

Non-Technical Project Proposal Description

Project Title: Investigative Studies for the Iqaluit Nukkiqsautiit Project (INP)
Update to NPC 150770 as of December 2025

Introduction and Project Summary

The Iqaluit Nukkiqsautiit Project (INP) is an Inuit-led renewable energy project being advanced by Nunavut Nukkiqsautiit Corporation (NNC), a 100% Inuit-owned organization. The Project reflects a long-standing vision of Qikiqtani Inuit to reduce reliance on diesel-generated electricity and transition toward locally driven, renewable energy solutions. Specifically, the INP seeks to provide long-term energy security and environmental benefits to Iqaluit through waterpower generation, with the potential integration of wind energy.

This Project features a hydroelectric dam, powerhouse, road, and transmission line from the powerhouse to Iqaluit, with a capacity of 15 - 30 megawatts (MW). The Project is located on the Hall Peninsula, Baffin Island and includes a small unnamed lake which is located approximately 55 kilometers (km) northeast of Iqaluit, as well as areas between unnamed lake and Iqaluit where the transmission line is proposed. It is envisioned to operate 12 months per year and will substantially reduce the dependency of Iqaluit on diesel power.

The Project is currently in the early planning and study phase. Environmental and technical field programs began in fall 2024 and are required to continue through 2026 to support Project design and the preparation of an Environmental Impact Statement (EIS). These studies are strictly for information gathering and do not authorize construction of the hydropower project. The results will help determine whether a full project can proceed and will support future Nunavut Planning Commission (NPC) conformity reviews, Nunavut Impact Review Board (NIRB) screening, and Environmental Impact Statement (EIS) requirements. All work described in this submission is temporary, low-impact, and limited to accessing the area to collect data needed for planning.

The NNC has contracted a team of consultants including Dillon Consulting Limited (Dillon), EcoLogic Consultants Ltd. (EcoLogic), Sikumiut Environmental Management Limited (SEM), Tetra Tech, and Sea to Sky Energy Solutions (SSES), whose combined expertise in environment, engineering, regulation, and community engagement will support the NNC in delivering this Project, continuing with Year 3 of environmental baseline studies in the Kuugaluk South study area. Year 3 investigative studies are expected to commence in May 2026 and conclude in October of 2026 for that field season. However, further investigative programs may be undertaken in subsequent years should they be required to support the EIS or other regulatory processes.

Project Description and Activities

The purpose of this research is to gain an understanding of the key ecosystem and geotechnical components within the study area in order to help assess the feasibility of the Project. The NNC are respectfully requesting permission to access these areas in order to gather localized information. The insights gained through these studies will support informed decision making by the communities and will help the Project team identify and address potential concerns through thoughtful Project design. Nunavummiut will be fully informed about the Project and will have

ample opportunity to freely raise concerns, ask questions, and provide feedback throughout the process.

Studies will cover the terrestrial wildlife, avian, vegetation, aquatic, and archaeological components of the study area. It is expected that the studies will consist of the following:

- Wildlife surveys: Observing caribou, fox, hare, and bird species by helicopter, on foot, and using trail cameras.
- Bird surveys: Recording nesting areas, migration timing, and species presence.
- Vegetation and soil surveys: Identifying plants, wetlands, and soil types.
- Aquatic studies: Assessing water quality, sediment, fish presence, and fish habitat.
- Hydrology studies: Measuring water levels and how water flows through lakes and rivers.
- Atmospheric studies: Collect baseline information on air quality and noise levels in the project area.
- Archaeological surveys: Walking the land to identify any cultural or historical sites.
- Geotechnical drilling: Taking underground samples to understand rock, soil, and ground ice conditions.
- Socioeconomic: Gather information about community perspectives, land use, and potential socio-economic considerations related to the Project.

A proposed geotechnical investigation program will be included in this season. This program is a multi-phase effort designed to inform the preliminary and final design of the proposed hydropower facility by assessing the subsurface soil, rock, and groundwater conditions, confirm the location of ground ice, and to verify the location of a possible regional scale fault which may traverse the dam area.

The drilling program will commence in June 2026 where 36 boreholes will be drilled at depths of 20 m to 99 m, with the majority falling between 30 m and 70 m. Collected geotechnical data will be used to characterize materials and develop design parameters, update geophysical interpretations, log and sample permafrost, and install thermal instrumentation to monitor the ground gradients. All drill sites will use temporary pads. Drilling water, cuttings, and brine will be managed so they do not enter nearby waterbodies or damage permafrost. Sites will be monitored during drilling to avoid disturbance to wildlife.

