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 Igloolik located in the Qikiqtaaluk Region of Nunavut (the project). Igloolik is a community with increasing demand for electricity, reflecting its growing population. The existing Igloolik power plant was constructed in 1974 and has exceeded its design life. The installed firm capacity of the existing power plant is inadequate to meet the community's projected required firm capacity as early as 2022/2023. Without changes to the power generation infrastructure, the capacity shortfall will steadily increase with increased electricity demand in the community, resulting in reduced plant reliability.

This multi-year project will include a new four-engine power generation facility designed for a 40-year life, with installed capacity of 3,450 kilowatts, and will incorporate new technology to improve reliability, efficiency, operation, and safety. The new plant will be capable of integrating renewable energy sources. Construction will include a fuel system consisting of two 90,000 litre double-walled, 110% contained horizontal fuel tanks and fuel piping and pumping facilities. 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 transient staff accommodations, sea cans for storage, and a back-up emergency generator.

Upgrades to the existing distribution system will be required to connect to the new power plant. The main power plant building will include an office, electrical control room, mechanical room, and garage/workshop, in addition to the power generation hall. An approximately 250-metre fuel pipeline will be constructed to connect to the Petroleum Products Division (PPD) bulk fuel storage facility located to the south. The pipeline will be a combination of aboveground and underground construction.

The proposed lot is approximately 8,516 square metres located on unsurveyed, untitled Commissioner's land, east of Lot 1000 Plan 1567 (airport property), and approximately 225 metres north of the PPD bulk fuel facility. A QEC land application was presented to, and approved by the Hamlet of Igloolik on June 17, 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 project schedule is shown in Table 1.

Table 1: Schedule for the Igloolik Power Plant Project

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 to QEC Staff	March/April 2026

The contractor awarded the construction tender will determine the required labour force to meet project requirements. It is estimated that approximately 21 workers will be on-site, depending on the construction phase. As per the Nunavummi Nangminiqaqtunik Ikajuuti (NNI) Regulation, contractors will be obligated to meet mandatory Inuit labour levels for all construction work.

QEC has staff in Igloolik that are responsible for the day to day operation of the power plant. This includes a Plant Superintendent (full time), and two Assistant Operators (part time). It is expected that 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 to the community 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 Igloolik 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.