



IR #	Comment / Issue Description / Suggested Change	Proponent Response
1	<p>Concerns regarding public access (including local hunters) to the area during construction; recommend the Proponent outline plans to manage and/or restrict traffic during construction and how local usage of the area was addressed.</p>	<p>As presented in Section 5.3.3 of the PSIR and confirmed during consultation in the community, the location of harvesting areas in the vicinity of the project and access to the ice and water were considered in the assessment of potential impacts. Feedback through consultation, from the Hunters and Trappers Association (HTA) and the Boaters Working Group (BWG) was that construction of the project is not anticipated to impede access to harvesting areas.</p> <p>The area in the vicinity of the Deep Sea Port (DSP) is not used by hunters, is not accessed by snowmobiles, ATVs or boats to shore and has a low level of fishing activity. The nearest land and/or water access is located at the old causeway. As per the PSIR, access to the old causeway by both road and water will be maintained throughout DSP construction.</p> <p>Fishing takes place throughout Koojesse Inlet. While access to the nearshore area at the DSP will be restricted during construction, fishers have confirmed through consultation that fishing can take place elsewhere and this will not impact harvesting rights, as described in Section 2 of the PSIR. The contractor will also be required to minimize the work area and duration of construction, while maintaining safety.</p> <p>In the PSIR, Section 5.3.4, identifies a public traffic awareness campaign to be implemented as part of the Traffic Management Plan. The focus of this awareness campaign is around road safety targeting ‘at-risk’ members of the public such as those that use ATV/snowmobile, children and teens. An ongoing consultation program with the City and HTA is also planned to minimize potential effects to recreational and hunting activities.</p> <p>Construction Environmental Management Plan (CEMP). Section 3.3.1, defines the mitigation measures to be implemented, for safety of the public at the site during construction. This includes the use of traffic control measure such as gates, controlled access, lights, guard rails, booms, buoys, signage and a public awareness campaign and ongoing conversations with the City of Iqaluit.</p> <p>Given the limited use of the area around the DSP, the safety risk to the public during construction is deemed to be low. However, additional public protection, awareness and safety measures can be implemented to eliminate or mitigate the public’s exposure to construction related hazards. These include, but are not limited to:</p> <ul style="list-style-type: none"> ▪ Highly visible signage in Inuktitut, Inuinnaqtun, English and French placed on roads, trails, and waterways to warn the general public of any hazards ahead and the action to take. ▪ Physical safety measures to restrict access (fences, guard rails, booms, buoys). ▪ Operating practices and/or warning systems to alert the public of any hazard (traffic control, sirens, warning lights). ▪ Project activity notifications (radio spots, social media, Notice to Mariners etc.) designed to raise public awareness and understanding of any potential hazards or upcoming closures.



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2	Concerns regarding the cumulative effects of climate change; recommend the Proponent discuss any considerations made during project design and proposed operations to address this.	<p>Contributions to Climate Change – greenhouse gas emissions:</p> <ul style="list-style-type: none"> ▪ The port project is being developed to address resupply activities for the community. There will be no increase in ship activities as a result of the construction of the port. ▪ Emissions from ships and ship equipment will be reduced as on average, offloading time will be substantially reduced and will significantly reduce the need for lightering (tugs and barges). ▪ Cargo ships that call at Iqaluit will still call at other communities that have fixed shipping windows due to the nature of how sealift operates (Iqaluit is, and likely always will be, linked to the other communities when it comes to sealift). ▪ Trucking distance for cargo from the port to the community will increase over that from the existing sealift beach by some 4 km. ▪ Overall the project is not expected to increase greenhouse gas emissions. <p>Climate Change – ice cover:</p> <ul style="list-style-type: none"> ▪ Changes to ice cover type, distribution and duration may occur as a result of climate change. Ships functioning in the eastern arctic will continue to function and may adapt their schedule to accommodate changes in ice conditions. The DSP is designed for current ice conditions, and changes in the distribution or duration of ice cover will not affect the DSP. ▪ Ships accessing the DSP are of a fixed ice classification and are not designed for icebreaking or operating in heavy ice conditions. Thus, shipping will not be extended into the ice seasons and there is not expected to be any cumulative effect on ice cover. ▪ The DSP will have no material effect on ice conditions in Koojeese Inlet, but will have the potential for operators to operate in a wider range of conditions, both storm waves and ice. <p>Climate Change – and port design (see Section 3 of PSIR):</p> <ul style="list-style-type: none"> ▪ The latest 100 year projections from the Government of Canada for net sea level rise is zero for Iqaluit (land rebound is approximately equal to sea level rise in the eastern Baffin area, including Iqaluit). Therefore, there is no allowance in the design for sea level rise, especially given the design life is limited to 50 years. Nevertheless, the facilities and structures can be modified in the future to raise or lower them if this is needed to extend their service life. ▪ Potential for longer open water season and more severe storms: the projections for extreme storm events includes the month of November when Koojeese Inlet is normally covered in ice and becoming landfast which would not otherwise contribute to storm waves. The month of November includes more severe storms, increasing severity of design storm event and therefore the design wave height. ▪ Design storms waves are based on 1 in 50 year statistic storm event, rather than the frequently used 1 in 30 year event. These storm waves are used to design for structure height and shoreline armouring needs.



