



P.O. Box 119  
GJOA HAVEN, NU X0B 1J0  
TEL: (867) 360-6338  
FAX: (867) 360-6369

NUNAVUT WATER BOARD  
NUNAVUT IMALIRIYIN KATIMAYINGI

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# Nunavut Water Board Guidelines for Applicant

## Miramar Hope Bay Limited – Doris North Project

**Dated: 5 October 2006**



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## PART A: SPECIFIC INSTRUCTION

### 1.0 Introduction

The Nunavut Water Board (NWB) is an institution of public Government responsible for the regulation, use and management of water in the Nunavut Settlement Area. According to **Section 11** and **12** of the *Nunavut Waters and Nunavut Surface Rights Tribunal Act* (NWNSRTA) *no person shall use, or permit the use of, waters in Nunavut except in accordance with the conditions of a licence and except in accordance with the conditions of a licence, no person shall deposit or permit the deposit of waste in waters in Nunavut or in any other place in Nunavut under conditions in which the waste, or any other waste that results from the deposit of that waste, may enter waters in Nunavut.* In accordance with NWB's mandate, Miramar Hope Bay Limited (MHBL) filed an application for a water license on 20 March 2002 for the use of water and disposal of waste into water for the proposed Doris North Project.

The application for water license and other permits, authorizations, and/or licenses triggered an environmental screening of the project by the Nunavut Impact Review Board (NIRB). Following screening and an **Article 12, Part 5** Review of Miramar Hope Bay Limited's Environmental Impact Statement, the Minister of Indian and Northern Affairs agreed with the NIRB's recommendations in a letter dated **1 August, 2006**.

In accordance with the NWNSRTA **Section 48(3)** and **Part 13.8.1** of the *Nunavut Land Claims Agreement (NLCA)*, the NWB has decided to issue directional guidelines to MHBL through this document. The guidelines are based on the NWB requirements outlined in the NWNSRTA, the *Northwest Territories Water Regulations* and engineering best practices and principles. The guidelines do not relieve Miramar Hope Bay Limited from confirming and following up on other information requirements which may be required. The reader is to refer to **Part A: Section 3.0** for a list of additional documents, guidelines and standards that may be of use to MHBL in preparing the supplemental information.



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## **2.0 Format of Supplemental Information to be Provided by the Applicant**

Miramar Hope Bay Limited shall submit with the application a concise executive summary of the application and of any separate supporting document, report or study, in English, Inuktitut and Inuinnaqtun. A summary document should be presented which is to contain details of the information requested rather than general statements.

Individual plans such as: Spill Contingency; Water Management; Monitoring; QA/QC; Waste Management including Tailings Containment, Interim Waste Rock Storage, and Landfilling/Landfarming; Abandonment and Reclamation plan/cost estimate; Detailed engineering design plans and complementary qualified engineered drawings and reports; and Operational/Mine Management etc. shall be submitted. A separate document could provide details of supplemental information that fall outside of the above documents.

In complying with the NWB information guidelines, Miramar Hope Bay Limited, where practical, may combine components of the information requested above into more concise plans to provide clarity and eliminate duplication. If this practice is considered, then Miramar Hope Bay Limited shall clearly outline, through proper referencing and clear detailed statements, how the NWB shall consider the documents that have combined elements of information. Information management is the responsibility of MHBL. MHBL is to guide the NWB and regulatory bodies through its application in a fluid logical manner.

The NWB will not process an application that it deems to be incomplete and/or when supporting documents have not been submitted. The NWB will give the required hearing notice of no less than sixty-days after it deems the application to be complete. MHBL shall understand that the water licence application must be a stand-alone document.

Note to Intervening Parties reviewing the information provided by MHBL: Parties shall also make reference to section and page numbers in their submission to the NWB.

