



Type de demande :	New
Type de projet:	Centrale électrique
Date de la demande :	7/17/2021 12:17:07 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:	Megan Larose Quллиq Energy Corporation PO Box 250 Iqaluit Nunavut X0A 0H0 Canada Téléphone :: 867 979 7553, Télécopieur ::

## DÉTAILS

## Description non technique de la proposition de projet

Anglais:

Qulliq Energy Corporation (QEC) is a Government of Nunavut territorial corporation. Through the operation of 25 stand-alone diesel power plants, QEC is the sole provider of electricity to approximately 15,000 customers in the territory. Qulliq Energy Corporation is proposing to construct and operate a new power plant in the Hamlet of Cambridge Bay located in the Kitikmeot Region of Nunavut (the project). Cambridge Bay is a community with increasing demand for electricity, reflecting its growing population and increasing government and commercial enterprise. The existing Cambridge Bay power plant was constructed in 1958 and now suffers from several deficiencies. As the systems continue to age and become more outdated, it will become more difficult to maintain the facility, and plant reliability will become an issue. This proposed multi-year project will include a new five-engine power generation facility with installed capacity of 5,500 kilowatts, designed for a 40-year life and will incorporate new technology to improve reliability, efficiency, operation, and safety. The new plant will be capable of integrating renewable energy sources. A bulk fuel storage system consisting of two 2-million litre vertical fuel tanks, a secondary containment berm, one 90,000 litre double wall horizontal fuel tank, piping and pumping facilities will also be constructed. Additionally, QEC has plans for a Quonset garage, transformer storage, pole racks, oil and glycol drum storage, and waste disposal area with containment. Space will be allocated for sea can storage and a back-up emergency generator. Approximately 2 kilometres (km) of distribution line will be required to connect to the new power plant. The power plant building will include offices, electrical control room, line shop, and garage/workshop, in addition to the power generation hall. An approximately 400-metre long pipeline will be constructed to connect to the Petroleum Products Division (PPD) bulk fuel facility. The proposed lot is approximately 14,400 square metres located on Commissioner's Land within Lot 1017 Plan 4573 which will become Lot 3 Block 67 Plan 4781 (Sketch 500-SK-2019). The location is on the east side of Road R36, approximately 2 km southwest of the Hamlet of Cambridge Bay, approximately 1 km east of the Cambridge Bay Airport, and approximately 400 metres northeast of the PPD bulk fuel storage facility. There are no natural drainages, or watercourses within 100 metres of the project location. There are no designated wildlife areas, marine protected areas, territorial or national parks or Inuit owned lands in conflict with the power plant location. An archaeological impact assessment will be carried out in July 2021 to determine if archaeological sites are in potential conflict with the project and identify any necessary avoidance or mitigation measures. The project schedule is shown in Table 1.

Task	Timeline
Secure Land and Complete Archaeological Impact Assessment	March 2021 to March 2022
Detailed engineering design	April 2022 to March 2023
Contracting and procurement	April 2023 to March 2024
Construction	April 2024 to December 2025 (seasonal)
Testing and commissioning	January 2026 to March 2026
Plant handover	March/April 2026

The contractor awarded the construction tender will determine the required labour force to meet project requirements; however, it is estimated that 35 workers will be on-site depending on the construction phase. Contractors will be obligated to meet mandatory Inuit labour levels for all construction work. QEC has staff in the community of Cambridge Bay responsible for the day to day operation of the power plant. This includes a Plant Superintendent, Assistant Operator, and Relief Operator. It is expected that existing staff will transition over to the new power plant once it has been constructed and commissioned. Once the lines/maintenance shop and storage area is constructed, the power line technician crew, maintenance crew, and stores keeper will establish their offices here. In total, there will be up to 14 QEC staff working from the new power plant location. The majority of construction materials for the project will be delivered by sealift. Some materials may be sourced locally or delivered via cargo plane depending on size and quantity. The contractor will be responsible for sourcing construction equipment. This may include a combination of sub-contracting locally available equipment or bringing equipment to the community through the annual sealift. This project is anticipated to provide an overall benefit to the Hamlet of Cambridge Bay with more efficient use of diesel, a non-renewable resource, and the reduction of greenhouse gas emissions. It will also allow QEC to improve power generation infrastructure in the community, support continued community growth and achieve its mandate for the provision of safe, reliable electrical power to the communities it serves.

