



## Izok Corridor Project Proposal

### SECTION 11

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## **11 ACCIDENTS AND MALFUNCTIONS**

### **11.1 Overview**

Under the NIRB review process, the Draft Environmental Impact Statement (DEIS) is to present a discussion of possible accidents and malfunctions that could occur during each phase of a project, with a focus on those scenarios that have a reasonable probability of occurring. This is to include an evaluation of the probability of occurrence, as well as an assessment of the potential consequences of these incidents on the environment and human health and safety. Specifically, the assessment is to demonstrate that the conventional malfunctions and accidents are unlikely to cause long-term or residual effects both to persons and the environment, taking into account the proposed mitigation measures including preventive measures and emergency response capability should an incident occur.

As part of the DEIS for the Izok Corridor Project, the Accidents and Malfunctions assessment will identify and qualitatively assess the risks associated with each of the key Project components during the construction, operation and closure phases.

### **11.2 Approach**

The Accidents and Malfunctions assessment will involve a Project-wide risk assessment, as well as more detailed assessments of potential transportation risks.

The Project-wide risk assessment will focus on potential accidents and malfunctions associated with each of the primary physical components of the Izok Corridor Project at a screening level, and evaluate the likely effects of such incidents on human health and safety and the environment. For each component, the potential failure scenario(s) will be identified along with the proposed key mitigation concepts to manage the identified risk. The risks associated with each failure scenario will be evaluated (assuming that the proposed mitigation concepts are fully in place) in terms of estimated frequency of occurrence, the type of consequence anticipated and the estimated magnitude of the consequence.

For this assessment, the primary physical components of the Projects will be grouped into the following broad categories.

- Izok and High Lake mines
- Izok Mill and associated facilities
- Izok Road
- Grays Bay Port
- Marine shipping

The risk assessment will be based on MMG's experience with the construction, operation and decommissioning of mining projects, review of previous accidents and malfunctions associated with projects in the North, review of community and regulatory agency concerns, and knowledge of the Project and proposed activities.

More detailed risk assessments will be conducted to address the risk of transporting concentrate, fuel and reagents through the various transportation modes (i.e., via haul truck on Izok Road, via ocean-



going vessels along the eastern and western shipping routes) to workers, the public and the environment. The assessment will focus on those accidents and malfunction scenarios that would result in the most severe potential consequences to conservatively bound the assessment. These bounding scenarios will be selected based on the following considerations.

- Frequency of occurrence based on available statistics for transportation-related accidents
- Quantity of any hazardous substances that might be involved in the potential incident
- Duration and potential spatial extent of the releases into the environment
- Magnitude of the effect on the environment

The assessment will consider the likely consequences of the accident and malfunction scenarios on key receptors (aquatic, terrestrial and human) of the environment based on calculations of chemical concentrations in the various environmental media, exposure pathways modelling for the various receptors, and risk characterization based on selected benchmarks.

The assessment will provide a detailed breakdown of the various tasks related to transportation, the hazards associated with each task, the types of preventive and mitigative measures that will be in place, and any additional mitigation that may be required to reduce the consequence of such incidents.