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		<ul style="list-style-type: none"> ▪ The site is constructed almost entirely on exposed bedrock and in close proximity, or over, the shoreline. As a result, there is little or no permafrost that will can the facility. The potential for ice-rich permafrost within the upland bedrock will not affect the facility. ▪ Changes to ice conditions as a result of climate change will not affect the design, but the facility will improve the reliability of sealift since sealift is often times governed by the ability of the tugs and barges to reach the sealift beach which can be chocked by ice early or late in the season depending on wind direction. <p>Climate Change - additional comments:</p> <ul style="list-style-type: none"> ▪ It is important to note that the DSP in Iqaluit will improve the speed and reliability of receiving the community's critical annual sealift supplies. In doing so and given that Iqaluit is often the first port of call in the sealift voyages to many communities, the DSP will contribute to improving the reliability of sealift to other communities. ▪ Ships moored to the DSP will allow continued unloading and/or loading of sealift during light ice and storm events, as the current operations in Iqaluit are often times limited by ice at the sealift beach or seastate for the lightering equipment (small tugs and barges).
3	Concerns regarding waste production during operation; recommend the Proponent consider providing additional detail on waste management practices during operations.	<p>Section 7.4 of the PSIR outlines the commitment by the Government of Nunavut Department of Economic Development and Transportation (EDT) to develop an Operations Environmental Management Plan (OEMP). This includes a requirement to address waste management. It is important to recognize that the wastes generated during operation of the DSP will be similar to the existing operations at the sealift beach and therefore that existing procedures provide a sound basis for the preparation of the waste management section of the OEMP. These include the use of the municipal waste facility for disposing of waste collected at the DSP. EDT will arrange for the storage and transportation of waste from the DSP.</p> <p>The OEMP will be developed in accordance with the requirements of the Environmental Guideline for the General Management of Hazardous Waste, Government of Nunavut, Department of Environment, 2010, and Environmental Guideline for Industrial Waste Discharges into Municipal Solid Waste and Sewage Treatment Facilities, Department of Environment, Government of Nunavut, 2011. It will include procedures for the management of all use, handling, storage and transportation of hazardous and non-hazardous wastes and will also comply with all statutes, regulations, standards, guidelines and local by-laws.</p> <p>Specific details on waste receptacles and collection from the DSP will be agreed between Government of Nunavut and the City.</p>