## **3.0 Additional Documents to Assist the Applicant**

For the Development of Supplemental Information the proponent should be guided by, and is directed to, the following standards/guidelines that include, but are not limited to:

- CCME – *Environmental Code of Practice for Above Ground and Underground Storage Tanks Systems containing Petroleum Product and Allied Petroleum Products;*



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- CCME – *Guidelines for the Protection of Freshwater Aquatic Life*;
- DFO – *Decision Framework for the Determination and Authorization of Harmful Alteration, Disruption or Destruction of Fish Habitat*;
- DFO – *Freshwater Intake End-of-Pipe Fish Screen Guide*;
- DFO – *Guidelines for the Use of Explosives In or Near Canadian Fisheries Water*;
- DFO – *Policy on the Management of Fish Habitat and Habitat Conservation and Protection Guidelines*;
- DFO – *Policy for management of Fish Habitat*;
- EC – *Guidelines for the Preparation of Hazardous Material Spill Contingency Plans*;
- EC – *MMER Environmental Effects Monitoring Program Protocol*;
- GN – *Contaminated Site Remediation*;
- GN – *Environmental Guideline for Contingency Planning and Spill Reporting in Nunavut*;
- GN – *General Management of Hazardous Waste in Nunavut*;
- GN – *Occupational Health & Safety Guidelines*;
- GN – *Spill Contingency Planning and Reporting Regulations*;
- GNWT/GN – *Spill Contingency Planning and Reporting Regulations*;
- GNWT – *Environmental Protection Act*;
- GNWT – *Ice Road guidelines*;
- GNWT – *Water Regulations and other guidelines adopted by the NWB*;
- INAC – *A Policy respecting the Prohibition of Bulk Water Removal from Major River Basins in Nunavut*;
- INAC – *Mine site reclamation Policy for Nunavut*;
- INAC – *Nunavut Waters and Nunavut Surface Rights Tribunal Act*;
- INAC – *Territorial Lands Act*;
- INAC – *Territorial Land Use Regulations*;
- NWB – *Guidelines for Abandonment and Restoration Planning for Mines in the NWT*;
- ASTM - Standards
- The Mining Association of Canada *"A Guide to the Management of Tailings Facilities"* (1998);
- CDA – *Dam Safety Guidelines*
- TC – *Transportation of Dangerous Goods Act/Regulations*;
- Workplace Hazardous Materials Information System (WHMIS);

Copies of all guidelines referenced in this document are available on the NWB ftp site or with Justice Canada for federal legislation and policies.

MHBL is encouraged to consult with regulatory agencies on issues related with the above listed guidelines. When a guideline is used by MHBL the NWB requests the use of well-



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developed statements within the body of a reports text to clearly reference where a Guideline was used. When developing discussion and MHBL's case the licence application should point the reader to the appropriate section of a regulatory guideline where additional information may be found.

#### **4.0 Guidelines for the Provision of Supplemental Information**

The NWB will not engage in an exhaustive process of conditionally approving technical reports through conditions set in a water licence. Thus it will be necessary to provide information related to design and management prior to water licence issuance. With this in mind MHBL is encouraged to develop design and water management beyond the conceptual and intermediate phases before the submittal of a water licence application.

Miramar Hope Bay Limited is to understand that each piece of design or management correspondence shall act as a discrete stand-alone document that effectively discusses the specifics of a particular design or management plan. Through the design of a full scale operational mine, it is intuitively understood that individual designs and management plans will interconnect with one another (i.e. Site water management is a function of the structures on site set to convey waters). Miramar Hope Bay Limited is to communicate the connectivity of discrete design and management plans through discussion in the discrete designs and management plans or through a separate document that details the macroscopic view of mine component interconnectivity.

