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ECCC File: 6100 000 010/042
NWB File: 2AM-DOH1335



June 19, 2026

via email at: licensing@nwb-oen.ca

Richard Dwyer
Manager of Licensing
Nunavut Water Board
P.O. Box 119
Gjoa Haven, NU X0B 1J0

Dear Richard Dwyer:

**RE: 2AM-DOH1335– Agnico Eagle Mines – Hope Bay Mine – Type A Water License
Amendment Application Technical Review Comments**

Environment and Climate Change Canada (ECCC) has reviewed the information submitted by Agnico Eagle Mines ('the Proponent'; 'AEM'; Agnico-Eagle') to the Nunavut Water Board (NWB) regarding the above-mentioned water license amendment application and is providing the following Technical Comments.

ECCC provides expert information and knowledge to project assessments on subjects within the department's mandate and within federal jurisdiction, including greenhouse gas emissions and climate change, air quality, water quality and quantity, migratory birds, species at risk, environmental emergencies preparedness and response, and climate and meteorology. This work includes reviewing proponent's characterization of environmental effects and proposed mitigation measures, and providing information and knowledge to decision-makers on activities needed to mitigate these environmental effects within federal jurisdiction. Any comments received from ECCC in this context does not relieve the proponent of its obligations to respect all applicable federal legislation.

The following comments are provided:

1. Topic – Dust-Related Impacts to Water Quality

Reference(s)

- 2AM-DOH1335 Water Licence Amendment - Hope Bay Operational Update Main Application Document
- Appendix 3A: TIA Filtered Tailings Conceptual Design Assessment
 - o Section 6.0 – Monitoring



- Operations, Maintenance and Surveillance Manual: Doris Tailings Impoundment Area Section 5.1 – TIA Operating Criteria and Performance Indicators

Comment

Dry stack tailings facilities can be a source of dust that contains fine particulate with residual metals and process reagents. Under dry and windy conditions, this dust can be mobilized and deposited onto surrounding land and water surfaces, where it may subsequently be transported into water bodies during precipitation events and contribute to elevated concentrations of suspended solids and contaminants. During winter, dust deposition onto the snowpack can act as a temporary storage mechanism and during spring melt, accumulated particulates and associated contaminants may be rapidly flushed, resulting in short-term pulses of contaminants to surface waters that can negatively impact water quality.

The Main Application Document does not discuss the potential pathway for dust deposition from the dry stack tailings facility to cause impacts to surface water quality. Appendix 3A (TIA Filtered Tailings Conceptual Design Assessment) briefly acknowledges that filtered tailings have the potential to generate dust, that this must be monitored closely, and a monitoring program should be developed. The report does not explicitly discuss the connection from dust deposition to surface waters, land (via runoff), and snow (via melt). Mitigation measures presented only relate to the stability of the facility, not the potential for environmental impacts. It is noted that the Operations, Maintenance, and Surveillance Manual for the Doris Tailings Impoundment Area (TIA) outlines “possible mitigation strategies” related to dust but these were not presented as part of the amendment, and it is unclear whether these will be sufficient for the dry stack facility.

Given the proximity of the TIA to Doris Lake to the East and Ogama Lake to the South (as well as numerous other small water bodies), dust related mitigations and monitoring to prevent impacts to surface water quality should be included as requirements in advance of transition to a dry stack facility. It is expected that a monitoring program for dust and snowpack monitoring will be developed to monitor for and characterize the potential pathways from the dry stack to nearby surface waters. It is understood that the transition to dry stack is not anticipated until later years of mine life, however, monitoring of existing conditions would establish a baseline and assist in evaluating any potential changes once the transition has occurred.

ECCC Recommendation(s)

ECCC recommends the Proponent:

1. Discuss the direction dust from the dry stack would be expected to disperse, including predictions for dispersion distance from the facility;
2. Discuss planned measures to mitigate and monitor for dust and snowpack deposition related impacts on water bodies from the dry stack tailings. This should be outlined in an existing monitoring and management plan or a new plan prior to transition to dry stack; and
3. Discuss planned monitoring in advance of implementation of the dry stack configuration to characterize existing dust/snow conditions in the absence of the dry stack tailings facility.