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4	Concerns regarding onshore erosion, sediment control, and water management during construction; recommend the Proponent clarify the methods it intends to use to manage these risks.	<p>The proponent acknowledged within the PSIR that it will be necessary, especially considering the wetter construction season, to manage storm water run-off during construction to ensure appropriate drainage and protect marine water quality. There is the potential for sediment to enter the water from onshore construction activities involving surface disturbance that could reduce water quality. However, due to the predominance of bedrock in the area the risk of soil and shoreline erosion is low. As the fill areas are to be constructed with core material, they are expected to be relatively free draining and should not require specific drainage structures. Parts of the laydown area that are constructed over blasted bedrock may require drainage structures such as ditches. Specific drainage structures will be finalized during the design development phase of the Project to prevent pooling of surface water.</p> <p>As per the CEMP, the Contractor will be required to apply applicable sediment and erosion control best management practices (BMPs) to meet water quality criteria. Sediment and erosion control measures will be implemented to manage run off and capture blast debris. Sediment and Erosion Control and water management measures during construction are provided in Section 3.5 of the CEMP. Mitigation measures are as follows:</p> <ul style="list-style-type: none"> ▪ Perimeter controls shall be applied to act as a barrier, preventing sediment from reaching surrounding water courses (i.e. sediment/silt fence). ▪ Temporary sediment control measures shall be applied at the base of any soil or rock stockpiles. ▪ Water quality in the marine environment shall be monitored for sediment run-off. If visual monitoring identifies sediment run-off, turbidity will be measured and compared to the Canadian Council of Ministers of the Environment (CCME) guidelines for the protection of aquatic life. ▪ Stockpiling and storage of material must occur in upland designated areas and controlled in a way that debris and sediment will not enter the marine environment. Material will not be stockpiled on the ice. ▪ Permanent drainage features will be incorporated into the DSP laydown area as required to mitigate ponding during construction and operation. ▪ Blast debris will be prevented from entering the water through the use of blast mats or other containment methods, as per DFO Guidelines for the Use of Explosives In or Near Canadian Fisheries Waters (Wright and Hopky, 1998). ▪ Stockpiling and storage of material must occur in upland designated areas and controlled in a way that debris and sediment will not enter the marine environment.



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5	Concerns regarding acid rock drainage (ARD) in the cut rock on site; recommend the Proponent clarify what contingencies would be used should ARD be identified.	<p>To assess the ARD potential, the proponent conducted a field visit by qualified geologist to inspect the site of the proposed rock excavation at the proposed laydown, adjacent to the DSP, and next to the proposed road cutting at the site of an existing, previously utilised rock quarry. During this visit, representative samples were collected from both the surface and the exposed blasted rock face in the previously utilized quarry.</p> <p>Neither sulphide minerals, nor obvious signs of existing acid generation, were observed. Minimal weathering (i.e. rock degradation) was observed at the site to be excavated and in the existing rock quarry. The collected samples were considered representative of fresh, unweathered rock. Field observations and the general geology of the proposed rock excavation site did not indicate sufficient spatial variability of rock composition to foresee or predict a different mineral composition in the deeper zone to be excavated during construction, compared to the shallow zone sampled.</p> <p>The proponent conducted a detailed laboratory geochemical testing program on the collected samples, including acid-base accounting, ultra-trace metal analysis, leach testing (e.g., shake flask extraction) and x-ray diffraction to assess the potential for ARD related to rock material from the rock areas to be excavated. Analyses of the test results indicate that the predicted ARD/ML potential is low: the neutralization potential ratio was greater than two (2) for all the samples, no metal of potential concern were identified in the leach test and the rock sampled did not contain sulphide minerals to potentially generate ARD, because they consisted of geochemically inert aluminosilicates (refer to "Iqaluit Marine Infrastructure- Terrestrial and Human Environmental Baseline Report", Document No. 307071-011148-02-EN-REP-0002, May 17, 2017).</p> <p>Despite the low likelihood of encountering ARD susceptible rock on this project, the proponents will monitor the excavation and site preparation, as it progresses, and if rocks suspected of containing elevated sulphide mineral to potentially generate ARD (e.g., as vein or fracture fillings) are identified, those rock materials will be segregated and field screened for ARD. Field screening would involve collecting rock samples and visually examining for the presence of sulphides using a magnifying glass, as well as conducting acid tests to determine the presence of carbonates. If the field tests confirm the presence of elevated sulphide mineral content, further samples of the suspect material will be collected and sent to the laboratory for detailed testing. In the meantime, the suspect material will not be used for construction and will be stockpiled and isolated from the atmosphere (e.g., covered with a HDPP) and contact water, if any, will be captured, stored and later treated, if needed. If laboratory testing confirms elevated potential for ARD, the material will be permanently disposed of in a suitably constructed stockpile in line with current ARD management guidelines and best practices.</p> <p>Final rock cut surfaces that are to remain after construction is completed will be inspected for signs of potential ARD and subjected to further testing if necessary. If there are seams with ARD generating potential that remain exposed in the cut face, they may be over excavated and added to the ARD management stockpile. If needed, a series diversions and collection ditches will be designed and built to divert clean water from areas containing potential acid generating rock, and collect and convey contact water to a collection pond for monitoring and treatment. The ditches and collection pond will be sized and built as per regulatory requirements.</p>



