

Demande de la CNER faisant l'objet d'un examen préalable #125620
Gjoa Haven New Power Plant

DÉTAILS

Description non technique de la proposition de projet

Anglais:

Quллиq Energy Corporation (QEC) is a Government of Nunavut (GN) 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. Quллиq Energy Corporation is proposing to construct and operate a new power plant in the Hamlet of Gjoa Haven located in the Kitikmeot Region of Nunavut (the project). Gjoa Haven is a community with increasing demand for electricity, reflecting its growing population. The existing power plant was constructed in 1977 and has exceeded its design life. As the facility continues to age and become more outdated, it will become more difficult to maintain, and plant reliability will become an issue. Without reliable equipment, QEC's customers are at risk of system failure. This proposed multi-year project will include a new four-engine power generation facility with installed capacity of 3,100 kilowatts, designed for a 40-year life and will incorporate new technology to improve reliability, efficiency, operation, and safety. Construction will include a fuel storage system consisting of two 90,000 litre horizontal fuel tanks, and fuel pumping facilities. Additionally, QEC plans to construct a Quonset garage, transformer storage, pole racks, and oil and glycol drum storage and waste disposal area with secondary containment berm. Space will be allocated for transient staff accommodations, sea cans for storage, and a back-up emergency generator. Upgrades to the existing distribution system will also be required to connect to the new power plant. An approximately 50-metre fuel pipeline will be constructed to connect to the Petroleum Products Division (PPD) bulk fuel facility located to the east. The pipeline will be a combination of aboveground and underground construction. The new plant will be capable of integrating renewable energy sources. The proposed new lot is approximately 10,110 square metres located on unsurveyed, untitled municipal land along Nuvu Road (Road R36) and is approximately 50 metres west of the PPD bulk fuel facility. The area proposed for the power plant has been designated by the Hamlet for industrial land use. The proposed lot was presented to and approved by the Hamlet of Gjoa Haven on June 1, 2021. The GN-CGS Planning and Lands Division issued a Sketch Plan Approval Report on June 18, 2021. 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 anticipated project schedule is shown in Table 1.

Task	Anticipated Milestone
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 to QEC staff	March/April 2026

On average, 21 workers are estimated to be required on-site for the duration of construction. This will fluctuate based on the construction phase. The contractor awarded the construction tender will determine the required labour force to meet project requirements. Contractors will be obligated to meet mandatory Inuit labour levels for all construction work. QEC has staff in Gjoa Haven that are responsible for the day to day operation of the power plant. This includes a full-time Plant Superintendent, and two part-time Assistant Operators. Existing staff will transition over to the new power plant once it has been constructed and commissioned. No new staffing is anticipated to be required as a result of this project. The majority of construction materials for the Project will be delivered by annual 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 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 Gjoa Haven 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: Traduction française non identifiée comme requise pour cette communauté.

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Inuinnaqtun: Qulliq Auladjutiqhanut Kuapuraisinga (QEC) Nunavut Kavamanut (GN) ukiuqtaqtumi kuapuraisiuyuq. Aulapkainitigut 25 nik uqhuryuanik atuqpaktut pauwaqaqviit, QEC kut inminiinnak tuniqhaivaktut pauwaqariamngnik 15,000 nguyungnaqhiyut atuyuqtut nunaptingni. Qulliq Auladjutiqhanut Kuapuraisinga uuktuqtut nappaqtirilutik aulapkailugitlu nutaamik pauwaqaqviaviqhamik Hamlangganni Uqhuqtuuq ittuq Kitikmeot Avikturvianni Nunavunmi (havaaqhaq). Uqhuqtuuq nunallaaq amigaiquummiktut ihariagiuni pauwaqhamik, ihumagitigiplugu inuriaqhilimat. Hadja pihimayuq pauwaqaqvia nappaktauhimayuq 1977 mi tikiutigiplunilu igluqpaup atugaqhaatigut. Pauwaqaqviit utuqqaqpallaaraan'ngamik, ayurnarniaqtuq munaqhiyaami, pauwaqaqviklu ayuqhautipkarniaqtuq. Ihuaqanggittunik atuqtaagtunik, QEC kut akiliqtuihimmaagtut ayurnautiqarniaqtut pauwaiqqat. Uuktuutigiyauyuq qaffini ukiuni havaariyaqhaq ilaliutiqarniaqtuq nutaamik hitamanik ingniqutiqaqluni pauwaqariami januraitaqtuutilutik pawaqaqviqhaq iliuraqtauahun'nguyug 3,100 kilowatts nik, piliurhimayuq 40 ni ukiuni

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nakuuhivalliadjutiqhaatigun pauwaqtautikkut nunallaami, ikayuqtau himmangginna klugitlu amigaingniat nunaqaqhimayut, tikiutilugulu hivuniquhaliuqtaat aanniqhimaittumik, piqainnaktittilugit pauwaqhainnik nunallaami.

