



Technical Report

**AVALON RARE METALS INC.
THOR LAKE RARE EARTH ELEMENT PROJECT,**

EA 011-001

November 29th, 2012

Non-Technical, Plain Language Summary

Transport Canada is the government department responsible for federal transportation policies and programs. It seeks to promote an integrated transportation system that is safe, secure, efficient and environmentally responsible. Transport Canada is a responsible minister for the environmental assessment of Avalon Rare Metals Incorporated's (Inc.) Thor Lake Rare Earth Element Project because *Navigable Waters Protection Act* (NWPA) approval may be required for the project. The NWPA applies to works built in, on, over, under, through or across navigable water in Canada to protect the public right of navigation. The proposed Thor Lake Rare Earth Element Project has the potential to affect navigational use of waterways in the surrounding area, including the project site. Proposed works include installation of a water intake, installation of a stream crossing, construction of seasonal docking facilities, and depositing and storing of mine tailings in Ring Lake, Buck Lake and Ball Lake. Transport Canada has informed Avalon Rare Metals Inc. that a Proclamation of Exemption by the Governor in Council (GIC) under section 23 of the NWPA is required for the depositing and storage of mine tailings in the three lakes related to the tailings facility. It is important to note that the Proclamation of Exemption process and the environmental assessment review process can run concurrently. However, the Mackenzie Valley Environmental Impact Review Board's (MVEIRB) decision on the environmental assessment must be complete before a Proclamation of Exemption can be issued.

Avalon Rare Metals Inc. submitted an application to Transport Canada on November 13, 2012 seeking a Proclamation of Exemption under section 23 of the *NWPA*. Transport Canada has not yet received final design plans for all other proposed works in navigable waterways related to the Thor Lake Project. However, based on the information provided to date, Transport Canada anticipates there will be potential significant impacts to navigation or navigational safety as a result of the proposal to deposit tailings into Ring Lake, Ball Lake, and Buck Lake as part of its Thor Lake Rare Earth Element Project. Avalon Rare Metals Inc. has committed to providing Transport Canada with updated information as it becomes available and has shown a willingness to cooperate with Transport Canada's requirements to protect the public right to navigate.

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1 INTRODUCTION

1.1 The Thor Lake Rare Earth Element Project

Avalon Rare Metals Inc. proposes to mine, mill and produce Rare Earth Elements (REE) carbonate and oxides, zirconium, niobium and tantalum oxides from the Nechalacho deposit, located at Thor Lake in NWT. Thor Lake is approximately 5 km north of the Hearne Channel of Great Slave Lake, and about 100 km southeast of Yellowknife. Approximately 12-14 million tonnes of resources will be mined over 20 years, with an anticipated production start-up of late 2016. The proposed project has two main site components: an underground mine and flotation plant located at the Thor Lake Property, and a hydrometallurgical plant located 85 km east of Hay River, NWT on the south shore of Great Slave Lake.

1.2 Transport Canada's Role

Transport Canada is the government department responsible for federal transportation policies and programs. It seeks to promote an integrated transportation system that is safe, secure, efficient and environmentally responsible. Transport Canada was granted party status in the environmental assessment of Avalon Rare Metals Inc.'s Thor Lake Rare Earth Element Project because Transport Canada is a Responsible Minister with jurisdiction related to the *NWPA*.

The *NWPA* is a federal law designed to protect the common law right of navigation. Transport Canada's Navigable Waters Protection Program (NWPP) is responsible for administering the *NWPA* which ensures a balance between the public right to navigate and the need to build works in navigable waters - that is any structure, device or other thing that may interfere with navigation such as bridges, dams or docks, in navigable waters. Individuals must obtain approval from Transport Canada before constructing or placing any works in a waterway unless the works are described in the *Minor Works and Waters (NWPA) Order*. The *Minor Works and Waters (NWPA) Order* identifies certain classes of works and waters that may be exempt from the application process under the Act because they are "minor" in nature.

Transport Canada's involvement in the environmental assessment by the Mackenzie Valley Environmental Impact Review Board (MVEIRB) has focused on a review of the potential to affect navigational use of waterways in the area surrounding and including the project. Proposed works include the installation of a water intake, installation of a stream crossing, construction of seasonal docking facilities, barging, and depositing and storing of mine tailings in Ring Lake, Buck Lake and Ball Lake. Transport Canada has a responsibility to manage the public's right to navigate and has informed Avalon Rare Metals Inc. that a Proclamation of Exemption by the Governor in Council (GIC) under section 23 of the *NWPA* is required for the depositing and storage of mine tailings in the three lakes related to the tailings facility (Appendix II). Transport Canada is also able to



provide specialist advice to the Mackenzie Valley Environmental Impact Review Board on potential impacts of the development to the public right to navigate.