Français: La traduction en français n'a pas été identifiée comme une exigence pour cette communauté.

[illegible]

Inuinnaqtun: Qulliq Alrujaqtuqtunik Ikumadjutiit(QEC) Nunavut Kavamanut (GN) ukiuqtaqtumi kuapuliisiujut. Aulapkaivaktut 25nik uqhurjuaqtuqtunik pauwaqarviinik, QEC-kut avaliittut tuniuqhaijiujut alrujaqtuutikhanik imaatut amigaittunut 15,000 atuqtiujut ukiuqtaqtumi.Qulliq Alrujaqtuqtunik Ikumadjutiit uukturumajut nappaqtirilutik

aulapkailutiklu nutaamik pauwaqarvikhamik Hamlangani Iqaluktuutiami ittuq hamani Kitikmeot Avikturniani Nunavunmi (Havaakhaq). Iqaluktuutiaq nunagijaujuq amigairjuumiliqtunik pijumajaujunik alrujaqtuqtukhanik, naunairjuumiutaujuq amigaigjuumiliqtut inugiangningit imaalu amigaigjuumiliqtut kavamatkut ukuallu nanminirijaujut havagvigjuat. Tadja Iqaluktuutiami pauwaqariat nappaqtiqtauhimajuq 1958mi imaalu ajuqhautiqaqpaligtuq amigaittut ihuirutauvaligtut naamalluarungnaiqhutik. Pauwaqarviit utuqqanguliramik imaalu utuqqaanguqpallaramik, ajurnaqhitiiniaqtuq munaqhijaami, pauwaqarvianik imaalu pauwaqarvialat naamalluarnaiqhungujuq ajuqhautaulirniaqturlu. Una uuktuqtaujumajuq amigaittui-ukiuni havaarijakhaq ilaqarniaqtuq tallimanik-ingniqutiqtarluni pauwaqariami janulitaqariangini pauwaqarvikhanik iluorailutik imaatut 5,500 kilowatts, piliuqhimaajumik 40-ukiuni atugakhamik ilaqarniaqturlu nutaanik ihuaqutikhainik, ihuaqtumik. auladjutikhanik imaalu qajangnaittumik. Nuutaaq pauwaqarvikhat aulaniqarniaqtuq ilaujukhanik atuqtauffaagiaqaqtunik auladjutikharnik. Angijunut uqhuqarviit uqhurjuaqarvikhat atuqtakhat piqaqtut malruuk 2-million litre qunmuujuk uqhuqarviik, tuklianik ingalaitkutikhanik avalumik, atauhiq 90,000 litre qaliktariik haninmungajuq uqhuqarvik, turhuangit pappirvikhangitlu iliuraqtauniaqtut hanajauniaqtut. Unaluttauq, QEC-kut upalungaiqhimaajut nappaktirijamingni Quonset akhaluutiqtarvikhamik, transformer tutquumavikhanik, napariakhainik, kiniqtat ukuallu glycol qattarjungnik tutquumavikhanik ingalaitkutikhaqaqtumik . Inikhaqarniaqtut umiakkut agjautainik havigalingnik tamajaqariinik umingalu aallamiklu qilamiurutiqarumik janulitakhamik. Imaatut 2 kilometres (km) alrujaqtuutikhanik alrujamik pijariaqaqtut iliurautikhanik atadjutikhanik nutaamut pauwaqarvingmut. Pauwaqarvikhat igluqpat ilaqarniaqtuq havagviit, alrujaqtuutikhanik munaqhivikhanik igluarmik, alrujanik hanaviat, akhaluutiqtarvik/hanavikhat, ilaliutihimaajumik pauwaliurutikhanut tutqumavikhat. Imaatut aktigijumik 400-metre takujut turhuat nappaktiqtauniaqtun atajunik Uqhurjualiqlijikkut Uqhukhanik Havagvia (PPD) angijut uqhuqarviinut. Uukturnumajat nunakhaa najugakhaa imaatut aktigijut 14,400 kikkariktait metres najugaani Kamisinap Nunait ukunani Lot 1017 Plan 4573 imaatut naunaiqtauniaqtuq Lot 3 Block 67 Plan 4781 (Sketch 500-SK-2019). Najugaani kivataani haffuma Apqutaa R36, imaatut unngahiktigijut 2 km hivuraani Hamlangat Iqaluktuutiamit, imaatut unngahiktigijut 1 km kivataanit Iqaluktuutiap Milvianit, imaatutlu unngahiktigijut 400 metres tunnunganit PPD angijut uqhuqarviinit. Piqangittuq nunamit qurluarvikhanik, imainnarmikluunniit 100 miitasnik havaakhamik napaqtirvikhanit. Piqangittuq huradjat najugaanik, imarmiuniklu, avikturviuvimi Kanadamilu min'nguiriinnik Inuit nunagijainnikluunniit hulaqutikpat pauwaqarvikhaannik najugakhanik. Ingilraangnitatigun aktumattaqtunik ihivriuhiniaqtut July 2021 mi ihumaliuriami ingilraangnitamik pivikhaqarianginni ihuiliidjutiniarman havaakhamut naunairlugitlu hanaqijaulimaittaanginni.Havaakhamut naunaitkutikhangit takunnaqtut talvani Naunaitkutimi 1.Naunaitkut 1: Naunaitkutikhat Iqaluktuutiami Pauwaqarvikhat HavaakhaqHavaktakhaqKirlikhaqaqtutInikhanik Nunamik imaalu Iniqtirilugitlu Ingilrarnittat Aktuurtaulajunik NaunaijainirmutMarch 2021 talvunga March 2022 Naunaijattiaqhimaajut titiraujakhimaajumik piliurnia April 2022talvunga March 2023Kantraqarnikkut niuvirnirmunluApril 2023 talvunga March 2024Nappaktirinirmut April 2024 talvunga December 2025 (ukiumi ilangani)Uuktuutinik imaalu havaktitaulirniqJanuary 2026 talvunga March 2026Pauwaqarvik tunijaunikhanikMarch/April 2026Kantraqaqtukhamik tunijauniaqtut nappaktirijukhamik uuktuutat naunaiqtauniaqtut pijakhat havaktakhanut ihuaqtumik havaakhamut pijakhanik; kihimi, iitqurniakhimaajut 35 nik havaktikhat najugaani-inniaqtun pidjutigilugit nappaktirinikhanut qanurinningit. Kantraaktitaujut pijukhat tikiutilugit piqaqtukhanik Inuit havaktikhanik tamainni nappaktirilugumik.QEC-kunni haaktiit nunagani Iqaluktuutiami munarijaqaqtut ubluq tamaat aulavikhainut pauwaqarviani. Ukuat ilaujut Pauvvaliqivingmi Atan'ngujat, Ikajuqtiujuq Aulapkiijumut, umalu Himmataulaktuq Aulapkaajumut. Nahurijaujut tadja havaktiujut nuutirniaqtun nutaamut pauwaqarvikhamut nappaqtiqtaukpat iniqqadjuk. Tamna alrujaqarviat/ihuaqhaiviat havaktaujukhanik imalu tutquumavat tamajarvialat