A rotational team of up to 30 people during peak operations will be involved in the Project over a 90-day period. Field staff will be taken to the study area via helicopter or twin otter. All research teams will be accompanied by a locally hired bear monitor and field assistant. Nunavut residents will be hired to assist with the field studies, camp set-up and operations and maintenance. Nunavut residents will also be hired to fulfil the role of fieldwork coordinator and wildlife monitors.

A 30-person temporary base camp will be established near the head of the unnamed lake. It will be active beginning in May 2026 to mid-October of 2026.

Components of this camp will include:

- Fifteen (15) sleeping tents (seven (7) single occupancy, eight (8) double occupancy).
- One (1) large tent (kitchen and dining).
- Four (4) shower and sanitation facilities.
- One (1) storage tent

- Diesel generators, solar power systems, propane or diesel stoves.
- Communication devices (satellite phones, radios, Starlink).
- Emergency supplies (e.g., first aid kit, firearms, fire extinguisher and spill kits).
- Camp fuel: Diesel 3 x 205 L and Gasoline 3 x 205 L caches (~1230 L). Portable propane cylinders (20-100 lbs)
- Drill fuel: Diesel 6 x 205 L cache.
- Aviation fuel: 21 x 205 L (~5,100 L) weekly supply on hand.

In addition to the camp accommodation, other temporary structures and laydown areas that will support the drilling program at the camp site, and drill site will include:

Camp Site

- One (1) equipment room (storage of drill parts, core boxes, consumables etc.)
- One (1) mini lab (to test core samples on site)
- One (1) storage room (to store drilled cores)
- One (1) chiller (to chill brine and cores)

Drill Site

- Two (2) core shacks (to log the core at the rig)
- One (1) storage area (storing drill equipment and consumables)

Environmental and Resource Use

The following table lists the equipment to be used for the investigative studies:

Table 1 – Equipment List

Type and Number	Size	Proposed Use
2 x Honda water pump	3hp	Water use
2 x Honda water pump	4hp	Water use
2 x Yamaha generator (gas)	6000isd	Heat and light for the camp facility
1x Champs generator (diesel)	30kw	Heat and light for the camp facility
1 x Honda generator (gas)	1000w	Heat and light for the camp facility
1 x Honda ATV (gas)	350cc	Camp assembly assistance, limited on site mobility
1 x CanAm ATV (gas)	1000cc	Camp assembly assistance, limited on site mobility
1 x Suzuki outboard motor (gas)	4hp	Boat motor for aquatic field work
8 x Solar panels	100W	To supplement the use of diesel and gas generators providing power to the camp facility

Type and Number	Size	Proposed Use
4 x Batteries	120Amp	To supplement the use of diesel and gas generators providing power to the camp facility
16 x Inverters	1000W	To supplement the use of diesel and gas generators providing power to the camp facility
Canoe (1 unit)	22 ft	Aquatic assessments
Helicopter (1 unit)	Not specified	Transport personnel and equipment
Outboard motor (1 unit)	Suzuki 4hp (Gas)	Boat motor for aquatic field work
GPS units	Not specified	Terrestrial, Avian, Archaeological surveying
Trail cameras	Motion-activated	Assess caribou and other terrestrial wildlife presence and movement
Digital cameras	Not specified	Wildlife, habitat, archaeological surveying
Water quality meters, sampling kits, nets	Not specified	Aquatic surveys
Binoculars	Not specified	Avian surveys
Firearms (Rifle/Shotgun)	Not specified	Bear deterrence and safety (handled by trained personnel)
Radios/Phones/Starlink	Satellite phones, VHF handheld radios, Starlink system	Emergency communications, project coordination
Cordless drills (4 units)	Milwaukee	Camp construction and operation
Hand tools (e.g., trowels, flagging tape)	Not specified	Archaeological surveys
Spill Kits, First Aid Kits, Fire Extinguishers	Not specified	Containment and response for emergencies
1 x Chiller (Camp Site)	72x44x42'	Chill brine and cores
1 x Drill (Rig Site)	12x4x28'	Drilling
2 x Chiller (Rig Site)	72x44x42'	Chill brine and cores
2 x Mixing Tank (Rig Site)	7.5x3.3x3.3'	Mixing bentonite and chilled brine
2 x Generator (Rig Site)	26x18x22'	Power for core shacks

Fuels will be stored in 205-liter (L) metal drums within secondary containment (24"x48"x6"), utility trays and spill kits will be readily available to reduce the risk of spills. There will be 3 drums of diesel, 3 drums of gasoline, and 21 drums of aviation fuel cached near the base camp in a bermed area designated for fuel storage.

Two ventilated pit-style outhouses will be constructed, located on stable ground at least 100 meters from any waterbody. The pits will be lined with impermeable geomembrane or similar containment to prevent infiltration into the soil or underlying permafrost. Waste will be managed in situ throughout the operating season. Additives may be used to promote composting and reduce odour. Each pit will be monitored to ensure capacity is not exceeded during the field season. All solid waste will be segregated and stored in steel drums and removed regularly.