2. Topic – Aquatic Effects Monitoring Program (AEMP) Monitoring Stations

Reference(s)

- Appendix 6A: Hope Bay Mine: Aquatic Effects Monitoring Program
 - o Figure 3.1-1A: AEMP and MDMER EEM Study Areas, and MDMER EEM Replication Stations, Northern Hope Bay Belt
 - o Table 3.1-1: Study Area Descriptions and Monitoring Triggers

Comment

The Operational Update will bring mine infrastructure closer to the shores of the nearby water bodies in the Madrid area. Based on the figures provided, increased infrastructure and activity is anticipated in Madrid North (proximity to Windy, Imniagut, and Patch Lakes) and in Madrid South (proximity to Wolverine and Patch Lakes). Table 3.1-1 of the AEMP provides details on the existing reasons for monitoring each lake but does not appear to have been updated as part of the Operational Update. It is noted that only Patch, Wolverine, and Doris are monitored for “indirect impact due to proximity”, while Windy is monitored for “direct potable water withdrawal” and Imniagut is monitored for “groundwater inflows.” With the increased development in proximity to Windy Lake and Imniagut Lake, the reasons for monitoring may change, and it may be reasonable to expand reasons for monitoring to include “indirect inputs due to proximity.”

Proximity to mine infrastructure may warrant expansion of the existing monitoring to provide more comprehensive monitoring in other lakes. Comprehensive monitoring (water level, ice thickness, temperature and dissolved oxygen, water quality, chlorophyll a, benthos, and sediment quality) is only completed in Doris, Patch, and Wolverine that are monitored for “indirect impacts due to proximity.” If indirect proximity impacts are anticipated to additional water bodies such as Windy and Imniagut, then comprehensive monitoring should be considered for expansion into these waterbodies as well.

The locations of the existing AEMP monitoring stations are provided on Figure 3.1-1 of the AEMP and include a single monitoring station in all monitored lakes. For Patch Lake and Windy Lake specifically, it is unclear whether the existing monitoring stations are appropriately sited to monitor for any potential effects due to the increases in development in the Madrid Area. In both cases, the monitoring stations are on the northern ends of the lakes, and likely reflect the overall, well mixed condition at the deepest portion of the lake. However, it may be appropriate to amend and/or add a monitoring station to monitor for impacts proximal to the development to function as an early indication of changes prior to a signal being measurable in the overall lake. In the case of Windy Lake, this would be on the southern end, and in Patch Lake two stations may be appropriate (associated with Madrid north and south).

ECCC Recommendation(s)

ECCC recommends the Proponent provide additional analysis and discussion on the following:

1. Whether the reasons for monitoring and monitoring triggers in Table 3.1-1 will change with the Operational Update and update the table accordingly;
2. Discuss whether expanded more comprehensive monitoring is required in Windy and Imniagut Lakes; and
3. Provide rationale for whether existing monitoring stations in Windy Lake and Patch Lake are in suitable locations to detect indirect changes due to proximity to mine infrastructure.

3. Topic – AEMP Benchmarks – Federal Environmental Quality Guidelines and Canadian Council of Ministers for the Environment Guidelines Updates

Reference(s)

- Appendix 6A: Hope Bay Mine: Aquatic Effects Monitoring Program
 - o Table 4.4-1: Freshwater Water Quality Benchmarks
- 2AM-DOH1335 Water Licence Amendment – Operational Update Response to Information Requests / Completeness Check
 - o ECCC-IR-11

Comment

An updated version of the AEMP was provided with the application, but this version did not include recently updated and newly developed guidelines for the protection of aquatic life. Specifically, the Federal Environmental Quality Guidelines (FEQG) have been omitted entirely. Relevant FEQG would include updated aluminum, copper, iron and lead guidelines and new cobalt, strontium, and vanadium guidelines. In addition to the FEQG, it appears that post-2018 updates to the CCME guidelines for the protection of aquatic life have not been incorporated. ECCC notes that the CCME guideline for manganese was published in 2019 and should be incorporated into the AEMP benchmarks.