nappaqtauksat, alrujiqijit havaktingit, ihuaqhajit havaktingit tutqumaviinik munaqhiji iniqtirniaqtzit havagvikhatik hamani. Atauttimut, imaatus aimgaittut 14nik QEC-kuni havaktiit havangniaqtun talvanga nutaami pauwaqarvikhat najugaani. Amigaitqijaujut nappaktirinirmun tamajait Havaakhamut agjaqtauniaqtut umiakktut. Ilangit tamajait niuviktauniaqtun nunanganit agjaqtaulutikluunniit tingmitikkut naunairutilugit aktilaangit kaffiutilangitlu. Kantraaktitaujuq munarijaqarniaqtuq atuqtitilutik nappaqtirutikhanik ingilrutinik. Ilaliutiniarungnaqhijutlu aadlamik kantraaktitaujukhamik nunamingnit hailijunik ingilrutinik imaaluunniit agjarlugit ingilrutit nunanganut umiakktut. Una havaakhaq niriugijaujuq pivikhaqariami Hamalatkunnut Iqaluktuutiami ihuatqijamik aturiangini uqhurjuunik, hilaamit pauwaliurutikhanik, imaalu ikiglijuumiutikhanik algungup pujuunik. Pipkainiaqtullu QEC-kunnut nakuuhivalliajutikhaanun pauwaqautikkut nunallaami, ikajuutikhanik amigaikpallianingat nunanganut, tikiutilugulu hivunikhaliuqtat qajangnaittumik, ihuaqtumik pauwakhainnik nunanganut kivgaqtuqtamingnut.