Transport Canada has not yet received final design plans for all proposed works in navigable waterways related to the Thor Lake Project. Avalon Rare Metals Inc. has committed to providing Transport Canada with updated information as it becomes available and has demonstrated a willingness to cooperate with Transport Canada's requirements to protect the public right to navigate.



2 TECHNICAL COMMENTS – STREAM CROSSING

2.1 Background

Avalon Rare Metals Inc. proposes to upgrade the road infrastructure at the Nechalacho Mine site, Flotation Plant site, and the Hydrometallurgical Plant site. Avalon plans to install an arch culvert downstream of the Fred Lake outlet stream to prevent impacts to the existing creek bed.

2.2 Proponent's Conclusion

The stream has been determined by Stantec (2011) (Appendix A.1 of the Developer's Assessment Report EA1011-001) to be classified as a minor waterway. This small stream has been identified to have intermittent seasonal flow, passes through a long wetland reach and according to Stantec, did not retain a deep enough wetted channel to allow fish passage during normal peak flows. During spring freshet, channel depth was only 30 cm (measured over 150 m, 4-6 times) and it became significantly shallower through the summer (i.e., residual pool depth was 0.02 m). This would classify the stream as a minor water.

During installation of the culvert and associated earthworks near the drainage site, silt fences will be employed to prevent sediment reporting to the natural drainage courses.

2.3 Transport Canada's Conclusions and Recommendations

Avalon Rare Metals Inc. has assessed and deemed the waterway to fall under the class of minor navigable waters established in the *Minor Works and Waters (NWP) Order*. Consequently, works conducted in minor navigable waters are exempt from the NWP application process.

The criteria established in the Order under each class and referenced in *Minor Works and Waters (NWP) Order*, must be fully met in order for the navigable water to be considered "minor" under the provisions of the Act.



3 TECHNICAL COMMENTS – WATER INTAKE

3.1 Background

Avalon Rare Metals Inc. is proposing to install a water intake in Thor Lake, which requires in-water works that have the potential to impact navigation on the waterway.

3.2 Proponent's Conclusion

The proposed fresh water supply source is Thor Lake and the proposed supply intake location is on the west end of Thor Lake, where the water depth exceeds 10 m. The supply intake will be placed in the deep area of Thor Lake, and be constructed as a pipeline that extends down the shoreline with a suspended pipeline (floating catwalk) out to the intake location (small barge). At the intake location (minimum of 10 m water depth) the intake pipe will extend vertically into the water column (above the lake bottom) to withdraw water. As noted, the structure will be floating over the lake surface and will not be in contact with the lake bottom.

3.3 Transport Canada's Conclusions and Recommendations

Transport Canada advises Avalon Rare Metals Inc. to consult the attached Transport Canada, Navigable Waters Protection pamphlet Minor Works, Water Intakes (see Appendix V). If all the conditions outlined are met, the risk to navigational safety will be low and, accordingly, application(s) for approval under the *Navigable Waters Protection Act* will not be required.

Transport Canada also recommends that Avalon Rare Metals Inc. consult the attached Transport Canada, Navigable Waters Protection pamphlet Minor Works, Temporary Works (see Appendix VI) and evaluate any ancillary temporary works required for the construction of the water intake on Thor Lake against the *minor works* criteria set out in the pamphlet. If the conditions outlined are met, risk to navigational safety will be low and, accordingly, application(s) for approval under the *NWPA* for the temporary works will not be required.



4 TECHNICAL COMMENTS – DOCKS

4.1 Background

Barging and docking facilities will be constructed at the Nechalacho Mine Site, Flotation Plant site, and Hydrometallurgical Plant site.

4.2 Proponent's Conclusion

Avalon understands that *NWPA* Approval will be required from Transport Canada for the proposed seasonal barge/docking facilities at the Nechalacho Mine/Flotation Plant site and the Hydrometallurgical Plant site.

4.3 Transport Canada's Conclusions and Recommendations

The Proponent must submit formal applications as early as possible to Transport Canada in order to obtain approval for each specific work. The Proponent must also inform Transport Canada of any design, construction, or operational changes. Transport Canada will require final detailed design drawings for each proposed work to determine applicability of the *NWPA*.



5 TECHNICAL COMMENTS – RING LAKE, BALL LAKE & BUCK LAKE: TAILINGS MANAGEMENT FACILITY

5.1 Background

The proposed Tailings Management Facility (TMF) will be located up slope from the Flotation Plant and northeast of Thor Lake in the local catchment that currently hosts Ring Lake and Buck Lake. The location was selected based on a review of available sites within the Project area and consideration of environmental and economic factors:

- Ring Lake, Ball Lake, Buck Lake and Drizzle Lake are non-fish-bearing water bodies.
- Ring Lake, Ball Lake, and Buck Lake are at the headwaters of the system, therefore no fresh water inflows supply those lakes.
- The Ring Lake and Buck Lake catchment area forms a natural basin that will provide adequate and efficient storage, thereby minimizing embankment construction and development costs;
- Discharge from the TMF will be to Drizzle Lake, which flows naturally to Thor Lake via Murky Lake. This will allow return of excess water from the TMF supernatant pond to Thor Lake during mine operations to minimize impacts to pre-production flows.

