



PROTECTING OUR ARCTIC ENVIRONMENT

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NUNATTA ENVIRONMENTAL SERVICES INC.

Nunavut Water  
Board

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Financial Security Plan for the Reclamation of the Land Farm  
Nunavut Water License No. NWBNUN0511 "B"

The 2011 Water Licence Renewal Application for Nunatta Environmental Services Inc. (Nunatta) requires an estimate of the total financial security for final reclamation for land and water combined, sufficient to cover the highest liability over the life of the undertaking. Nunatta is an Inuit owned company registered with Nunavut Tunngavik Inc., which has a small shareholder base and was incorporated in Nunavut in 1999 to provide environmental services in Nunavut, primarily in Iqaluit.

Nunatta has operated a land farm since 2004 with four cells to deal with soils contaminated with hydrocarbon on an approximately 7 acre site, including an office building and shop, in the “North 40” industrial lands in the municipality of Iqaluit. In its most recent year of operation, Nunatta had revenues of approximately \$1.3 million and expenses of \$1.18 million. The following reclamation plan and cost estimate therefore reflects the modest size of the land farm and was designed in a practical manner to allow the full discharge of the company’s obligations under Canadian and Nunavut relevant legislation within the company’s financial capacity.

The Nunavut Water Board's Application for a Water Licence Renewal calls for the Financial Security Plan to be prepared in a manner consistent with the principles respecting mine site reclamation and implementation found in the *Mine Site Reclamation Policy for Nunavut, Indian and Northern Affairs Canada, 2002* where applicable (emphasis added).

It is respectfully submitted that this Application differs from a typical mine site reclamation in several respects. Firstly, rather than extracting materials from the site, during its entire operation the land farm has taken delivery of contaminated soils to the site and treats and reclaims them so that they can be safely recycled to other appropriate uses. Looked at from this point of view, the land farm will not have a predictable end, comparable to a mine which ultimately depletes the ore it is mining. Secondly, the land farm was established on Commissioner's lands in an area of the municipality of Iqaluit specifically designed for industrial use, in contrast to a typical mine reclamation site greenfield location on Crown land determined by the location of a mine deposit.

If the land farm were required to be decommissioned it is expected this would only take place in the event of the bankruptcy or sale of the company to a firm which plans other uses for the land. In the event of closure of the land farm, the Financial Security Plan calls for the remediation of all contaminated soils in the land farm at the time of decommissioning. This is work that Nunatta Environmental Services Inc., is well familiar with – it has been our core business since 1999. Also, Nunatta Environmental Services owns the specialized equipment which would be required to aerate the soil and test the quality of the soil and water within the landfarm. In designing the Financial Security Plan, Nunatta has therefore applied its experience in remediating contaminated soils and managing water resources since its inception.

The Financial Security Plan is therefore based on the land farm containing its maximum capacity of approximately **25,000** cubic metres of soil upon decommissioning. While this



volume is based on the capacity of the landfarm, it is noted that the total amount of contaminated soil delivered to the landfarm in the past two years is 3,246 cubic metres. To date, since Nunatta's inception, the land farm has received 10,118 cubic metres of contaminated material. Of this total, fully 60% is other matter not requiring remediation (rocks, steel and construction debris).

To implement the plan will require financial resources and equipment to permit continued aeration of the contaminated soil and the testing, filtration and pumping of water over a period of five years, primarily in the warmer summer months, using established methods and techniques carried out by a qualified crew of Environmental Workers, an Environmental Technician, Site Superintendent and Environmental Engineer, all working with a Project Manager. Once the soil in the land farm is entirely remediated, the Financial Security Plan also calls for one time costs of clean up and removal of liners from the four land farm cells and the disposal of the required equipment.

The Financial Security Plan is therefore based on providing human resources for 24 days of annual sitework for a period of five consecutive years, including aeration and the deployment of fertilizer to enhance the biodegradation of the soil and providing absorbent booms, boomlets, hydrophobic absorbent, conditioned peat moss, clay and carbon to take care of any contaminated water in the land farm.

Considering that Nunatta Environmental Services Inc. owns all the necessary mobile and specialized equipment required for this decommissioning work; the Financial Security Plan includes a commitment that in the event of its bankruptcy or sale or any other reason for its termination, the company will reserve and dedicate to the Crown the necessary heavy equipment, spill containment material and miscellaneous light equipment to the required reclamation work as well as the financial resources to provide labour and operating and maintenance costs of the equipment. This will be done through a Reclamation Trust. The trust will ensure a legal separation of responsibilities between the company and its obligations to the Crown. The Reclamation Trust will ensure that the necessary equipment, operations and maintenance costs and labour can be provided within existing resources in keeping with the company's financial means.

Accordingly, the Financial Security required to operationalize the Reclamation is calculated based on wages of a Project Manager, Environmental Engineer, Site Superintendent, Environmental Technician and three Environmental Workers along with a dedicated Loader, Excavator, Back Hoe, Tri-Axle, Transport Vehicle and miscellaneous equipment. The Financial Security Plan calls for the deployment of this equipment, fuel and related miscellaneous equipment and their annual servicing, repairs and maintenance for the five year period. Fuel costs have been projected to account for inflation.

The annual cost of wages and fees for labour and professional services, the servicing and repairs of equipment is set out in the Appendix "A" to the Financial Security Plan and includes a one time cost of cleanup and removal of the cell wall liners and the levelling of the berm walls to restore the site to its original Industrial land condition. The plan also calls for the sale of the heavy equipment once the reclamation is complete. The proceeds, estimated at \$40,000.00 could cover any unforeseen final reclamation costs and then be returned to the trustee in bankruptcy or the new owners of the company according to the particular circumstances which led to the closure of the landfarm.

Respectfully submitted,



Pitseolak Shoo,  
President, Nunatta Environmental Services Inc.

A key element of the Plan is the relationship between the closure and reclamation obligations, and the financial security provided to ensure the liability for reclamation remains with the mining company. There are a number of issues relating to financial security which must be considered as part of this policy.

Financial security for mine site reclamation for new mines must be readily convertible to cash. Such security must have the following basic criteria:

- The Minister may consider new or innovative forms of security, such as reclamation trusts, provided they meet the above criteria.

Regulatory authority to require financial assurance for mine site reclamation is not contained in a single statute. On Crown-owned lands in Nunavut, DIAND has jurisdiction with respect to land leases and related security issues. For water licences, the Nunavut Water Board determines the amount of security, while the Minister of DIAND determines the form.

- developing and updating of recognized standards, models and assumptions for calculating reclamation costs (e.g., RECLAIM model);
- ensuring that, at any given time during the life of the mine, the total financial security for mine site reclamation in place, subject to the timing of any application for credit for progressive reclamation, is equal to the total outstanding reclamation liability of the mine site, and the financial security for closure-related activities, imposed by land and water jurisdictions cumulatively, does not exceed the total reclamation cost estimates for both the land-related and water-related reclamation elements at each mine;
- ensuring that the terms, conditions and notification processes in financial security are compatible for all regulatory instruments; and
- coordinating the regulatory determinations required from each decision maker (e.g., the Minister or the Water Board) to facilitate the integration of all financial security obligations.