## **Personnel**

Personnel on site: 30

Days on site: 580

Total Person days: 17400

Operations Phase: from 2024-04-01 to 2026-03-31

Operations Phase: from 2026-04-01 to 2046-03-31

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
Cambridge Bay Proposed Power Plant Lot (area)	Municipal and Industrial Development	Commissioners	The proposed lot for the power plant is unoccupied and undeveloped Commissioner's Land; however, it is within the Municipal Boundary for the Hamlet of Cambridge Bay. The area proposed for the power plant has been designated by the Hamlet as 'restricted industrial' and is proposed for re-zoning as industrial. The Many Pebbles Golf Course is located in the immediate vicinity of the proposed power plant location and may conflict with one of the holes.	An archaeological impact assessment will be carried out in July 2021 to determine if archaeological sites are in potential conflict with the project. •In the event that cultural or archaeological artifacts are encountered, construction activity will stop and the Government of Nunavut Department of Culture and Heritage will be contacted.	The proposed project is approximately 2 kilometres southwest of the Hamlet of Cambridge Bay, approximately 1 kilometre east of the Cambridge Bay Airport, and approximately 400 metres northeast of the PPD bulk fuel storage facility. There are no designated wildlife areas, marine protected areas, territorial or national parks or Inuit owned lands in conflict with the power plant location. There are no natural drainages, or watercourses within 100 metres of the project location.
Cambridge Bay Proposed Power Plant Lot (area)	Fuel and chemical storage	Commissioners	The proposed lot for the power plant is unoccupied and undeveloped Commissioner's Land; however, it is within the Municipal Boundary for the Hamlet of Cambridge Bay. The area proposed for the power plant has been designated by the Hamlet as 'restricted industrial' and is proposed for re-zoning as industrial. The Many Pebbles Golf Course is located in the immediate vicinity of the	An archaeological impact assessment will be carried out in July 2021 to determine if archaeological sites are in potential conflict with the project. •In the event that cultural or archaeological artifacts are encountered, construction activity will stop and the Government of Nunavut Department of Culture and Heritage will be contacted.	The proposed project is approximately 2 kilometres southwest of the Hamlet of Cambridge Bay, approximately 1 kilometre east of the Cambridge Bay Airport, and approximately 400 metres northeast of the PPD bulk fuel storage facility. There are no designated wildlife areas, marine protected areas, territorial or national parks or Inuit owned lands in conflict

			proposed power plant location and may conflict with one of the holes.		with the power plant location. There are no natural drainages, or watercourses within 100 metres of the project location.
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#### Engagement de la collectivité et avantages pour la région

Collectivité	Nom	Organisme	Date de la prise de contact
Cambridge Bay	Hamlet Council - Chief Administrative Officer	Hamlet of Cambridge Bay	2020-07-20
Cambridge Bay	Land Development Officer	Hamlet of Cambridge Bay	2021-03-09

## Autorisations

Indiquez les zones dans lesquelles le projet est situé:

Kitikmeot

### Autorisations

Organisme de régulation	Description des autorisations	État actuel	Date de l'émission/de la demande	Date d'échéance
Hamlets and Municipalities	Land Application - applied March 9, 2021 to be reviewed at Lands Committee Mtg July 20, 2021	Applied, Decision Pending		
Government of Nunavut, Community Government & Services	Lease Agreement - subject to approval by the Hamlet	Applied, Decision Pending		
Hamlets and Municipalities	Development Permit	Not Yet Applied		
Government of Nunavut, Community Government & Services	Building Permit	Not Yet Applied		
Gouvernement du Nunavut, ministère du Développement économique et des Transports	Review by Nunavut Airports - no objection letter	Not Yet Applied		
Transports Canada	Aeronautical Assessment	Not Yet Applied		
Autre	NavCanada - Land Use Proposal Submission - No Objection Letter	Not Yet Applied		
Office des eaux du Nunavut	Hydrostatic Test - Type B license for water use and disposal of test water (to be completed by contractor)	Not Yet Applied		

### Project transportation types

Transportation Type	Utilisation proposée	Length of Use
Air	Construction labour and some materials will be transported to the community by air	
Water	Construction equipment and materials will primarily be transported to the community by sea lift	