The principle objective of the TMF design is to ensure protection of the environment during operations and in the long-term (after closure) in order to achieve effective reclamation at mine closure. The design takes into account the following requirements:

- Permanent, secure and total containment of all tailings solids within an engineered facility;
- Control, collection and removal of free draining liquids from the tailings during operations to recycle process water to the maximum practical extent; and
- Include monitoring features for all aspects of the facility to ensure performance goals are achieved and design criteria and assumptions are met.

5.2 Proponent's Conclusion

Avalon Rare Metals Inc. has not identified any current navigational users of Ring Lake, Buck Lake, and Ball Lake. However, for the purpose of this rationale they assessed the impacts on the theoretical navigation of the lakes over water in the summer and ice in the winter.

- During construction, there would be no change to the navigation of these lakes.
- During operations, the lakes will progressively be filled with tailings reducing the theoretical navigability during the summer. Throughout operations, uneven ice



patterns could make travel on the tailings unsafe in the winter. Access to the TMF would be limited by the mine's staff and security.

- After closure, the tailings will be capped and revegetated. This will eliminate navigation by water or ice. Navigation will be possible over land.

5.3 Transport Canada's Conclusions and Recommendations

Transport Canada has determined that Ring Lake, Ball Lake, and Buck Lake are navigable and considers the depositing of tailings into these lakes to be subject to Section 22 of the *NWPA*. Section 22 prohibits a person from depositing any material or rubbish (e.g. stone, gravel, earth, cinders, ashes) that is liable to sink to the bottom in any water, any part of which is navigable or that flows into any navigable water, where there are not at least 20 fathoms (approximately 36.6 meters) of water depth at all times. Section 23 of the *NWPA* provides that the Governor in Council, when it is shown to its satisfaction that the public interest would not be injuriously affected, may, by proclamation, declare any rivers, streams or waters in respect of which Section 22 of the *NWPA* apply, or any parts thereof, exempt in whole or in part from the operation of Section 22. Therefore, in order to deposit tailings into Ring Lake, Ball Lake, and Buck Lake or to proceed with any undertaking that would allow the depositing of tailings, it is necessary for Avalon Rare Metals Inc. to first obtain a Proclamation of Exemption by the Governor in Council under section 23 of the *NWPA*.

Avalon Rare Metals Inc. has informed Transport Canada in writing that it intends to apply for a Proclamation of Exemption (Appendix IV) and submitted an application on November 13, 2012 to Transport Canada seeking a Proclamation of Exemption under section 23 of the *NWPA*.

Appendix III provides references to the milestones and description of associated activities in pursuing the Proclamation of exemption under section 23 of the *NWPA*.



6 TECHNICAL COMMENTS – BARGING

6.3 Background

The barging operation represents a key component of the overall infrastructure required to support the Thor Lake Project. The barging operation will serve to address two primary requirements:

- The transportation of shipping containers loaded with concentrate produced at the Nechalacho Mine and Flotation Plant site to the Hydrometallurgical Plant site located in the Pine Point area.
- The annual resupply of mine consumables and fuel to the Nechalacho Mine and Flotation Plant site.

The main barging corridor across Great Slave Lake extends for about 155 km from the Nechalacho Mine and Flotation Plant site on the north side of the lake to the Hydrometallurgical Plant site on the south side of the lake.

The barging operation will be conducted during the annual open water period which typically extends from about the end of June to about the end of October (>120 days). Avalon anticipates that approximately 60 days will be needed to complete all shipments within the annual barging season. The overall barging operation will involve the use of nine (9) barges arranged in three (3) barge trains consisting of three (3) barges each, supported by two (2) tugs.

6.4 Proponent's Conclusion

Avalon Rare Metals Inc. has concluded that tug and barge appears to be the best solution for their transportation requirements. Weather will be a factor, in particular at Pine Point, where delays in offloading/loading operations can be expected. It is important therefore, to start operations early in the season when ice conditions permit. From a weather point of view, June, July and August are the most favourable months. Beginning in early September, weather conditions begin to deteriorate causing considerably more lost time in operations.

6.5 Transport Canada's Conclusions and Recommendations

Due to the location and cold weather environment, it is advised that the barge and all systems be designed suitably for the anticipated ice conditions so that it complies with the applicable provisions of the *Canada Shipping Act*, 2001 and applicable regulations.