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6	<p>Concerns regarding emergency response plan for both construction and operations; recommend the Proponent provide information regarding its emergency response plans for the facilities.</p>	<p>Human health and safety and environmental protection are paramount considerations for CGS during construction of the Project.</p> <p>An Emergency Response Plan (ERP) will be prepared for the Project by the Contractor that outlines the protection of personnel, the public, and the environment in the event of an emergency scenario during construction.</p> <p>The scope of the Construction ERP will encompass a range of incidents during the construction phase of the Project that may require the initiation of an Emergency Medical or Environmental Response. The ERP will also consider the possibility that more than one type of response may be required for any one incident.</p> <p>Possible emergency situations at the DSP Project site during construction include but are not limited to:</p> <ul style="list-style-type: none"> ▪ Fire/Explosion ▪ Damage to the existing fuel pipeline ▪ Vehicle and mobile equipment incident ▪ Marine vessel/equipment incident ▪ Hydrocarbon spill ▪ Security Breach ▪ Wildlife encounters ▪ Natural Disasters and Severe Weather Events ▪ Major first aid/medical emergencies <p>Specific emergency response procedures are an important part of the overall emergency management system. Response procedures will be developed for the above scenarios and will be clear, simple, practical and achievable. They will describe the steps to be undertaken, the precautions, the protective clothing and equipment to be used, any special conditions, and the responsibilities and duties of people undertaking these procedures. The ERP must be prepared by the contractor(s) who will be responsible for construction.</p> <p>The ERP at a minimum will include:</p> <ul style="list-style-type: none"> ▪ Emergency response flow chart and communication protocols ▪ Emergency alarm signal ▪ Designated safe assembly areas ▪ Posted emergency phone numbers ▪ Directions and contact information to the nearest hospital ▪ A continuously available telephone



Responses to Address Comments Received from NIRB – Letter dated August 02, 2017
Iqaluit Marine Infrastructure Deep Sea Port NIRB File No. 17XN021



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		<ul style="list-style-type: none"> Site plan with locations of fire response equipment, first aid equipment, spill kits, muster stations etc. Specific emergency response procedures and responsibility for first response to a range of identified emergency scenarios Evacuation and headcount procedure Site first aid and medical services requirements Training requirements for employees and response team members, including emergency drills <p>Section 3.2.2 of the CEMP provides further information on the contents of the construction ERP to be developed by the contractor.</p> <p>The Department of Economic Development and Transportation (EDT) within the Government of Nunavut is responsible for the development of the ERP for the Operations phase of the Project. There is a clear commitment from EDT to prepare an OEMP, Health and Safety plans for operations and the ERP for operations. Emergency Response Plans for existing operations and other Government of Nunavut operated facilities in Iqaluit will be used as a basis.</p>
7	<p>Clarification regarding the location of the three infrastructure projects (Deep Sea Port, Small Craft Harbour, and Airport Lighting Extension) proposed for Frobisher Bay; recommend the Proponent provide a comprehensive map illustrating the locations of all three projects.</p>	<p>Extensive consultation on the DSP project with communities and specific interested parties such as the BWG, the HTA, the Qikiqtani Inuit Association and other boat users in Iqaluit was conducted and summarized in Section 2.4 of the PSIR. This included focused discussions with the HTA and BWG regarding potential impacts to navigation on the construction and operation of the DSP project. A detailed log of all feedback received to date on navigation and the proponent's responses have been provided in the DSP consultation log. The proponent will continue to consult with Transport Canada and comply fully with the <i>Navigation Protection Act</i>. The proponent will also continue to consult with the community about navigation concerns and keep Transport Canada informed of the results of these consultations. A map showing all three projects (Figure 6.1) can be found in the cumulative effects section of the PSIR. Please find a copy of the map attached.</p>