### 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
Back Hoe/Excavator	1		excavation, land development, foundation
Bull Dozer	1		civil works, grading
Compactor	1		foundation construction
Fork Lift	1		moving/transporting materials
Dump Truck	2		gravel/rock and other material transportation
Mobile Tower Crane	1		lift/place materials and equipment to height
Pile Boring Machine	1		pile construction
Tele-handler	1		lifting/moving materials
Concrete Mixer	2		mixing and pouring concrete
Welding/Steel Cutting Machine	2		welding
Truck Trailer	1		transporting materials
Generator	5		Five generators will be installed in the power plant with a generating capacity of 5,500 kilowatts

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	1	90000	90000	Liters	Fuel will be used to run the generators for the power plant. Fuel will be stored in an above ground horizontal fuel storage tank.
Diesel	fuel	2	2000000	4000000	Liters	Fuel will be used to run the generators for the power plant. QEC bulk fuel supply. Fuel will be stored in vertical tanks within a secondary containment berm.
solvent	hazardous	4	205	820	Liters	generator maintenance/operation
engine oil	hazardous	16	205	3280	Liters	generator operation
propylene glycol	hazardous	1	2000	2000	Liters	power plant operations, heat transfer
Diesel	fuel	1	0	0	Liters	Fuel will be required during construction for all equipment used on site. Fuel storage and handling during construction will be the responsibility of the contractor. Details

						regarding the location and volume of fuel storage and location of equipment refueling during construction are not known at this time. The contractor will be required to have a fuel management plan.
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**Consommation d'eau**

<b>Quantité quotidienne (m3)</b>	<b>Méthodes de récupération de l'eau proposées</b>	<b>Emplacement de récupération de l'eau proposé</b>
0	To be determined by the construction contractor.	To be determined by the construction contractor.

# Déchets

## Gestion des déchets

Activités du projet	Type des déchets	Quantité prévue	Méthode d'élimination	Procédures de traitement supplémentaires
Municipal and Industrial Development	Déchets combustibles	unknown	Disposal of construction waste will be the responsibility of the contractor. If permitted by the Hamlet, some waste may be disposed of at the local landfill. During operations, QEC will dispose of domestic waste in the local landfill if permitted by the Hamlet. Waste that is not permitted in the local landfill will be shipped south as part of QECs annual waste shipment.	none
Fuel and chemical storage	Déchets combustibles	unknown	Disposal of construction waste will be the responsibility of the contractor. If permitted by the Hamlet, some waste may be disposed of at the local landfill. During operations, QEC will dispose of domestic waste in the local landfill if permitted by the Hamlet. Waste that is not permitted in the local landfill will be shipped south as part of QECs annual waste shipment.	none
Fuel and chemical storage	Déchet dangereux	2,460 litres	The amount of liquid waste generated during operation will vary annually. Waste fuel, oil, glycol, and solvent will be collected in drums, stored within secondary containment and shipped south for disposal.	none
Municipal and Industrial Development	Déchets non combustibles	unknown	During construction, the contractor will be responsible for the disposal of non-	none

			combustible waste. The amount of non-combustible waste generated during operations will vary annually. Material will be stored in quatrex bags or other appropriate containment and shipped south for disposal.	
Fuel and chemical storage	Déchets non combustibles	unknown	During construction, the contractor will be responsible for the disposal of non-combustible waste. The amount of non-combustible waste generated during operations will vary annually. Material will be stored in quatrex bags or other appropriate containment and shipped south for disposal.	none
Municipal and Industrial Development	Mort-terrain (sol organique, déchets, résidus)	unknown	Disposal of overburden and soil/rock excavated for the power plant and bulk fuel storage area to be determined by the contractor in communication with the Hamlet. Volume to be determined. If possible, some overburden material may be used to build up other areas within the plant site.	none

#### Répercussions environnementales :

Please refer to the attached Project Description (Table 4). Note: The environmental impact identified for permafrost, sediment and soil quality, air quality, and noise levels should be negative/mitigable for the construction and operation phases of the Municipal and Industrial Development and Fuel and Chemical Storage activities. The selection changes automatically to negative/non-mitigable every time this page is viewed.

# **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**

Please refer to the attached Project Description document.

**Description de l'environnement existant : Environnement physique**

Please refer to the attached Project Description document.

**Description de l'environnement existant : Environnement biologique**

Please refer to the attached Project Description document.

**Description de l'environnement existant : Environnement socio-économique**

Please refer to the attached Project Description document.