The NWB encourages and expects Miramar Hope Bay Limited to adhere to best engineering practices and sound construction methods when designing and managing infrastructure related to the use of waters or the deposition of wastes. The NWB encourages the use of ASTM standards when defining and developing project specifics in technical documents. Generally the following information should be presented, though not limited to, when submitting application designs and plans:

- i Design requirements, design criteria, design parameters, design standards/analysis/method;
- ii Design assumptions and the limitations associated with such design assumptions;
- iii The inclusion of clear, definable engineering qualifiers with all design drawings and reports;
- iv Site specific data and analysis to support the design and management decisions made;
- v Materials that appropriately delineate the particulars of a design or plan;
- vi Construction methods and procedures in how infrastructure will be put in place on-site.
- vii Instrumentation and monitoring requirements of the proposed designs and plans;



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- viii Details on how facilities, structures, and plans will be operated, maintained and implemented;
- ix Construction, chemicals, and other materials used and are in contact or may impact waters either directly or indirectly;
- x Mitigation for construction in and in close proximity of waters;
- xi Appropriate referencing of other documents and annexed materials.

Miramar Hope Bay Limited should also consider that the concept of *Adaptive Management* includes the need to describe the methods used in assessing the risks associated with uncertainty in design and management, and clearly outline the measures and quantifiable markers for when a final design decision will be made. Miramar Hope Bay Limited shall keep in mind that *Adaptive Management* is a flexible framework to implement final decisions through a mature intermediate design and not a “*revolving door*” design method that allows for multi-iterations to a preliminary design. A commitment to a final design needs to be made through the designs and plans submitted in the water licence application, or a clear defined criteria for which final design decisions will be made must be submitted when a final design can not be presented.

The NWB expects that plans and designs shall be presented where the use of water or deposit of waste will take place. MHBL shall also consider that information must be presented where there is a potential impact through the deposition of waste. This may include, but not be limited to, the design and management of the following:

- i. earthwork infrastructure;
- ii. water intake facilities and how water will be withdrawn;
- iii. interim waste rock facilities;
- iv. tailings containment area;
- v. landfills;
- vi. landfarms;
- vii. fuel and chemical storage facilities;
- viii. explosives management areas and facilities;
- ix. construction materials (i.e. quarried rock);
- x. hazardous waste facilities;
- xi. site water management facilities;
- xii. wastewater treatment facilities;
- xiii. ore stockpiles and recovery reject materials;
- xiv. dewatering programs;
- xv. hydrostatic testing programs;
- xvi. road, airstrip and ice road construction;
- xvii. water use;



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- xviii. macroscopic site water management;
- xix. spill contingency and emergency response;
- xx. interim and final abandonment and reclamation of the mine site;
- xxi. aquatic effects monitoring;
- xxii. general monitoring;
- xxiii. quality assurance and quality control;
- xxiv. geotechnical and structural monitoring;
- xxv. marine jetty design and management;
- xxvi. the collection of weather data for purposes of mine design.

It is understood that the Doris North Project may not include all of the design, construction, monitoring, and management plans listed above and that other designs and management plans may be required to be submitted by MHL. The NWB is available to assist and provide additional guidance on each design and management plan through future interactions with MHL. MHL shall understand that there will be a requirement to provide appropriately qualified as-built construction drawings once structures have been constructed and are in operation.

The commitments made by MHL during the Nunavut Impact Review Board's (NIRB) process are to be clearly outlined through the application materials submitted. NIRB and other regulatory bodies will be consulted to ensure that all commitments have been appropriately addressed through the water licence application.

MHL is to submit a water application report that communicates structure design and management plans that use waters or may impact waters through the deposition of wastes. MHL is encouraged to develop design and management discussion through a clear methodical layout that is logical in nature. Additional information may be required from MHL following an initial assessment of the application by the NWB. The NWB will assist MHL in completing water licence application materials and recommends that MHL communicates with the NWB if uncertainty exists when preparing water licence application materials.



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## **PART B: GUIDELINES FOR THE PROVISION OF SPECIFIC INFORMATION**

The NWB has prepared the attached Table of Contents (TOC) to guide the structure and format of the application. This TOC will act as a reference to where information, relevant to the water licence application, has been filed.