Qanuq Atuqtauniarmangaa	Length of Use
Air	A single flight for three staff to install the device in Fall 2022.	
Land	Transport from Airport to site by means of pick-up truck or snowmobile.	

Project accomodation types

Alaanut,

Ihuaqutivaluin Atuqtauyukhan

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

Hanalrutit Qanurittuq	Qaffiuyut	Aktikkulaanga – Qanurittullu	Qanuq Atuqtauniarmangaa
Sonic Detection and Ranging (SODAR)	1	0.5m x 0.5m x 3.0m	Using sound waves, this equipment will monitor wind activity including wind speed, wind direction, and wind frequency.

Qanurittuq Urhuqyuaq unalu Qayangnaqtut Hunavaluit Aturninnga

Qanurittuq urhuqyuaq hunavaluit aturninnga:	Urhuqyuaq Qanurittuq	Qaffiuyut qattaryut	Qattaryuk Aktikkulaanga	Atauttimut Qaffiuyut	Ilanga	Qanuq Atuqtauniarmangaa
Propane	fuel	6	100	600	Lbs	The propane is used to regulate the SODAR's temperature for the prevention of ice formation. Additionally, the propane is also used to power a generator to supplement the SODAR's 15W power requirement. Necessary steps are being made to reduce the quantity of fuel containers stored on site.

Imaqmik Aturninnga

Ubluq qanuraaluk (m3)	Aturumayain imavaluin utiqtittagaani qanuq	Atulirumayain imavaluin utiqtittagani humi
0	No water is required for this study.	No water is required for this study.

Iqqakuq

Ikkakunik Munakgiyauyunik

Havauhikhaq Hulilukaarut	Qanurittuq Iqqakut	Ihumagiyauyuq Qanuraaluktut Atuqtait	Qanuq Iqqakuurniarmangaa	Halummaqtirarnirutikhan piyutin
Equipment installation	Ikulalimanngittun iqqakuuvaluin	0lbs	Landfill, recycled, reused, repurposed.	Proponent does not anticipate any waste during installation of SODAR equipment. The crating the equipment arrives in will be reused to move the equipment after the 12-month study. The emptied propane tanks after use will be stored at Peters Expediting Limited and refilled and reused. Should there be any waste, NEC will come prepared with a plan in place to dispose of the waste in an effective and appropriate matter that complies with local regulatory guidelines.

Avatiliriniqmut Ayurhautingit:

Waste, impact mitigation, and environmental impacts from SODAR feasibility projects are typically very low and limited to land use displacement and construction if necessary. Nevertheless, the project team has endeavoured to identify and prevent any unacceptable environmental impacts or impacts on traditional land use. Potential risks identified that could be caused by the project are listed below, and due to character limits, the planned mitigation strategies will be stored in the documents section. Risks include disturbance of land resulting in habitat destruction, impact to caribou migratory corridors and habitat range, leak or spillage of fuel resulting in ground contamination, interference with traditional land use, presence of archaeological sites or artifacts, and unforeseen generation of construction waste. A comprehensive outline for mitigation measures is attached in Project Documents.

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

Qanurittuq Ittunik Avatinga: Avatingalluanga

The ground surface is compromised mostly of jagged rock. We intent to place the 0.5m x 0.5m SODAR device on the most level surface within the permitted zone. The proponent consulted CGS Land Administration for site history and proximity to sensitive habitats, proponent reviewed caribou migration and rutting paths as part of a desktop study and devised a plan of action in case of emergency. This is outlined in the Predicted Environmental impacts document found in Project Documents.

Qanurittuq Ittunik Avatinga: Inuuhimayunut Avatinga

Please review Predicted environmental impacts of undertaking and proposed mitigation measures located in Project Documents.

Qanurittuq Ittunik Avatinga: Inungit-maniliurutingit Avatinga

The proposed site is in the outer boundary of the municipality. The equipment has a small footprint and isn't expected to disrupt activity in the area. NEC has contracted Peters Expediting Limited to perform routine check-ups on the equipment to check for interference. The equipment is also fitted with surveillance equipment to identify human and animal activity in proximity to equipment.

Miscellaneous Project Information

Naunaiyainiq ukuninnga Ayurhautingit unalu Piumayaat Ikikliyuumiutinahuarutit

Please review Predicted environmental impacts of undertaking and proposed mitigation measures located in Project Documents.

Tamatkiumayunik Ihuikgutivaktunik

Please review Predicted environmental impacts of undertaking and proposed mitigation measures located in Project Documents.

