

Environmental Assessment Approval

Approval Date: *Original Dated 07 October 2011*

ScoZinc Operations Southwest Expansion Project ScoZinc Limited, Proponent

Halifax County, Nova Scotia

The ScoZinc Operations Expansion Project (the "Undertaking"), proposed by ScoZinc Limited (the "Approval Holder"), Halifax County, Nova Scotia is approved pursuant to Section 40 of the *Environment Act* and Section 13(1)(b) of the *Environmental Assessment Regulations*. This Approval is subject to the following conditions and obtaining all other necessary approvals, permits or authorizations required by municipal, provincial and federal acts, regulations and by-laws before commencing work on the Undertaking. It is the responsibility of the Proponent to ensure that all such approvals, permits or authorizations are obtained before commencing work on the Undertaking.

This Environmental Assessment Approval is based upon the review of the conceptual design, environmental baseline information, impact predictions, and mitigation presented in the Registration Document.

Terms and Conditions for Environmental Assessment Approval

1.0 General Approval

- 1.1 The Environmental Assessment Approval for the Undertaking is limited to the Undertaking as described in the Registration Document. Any proposal by the Approval Holder for expansion, modification or relocation of any aspect of the Undertaking from that proposed in the Registration Document must be submitted to the Environmental Assessment Branch for review and may require an environmental assessment.
- 1.2 The Approval Holder must, within two years of the date of issuance of this Approval, commence work on the Undertaking unless granted a written extension by the Minister.
- 1.3 The Approval Holder must not transfer, sell, lease, assign or otherwise dispose of this Approval without the written consent of the Minister. The sale of a controlling interest of a business or a transfer of an approval from a parent company to a subsidiary or an affiliate is deemed to be a transfer requiring consent.
- 1.4 The Approval Holder must implement all mitigation and commitments in the Registration Document, unless approved otherwise by Nova Scotia Environment (NSE).

2.0 Mine Development

- 2.1 The Approval Holder must operate the mine in compliance with all NSE requirements.
- 2.2 The Approval Holder, as part of the application for Part V Approval Amendment under the *Environment Act*, must submit, to NSE for review and approval:
- a) Detailed survey drawings of the existing mine site and the proposed expansion area. Plans should identify all key site features, pertinent infrastructure, the limits of development, property boundaries and the control/ownership of properties.
 - b) An examination of the impacts of mining near the alluvial deposit. Specifically, impacts that the mining will have on the river near the confluence of the Main Branch of the Gays River and the South Branch of the Gays River.
 - c) Details of the mill facility upgrades and the potential negative or positive environmental effects which may occur.
 - d) Plans and specifications for reagent storage, handling, mixing and containment.
 - e) Standard procedures for the management of waste oils, fuels and lubricants as well as materials contaminated with the same; and
 - f) a waste rock/stockpile stability plan.
- 2.3 The Approval Holder is prohibited from removing waste rock and tailings from the site without the written permission of NSE.
- 2.4 All plans related to the mine operation must be resubmitted over the lifetime of the project, at a schedule to be established by NSE, and revised as determined by NSE.

3.0 Surface Water Resources

- 3.1 All discharges from the mine site must meet NSE requirements.
- 3.2 The Approval Holder, as part of the application for Part V Approval Amendment under the *Environment Act*, must submit to NSE for review and approval:
- a) a surface water monitoring program including sampling locations and parameters. Based on the results of the monitoring programs as proposed, the Approval Holder must make necessary modifications to mitigation plans and/or operations as required by NSE;
 - b) a stream flow monitoring program for the Main Branch and South Branch of the Gays River;
 - c) a pit wall stability program with focus situated between the north pit wall and the river;

- d) soil erosion and sedimentation plans for construction operation and reclamation of the site, including the design of settlings ponds planned for the base of site stockpiles;
- e) the location of water withdrawal points and effluent discharge points within the overall mine plan;
- f) engineering and design details demonstrating the capacity of the tailings pond to meet the extra demand of additional tailings and surface runoff; and
- g) details regarding surface water withdrawal.

