

New

Scientific Research

Oliver Pennock
Northern Energy Capital
Suite 502, 151 West Hastings,
Vancouver BC V6B 1H4
Canada
Tél: 403-669-2541, Fax: 403-669-2542

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ᑕᓴᐅᑦᑐᑦ: Northern Energy Capital (NEC), on behalf of Kivalliq Alternative Energy (KAE), will conduct a preliminary renewable energy study in Chesterfield Inlet, Nunavut. The community relies on aging diesel generators to meet local electricity demand. The study will consider using wind energy and battery storage systems to offset the community's reliance on fossil fuels. Unlike diesel energy, wind energy is an unlimited resource that does not cause harmful air pollution and environmental damage. The project's scope is to collect wind data using a sonic detection and ranging (SODAR) device to assess the feasibility of a utility-scale wind energy project. NEC will install the SODAR equipment at the project site approximately 5km from the community of Chesterfield Inlet, where it will measure the wind speed, direction, and frequency for 12 months from Fall 2023-2024. The SODAR wind monitoring equipment will include a SODAR device measuring 0.5m x 0.5m x 3.0m tall, a 5.7m x 6.1m photo-voltaic power supply, a single propane tank, and a 3.0m x 3.0m tent enclosure to protect the equipment controls and wildlife. Overall, the SOAR technology is non-invasive, occupies a small footprint, and does not require extensive land displacement or alteration.

▷ΔΛΠΔ^c: (only for the City of Iqaluit)

[illegible]

Personnel

Personnel on site: 4

Days on site: 4

Total Person days: 16

Operations Phase: from 2023-08-22 to 2023-08-26

Operations Phase: from 2023-08-26 to 2024-08-26

Post-Closure Phase: from to

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Project Site (SoDAR Location)	Equipment installation	Commissioners	The Project will operate on untitled municipal land in Chesterfield Inlet that is administered by the Commissioner.	non-applicable	Project site is approximately 5km from Chesterfield Inlet and 4km from the airport.

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ᐲᓴᐳᕈᖅ	Casey Malliki, Brian Zawadski	Aulajuq Limited	2023-01-29

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$a^{\dagger}r_1^a r_2^a \sigma^b$ $\Lambda_{C-L} d_L^e \Delta_D \sigma^c \tau^b \gamma^c$ $\Pi\Pi\tau^c \gamma^c$:

Kivalliq

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<p>ᓕᓕᓕᓕ ᓕᓕᓕᓕᓕᓕᓕᓕᓕᓕ</p>	<p>The proponent acknowledges the Nunavut Research Institute should they need to validate the Wind Resource Assessment.</p>	<p>Not Yet Applied</p>		
<p>Government of Nunavut, Community Government & Services</p>	<p>The proponent submitted a Land Use Permit application and is awaiting approval from the Hamlet of Chesterfield Inlet and a determination from NIRB.</p>	<p>Applied, Decision Pending</p>		
<p>Government of Nunavut, Community Government & Services</p>	<p>The proponent in the process of submitting a Development Permit application and is awaiting a determination from NIRB.</p>	<p>Not Yet Applied</p>		

Project transportation types

Transportation Type	How to Access the Site	Length of Use
Air	A single flight for up to three staff to install the SoDAR device in Fall 2023	
Land	Transport from airport to site by means of pick-up truck or snowmobile.	

Project accomodation types

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Λ⁹δ^c Δ⁹ρ²ζ⁵ Δ⁹γ⁶CDσ²Δ⁴ζ⁵ Δ⁴ε⁵ρ²Δ⁹Π³ρ^c Δ⁴δ^cΔ^c, Γ^cΔ⁹ρ²Π^c, ζ⁵ε⁶LC²ζ⁵, με²ρ²Δ^c Δ²ρ⁵ρ^cΔ

[illegible]

ΔL^{5b} ΔD^{5b} CD^{5b} ΔL^{5b} ΔD^{5b}

$\mathcal{D}^c \rightarrow \mathcal{C} \dot{\mathcal{L}}^b \mathcal{A} \mathcal{D}^b \mathcal{C} \mathcal{D} \sigma \mathcal{A}^b \mathcal{D}^b$	$\mathcal{L}^b \mathcal{D}^b \Delta \Gamma^b \mathcal{C}^b \mathcal{C}^c \mathcal{C}^c \sigma \mathcal{A}^b \mathcal{C}^c$	$\mathcal{A} \mathcal{P}^c \Delta \Gamma^b \mathcal{C}^b \mathcal{C}^c \mathcal{C}^c \sigma \mathcal{A}^b \mathcal{C}^c$
0	No water is required for this study.	No water is required for this study.

$\triangleleft^b C d^c$
$$\Delta^b C d_c n_\sigma \Delta^q \sigma^q$$

Inuktitut Name	English Name	Weight	Disposal Method	Notes
Equipment installation	SODAR equipment	0 lbs	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 Aulajuq 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 manner that complies with local regulatory guidelines.

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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 11: Municipal Development

[illegible]

The ground surface is compromised mostly of jagged rock. We intend to place the 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 animal 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.