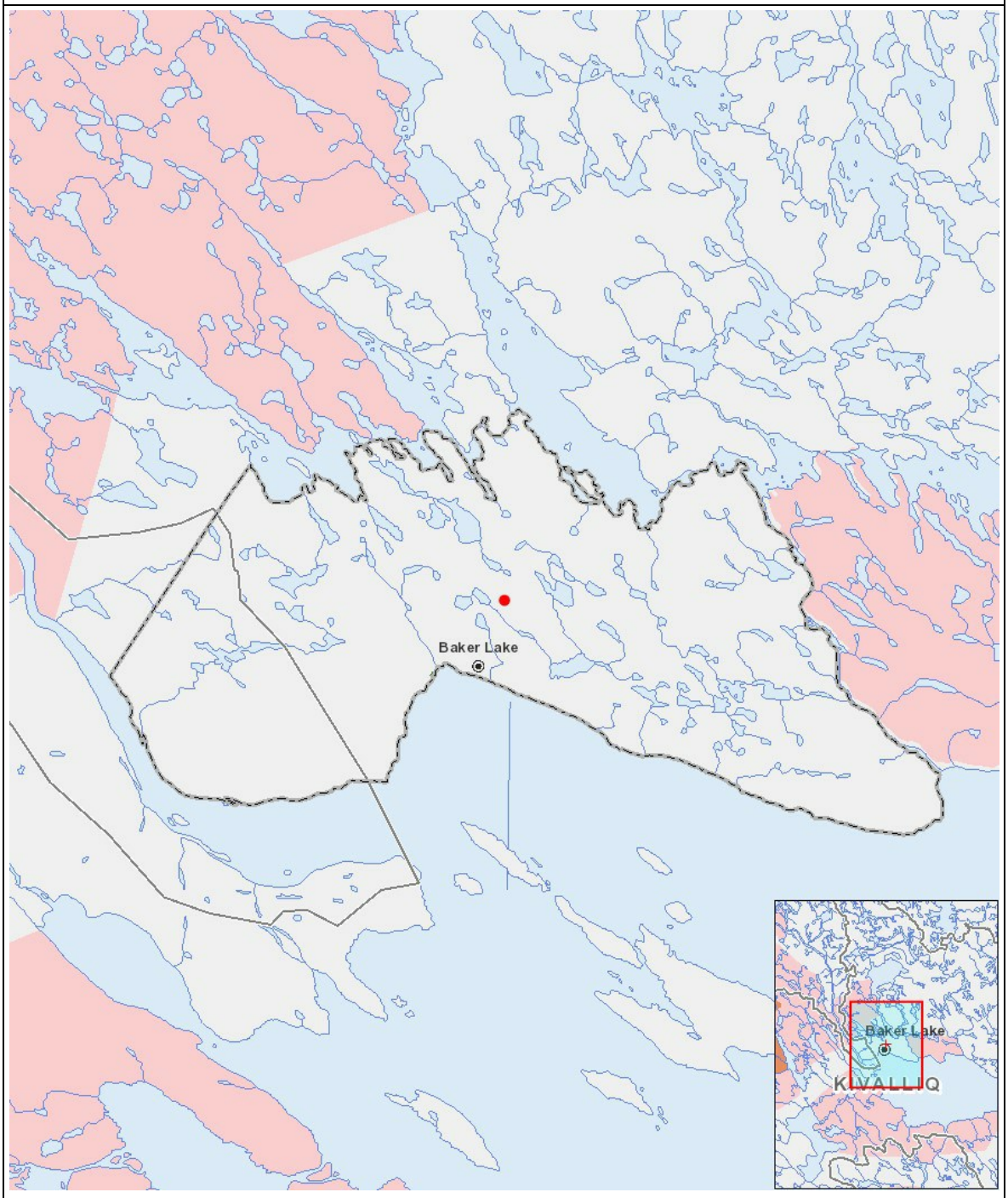
Impacts

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																									
Equipment installation		-	-	-	-	-	P	-	U	U	-	P	M		U	M	U	-	U		U	P	P	P	P
Aulapkaininnga																									
Equipment installation		-	-	-	-	-	P	-	U	U	-	P	M		U	M	U	-	U		U	P	P	P	P
Piiqtauniq																									
-		-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-		-	-	-	-	-

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

Havaariyauyukhamut Nayugaa



List of Project Geometries

1	point	Proposed SODAR Location