3.3 The Approval Holder must not undertake any mine related activities within 30 metres of a watercourse, unless otherwise approved by NSE.

4.0 Groundwater Resources

4.1 The Approval Holder, as part of the application for Part V Approval Amendment under the Environment Act, must submit to NSE for review and approval:

- a) a groundwater monitoring program including location of monitoring wells and monitoring parameters. This program must be designed to evaluate potential impacts to both groundwater levels and groundwater quality. Based on the results of the monitoring programs, the Approval Holder must make necessary modifications to mitigation plans and/or quarry operations, if required, to prevent unacceptable environmental effects, to the satisfaction of NSE;
- b) a pit de-watering program;
- c) a potable water protection bond to address the potential loss of well water in the community; and
- d) details regarding ground water withdrawal.

5.0 Wetlands

5.1 The Approval Holder, as part of the application for Part V Approval under the *Environment Act*, must submit to NSE for review and approval:

- a) adequate information to evaluate the Undertaking's environmental effects, risks and mitigation associated with wetlands and the wetland-river interface. This should include: detailed descriptions and data on wetland characteristics, photographs of each to provide landscape context, a determination of whether species-at-risk are actually present or seasonally dependent on any of the wetlands, and a clarification of the likely impacts to wetlands 7 and 9 and the function of these wetlands on the Gays River and its watershed;
- b) a wetland protection and conservation plan to be developed in consultation with NSDNR and NSE;
- c) a wetland compensation plan to be approved by NSDNR and NSE; and

d) a plan for monitoring potential impacts of the Undertaking on wetlands.

- 5.2 The Approval Holder must not undertake any mine related activities within 50 metres of any wetland, unless otherwise approved by NSE. No development or removal of vegetation within this 50 metre buffer is permitted, unless otherwise approved by NSE.

6.0 Flora and Fauna

- 6.1 The Approval Holder must contact Environment Canada to discuss the adequacy of the bird surveys, and complete further surveys, if required, and take appropriate mitigative action to the satisfaction of Environment Canada.
- 6.2 Bank Swallow nests, in the area of the Undertaking, must be protected until the chicks have fledged and left the area, to the satisfaction of Environment Canada.
- 6.3 Prior to expansion, the Approval Holder must provide NSDNR Wildlife Division the results of the late season plant survey and take appropriate mitigative action, If required, to the satisfaction of NSDNR Wildlife Division.
- 6.4 The Approval Holder must establish a linear 50 metre buffer distance between mine operations and any known species of concern location, unless otherwise approved by NSE.
- 6.5 The Approval Holder must monitor the population of Hepatica (*Hepatica nobilis*). Monitoring methodology and standards will be determined with direction from NSDNR Wildlife Division.
- 6.6 The Approval Holder must undertake an inventory and monitoring program for wood turtle along the entire length of the Gays River within the project (historical and expanded) area (additional upstream and downstream may be required) to determine population size and structure and to identify components of sensitive and/or critical habitat. Inventory and monitoring standards must be developed to meet requirements of NSDNR and the first inventories will commence in the Spring 2012.
- 6.7 Based on the results of the wood turtle inventory and monitoring program, the Approval Holder must implement mitigation measures as determined by NSE and NSDNR.
- 6.8 The Approval Holder must develop a blasting management plan that will prevent accidental collapses of caves, and disturbance between November and the end of April.
- 6.9 Clearing, grubbing and removal of trees and other vegetation will only occur between September 1st and April 1st, unless otherwise approved by NSE.

7.0 Blasting

- 7.1 The Approval Holder, as part of the application for Part V Industrial Approval Amendment under the *Environment Act*, must provide details of an updated blasting plan. The plan must include a pre-blast survey for structures and water supplies within 800 metres of the blast area, a detailed blast monitoring plan, and a full blast

damage response policy as required by NSE. The plan must demonstrate that air concussion and ground vibration limits are capable of being met.