Personnel

Personnel on site: 21

Days on site: 580

Total Person days: 12180

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
Lot A - Proposed Power Plant	Fuel and chemical storage	Municipal	The proposed lot is within the Municipality of Gjoa Haven and has been designated for industrial land use. A portion of the selected location is currently being used by Canadrill and XYZ Contractor as a storage location for sea cans, construction materials, unmarked drums, and drilling supplies/equipment.	An archaeological impact assessment will be carried out in summer 2021 to determine if archaeological sites are in potential conflict with the project and identify any necessary avoidance or mitigation measures	Within the Municipality of Gjoa Haven, on the east side of the community, outside the core community area. There are no natural drainages within 100 metres and no designated wildlife areas, marine protected areas, territorial or national parks, or Inuit Owned Lands in conflict with the proposed power plant location.
Lot A - Proposed Power Plant	Municipal and Industrial Development	Municipal	The proposed lot is within the Municipality of Gjoa Haven and has been designated for industrial land use. A portion of the selected location is currently being used by Canadrill and XYZ Contractor as a storage location for sea cans, construction materials, unmarked drums, and drilling supplies/equipment.	An archaeological impact assessment will be carried out in summer 2021 to determine if archaeological sites are in potential conflict with the project and identify any necessary avoidance or mitigation measures	Within the Municipality of Gjoa Haven, on the east side of the community, outside the core community area. There are no natural drainages within 100 metres and no designated wildlife areas, marine protected areas, territorial or national parks, or Inuit Owned Lands in conflict with the proposed power plant location.

Engagement de la collectivité et avantages pour la région

Collectivité	Nom	Organisme	Date de la prise de contact
Gjoa Haven	Hamlet Council	Hamlet of Gjoa Haven	2020-07-30
Gjoa Haven	Hamlet Council - Senior Administrative Officer	Hamlet of Gjoa Haven	2021-01-12
Gjoa Haven	Land Development, Senior Administrative Officer	Hamlet of Gjoa Haven	2021-05-18

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
Government of Nunavut, Community Government & Services	Lease agreement for new lot	Active		
Hamlets and Municipalities	Development Permit	Not Yet Applied		
Government of Nunavut, Community Government & Services	Building Permit	Not Yet Applied		
Transports Canada	Aeronautical Assessment (2021-344)	Active	2021-06-24	
Hamlets and Municipalities	Land application and lease agreement for new lot - applied 2021-05-18	Active		
Office des eaux du Nunavut	Hydrostatic Test - Type B license for water use and disposal of test water	Not Yet Applied		
Autre	NavCanada - Land Use Proposal SubmissionNo Objection Letter received 2021-06-30	Active		
Autre	Nunavut Airports Division - Project ReviewNo Objection Letter Received - 2021-06-30	Active		

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
Excavator	1		excavation as needed on-site
Backhoe	1		excavation as needed on-site, material collection
Bulldozer	1		material excavation and movement on-site
Grader	1		civil construction, level soil/gravel as needed
compactor machine	1		site compaction as required
articulated truck (dump truck)	1		transport of material to and from site
tower crane	1		lifting materials to height
Bored pile drilling equipment	1		pile construction
Boom Truck	1		lifting construction materials to height
Telehandler	1		carrying/transporting heavy loads
Fork lift	1		carrying/transporting materials
trailer	1		transporting materials to and from site
Concrete mixer	1		mix and pour concrete
Welding Machine	2		welding
Generator	4		Four generators will be installed in the power plant with a generating capacity of 3,100 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	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.
Diesel	fuel	2	90000	180000	Liters	Fuel will be used/stored at the power plant to run the generators. Fuel will be stored in above-ground horizontal fuel storage tanks.
solvent	hazardous	4	205	820	Liters	generator maintenance and operation
engine oil	hazardous	16	205	3280	Liters	generator maintenance and operation
propylene glycol	hazardous	1	2000	2000	Liters	power plant operations, heat transfer

Consommation d'eau

Quantité quotidienne (m3)	Méthodes de récupération de l'eau proposées	Emplacement de récupération de l'eau proposé
0	To be determined by the Contractor.	To be determined by the 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.	unknown
Municipal and Industrial Development	Déchets combustibles	unknown	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	Amount of liquid waste during operation will vary annually. Waste fuel/glycol will be collected in drums, stored within secondary containment and shipped south for disposal.	none
Municipal and Industrial Development	Déchets non combustibles	200 litres	Amount of non-combustible waste generated during operation will vary annually. Material will be stored in quatrex bags or other appropriate containment and shipped south for disposal.	none
Municipal and Industrial Development	Déchets non combustibles	unknown	Amount of non-combustible waste generated during construction is not known. Appropriate disposal of all non-combustible waste generated during construction will be the responsibility of the contractor.	none
Municipal and Industrial	Mort-terrain (sol organique, déchets,	unknown	Disposal of overburden and	none

Development	résidus)		soil/rock excavated for power plant 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.	
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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 activity. The selection seems to change 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

Description de l'environnement existant : Environnement physique

Please refer to the attached Project Description.