In response to ECCC-IR-11, the Proponent indicated they will review the FEQG and determine applicability for use as benchmarks. It is recommended that this occurs as part of this technical review stage of the amendment process as it provides an opportunity to review and update existing management plans and will permit discussion amongst all interested parties.

The most up-to-date guidelines should be utilized to ensure that decisions reflect the best available science. Updated guidelines incorporate new research, current toxicity data, and revised methodology, which help reduce uncertainty and better protect aquatic ecosystems. Using outdated criteria may underestimate risks, potentially leading to effects to fish, invertebrates, and other biota. Applying current guidelines demonstrates due diligence, supports defensible decision-making, and aligns with evolving regulatory expectations and environmental protection standards.

ECCC Recommendation(s)

ECCC recommends that the Proponent provide a review of the updated and new guidelines (FEQG and CCME) for inclusion in the AEMP and confirm whether they will be adopted as new or updated water quality benchmarks. Where the updated guidelines are not adopted, technical supporting rationale should be provided.

4. Topic – Sewage Discharge – Tundra vs. Tailings Impoundment Area (TIA)

Reference(s)

- 2AM-DOH1335 Water Licence Amendment – Hope Bay Operational Update Main Application Document
 - o Section 3.3.14 – On-site facilities
 - o Appendix 1-A: Evaluation of Change Associated with Operational Update
- 2AM-DOH1335 Water Licence Amendment – Operational Update Response to Information Requests / Completeness Check
 - o ECCC-IR-05

Comment

Project Certificate No. 009 (December 2017) included a Doris Camp of 400 people, but the operational update will double that to 800 people, and include an additional 250 person Madrid Camp, bringing the total camp capacity to 1050 people. Under the existing licence, sewage effluent is either discharged to the tundra or directed to the TIA. It is unclear whether the provisions which permit sewage discharge to the tundra were ever intended to apply to a fully operational mine with a camp capacity of >1000 people, or if it is a remnant from when the Project was a smaller operation. With increased camp size, sewage effluent volumes would also increase, leading to higher contaminant loading to the receiving environment and greater likelihood for discharge to surface waters which may effect downstream water quality in Doris Lake.

The pathway of sewage effluent on the tundra is such that the effluent eventually discharges to Doris Lake (ST-9). Historically, under lower occupancy conditions, sewage effluent volumes may have been sufficiently low so that infiltration, evapotranspiration, and natural attenuation processes reduced the likelihood of direct effluent connectivity to Doris Lake. However, with the proposed increase in camp population and associated wastewater generation, there is a greater potential for sustained surface flow pathways to become established, increasing the likelihood that effluent is deposited into the lake. The existing monitoring station in Doris Lake was not established to monitor for effects from sewage effluent and may not be sufficient to detect and respond to any effects related to this discharge.

Consolidation of sewage effluent with other mine waste streams may result in the minimization of overall contaminant load released to surface waters. Combining sewage effluent with the TIA waters would reduce the number of discharges to the receiving environment, potentially simplify monitoring and management, and support opportunities for potential water re-use.

ECCC Recommendation(s)

ECCC recommends the Proponent provide:

1. A discussion of the necessity to discharge sewage to the tundra or whether all sewage effluent could be combined with other wastewater streams and directed to the TIA;
2. Discuss whether other similar projects utilize sewage effluent discharge to the tundra;
3. Predicted volumes of sewage effluent discharged to the tundra under maximum camp capacity compared to recent discharge volumes and current maximum camp size volumes (400 people); and
4. An evaluation of whether existing monitoring in Doris Lake is appropriate to monitor for effects from the sewage effluent discharge, given the increased volumes of the sewage effluent.