7 TECHNICAL COMMENTS – AIRSTRIP

7.1 Background

The current 300 metre airstrip is located northwest of the proposed Flotation Plant and west of Thor Lake. The airstrip will be upgraded and extended 700 m to a total length of approximately 1,000 m. The upgraded airstrip will accommodate Dash 8 and Buffalo aircraft and facilitate the safe transport of employees and supplies.

7.2 Proponent's Conclusion

Float planes, ski planes, wheeled twin Otters and turbo Beavers with rotary wing support have been used to service the site to date. Avalon has a current 300 m long by 30 m wide airstrip on the West side of Thor Lake. Avalon anticipates lengthening the airstrip to approximately 1,000 m as the Thor Lake Project advances. The airstrip extension is included in Avalon's land use application.

Once completed, the airstrip will allow safe year-round access for medium sized aircraft with light freight and personnel. The most common connection will be with Yellowknife, approximately 100 km from the site. Additional instrument controls will be investigated to maximize safe operation of the airstrip and to minimize delays due to limited daylight during the winter operations.

7.3 Transport Canada's Conclusions and Recommendations

Transport Canada is responsible on behalf of the Minister of Transport under the *Aeronautics Act*, for the regulation of aeronautics and the supervision of all matters connected with aeronautics. Aerodrome operations are regulated under Part III of the *Canadian Aviation Regulations* (CARs). Guidance information is provided for pilots in the Aeronautical Information Manual.

Registered aerodromes are subject to CAR 301 and are monitored primarily for safety. Aviation weather provided in support of instrument approaches is monitored regularly and inspected for compliance with the regulations of CAR 804 and requirements of exemptions authorizing their operation.

Avalon Rare Metals Inc. must ensure that an aerodrome requiring certification as an airport meets the requirements of CAR 302 and its associated standards, including Wildlife Planning and Management and Emergency Response Planning.



8 TECHNICAL COMMENTS – TRANSPORTATION OF DANGEROUS GOODS

8.1 Background

Rare earth elements (REEs) will be mined underground and concentrated at the Nechalacho Mine and Flotation Plant site. The resulting REE concentrates will be barged during the summer months across the east end of Great Slave Lake to the Hydrometallurgical Plant site. Upon arrival, the concentrate will be trucked from the south shore of Great Slave Lake to the Hydrometallurgical Plant site via a short (8 km) haul road. The concentrate will be further processed at the Hydrometallurgical Plant. The resulting final products will be hauled to the Hay River railhead in sealed containers via truck, and direct shipped by the CN railway for further processing in the south.

8.2 Transport Canada's Conclusions and Recommendations

Transport Canada recommends that Avalon consult the Transportation of Dangerous Goods Act and Regulations as they relate to their operations and comply with all applicable requirements, including the Emergency Response Assistance Plan (ERAP) requirements if necessary. Avalon may contact the Transport Canada Transportation of Dangerous Goods regional office at 1-888-463-0521 for clarification or guidance if required.

Section 7 of the Transportation of Dangerous Goods Act, 1992, requires that before a person offers for transport or imports certain dangerous goods, the person must have an approved ERAP. Avalon and their shippers should consult the list of substances that require an ERAP to determine their applicability to the project and comply with all requirements. An ERAP is required only for dangerous goods in certain quantities or concentrations that may present wide-spread hazards in the event of an accident. Response to this type of an accident may require special equipment (such as fully encapsulated chemical response suits or transfer equipment) or specially trained and qualified personnel. Explosives, toxic gases, flammable gases, multiple hazards and poisons are examples of such dangerous goods.

The intent of an ERAP is to provide on-site assistance to local authorities in the event of an accident involving the dangerous goods. The assistance provided would include, without being limited to, the provision of emergency response advice first by telephone, then by a knowledgeable person attending the accident site, and the supply of specialized equipment and a response team to mitigate the effect of the dangerous goods at the accident site.



9 SUMMARY OF RECOMMENDATIONS

Based on the information provided to date, Transport Canada anticipates potential significant impacts to navigation or navigational safety as a result of the proposal to deposit tailings into Ring Lake, Ball Lake, and Buck Lake as part of its Thor Lake Rare Earth Element Project. Transport Canada recommends that Avalon Rare Metals Inc.:

