

Appendix

GN-01: Solar Energy Design	
Department	Environment
Organization	Government of Nunavut
Subject/Topic	Solar Energy Design Specifications
References	<ul style="list-style-type: none"> • NIRB Public Notice of Screening and Comment Request for iSolara Solar Power’s “Igluligaarjuk Midnight Sun” Project Proposal • NIRB Application for Screening #125438 – Igluligaarjuk Midnight Sun – iSolara Solar Power • Project Proposal (2019) – Appendix 6 – QEC Letter of Acknowledgement • Project Proposal (2019) – Appendix 7 – Igluligaarjuk Midnight Sun Pre-Feasibility Study
CONCERNS	
<p>The Project Proposal is lacking information related to design specifications, which impedes the GN’s assessment and review of the Igluligaarjuk Midnight Sun Project. The following information gaps should be addressed:</p> <ul style="list-style-type: none"> ○ The input solar irradiance that was used in the HOMER model simulations has not been specified (Pre-Feasibility Study; Section 5); ○ The potential effects of temperatures below -30°C on both the Powerpack energy storage system’s and Bifacial Solar Modules functionality has not been specified; ○ The methodology used for calculating greenhouse gas emission reductions of the proposed project has not been specified; ○ The Proponent did not provide a sufficient climate change assessment to account for changes in ground permafrost conditions. 	
SUGGESTIONS AND RECOMMENDATIONS	
<p>The GN suggests that the Proponent provide the following information:</p> <ol style="list-style-type: none"> 1. The input solar irradiance for the HOMER model; 2. If the effects of temperatures below -30°C have been considered in the Powerpack energy storage system’s usage and lifespan; 	

3. If the effects of temperatures below -30°C have been considered in the Bifacial Solar Modules usage and lifespan;
4. The method for calculating the greenhouse gas emission reductions;
5. If permafrost conditions and potential climate change impacts are being considered in this Project.

The Proponent should create a Contingency Plan in the event that Qulliq Energy Corporation Independent Power Producer (IPP) program can only purchase a portion of the energy produced from the project.

GN-02: Archaeology	
Department	Culture and Heritage
Organization	Government of Nunavut
Subject/Topic	18UN052 - Igluligaarjuk Midnight Sun – Archaeological Assessment
References	NIRB Notice of Screening
CONCERNS	
<p>The proponent is proposing the installation of a 609 kW solar array within the municipal boundary of Chesterfield Inlet, Kivalliq region. Project activities will include: site surveys to identify the location for solar array and related infrastructure; installation of solar array and related infrastructure (including construction of access road access and powerlines connecting to existing infrastructure.</p> <p>A search of the Nunavut Archaeological Site Database indicates that there are a number of archaeological sites within the proposed project area. This however does not preclude the presence of unrecorded sites or cultural features as the area has never been the object of any archaeological assessment. Furthermore, the proponent indicates that a final footprint of the site has yet to be determined, thus, there is potential for the presence of additional unidentified archaeological sites.</p>	
SUGGESTIONS AND RECOMMENDATIONS	
<p>On the basis that the area proposed for development has not been the object of an archaeological survey, the Department of Culture and Heritage recommends that:</p> <ol style="list-style-type: none"> 1. The proponent hires a qualified archaeologist in order to conduct an archaeological assessment of any areas where ground disturbance activities are planned to occur (solar arrays and related infrastructure; corridor for road access and powerlines). 2. No activities be conducted in the vicinity (50 m buffer zone) of any archaeological/historical sites. If archaeological sites or features are encountered, activities should immediately be interrupted and moved away from this location. Each site encountered needs to be recorded and reported to the 	

Government of Nunavut Territorial Archaeology Office.

All archaeological and palaeontological sites in Nunavut are protected by law. The applicant must understand that it is their responsibility to ensure that no heritage resource sites are disturbed in the course of their activities. No person shall alter, or otherwise disturb an archaeological site, or remove any artifact from an archaeological site. Moreover, the building of inuksuit is not recommended.