5. Topic – Updates to Water Licence and Water Management Locations and Monitoring

Reference(s)

- 2AM-DOH1335 Water Licence Amendment – Operational Update Response to Information Requests / Completeness Check
 - o ECCC-IR-12

Comment

ECCC-IR-12 sought additional information on any required new water monitoring stations and a summary of updates to Table 3 of the Licence due to the operational update. In response, AEM committed to providing an updated, marked-up version of the Licence with proposed changes during the Technical Comment period, but this information has yet to be provided.

In addition to the details requested in ECCC-IR-12 (Monitoring Locations), Table 2 (Monitoring Group) of the Licence should be revised to explicitly identify the monitoring parameters assigned to each new monitoring station, and any changes to the parameters for existing stations. Changes to monitoring parameters should be informed by the potential contaminants of concern at each individual monitoring location due to the Operational Update. These updated tables are critical for reviewers to understand the potential contaminants of concern at individual monitoring stations and overall understanding of water management. All changes to Tables 2 and 3 should include clear rationale outlining the basis for the changes and updates to facilitate transparent and efficient review and understanding of the proposed changes.

ECCC Recommendation(s)

ECCC recommends that:

1. Changes in the marked-up update to the Licence (including but not limited to Tables 2 and 3) are accompanied by clear rationale describing the basis for the changes; and
2. The Proponent provide a figure that depicts any new proposed monitoring stations in relation to relevant infrastructure (e.g. waste rock piles, ore storage, etc.) to facilitate understanding of water management and monitoring.

6. Topic – Clarity for burning at the Boston site

Reference(s)

- 2AM-DOH1335 Water Licence Amendment – Hope Bay Operational Update Appendix 6-H: Incinerator and Composter Waste Management Plan
 - o Section D1.2 Incinerator Management at Boston
- Nunavut Environmental Guideline for the Burning and Incineration of Solid Waste 2AM-DOH1335 Water Licence Amendment – Operational Update Response to Information Requests / Completeness Check

Comment

Agnico Eagle's response to ECCC-IR-03 regarding burning at the Boston Site states that the Boston area is under a separate licence (2AM-BOS1835) and is not part of the scope of the Operational Update; however, the response confirms that there is no burn pan or incineration

currently at Boston. Section D1.2 Incinerator Management at Boston states that there is a burn pan for combustible materials.

ECCC Recommendation(s)

ECCC recommends that the Proponent delete the sentence “Instead, there is a burn pan for combustible materials.” from Section D1.2 Incinerator Management at Boston of the document Hope Bay Operational Update Appendix 6-H: Incinerator and Composter Waste Management Plan to be consistent with Agnico Eagle’s response to ECCC-IR-03.

7. Topic – Emergency Response and Crisis Management Plan

Reference(s)

- Section 3.2 Level 2 Local Event but requires assistance to resolve (pg. 11)

Comment

The text in this section appears to be identical to the text in the following section describing a level three emergency / crisis. This includes the first line of the text, which states: “A level Three Emergency or Crisis has the following characteristics”.

ECCC Recommendation(s)

ECCC recommends that the Proponent verify that the text describing a level two incident is accurate and update if necessary.

8. Topic – Spill contingency plan

Reference(s)

- Table 1.1 List of Federal and Territorial Regulations Relevant the Spill Contingency Plan (pg. 16)
 - o ECCC-IR-02

Comment

During the completeness check (ECCC-IR-02), ECCC indicated that the version of the Emergency Response Guidebook cited in the table was an older version (2020) and should be updated to the latest version (2024). The Spill Contingency Plan supplied as part of the technical review continues to reference the 2020 version of the Emergency Response Guidebook.

ECCC Recommendation(s)

ECCC recommends that the Proponent update the citation for the Emergency Response Guidebook to the 2024 version in the next version of the Spill Contingency Plan.