8.0 Noise, Dust and Vibration

- 8.1 The Approval Holder, as part of the application for Part V Approval Amendment under the *Environment Act*, for NSE review and approval:
- a) the results of air quality dispersion modelling; and
 - b) proposed monitoring programs for air contaminants and noise, including but not limited to, parameters for the monitoring of airborne lead. If required, based on the results of the monitoring programs, the Approval Holder must make necessary modifications to mitigation plans and/or mine operations to prevent continued unacceptable environmental effects to the satisfaction of NSE.

9.0 Archaeological & Heritage Resources

- 9.1 The Approval Holder must cease work and contact the Director, Heritage Division, Nova Scotia Department of Communities, Culture and Heritage immediately upon discovery of an archaeological site, artifact or human remains unearthed during any phase of the proposed Undertaking. If the find is of certain or suspected Mi'kmaq origin, the Approval Holder must also contact the Executive Director of the Kwilmu'kw Maw-klusuaqn Negotiation Office.
- 9.2 If areas of high potential archaeological significance located within the western study area, are to be impacted in any future development of the ScoZinc Operations, they must be subjected to a program of shovel testing to determine whether or not buried archaeological resources are present and/or to determine the age, function and significance of identified features. The archaeological survey must be completed to the satisfaction of the Heritage Division, Nova Scotia Department of Communities, Culture and Heritage. Based on the results of the archeological survey, the Approval Holder must make necessary modifications to mine development plans and/or operations as required by NSE.

10.0 Public Engagement

- 10.1 The Approval Holder must continue implementation of the Community Liaison Committee (CLC) to facilitate communication between the Approval Holder and the community.

11.0 First Nation and Aboriginal Engagement

- 11.1 The Approval Holder must complete a Mi'kmaq Ecological Knowledge Study to ensure Mi'kmaq resources are properly identified.
- 11.2 The Proponent must solicit CLC membership from the Mi'kmaq community.

12.0 Transportation

12.1 The Approval Holder must comply with NSTIR requirements.

13.0 Contingency Planning

13.1 The Approval Holder, as part of the application for Part V Approval under the *Environment Act*, must submit to NSE for review and approval details of a contingency plan that meets NSE's Contingency Planning Guidelines and addresses (including but not limited to):

a) accidental occurrences, and includes the location of spill equipment kept on-site and emergency phone numbers;

b) training to be delivered to staff, including contractors;

c) procedures for responding to incidents occurring during times when the facility is not staffed (e.g. evenings, weekends, holidays);

d) impacts to watercourses and water resources and domestic water supplies;

e) releases of dangerous goods or waste dangerous goods;

f) potential fire at the facility (to be reviewed and approved by the local fire and emergency service providers);

g) petroleum and hazardous material spills and surface water control structure failure; and

h) such other information as required by NSE.

13.2 Contingency plans must be updated/revised to reflect the progressive development of the mine. This is to take place over the lifetime of the Undertaking, at a schedule acceptable to NSE, and revised as approved by NSE.

13.3 Hazardous materials or petroleum products that are to be stored on the site must be stored in a manner that is approved by NSE.

13.4 Refueling must not be conducted within 100 metres of any surface water resource, unless otherwise approved by NSE.

14.0 Site Reclamation

14.1 The Approval Holder, as part of the application for Part V Approval Amendment under the *Environment Act*, must submit to NSE for review and approval

a) Detailed mine plans and conceptual reclamation plans for the entire mine site with an estimate of reclamation costs.

b) a long term post mining environmental monitoring program which includes: monitoring schedules, parameters and reporting requirements, reclamation maintenance and water treatment and

stream flow maintenance details.

- 14.2 The Approval Holder must post a security bond with the Province which is adequate to cover the costs of mine site reclamation over the life of the project.

Original Signed By

Sterling Belliveau
Minister of Environment