- Consult with members of the public and aboriginal people who may have concerns related to works requiring *NWPA* approval, if they have not already done so.
- Submit formal applications, as required, and final detailed design drawings as early as possible to Transport Canada in order to obtain *NWPA* approval or determine applicability of the *NWPA* for each specific work. The Proponent must also inform Transport Canada of any design, construction, or operational changes.
- Consult the attached Transport Canada, Navigable Waters Protection pamphlet Minor Works, Water Intakes (see Appendix V). If the conditions outlined in this pamphlet are met for a specific water intake, the risk to navigational safety will be low and, accordingly, application(s) for approval under the *Navigable Waters Protection Act* will not be required for the water intakes.
- Consult the attached Transport Canada, Navigable Waters Protection pamphlet Minor Works, Temporary Works (see Appendix VI) and evaluate any ancillary temporary works required for the construction of the water intake on Thor Lake against the *minor works* criteria set out in the pamphlet. If the conditions outlined in the pamphlet are met, risk to navigational safety will be low and, accordingly, application(s) for approval under the *Navigable Waters Protection Act* for the temporary works will not be required.
- Ensure that the barge and all systems be designed for the anticipated ice conditions and that these comply with the applicable provisions of the *Canada Shipping Act, 2001* and applicable regulations.
- Consult the *Transportation of Dangerous Goods Act* and Regulations and comply with all requirements, including the ERAP requirements if necessary. Avalon may contact the Transport Canada Transportation of Dangerous Goods regional office at 1-888-463-0521 for clarification or guidance if required.
- Avalon Rare Metals Inc. must ensure that an aerodrome requiring certification as an airport meets the requirements of CAR 302 and its associated standards, including Wildlife Planning and Management and Emergency Response Planning.



APPENDIX I: MAP OF AVALON RARE METALS INC.'S THOR LAKE RARE EARTH ELEMENTS PROJECT



LEGEND

- Site Location
- Community
- Road
- Winter Road
- + Railroad
- Watercourse
- Waterbody

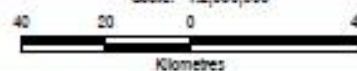
THOR LAKE PROJECT

Site Locations

PROJECTION
NWT Lambert

DATUM
NAD83

Scale: 1:2,000,000



FILE NO.
V15101007_DAR_Map059_ES_Location.mxd



EBA Engineering
Consultants Ltd.





APPENDIX II: LETTER FROM TRANSPORT CANADA TO AVALON RARE METALS INC. REGARDING NWPA SECTION 22 AND 23 REQUIREMENTS



Navigable Waters Protection Program
1100 9700 Jasper Avenue
Edmonton Alberta T5J 4E6

Your file Votre référence

Our file Notre référence
8200-2011-600186

October 9, 2012

Avalon Rare Metals Inc.
130 Adelaide St. W, Suite 1901
Toronto, ON M5H 3P5

Attention: David Swisher

RE: Governor in Council Proclamation of exemption process pursuant to Section 23 of the *Navigable Waters Protection Act*, Northwest Territories

We understand that Avalon Rare Metals Inc. is proposing to deposit tailings into the below listed waterways as part of its Thor Lake Rare Earth Element Project. Transport Canada (TC) has determined that the listed waterways are navigable and considers the depositing of tailings in the waterways to be subject to section 22 of the *Navigable Waters Protection Act* (NWP). As you are likely aware, section 22 prohibits a person from throwing or depositing any material or rubbish (e.g. stone, gravel, earth, cinders, ashes) that is liable to sink to the bottom in any water, any part of which is navigable or that flows into any navigable water, where there are not at least 20 fathoms (approximately 36.6 meters) of water depth at all times.

Waterway	NWPA File Number
Ball Lake	8200-2011-600186-002
Ring Lake	8200-2011-600186-003
Buck Lake	8200-2011-600186-004

Section 23 of the NWP provides that the Governor in Council, when it is shown to its satisfaction that the public interest would not be injuriously affected, may, by proclamation, declare any rivers, streams or waters in respect of which section 22 of the NWP apply, or any parts thereof, exempt in whole or in part from the operation of section 22. Therefore, in order to deposit tailings into the listed waterways or to proceed with any undertaking that would allow the depositing of tailings such as dewatering the waterways, it is necessary for Avalon Rare Metals Inc. to first obtain a Proclamation of exemption by the Governor in Council under section 23 of the NWP.

As with other NWP approvals, an application needs to be submitted to TC if Avalon Rare Metals Inc. wishes to seek a Proclamation of exemption under section 23 of the NWP. To this end, Avalon Rare Metals Inc. must inform TC in writing that it wishes to apply for a Proclamation of exemption.

Avalon Rare Metals Inc. must also submit an application to TC with all the necessary information in support of a Proclamation of exemption. The information requirements are described in the attached document "Proclamation of exemption process pursuant to section 23 of the *Navigable Waters Protection Act*" for the Thor Lake Rare Earth Element Project.

We do not anticipate this application process being too onerous as much of the information is already contained in the work you are completing for the Environmental Impact Statement.

Canada, as you know, must be satisfied that its legal duty to consult Aboriginal groups in relation to the project is met before a Proclamation of exemption can be granted by the Governor in Council.

Should you have any questions, please do not hesitate to contact our office in Edmonton by phone at (780) 495-8215, by fax at (780) 495-8607 or by e-mail at NWP-PEN.PN@tc.gc.ca.

