



National Defence

Défense nationale

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Ottawa, Ontario K1A 0K2

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Ottawa, Ontario K1A 0K2

7690-1 (DCLSPD)

29 May, 2014

Ms. Phyllis Beaulieu, Manager of Licencing
licensing@nwb-oen.ca
Nunavut Water Board
P.O. Box 119,
Gjoa Haven, Nunavut
XOB 1J0

Dear Ms. Beaulieu,

**CANZINCO LTD. AMENDMENT RENEWAL APPLICATION FOR WATER
LICENCE NO. 1ARNAN0914 FOR CONTINUED RECLAMATION AND POST-
CLOSURE MONITORING ACTIVITIES, NANISIVIK MINE**

The Department of National Defence (DND) would like to thank you for this opportunity to comment on the technical components of the above captioned amendment renewal Application. It is DND's understanding that this opportunity for comment is a technical review, to determine if all necessary information is available to evaluate the quantitative and qualitative effects this project may have on the freshwater environment.

Our technical comments are included in the annex to this letter.

DND has noted the following significant issues with Canzinco's submittal to the NNB dated 13 April 2014, they include:

1. Inaccurate statement that DND did not support the alternative remediation approach;

DND's correspondence did not stipulate that we did not support the alternative remediation approach. DND raised concerns and requested additional details be provided to alleviate and mitigate our concerns.

2. Existing conflict with federal land use; and

Nyrstar's existing plan will conflict with the Federal government's Nanisivik Naval Facility (NNF) Construction Project. Nyrstar's in-situ soil treatment and remaining contaminated soil, yet to be excavated, both in the former tank farm area and with an approximate volume of ~5,500m³, is currently planned for 2014 and

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2015. The federal government's NNF requires the former tank farm area by the end of August 2014.

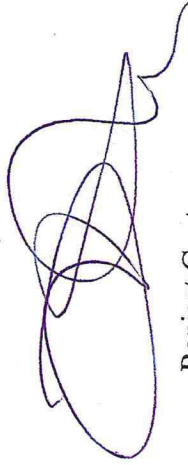
3. Requirement for an updated Abandonment and Reclamation Plan.

DND requests that a revised Abandonment and Reclamation Plan be submitted for review. All deviations from the 2010 plan should be documented and submitted for review and approval.

DND requests that the Technical Meeting be done in person. The week of 16 June 2014 will be a suitable timeframe for DND.

We appreciate this opportunity to comment, and look forward to the Technical Meeting mid June. If you have any questions or require clarifications, please contact Karen Watson at (613)943-7817 or Laura D'Costa at (613) 943-7800.

Yours truly,



Ranjeet Gupta,
Director Contaminated & Legacy Sites Project Delivery

Annex:

Annex A: Department of National Defence Technical Review of Canzinc Ltd's November 14 2013 Amendment Renewal Application for Water Licence No.1AR-NAN0914

cc. Mr. Ian Parsons, Regional Coordinator, Nunavut Regional Office, Aboriginal Affairs and Northern Development Canada
Mr. Murray Ball, Manager Water Resources, Aboriginal Affairs and Northern Development Canada
Mr. Kevin Bill, A/Regional Environmental Coordinator, Office of Environmental Coordination, Department of Fisheries and Oceans Canada