**Miscellaneous Project Information**

**Identification des répercussions et mesures d'atténuation proposées**

Please refer to the attached Project Description document.

**Répercussions cumulatives**

Please refer to the attached Project Description document.

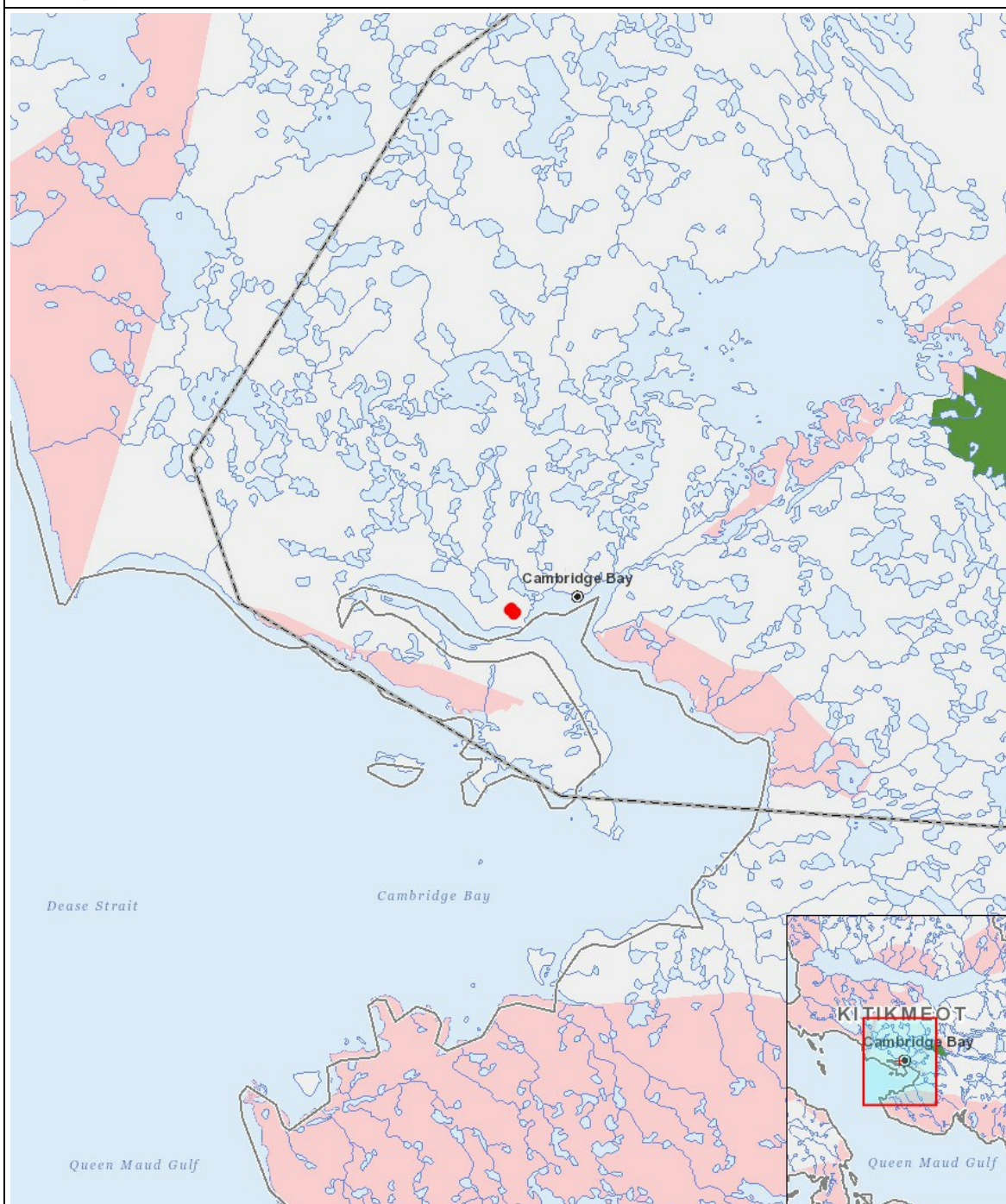
# Impacts

## Identification des répercussions environnementales



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

## Site du projet



## Liste des géométries de projet

- |   |         |   |
|---|---------|---|
| 1 | polygon | Cambridge Bay Proposed Power Plant Lot (area)     |
| 2 | point   | Cambridge Bay Proposed Power Plant (four corners) |