Demande de la CNER faisant l'objet d'un examen préalable #125404
Arviat Wind Energy Project

Type de demande :	New
Type de projet:	Municipal and Industrial Development
Date de la demande :	7/30/2018 7:52:18 PM
Period of operation:	from 0001-01-01 to 0001-01-01
Autorisations proposées:	from 0001-01-01 to 0001-01-01
Promoteur du projet:	Hamlet of Arviat SAO Hamlet - Arviat PO Box 150 Arviat Nunavut X0C 0E0 Canada Téléphone :: 8678572841, Télécopieur ::

DÉTAILS

Description non technique de la proposition de projet

Anglais: The project will produce electricity from the wind, decreasing the amount of electricity produced by burning diesel fuel inside the Hamlet. The project will be located approximately 6 km west of the Hamlet, on an esker, and will include the installation of two wind towers. It is important that the wind towers are installed on high ground, so the project is not on ground that floods or could have high ground water levels during the year. The Hamlet Mayor and Council have two major goals for the project: 1. Install environmentally friendly power that reduces the community's dependency on getting 100% of our power from diesel fuel. 2. Support community programs from money produced by the project. Money from the wind power project will go to directly to the Hamlet. The Hamlet of Arviat is currently underfunded by the Territorial Government, based on how many people live in Arviat. This project will provide the Mayor and Council with reliable funding to start addressing many infrastructure and program shortfalls. The project will make it possible for the Hamlet of Arviat to provide more money for recreation programming, training programs, wellness programming, medical services, fire protection services, search and rescue services, youth/elder programs, and cultural funding. The project will also allow the Hamlet to get funding necessary to build a modern community recreation centre. The project will be developed, constructed and owned by the Hamlet of Arviat and NRStor Remote Communities and Mines, the Hamlet's partner for the project. NRStor will manage the development and construction of the project, working in collaboration with the Hamlet to ensure that community needs are met. The construction activities will involve numerous local construction jobs, including labourers and equipment operators, during the months of May through October of 2020. The wind turbines will deliver electricity to Arviat for 20-25 years (starting in October 2020). This project will help to bring very important funding into the community that can directly raise the standard of living for all Arviat residents.