Greywater will be directed from kitchen and washing areas to a manmade settling and filtration area, designed to handle daily camp volumes. The system will consist of: (1) Primary Settling Basin: A shallow, lined trench or sump to allow solids and grease to settle out. (2) First Sand Filtration Zone: Greywater flows by gravity through a sand and gravel bed designed to remove suspended solids and reduce nutrient load. (3) Second Sand Filtration Zone: A secondary filtration bed provides further treatment and disperses the treated effluent into the surrounding soil. The filtration zones will be constructed using locally sourced inert materials and will be monitored regularly to ensure proper function and drainage.

Drilling water will be stored in totes and salt bags/totes as well as polymers and muds will be within a portable container to prevent spillage. Excess drilling water will be used in subsequent boreholes. Mud tanks will be used to contain the drilling fluid in the event of accidental discharge. Oils greases, paints, solvents, and oily rags will be contained within a secondary lined facility until they can be removed from the Project site for final disposal at a treated facility. These materials will be backhauled during scheduled flights.

Bear monitors will be present at all times around the campsite. Firearms, bear bangers, and flares will be stored in secure lockers. All food waste will be stored in sealed wildlife proof 205 L drums in a secured storage tent. Aircraft operations will avoid known wildlife concentrations, including caribou movement routes and raptor nesting areas. Field teams will avoid approaching wildlife and will adjust routes to minimize disturbance.

All components of this camp facility will be transported to the campsite via Air Transport (helicopter). Once research activities are concluded, the camp will be dismantled and demobilized, and land will be returned to its previous state.

Engagement and Consultation

The following is a summary of the engagement activities that have been ongoing since the beginning of the Project.

- June 2023 (Phase 1): "Let's Talk Energy" was held for Iqaluit Rightsholders and the Public to provide renewable energy education and gauge interest.
- November 2023 (Phase 2): "Have Your Say" presented 16 options for renewable energy, culminating in a ranked ballot vote by Iqalungmiut (including high school students), with the Kuugaluk waterpower site receiving ~75% consensus.
- March 2024: The Iqaluit QIA Board approved a motion to support advancing the project to Phase 3.
- July 2024: Iqaluit Rightsholders, including Amaruq HTA (Hunters and Trappers Association) representatives, participated in a site visit to Inukjuak to learn about community-scale hydro power.

- January 2025 (Phase 3 - FEED): Amaruq HTA workshop was held to review preliminary access road routes, receiving feedback on communication and environmental concerns.
- January 2025: Iqaluit Rightsholders and the Public received a project update and were questioned on preferred project goals (electrical only or combined with thermal/industrial load).
- March 2025: A flyover of the project site with Rightsholder and Federal Representatives was conducted, providing a visual representation of the location.
- March 2025: Project updates were provided to the Panniqtuuq Lands and Resources Committee and the Public, where environmental concerns and the need for benefits clarification were raised.
- March 2025: A Project Update was presented at the Amaruq HTA Annual General Meeting (AGM) (75+ attendees), where the clarity that the project was only in the studies phase was helpful.
- May 2025: Special Hamlet Council Meeting held in Panniqtuuq to discuss Summer Field Plan Co-Development

In addition to these formal events, NNC staff visited the HTA office informally and hosted Rightsholders (including two HTA board members) on a trip to Inukjuak in July 2024 to visit an Inuit-led waterpower project.

Concerns and Mitigation Strategies:

Questioned Kuugaluk as the only option: Asked if development could happen on another river closer to Iqaluit. NNC's Response: Kuugaluk is the preferred site because other nearby rivers are more heavily relied on for fishing and Inuit cultural use and are more environmentally sensitive; Kuugaluk is predicted to have the lowest impacts.

Alternative Energy Sources (SMRs/Solar/Wind): Asked if Small Modular Reactors (SMRs) or solar were considered. NNC's Response: SMRs are not yet commercially ready on the scale required for Nunavut and have social acceptability issues. Solar cannot replace the diesel system and would require a very large land area, resulting in high environmental impact. Wind also cannot replace diesel alone but may be added to the waterpower plant to amplify power output, possibly enabling electric heating.

Kuugaluk Justification: Asked why Kuugaluk is the top option. NNC's Response: It was the top recommended option by expert consensus, with equal weighting given to environmental, social, and techno-economic factors. It has the lowest incidents of Inuit cultural usage, low projected environmental impacts, and sufficient power capacity for a reasonable cost, validated by the ~75% ranked ballot vote by Iqalungmiut.

Impacts on Fish: The biggest concern from the Panniqtuuq HTA is the impact on fish, and they can only support the project if there is no impact. NNC's Response: They cannot know the impacts until studies are complete, and they look forward to sharing predicted impacts and benefits.