Description de l'environnement existant : Environnement biologique

Please refer to the attached Project Description.

Description de l'environnement existant : Environnement socio-économique

Please refer to the attached Project Description.

Miscellaneous Project Information

Identification des répercussions et mesures d'atténuation proposées

Please refer to the attached Project Description.

Répercussions cumulatives

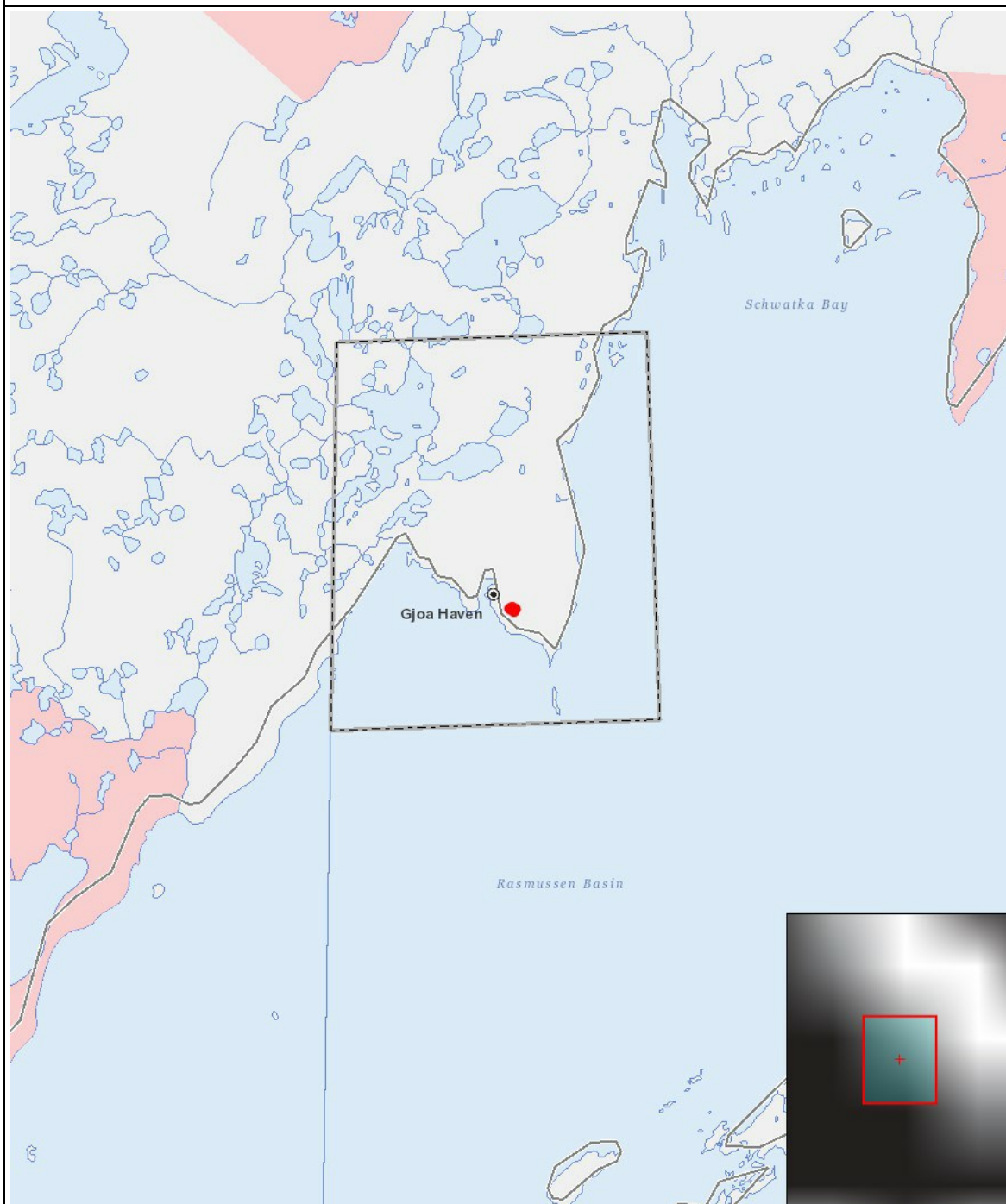
Please refer to the attached Project Description.

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	Lot A - Proposed Power Plant
2	point	FourCorners-GjoaHaven_Option1_Location