Français: N/A

Inuktitut: ᐱᓕᕆᐊᖅ ᐊᓄᕆᒃᑯᑦ ᐅᒃᑳᓕᐅᕐᓂᐊᖅᑐᖅ, ᐅᒃᑳᑐᖏᓂᖅᓴᐅᓕᕐᓗᓂ ᐅᖅᑯᐊᓗᒃᑯᑦ ᓄᓇᓕᐅᑉ ᐃᓗᐊᓂ. ᐱᓕᕆᐊᖅ ᓄᓇᓕᐅᑉ ᑲᖏᐊᓂ ᕿᖓᐅᒐᕐᒥᓯᐅᕐᓂᐊᖅᑐᖅ, ᒪᕐᕉᓂᐊᖅᓱᑎᒃ ᐊᓄᕆᒧ ᐅᒃᑳᓕᐅᕈᑎᑦ. ᐱᓪᓚᕆᐅᕗᖅ ᐊᓄᕆᒧ ᐅᒃᑳᓕᐅᕈᑎᑦ ᓄᓇᖅᐸᒥᓯᐅᕆᐊᖃᕐᓂᐊᖅᑐᑦ ᐃᒪᒥᐊᕐᒥᓯᐅᖅᑕᓚᖏᒪᑦ ᐅᐸᓘᓃᑦ ᐃᒪᕈᖅᑕᓚᖏᒪᑦ ᐅᑭᐅᖅ ᐃᓗᐊᓂ. Hᐋᒻᓚᒃᑯᑦ ᒪᐃᔭ ᐊᒻᒪ ᑲᑎᒪᔨᑦ ᑕᐅᑐᖕᓂᐊᖅᐳᑦ ᒪᕐᕈᖕᓂᑦ ᐱᔭᒃᓴᓂ 1) ᐅᒃᑳᑐᖕᓂᓂᖅᓴᐅᓕᕐᓗᑎᑦ ᐅᖅᑯᐊᓗᒃᑯᑦ ᐊᓄᕆᓯᐅᒃᑯᑦ ᐅᒃᑳᓕᐅᓕᕐᓗᑎᑦ 2) ᓄᓇᓕᐅᑉ ᐃᓗᐊᓂ ᐃᑲᔪᖅᑐᕐᓗᒋᑦ ᑮᓇᐅᔭᒃᑯᑦ ᐱᔭᒃᓴᐅᔪᑦ ᓴᖅᑭᓯᒪᔪᓄᑦ ᐊᒻᒪ ᑮᓇᐅᔭᓕᐅᖅᐸᓪᓕᐊᓂᖓ ᓄᓇᓕᖕᒧ ᐅᑎᕐᓗᓂ. Hᐋᒻᓚᒃᑯᑦ ᑮᓇᐅᔭᒃᑯᑦ ᐃᑲᔪᖅᑐᒐᐅᕗᑦ ᒐᕙᒪᒃᑯᑦᓄᑦ, ᓄᓇᓕᐅᑉ ᐃᓗᐊᓂ ᐃᓄᖃᕐᓂᖓ ᒪᓕᒃᓱᒍ. ᐱᓕᕆᐊᖅ ᐃᑲᔪᕐᓂᐊᖅᐳᖅ hᐋᒻᓚᒃᑯᑦᓄ ᒪᐃᔭ ᐊᒻᒪ ᑲᑎᒪᔨᑦ ᑮᓇᐅᔭᒃᓴᒥ ᑎᒥᒋᔭᐅᔪᕐᓄ ᐊᒻᒪ ᐱᔭᒃᓴᐅᔪᑦ ᓴᖅᑭᓯᒪᔪᓄᑦ. ᐱᓕᕆᐊᖅ ᐱᕚᓕᕈᑕᐅᓂᐊᖅᑐᖅ ᑮᓇᐅᔭᒃᑯᑦ ᐱᖑᐊᖅᑐᓕᕆᔨᑯᑦᓂ, ᐃᓕᓂᐊᒐᒃᓴᓂ, ᐋᕿᐅᒪᒡᕕᖕᓄᑦ, ᖃᑉᑎᕆᔨᑯᑦᓂ, ᕿᓂᖅᑎᑯᑦᓂ, ᒪᒃᑯᒃᑐᑦ/ ᐃᓄᑐᖃᕐᓂ ᑐᕌᖓᔪᒥ ᐱᔭᒃᓴᓄᑦ, ᐃᓕᖁᓯᓕᕆᓂᕐᒧᓗ. ᐱᓕᕆᐊᖅ ᐱᕚᓕᕈᑕᐅᓂᐊᖅᒥᔪᖅ ᑮᓇᐅᔭᒃᑯᑦ ᓄᑖᕐᒥ ᐱᖑᐊᕐᕕᒃᑖᕐᓂᕐᒧᑦ. ᓇᖕᒥᓂᕆᔭᐅᓂᐊᖅᑐᖅ ᐊᐅᓚᑕᐅᓗᓂᓗ hᐋᒻᓚᑦᑯᑦᓄ ᐊᒻᒪ NRStor Remote Communities and Mines-ᑯᑦᓄ. NRStor-ᑯᑦᓄ ᓴᓇᔭᐅᓂᐊᖅᑐᖅ ᑖᒻᓇ ᐱᓕᕆᐊᖅ, ᐃᑲᔪᖅᑎᒌᒡᓗᑎᑦ ᐱᓕᕆᓗᑎᑐ hᐋᒪᑦᑯᓂ ᓯᓇᓂ ᐱᔭᕆᐊᖃᖅᒪᖔᑖ. ᓄᐃᑎᕇᓇᔭᖅᐳᖅ ᓯᔭᒃᓴᓂ ᐊᒻᒪ ᐱᓕᕆᐊᒃᓴᓂ ᓄᓇᓕᖕᒧᑦ, ᐃᑉᓚᐅᓖᑦ ᐱᒋᐊᕐᓗᒍ ᓯᑯᒡᕕᖕᒧ 2020 ᑎᑭᓪᓗᒍ. ᐊᓄᕆᒧ ᐅᒃᑳᓕᐅᕈᑦ ᐊᑐᖁᔭᖅᑐᖅ ᐅᑭᐅᑦ 20-25-ᓄᑦ (ᐱᒋᐊᕐᓗᒍ ᓯᑯᒡᕕᒃ 2020). ᑖᒻᓇ ᐱᓕᕆᐊᖅ ᐱᓪᓚᕆᐅᕗᖅ ᓄᐃᑎᕇᓂᐊᖅᒪᑦ ᑮᓇᐅᔭᓂᑦ ᓄᓇᓕᐅᑉ ᐃᓗᐊᓄᑦ ᐊᕐᕕᐊᓂ.