Respectfully,



Matt Klaverkamp
Regional Manager
Navigable Waters Protection Program
Marine Safety
Transport Canada
Prairies and Northern Region

cc: TC – Environmental Affairs

Attachment

Proclamation of exemption process pursuant to Section 23 of the *Navigable Waters Protection Act*

In order to obtain a Proclamation of exemption under section 23 of the *Navigable Waters Protection Act* (NWP) from the Governor in Council, the proponent must submit an application to Transport Canada. The process requires that the proponent provide all the necessary information in support of a Proclamation of exemption (referred to as Rationale Evidence) addressing all factors affecting the public interest. The Rationale Evidence must also include the proponents' rationale, which demonstrates that the public interest would not be injuriously affected by exempting Ball Lake, Ring Lake, and Buck Lake from the application of section 22 of the NWP with the granting of a Proclamation of exemption under s. 23 of the NWP. The Proclamation of exemption timeline is approximately 9-12 months - which includes the Order in Council process.

The following describes the necessary information that should be part of the Rationale Evidence. The Navigable Waters Protection Program Officer is available to provide further guidance, if needed.

a) Project Description

Include the project description which may be contained in the environmental impact statement (EIS) for this project and describe further the depositing of tailings and any other related activities, such as dewatering (the depositing activities).

b) Impacts to Navigation and Discussion of Alternatives

Include a description of the waterways that may be impacted by the depositing activities, including the impacts to navigation that may result from these activities. This section should cover the impacts to navigation at all phases of the project, including post-closure. Remediation and restoration plans should be included.

It is the applicant's responsibility to explore the feasibility of all potential alternatives to contravening section 22 of the NWP and to report the results of this investigation. The applicant must clearly explain why potential alternatives are not feasible.

c) Environmental Impacts

Describe the environmental effects of the activity, including the significance of any potential adverse environmental effects. The material required for this section of the Proclamation of Exemption Evidence may be extracted from existing documentation produced during the environmental assessment process.

d) Key Public Interest Impacts

Discuss other relevant key public interest impact areas, for example:

- Health and public safety: any potential impacts on human, animal or plant health or safety.
- Social and cultural: any potential social impacts or implication for people's way of life, culture, community, political systems, well-being, personal and property rights.
- Public security: any potential impacts on public security.
- Economy: any potential impact or implications for business, consumers and jobs including impacts on affected sectors of the local and regional economies.
- Other relevant public interest impacts.

e) Stakeholder Consultations

Describe stakeholder consultations, which are critical for demonstrating that the public interest would not be injuriously affected by the depositing activities. Stakeholder consultations for the purpose of the EIS are a starting point, but the Proponent is encouraged to add any significant information regarding subsequent consultation, particularly concerning the depositing activities. Communications indicating support or opposition to the depositing activities should be included and may be accompanied by the Proponent's responses.

In cases where there has been controversy, significant media attention, or the project is not universally supported by all major stakeholder groups, the applicant should describe the nature or source of the controversy, the main stakeholders and their anticipated positions. The applicant may also wish to include an analysis and/or position statement.

f) Aboriginal Consultations

In the form of a report, describe your Aboriginal consultation activities with Aboriginal groups that may be adversely affected by the depositing activities.

More specifically, include in this report information regarding: (1) which Aboriginal groups were consulted; (2) what concerns were raised (including, any information with respect to the potential adverse impacts to potential or established Aboriginal rights of the section 23 Proclamation of exemption, and any measures proposed to avoid or mitigate these impacts) and; (3) how these concerns were addressed by you.

If you have any question about this, please contact:

Transport Canada
Navigable Waters Protection Program
1100 9700 Jasper Avenue
Edmonton, AB T5J 4E6
General Line: 780-495-8215
NWP-PEN.PN@tc.gc.ca

g) Cost Benefit Analysis

Provide a cost-benefit analysis incorporating the relevant considerations, including but not limited to navigational, environmental, health and public safety, social and cultural, public security and economic impacts.

h) Rationale

Utilize the above information to provide your rationale for demonstrating that the public interest would not be injuriously affected by exempting Ball Lake, Ring Lake, and Buck Lake from the application of section 22 of the NWPA with the granting of a Proclamation of exemption.



APPENDIX III: KEY MILESTONES AND ACTIVITIES DESCRIPTION FOR TRANSPORT CANADA, NWPA S.23 ORDER-IN-COUNCIL



KEY MILESTONES AND ACTIVITIES DESCRIPTION FOR TRANSPORT CANADA, NHPA S.23 ORDER-IN-COUNCIL

NOTE: The majority of “**STEP 1**” outlined below can usually be completed in parallel with the EA process. Under certain circumstances, **STEP 2**, **STEP 3**, and **STEP 4** may also be completed in parallel with the EA process.