| NWB Reference # | Intervener Reference # | Intervener | Information Request (Completeness Review Comments - March 3, 2014) | Reference to Application | Linkages | CanZinco Ltd. Comments/Direction in response to Completeness Review Comments(April 13, 2014) | DND Technical Review Comments (June 2, 2014); Note DND is only responding to their items (14-18) |
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| 14a | a | DND | Appendix P, Item J2.a - Detailed engineering designs for the revised remedial approach: The preparation I construction I maintenance I monitoring of a new location to receive impacted soils for risk management, with proper engineering controls to mitigate environmental (air*, water, soil) and human health impacts should be outlined. The monitoring and maintenance plan should include an evaluation of the effectiveness of the engineering controls over time, and address the soil, air and water quality monitoring that will be undertaken (scope, frequency, methodology, and schedule). The contingency plan, should the risk management plan not succeed, should also be included. | Appendix P: Compliance Assessment. Licence No. 1AR-NAN0914 Part J, Item 2.a | NWB IR6 NWB IR12h NWB IR14c | Appendix P is a compliance assessment with the existing licence. It is designed to determine if information or conditions required historically were met. As the risk-based remedial approach is no longer being pursued, the request for an amendment to Part J.2 of the Water Licence as listed in Block 9 of the application is no longer required. | DND is of the opinion that a new Abandonment and Reclamation Plan is required. In review of previous reports and annual plans from CanZinco Ltd. DND has observed numerous deviations from what was approved on April 26, 2010 by the Nunavut Water Board for the Abandonment and Reclamation Work. One of the most significant deviations is the unapproved use of the tank farm footprint area for in-situ treatment of soils. This application renewal continues to stipulate use of this unapproved area on site for atleast another two more years (Attachment 6) which now causes a significant land use conflict between the Federal government and CanZinco Ltd. In a measure of good faith, DND/DFO have provided CanZinco Ltd. with an alternative location on site to remediate the soils with proper engineering controls during the 2014 season. DND's original comment is still relevant whether a remedial or risk management approach is implemented. |
| 14b | b | DND | Appendix P. Item J2.e- Potential closure issues and liabilities including anticipated costs of all remediation activities: Costs are recommended to be broken down by tasks/activity (J2.1), and be supported by the cost estimate basis utilized. This information would be valuable for ascertaining an appropriate financial security (Application Section 21). | Appendix P: Compliance Assessment. Licence No. 1AR-NAN0914 Part J, Item 2.e Application Form Block 21. SECURITY INFORMATION | NWB IR9 NWB IR12h | As the risk-based remedial approach is no longer being pursued, the request for an amendment to Part J.2 of the Water Licence as listed in Block 9 of the application is no longer required. A detailed model for estimating the closure and monitoring costs as summarized in Block 21 of the application is provided in Attachment 5. Given that the closure plan for the landfill is yet to be developed, the landfill reclamation costs included in the model are highly conceptual at this stage. The cost estimate assumes that post-closure monitoring activities will be required for an additional 10 years. | DND recommends that this item still be addressed as part of the new Abandonment and Reclamation Plan. |
| 14c | c | DND | Appendix P Item J2.f- The plan to delineate, treat and dispose of hydrocarbon contaminated soils located within, beneath and adjacent to the Fuel Tank farm: The Application Section 9 (Description of the Undertaking) "proposes an amendment to Part J.2 of the Water Licence requiring the development and submission to the Water Board for approval of a new Abandonment and Reclamation Plan that reflects the preferred remedial approach described in Appendix J" of the Application (Appendix J Section 5.0). Receipt of this 'new Abandonment and Reclamation Plan' is necessary to complete a technical review of the Application, and should include a detailed outline of the contingency remediation plan should the risk management approach being proposed not succeed. | Appendix P: Compliance Assessment. Licence No. 1AR-NAN0914 Part J, Item 2.f Application form Block 9 Application, Appendix J Section 5.0 | NWB IR12h NWB IR14a | As the risk-based remedial approach is no longer being pursued, the request for an amendment to Part J.2 of the Water Licence as listed in Block 9 of the application is no longer required. CanZinco will await direction from the NWB as to whether an updated Abandonment and Reclamation Plan is required for this application. However, CanZinco is of the opinion that the Nanisivik Mine 2004 Reclamation and Closure Plan (CanZinco 2004) as approved by the NWB on July 6, 2004 and as subsequently revised and implemented will continue to be effective for all proposed activities within the scope of this licence application. In addition to the updated Spill Contingency Plan (Nyrstar 2014) and the Waste Management Plan (Nyrstar 2014) included as attachments 3 and 4, this also includes: the Post Closure Geotechnical Monitoring Contingency Plan (BGC 2009); the Contingency Plan for Water Quality Exceedances, Former Nanisivik Mine Site (Stantec 2009); and the Abandonment and Reclamation Plan, Fuel Tank Farm, Former Nanisivik Mine Site (Stantec 2010) . | It is DND's understanding that the April 25, 2010 decision by the Nunavut Water Board was the approval of the plan entitled "Abandonment nd Reclamation Plan, Fuel Tank Farm, Former Nanisivik Mine Site, Nunavut, January 10, 2010" prepared by Jacques Whitford Stanted Limited, subject to certain terms and conditions. Although Canzinc0 Ltd. is no longer pursuing the complete risk-based remedial approach, their current practices deviate significantly from their 2010 approved plan, such that it warrants submittal of a new Abandonment and Reclamation Plan for review and acceptance. |