Contaminants and Wildlife: Asked how wildlife is being prioritized and if there will be contaminants. NNC's Response: Environmental factors have equal weight to economic and social factors in decision-making, driven by Inuit Societal Values. Waterpower development does not add or take away contaminants from the river; the water pushes the turbine and returns downstream, with ongoing water quality testing planned.

Transmission Line: The very long transmission line needs discussion and associated potential impacts must be studied. NNC's Response: Agreed, noting that linear interruptions may cause changes to how the land is used by animals, and this is a key part of the environmental studies, with results shared publicly and reviewed by the NIRB.

Panniqtuuq River Outlet Use: Panniqtuumiut use the Kuugaluk river's outlet during the summer. NNC's Response: Acknowledged, and they will ensure these people know what is going on.

Inuit Hiring: Asked how Inuit will be hired. NNC's Response: They are requiring at least one Inuk field assistant to be hired for each southern field worker for the summer data collection programs, with a hiring prioritization policy favoring Local, Qikiqtani, Nunavut, and Inuit Nunangat firms.

Youth Participation: Asked if students can be brought along for field work. NNC's Response: This is sometimes possible, depending on the contractor's insurance policy, and NNC aims to make changes to insurance policies to amplify youth participation as quickly as possible.

Sensitive Areas and Alternatives

There are no specific areas of historical, cultural or archaeological significance identified by the proponent or by preliminary archaeological field work within the physical footprint of the proposed Project. Movement outside of camp will only be done by foot or helicopter. Cultural heritage values are to be communicated by field staff on a daily basis.

The Kuugaluk River site was chosen because available studies indicate it has the lowest impact on Inuit land use compared to other potential sites. A QIA-led Tusaqtavut Study that interviewed Elders and community members using mapping tools indicated that the Kuugaluk River site had zero reported values in the categories of cultural continuity, fishing and freshwater resource use, marine harvesting, terrestrial harvesting, travel trails, and habitation. The site is, however, located within the Amaruq HTA's hunting grounds. Panniqtuuq residents also utilize this area as a hunting ground. The site's low cultural usage was a major factor in it being ranked as the best option by project experts and validated by a 76% consensus vote by Iqalungmiut to proceed with this conventional waterpower location.

Regulatory Context

To support the execution of these proposed studies, the following permits and licenses have been issued and will be updated and/or renewed for the scope of the 2026 field season.

Table 2 – List of Current Approved Permits/Licenses for the Project

Authorization/Agency	Permit Number	Issued	Expiry	Scope of Activities
Land Use Conformity Determination (Nunavut Planning Commission)	150770	2025-04-15	n/a	Conformity determination for environmental investigative studies
Screening (Nunavut Impact Review Board)	25YN033	2025-07-08	n/a	Screening determination
Class A Land Use Permit (Crown Indigenous	N2025N0016	2025-08-12	2030-08-11	Field camp

Relations and Northern Affairs)				
Scientific Research Licence (Nunavut Research Institute)	01 032 25N-A	2025-07-28	2025-12-31	Collection of environmental baseline data
	01 043 25R-M	2025-10-30	2025-12-31	Collection of environmental baseline data (hydro modelling)
Water Licence (Nunavut Water Board)	8WLC-INP2526	2025-07-16	2026-07-15	1 m ³ /day
Wildlife Research Permit (GN Department of Environment)	2025-046	2025-06-15	2025-09-15	Assessment of existing wildlife populations and habitats in and around the proposed Project area
Class 1 Archaeology and Palaeontology Permit (GN Department of Culture and Heritage)	2025-11A	2025-06-04	2025-10-31	Assessment of archaeology and palaeontology findings in and around the proposed Project area

Table 3 – Anticipated Approvals Required for Ongoing Investigative Studies

Permit/Approval/License/Authorization	Agency	Status
Conformity Determination	Nunavut Planning Commission	Amendment to 150770
Project Certificate	Nunavut Impact Review Board	Amendment to 25YN033
Water License	Nunavut Water Board	Update required for increased volumes (Type B Licence)
Scientific Research Licence	Nunavut Research Institute	Update required during 2026 renewal
Archaeology Permit	GN Department of Culture and Heritage	Renewal
Class 'A' Land Use Permit	Crown Indigenous Relations and Northern Affairs Canada	Update required
Wildlife Research Permit	GN Department of Environment	Renewal
License to Fish for Scientific Purposes	Fisheries and Oceans Canada	New application
Navigable Waters – Application for Approval	Transport Canada	Authorization to construct on any navigable body of water

These authorizations apply only to the investigative studies described in this document. They do not authorize construction of the proposed hydropower facility. Any future development proposals will require a separate conformity determination, NIRB assessment, and other regulatory approvals.