MILESTONE	ACTIVITIES/ DESCRIPTION
Decision to proceed with recommendation for an OIC <i>*Applicable to NHPA s. 23</i>	TC refers to the Mackenzie Valley Review Board's <i>Report of EA</i> for development of Triage and Regulatory Impact Analysis Statement (RIAS) requirements
Proceed with OIC exemption under section 23 NHPA <i>*Applicable to NHPA s.23 only</i>	STEP 1: Completion of Treasury Board (TB) Submission documents for pre-publication in Canada Gazette, Part I (i.e. Triage,RIAS(E&F), Final determination of “public interest”, Memo to TC Minister(E&F), Privy Council Office Transmittal Letter, Communications Assessment (E&F), and Notice (E&F))
	STEP 2: Approval by TC senior management and document submission to TC Minister and PCO prior to TB meeting
	STEP 3: Pre-publication in Canada Gazette, Part I and 30-day comment period
	STEP 4: Revision of TB Submission documents for final approval and for publication in Canada Gazette, Part II (i.e., RIAS(E&F), Memo to TC Minister (E&F), PCO Transmittal Letter, Comms Assessment(E&F), Order and Proclamation(E&F))
	STEP 5: Approval by TC senior management and document submission to TC Minister and PCO prior to TB meeting
	STEP 6: Final TB approval of Order and subsequent publication of Proclamation (by Industry Canada) in Canada Gazette, Part II



APPENDIX IV: LETTER FROM AVALON RARE METALS INC. REGARDING NWPA SECTION 22 AND 23 REQUIREMENTS



AVALON
RARE METALS INC.

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November 13, 2012

Matt Klaverkamp
Regional Manager
Navigable Waters Protection Program
Transport Canada, Prairie and Northern Region
nwp-pen.pn@tc.gc.ca

RE: Section 23 of NWPA - Rationale Evidence

Your file #:8200-2011-600186

This letter serves as the written notification of Avalon's application for a Proclamation of Exemption under section 23 of the NWMPA, as requested by Transport Canada in its October 9, 2012 letter. Please find enclosed the requested information to support the proclamation for the conversion of Ring, Buck, and Ball lakes to a tailings management facility (TMF) at the Nechalacho mine site, including the following attachments

1. Feasibility Study for the Tailings Management Facility at Nechalacho completed by Knight Piesold 5-October-2012 titled "KP Final TMF report Rev.0.pdf".
2. Infrastructure Alternative investigation by Knight Piesold July 2009 NB09-00493
3. General Arrangement Drawing - Nechalacho Mine Site
4. General Arrangement Drawing - Hydrometallurgical Facility Site

Further information is also available from Avalon's Developer's Assessment Report that was submitted to the Mackenzie Valley Environmental Impact Review Board on May 24, 2011. It can be accessed at www.reviewboard.ca.

Sincerely,

David Swisher
VP of Operations, Avalon Rare Metals

cc. Christopher Aguirre, Transport Canada



APPENDIX V: MINOR WORKS AND WATERS ORDER FOR WATER INTAKES



Transport
Canada

Transports
Canada



TP 14591
(12/2009)

Navigable Waters Protection Act

WATER INTAKES

This brochure outlines the specific standards and criteria under which Transport Canada considers water intakes as “minor works” and does not require an application under the Navigable Waters Protection Act (NWPA).

These criteria are based on the terms and conditions outlined in section 8 of the Minor Works and Waters (Navigable Waters Protection Act) Order.

Failure to construct the work in accordance with the standards and criteria identified in this document and outlined in the Order as referenced in section 13 of the NWPA may result in enforcement action.

Definitions

Crib: Pieces of timber affixed together to form bays or cells that are filled with stones or concrete.

Berm: A temporary earth-filled structure serving as a work platform or vehicle access to permit the construction of works in navigable waters.

Weir: A low dam or barrier that raises the level or diverts the flow of navigable waters.

Headpond: A reservoir of water created by the construction of a dam or weir.

Navigation channel: Includes a charted channel, buoyed channel or a channel that, based on local knowledge, exists for navigation purposes.

When is a water intake considered a minor work?

A water intake project meeting **all** of the following criteria and standards **is considered** a minor work and **does not require** the submission of an application for review and approval under the NWPA if:

1. the intake pipe is less than 10 centimetres (cm) in diameter and lies on the bed of the navigable waters;
2. the intake end of the work is
 - a. in waters more than 2.5 metres (m) in depth, in the case of uncharted navigable waters, or
 - b. in waters less than 0.5 m, according to chart datum, in the case of charted navigable waters;
3. the work is more than 50 m from a navigation channel;
4. the work does not include a crib or other intake structure, such as an anchor, a collar or a weight, that extends more than 50 cm above the bed of the navigable waters; and
5. the work is not associated with a dam, a weir or a headpond, including a proposed dam, weir or headpond.

What terms and conditions are imposed on minor water intakes?