Inuinnaqtun: N/A

Personnel

Personnel on site: 8
Days on site: 90
Total Person days: 720
Operations Phase: from 2020-04-05 to 2020-10-30
Operations Phase: from 2020-10-30 to 2045-10-30
Post-Closure Phase: from to

Activités

Emplacement	Type d'activité	Statut des terres	Historique du site	Site à valeur archéologique ou paléontologique	Proximité des collectivités les plus proches et de toute zone protégée
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.

Engagement de la collectivité et avantages pour la région

Collectivité	Nom	Organisme	Date de la prise de contact
Arviat	Steve England	Hamlet of Arviat	2016-06-06

Autorisations

Indiquez les zones dans lesquelles le projet est situé:

Kivalliq

Autorisations

Organisme de régulation	Description des autorisations	État actuel	Date de l'émission/de la demande	Date d'échéance
Office des eaux du Nunavut	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 Association	NPC project materials forwarded to identified regulatory authority for review, in conjunction with NPC letter to NIRB confirming that project requires NIRB screening.	Active		
Environnement 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		
Gouvernement du Nunavut, ministère de l'Environnement	NPC project materials forwarded to identified regulatory authority for review, in conjunction with NPC letter to NIRB confirming that project requires NIRB screening.	Active		
Gouvernement du Nunavut, ministère du Développement économique et des Transports	NPC project materials forwarded to identified regulatory authority for review, in conjunction with NPC letter to NIRB confirming that	Active		

	project requires NIRB screening.			
Gouvernement du Nunavut, Services communautaires et gouvernementaux	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	Utilisation proposée	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

Collectivité

Utilisation de matériel

Équipement à utiliser (y compris les perceuses, les pompes, les aéronefs, les véhicules, etc.)

Type d'équipement	Quantité	Taille – Dimensions	Utilisation proposée
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)

Décrivez l'utilisation du carburant et des marchandises dangereuses

Décrivez l'utilisation de carburant :	Type de carburant	Nombre de conteneurs	Capacité du conteneur	Quantité totale	Unités	Utilisation proposée
Diesel	fuel	5	2	10	Cubic Meters	Fuel construction listed equipment

Consommation d'eau

Quantité quotidienne (m3)	Méthodes de récupération de l'eau proposées	Emplacement de récupération de l'eau proposé
0		

Déchets

Gestion des déchets

Activités du projet	Type des déchets	Quantité prévue	Méthode d'élimination	Procédures de traitement supplémentaires
Information is not available				

Répercussions environnementales :

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

Description de l'environnement existant : Environnement physique

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.

Description de l'environnement existant : Environnement biologique

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.

Description de l'environnement existant : Environnement socio-économique

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

Identification des répercussions et mesures d'atténuation proposées

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.

Répercussions cumulatives

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).