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

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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 Aulajuq 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

உடையவர்களுக்கும் அருள்கூர்ந்து உதவி செய்து கொடுப்பதற்காகவே இவ்வாறு உத்தேசித்துள்ளார்.

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

Cumulative Effects

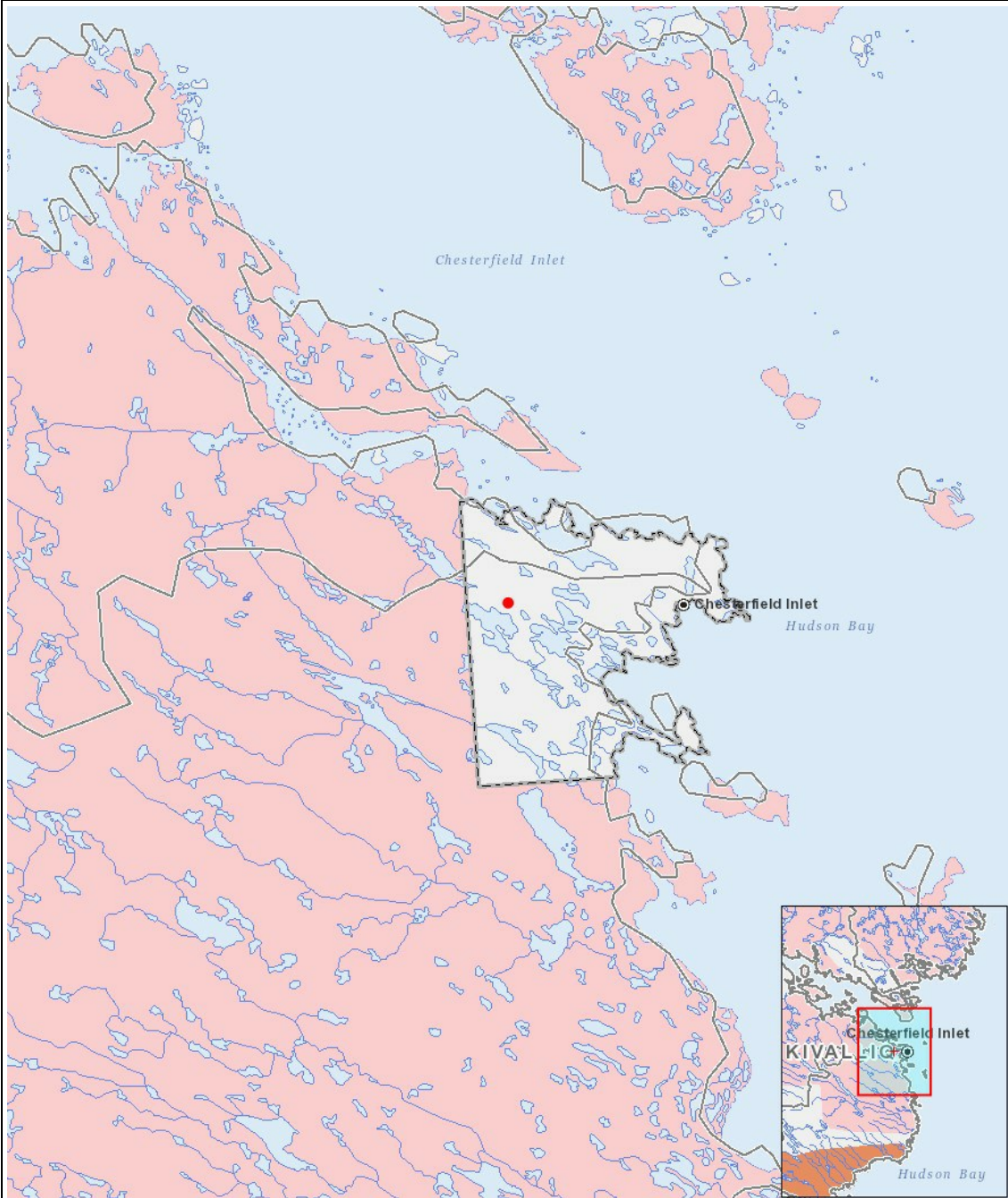
Please review Predicted environmental impacts of undertaking and proposed mitigation measures located in Project Documents.

Impacts

$\mathbf{e} \rightarrow \mathbf{e} \Delta^{\mathfrak{b}} \mathbf{C} \triangleright \sigma^{\mathfrak{b}} \mathbf{r}^{\mathfrak{c}} \quad \mathbf{d} \mathfrak{e} \cap \Gamma \triangleright \mathbf{C} \dot{\sigma}^{\mathfrak{c}} \mathbf{d}^{\mathfrak{c}} \quad \mathbf{d}^{\mathfrak{b}} \mathbf{d}^{\mathfrak{b}} \mathbf{C} \triangleright \mathbf{r}^{\mathfrak{c}} \mathbf{L} \mathbf{r}^{\mathfrak{c}}$

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

- | | | |
|---|---------|-------------------------------|
| 1 | polygon | Project Boundaries |
| 2 | point | Project Site (SoDAR Location) |