For water intakes determined under these criteria to be minor works, the following terms and conditions must be strictly adhered to during construction:

1. no floating pipes shall be left unattended or unsupervised during the construction or placement of the works.

NOTE

If your project involves temporary works, these works *may* be subject to the criteria listed in section 10 of the *Minor Works and Waters Order* and referenced in the Transport Canada publication *Temporary Works* (TP 14893).

You should note that other laws and regulations may be applicable to your project.

For more information, visit Transport Canada's website at <http://www.tc.gc.ca/marinesafety/oep/nwpp/menu.htm> or call 1-877-842-5606.

A Minor Work

Historically, many projects pose no threat to the ongoing safety of navigation if positioned and constructed in accordance with specific standards and criteria. Such projects are considered by Transport Canada as minor works and, as such, no application under the NWPA will be required.

The NWPA is a federal law designed to protect the public right of navigation. It ensures that works constructed in navigable waters are reviewed and regulated to minimize the overall impact on navigation.

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APPENDIX VI: MINOR WORKS AND WATERS ORDER FOR TEMPORARY WORKS

TP 14893
(12/2009)

Navigable Waters Protection Act

TEMPORARY WORKS



This brochure outlines the specific standards and criteria under which Transport Canada considers temporary work projects to be “minor works” and does not require an application under the Navigable Waters Protection Act (NWPA).

These criteria are based on the terms and conditions outlined in section 10 of the Minor Works and Waters (Navigable Waters Protection Act) Order.

Failure to construct the work in accordance with the standards and criteria identified in this document and outlined in the Order as referenced in section 13 of the NWPA may result in enforcement action.

Definitions

Navigation channel: A charted channel, a buoyed channel or a channel that, based on local knowledge, exists for navigation purposes.

When is a temporary work project considered a minor work?

Temporary works that are required for the construction or placement of any other work determined to be a minor work **are also considered** minor works and **do not require** the submission of an application for review and approval under the NWPA, unless the temporary works:

1. are roads, bridges, dams, cofferdams, berms or booms;
2. change the course of the navigation channel in the navigable waters;
3. cross more than halfway from one side of the navigable waters to the other side; or
4. are in, on, over, under, through or across a navigation channel.

What terms and conditions are imposed on a minor temporary work?

For a temporary work determined under these criteria to be a minor work, the following terms and conditions must be strictly adhered to during construction:

- A) vessels shall be allowed safe access through the work site at all times and shall be assisted as necessary;
- B) in the case of temporary works that are on, over or across navigable waters, the temporary works shall, from dusk to dawn and during periods of restricted visibility, be marked with yellow flashing lights that are:
 - (i) located on the end of the works furthest from the nearest bank or shore of the waters, if the works are not more than 3 metres (m) in length,
 - (ii) located on each end of the works, if the works are more than 3 m in length but not more than 30 m in length, or
 - (iii) located on each end of the works and on any other location on the works so that the lights are spaced not more than 30 m apart, if the works are more than 30 m in length, and

- C) in the case of temporary works that are in or through navigable waters, the temporary works shall be marked with cautionary buoys that meet the requirements of the *Private Buoy Regulations*, are lighted from dusk to dawn and during periods of restricted visibility, and are:
 - (i) located on the end of the works furthest from the nearest bank or shore of the waters, if the works are not more than 3 m in length,
 - (ii) located on each end of the works, if the works are more than 3 m in length but not more than 30 m in length, or
 - (iii) located on each end of the works and on any other location on the works so that the buoys are spaced not more than 30 m apart, if the works are more than 30 m in length.

Terms and conditions on completion of construction or placement of the temporary work are as follows:

- A) the temporary work shall be completely removed; and
- B) if the temporary work disturbed the bed of the navigable waters, it shall be restored to its natural contours.

NOTE

You should note that other laws and regulations may be applicable to your project.

Your temporary work project *may* be subject to the criteria listed in sections 2-9 of the *Minor Works and Waters Order*.

If your temporary work project is associated with the following minor works listing, please refer to the pertinent minor works publications below:

- Winter Crossings (TP 14590)
- Water Intakes (TP 14591)
- Submarine Cables (TP 14592)
- Pipeline Crossings (TP 14593)
- Erosion Protection Works (TP 14594)
- Docks and Boathouses (TP 14595)
- Aerial Cables (TP 14596)
- Dredging (TP 14597)

For more information, visit Transport Canada's website at <http://www.tc.gc.ca/marinesafety/oep/nwpp/menu.htm> or call 1-877-842-5606.

A Minor Work

Historically, many projects pose no threat to the ongoing safety of navigation if positioned and constructed in accordance with specific standards and criteria. Such projects are considered by Transport Canada as minor works and, as such, no application under the NWPA will be required.

The NWPA is a federal law designed to protect the public right of navigation. It ensures that works constructed in navigable waters are reviewed and regulated to minimize the overall impact on navigation.

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