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| 14d | d | DND | Appendix P Item J.2 g- Confirmation of Soil Quality Remediation Objectives (SQROs) for the tank farm area: The SQROs should be confirmed for all contaminants of concern. DND would like all soils that exceed the current SQROs approved to date, utilized for all soil excavation and confirmatory sampling activities. | Appendix P: Compliance Assessment. Licence No. 1AR-NAN0914 Part J, Item 2.g | NWB IR12j | The remediation approach described in the Abandonment and Reclamation Plan, Fuel Tank Farm, Former Nanisivik Mine Site (Stantec 2010) approved by the NWB will continue. The SQROs for the contaminants of concern at the former fuel tank farm are derived from the Canadian Council of Minister of the Environment (CCME) Canadian Environmental Quality Guidelines (1999 - Updated to November 2013) and the Canada-Wide Standards for Petroleum Hydrocarbons in Soil (2001, Revised 2008). As stated in the 2010 Abandonment and Reclamation Plan the SQROs are based on Tier 1 CCME guidelines because there was insufficient information to calculate Tier 3 CCME criteria. CanZinco intends to collect the information necessary to calculate Tier 3 guidelines during the 2014 field season. | The SQROs should be confirmed for all contaminants of concern. DND would like all soils that exceed the current SQROs approved to date, utilized for all soil excavation and confirmatory sampling activities. |
| 14e | e | DND | Appendix P Item J2.i- Confirmatory Soil analysis: DND has concerns with the confirmatory soil and (absence of) water quality analysis conducted to date and would like to see a more comprehensive and representative approach and methodology outlined for review and acceptance. | Appendix P: Compliance Assessment. Licence No. 1AR-NAN0914 Part J, Item 2.i | NWB IR12k NWB IR22 | As the risk-based remedial approach is no longer being pursued, the request for an amendment to Part J.2 of the Water Licence as listed in Block 9 of the application is no longer required. Confirmatory soil analysis results are included in the 2012 and 2013 Progress Reports submitted with the Annual Reports. DFO has been provided with soil sample results directly since remediation activities commenced in 2011. Initial excavation confirmatory soil sampling results are reported in the Contaminated Soil Remediation 2013 Progress Report submitted with the 2013 Annual Report to the NWB March 4, 2014. Water quality monitoring results are reported in the Water Quality Monitoring Report submitted annually to the NWB. | DND's original comment still applies. An independent sampling program of the tank farm area in preparation for Nanisivik Naval Facility construction activities yielded more exceedances in the base and sidewalls than what was reported by CanZinco Ltd. DND also has some concerns with the analytical suite being analyzed, the sampling approach and methodology being utilized, and the number of samples being collected. Please also note that DND would like to have a better understanding of the extent, location and concentrations of impacted soil remaining to be excavated. |
| 14f | f | DND | Appendix P, Item J2.j- Decontamination and removal procedures for the tank and liner: It is DND's understanding that liners remain on site and therefore should be addressed in the revised plan. | Appendix P: Compliance Assessment. Licence No. 1AR-NAN0914 Part J, Item 2.j | NWB IR2 NWB IR12l | As the risk-based remedial approach is no longer being pursued, the request for an amendment to Part J.2 of the Water Licence as listed in Block 9 of the application is no longer required. Use of an on-site rubble pit for the disposal of liners as described in the approved <i>Abandonment and Reclamation Plan, Fuel Tank Farm, Former Nanisivik Mine Site</i> (Stantec 2010) has not been implemented. All liners from the fuel tank farm demolition are to be disposed of in an approved facility, either on site or in the South. A Waste Management Plan is included as Attachment 3. | DND is seeking clarity from CanZinco Ltd. on what liners remain and where they are located. In addition, can Can Zinco confirm that soils directly under the liners will be sampled to confirm no SQROs. |