9. Topic – Hazardous Waste Management Plan

Reference(s)

- Table 4.1 Hazardous Waste Stream, Handling, Storage and Disposal Methods
 - o ECCC-IR-01

Comment

Throughout Table 4.1 (Hazardous Waste Stream, Handling, Storage and Disposal Methods), there are several waste streams for which the storage area is specified as potentially being within sea cans or on a concrete containment pad with sump at the waste management facility. In these cases, the described waste stream usually contains a range of items, some of which would carry a higher risk of leaks or spills (e.g., hazardous substances in liquid form or liquids contaminated by hazardous substances) than others (e.g., hazardous substances in solid form, hazardous substances that are absorbed and not readily mobile, or solids with residual contamination). Waste streams with a higher risk of leaks or spills should be stored on a containment pad with sump to minimize the likelihood that leaks or spills would result in a release of hazardous substance to the environment. Sea cans are unlikely to provide effective containment of liquid spills beyond limited volumes. This issue was noted for the following waste streams:

- Waste oils, filters, rags, and absorbent pads;
- Contaminated soil, gravel, snow, and water; and
- Consumable chemicals and packaging.

Additionally, the disposal methods for contaminated soil/gravel/snow/water currently state that: "Materials which do not meet Landfarm discharge criteria will be transported off site to a licensed disposal facility or stored onsite to be backfilled underground in the permafrost zone (for soils and gravel/rock only)." As per a comment (ECCC-IR-01) provided on the Hydrocarbon Contaminated Material Management Plan during the previous completeness check, uncertainty around future climate conditions, and potential for future loss of permafrost, could present a risk that contaminated soils stored in the permafrost zone of the mine may not be permanently contained. As such, ECCC-E2 recommended that alternative remediation methods may be worth exploring prior to transfer of contaminated wastes to underground workings.

ECCC Recommendation(s)

ECCC recommends that waste substances with a higher risk of leaks or spills be stored with secondary containment that would minimize the likelihood of leaked or spilled substances reaching the environment. For waste streams that encompass both higher risk (e.g., liquids) and lower risk (e.g., solids or substances with residual contamination) wastes, specify which storage method would be used for which type of waste (e.g., waste oils would be stored on a concrete containment pad with sump, while waste drained filters, rags, and absorbent pads are stored within a sea can).

Where landfarming is not effective to achieve discharge criteria, ECCC recommends exploring alternative methods of remediation (see previous comment on completeness check ECCC-IR-01) for contaminated soil, gravel, and rock, before backfilling these materials underground.

10. Topic – Hydrocarbon Contaminated Material Management Plan

Reference(s)

- Storage of Contaminated Material Within Mine
 - o ECCC-IR-01

Comment

The Contaminated Material Management Plan currently states that material that is inappropriate for landfarming or that cannot be adequately remediated through landfarming may be placed in an underground mine for permanent storage. Similar language appears in several sections of this plan, including:

- 3. Contaminated Material Management Strategies (pg. 11)
- 4.1.5 Additional Analyses of the Soils During Remediation (pg. 15)
- 4.3 Soil Remediation Sampling and Monitoring (pg. 16)
- 8. Facilities Closure (pg. 30)

During the previous completeness check, ECCC provided a comment (ECCC-IR-01) on this strategy, recommending that the proponent explore alternative remediation methods before resorting to storage of contaminated materials in the permafrost zone of the underground mines. This previous comment was made due to uncertainty in future climate conditions and a potential for future loss of permafrost, resulting in failure of permanent containment. Although the proponent committed to considering the suggested alternative methods of remediation in the Final Closure and Reclamation Plan, acknowledgement of alternative methods of remediation would be appropriate to include in the Contaminated Material Management Plan.

ECCC Recommendation(s)

ECCC recommends that the Contaminated Material Management Plan include, as appropriate, alternative methods of remediating contaminated materials.

If you need more information, please contact Russell Wykes at (867) 445-1263 or Russell.Wykes@ec.gc.ca.

Sincerely,



Jody Small
Regional Director, EPOD Prairie and Northern Region

cc: Eva Walker, Head, Environmental Assessment North (NT and NU)