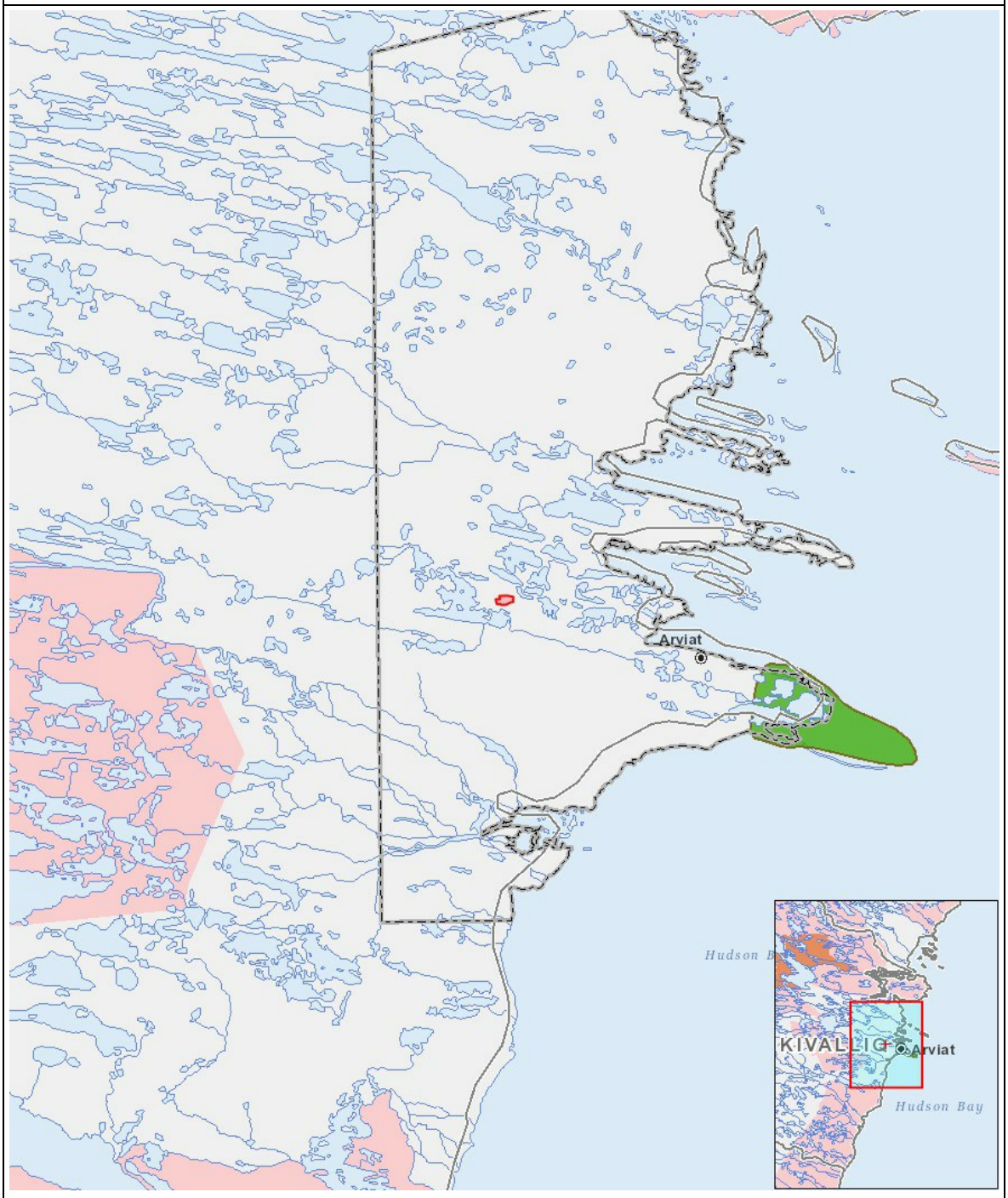
Impacts

Identification des répercussions environnementales

	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
Construction																									
Other		-	-	-	-	-	-	U	-	U	-	-	N		-	U	U	-	-		P	-	-	-	-
Exploitation																									
Other		-	-	-	-	-	P	U	-	-	-	P	U		-	-	U	-	-		P	-	-	-	-
Désaffectation																									
-		-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-		-	-	-	-	-

(P = Positive, N = Négative et non gérable, M = Négative et gérable, U = Inconnue)

Site du projet



Liste des géométries de projet

1	polygon	Prospective Wind Turbine Siting