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| 14g | g (i-x) | DND | Specifically, DND is looking for information on the tasks and activities; the associated environmental mitigation measures (engineering controls; and the associated timelines for implementation (initiation and completion) for the following: (1) the baseline site assessment of the new location intended to accept stockpiled impacted soils; (2) the identification of the geographic area (preparation (construction of a new location to accept impacted soils with proper engineering controls; (3) the excavation of all impacted soils (exceeding any remedial objective as identified by the Federal Custodian or Nunavut Water Board) associated with the tank farm; (4) the handling of screened soil materials (e.g. screened out rocks); (5) the handling of any on-site generated waste; (6) the relocation of all impacted soils to the new engineered location; (7) all confirmatory soil and water sampling to be undertaken, including but not limited to: the excavation base, excavation sidewalls, soil stockpiles, treated soil, areas potentially impacted by stockpiled soil locations, and screened rocks; (8) the development (implementation of the risk assessment approach at the triggers for implementing the contingency remedial approach; (9) the plan for the lower and upper treatment areas; and (10) All planned reporting (scope, schedule, and frequency). | Appendix P: Compliance Assessment. Licence No. 1AR-NAN0914 Part J, Item 2.1 | NWB IR12b NWB IR12e NWB IR12m | As the risk-based remedial approach is no longer being pursued, the request for an amendment to Part J.2 of the Water Licence as listed in Block 9 of the application is no longer required. The remediation approach described in the Abandonment and Reclamation Plan, Fuel Tank Farm, Former Nanisivik Mine Site (Stantec 2010) approved by the NWB will continue. An updated schedule for remedial activities and studies is included as Attachment 6. Please note that the schedule presented in Attachment 6 assumes that use of the concrete pad for soil handling and storage activities can continue through July 31, 2015. | DND original comment still applies and should be addressed in a revised Abandonment and Reclamation plan as appropriate and submitted for review and approval. As the current practice of in-situ soil treatment area is in direct conflict with Federal land use , DND/DFO have provided CanZinco Ltd. with an alternative location on site to remediate soils. |
| 14h | h | DND | A scientific rationale outlining how the proposed location for the impacted soils meets the risk assessor's recommendations (Appendix J, Section 5.0) | Application, Appendix J, Section 5 | NWB IR12c NWB IR14c | As the risk-based remedial approach is no longer being pursued, the request for an amendment to Part J.2 of the Water Licence as listed in Block 9 of the application is no longer required. | This is no longer applicable based on risk-based remedial approach not being pursued. |
| 14i | i) | DND | An approach and methodology for tracking and reporting on soil location, quantity and quality should be established for review and acceptance. | | NWB IR12i | The location, quantity and quality of soil is reported annually in the Contaminated Soil Remediation progress reports. The methodology used to estimate exsitu quantity of contaminated soil is described in Section 4.2.4 and 4.3 of the Nanisivik Mine Contaminated Soil Remediation 2013 Progress Report (SRK 2014). The estimated insitu volume of contaminated soil is updated based on production monitoring of the dilution actually achieved to extract the contaminated soil and a detailed understanding of the processes that governed the deposition of the contamination and its migration. | The original comment still applies and should be addressed in a revised Abandonment and Reclamation plan submitted for review and approval. |

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| 15 | 2 | DND | From the Application (Section 14), DND understands that Canzinc is seeking an amendment to allow for the disposal of scrap metal and other bulky non-hazardous materials in an on-site landfill. Details for this proposed on-site landfill are requested. | Application Form Block 14. WASTE Application Form Block 15 QUANTITY AND QUALITY OF WASTE INVOLVED | NWB IR2 NWB IR10 NWB IR13 | Canzinc will be evaluating potential landfill locations in 2014 on Commissioners' Land leases that have yet to be surrendered for the disposal of inert bulky, non-hazardous waste that has been recovered during site wide post closure monitoring and maintenance activities. Possible locations include: on Lease No. L-8008T below the former Pamo Building footprint; on Lease No. L-8677T below the former Dome Building footprint; on Lease No. L-40043T in the West Twin shale/dolostone quarry on the west side of the WTDA (former quarry permit No. 03-708-003); and on Lease L-40041T within the former warehouse yard. The waste will fit in a pit 10 m by 10 m by 1 m or against a high bedrock wall in the quarry or warehouse yard. Cover material will be sourced from the material excavated for a pit or aggregate stockpiled during mine operations immediately adjacent to the high walls. If finer cover material is required it will be sourced from the stockpiles of sand and gravel that meet the SQROs at the dock or from the Landfill Quarry (former quarry permit No. 07-708-001). The former quarries are described in Nanisivik Mine 2004 Reclamation Waste Management Plan is included as Attachment 3. | DND would like to ensure that the final chosen location will not have a federal land use conflict . Please provide a figure depicting the proposed location(s). |
| 16 | 3 | DND | From the Application (Section 20), DND would like to clarify that concerns for the remedial approach were raised at these meetings. DND would like to see these concerns, along with the mitigative measures CanZinc Ltd. is proposing, outlined in this section of the Application. | Application Form Block 20. Consultation | | Please refer to CanZinc's cover letter submitted in support of the IR responses. Addressing the concerns of the DND, the risk-based remedial approach is no longer being pursued. | CanZinc's cover letter stipulated that DND did not support their risk-based remedial approach, which is not accurate. DND expressed concerns; however, proposed mitigative measures could have been provided by CanZinc Ltd. to alleviate/address those concerns. DND's original comment was a request to have these discussions/decisions more completely documented as part of the stakeholder consultation process. |
| 17 | 4 | DND | Regarding Appendix J of the application which is a 'Remedial Options Analysis', DND would like to see all contaminants of concern addressed in the remedial approach proposed, or if excluded, better support for any recommendations for their exclusion (including citing of all references and the associated scientific basis). | Application Appendix J: Preferred Remedial Option | NWB IR12] | The risk-based remedial approach is no longer being pursued. Please refer to the cover letter supporting these IR responses. The remediation approach described in the <i>Abandonment and Reclamation Plan, Fuel Tank Farm, Former Nanisivik Mine Site</i> (Stantec 2010) approved by the NWB will continue to be followed. | The SQROs should be confirmed for all contaminants of concern. DND would like all soils that exceed the current SQROs approved to date, utilized for all soil excavation and confirmatory sampling activities. |
| 18 | 5 | DND | Finally the Appendix K concordance table refers to the former Abandonment and Reclamation Plan for the Fuel Tank Farm (2010) and will need to be revisited once the new Abandonment and Reclamation plan is submitted. | Application Appendix K: Concordance Table | | The risk-based remedial approach is no longer being pursued. Please refer to the cover letter supporting these IR responses. | DND's original comment still remains relevant, as a new Abandonment and Reclamation Plan should be required. |