



MiningWatch Canada

Mines Alerte

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RE: Comments on proposed amendments to the Metal Mining Effluent Regulations: the addition of Sandy Pond in Long Harbour, Newfoundland to Schedule 2 and the extension of the MMER to include hydrometallurgical facilities.

Mr. Doiron:

Please accept the following comments regarding proposed amendments to the Metal Mining Effluent Regulations (MMER): the addition of Sandy Pond in Long Harbour, Newfoundland to Schedule 2 and the extension of the MMER to include hydrometallurgical facilities. *These comments are accompanied by some specific questions I look forward to having your answer in writing.*

On Process and Consultation:

These comments begin by reminding Environment Canada that national consultation on the regulatory amendment for the addition of two lakes in Nunavut on Schedule 2, in February of this year, was held *after* the amendment had been posted to Canada Gazette One – in contradiction to the Cabinet Directive on Streamlining Regulation of Spring of 2007 – meaning that there was *no* effective national level consultation on that MMER amendment.

In light of that fact, and the complaints filed by Canadian Environmental Network (CEN) representatives, I was pleased to see that the national consultation on the MMER amendment that is the subject of these notes was held prior to Gazette One. I would like to commend Environment Canada for deciding to hold one of the two consultation options in Long Harbour. Being on location was a valuable experience and enhanced the ability of CEN representatives who took advantage of this option to form an understanding of the project.

However, national consultation is clearly still being held too late in the EA process. It was clear from presentations by regulators that many decisions had already been made and assurances given to the company. An example of this is the fish habitat compensation plan for Sandy Pond. While this plan is seriously flawed, see below, the DFO officials present noted that they had already told the company that this plan was acceptable.

Furthermore, there remains a serious problem with how Environment Canada fulfills its obligations with respect to consultation with Aboriginal peoples of Canada (see Guidelines for Effective Regulatory Consultation of the Regulatory Affairs Division of the Privy Council Office).

In the two consultations I attended on June 10 in Long Harbour and June 12th in Gatineau, Environment Canada heard from First Nations representatives who made it very clear that their participation in these half day sessions did not fulfill Environment Canada's obligations to conduct national consultation with Aboriginal Peoples of Canada. A Mi'kmaq woman announced that the presence of the American eel, a species of concern, in Sandy Pond is of serious concern to her as her people have a special relationship with this species. She notified Environment Canada (EC) that it should initiate meaningful consultations with the Mi'kmaq. Additionally a member of the Assembly of First Nations attended the Gatineau consultation and he made it clear that a half day consultation attended by him did not constitute Aboriginal consultation with First Nations. Finally, a member of Congress of Aboriginal Peoples, which represents the Federation of Newfoundland Indians (FNI), also attended the Gatineau session and also announced that that meeting did not meet the requirement of EC to meaningfully consult Aboriginal Peoples.

Finally, meaningful national consultation with all major representative organizations of Aboriginal Peoples of Canada is required as one of the MMER amendments being proposed is to expand the reach of the MMERs (and Schedule 2) to include hydrometallurgical facilities. These facilities may be located anywhere in Canada in the future including on Aboriginal lands and territories. A half day session on this highly technical expansion of the MMERs is not an acceptable or meaningful consultation with Aboriginal peoples.

Question – Can Environment Canada please advise what steps EC is taking and what guidance EC is following to assure meaningful consultation with Aboriginal Peoples in this and future MMER amendments?

On adding Sandy Pond to Schedule 2 of the MMER:

I. There has been a serious failure by regulators to advise Vale Inco to seek a site for its processing plant that will protect surface and groundwater

Vale Inco proposes to destroy Sandy Pond by using it as a waste disposal site for its acid producing and metal leaching residue from the hydromet process. Vale Inco argues that given the location of its facility in Long Harbour, and the available alternatives to Sandy Pond as waste dump sites (11 of the 12 waste sites that were considered were fish habitat), Sandy Pond is the best disposal site option. Given the severe implications of this conclusion with respect to the perspective of protection of surface and ground water, sustainable development, the preservation of natural capital and the loss of enjoyment by locals of the use of Sandy Pond, this conclusion requires closer scrutiny.

Vale Inco argues that given the natural environment and topography at its proposed plant site, Sandy Pond is the best containment option. However, it is important to remember that Vale Inco chose this particular site for its processing plant. Unlike in the case of a mine that is necessarily located where the ore body is, Inco could have chosen a site to process its ore from Voisey's Bay that would not have necessitated the destruction of a natural water body.

The **permissive regulatory environment** created by the addition of Schedule 2 to the Metal Mining Effluent Regulations in 2002, and the **lack of responsible guidance by regulatory authorities**, together with the financial and technical advantages to mining companies in employing natural water bodies as waste dumps, contributed to Vale Inco's choice of Long Harbour as a site for its plant. Vale Inco notes that when the company decided against a smelter-refinery complex in favour of hydrometallurgical processing: *"The change of processing option results in the production of a different type of residue, one that necessitates underwater rather than aboveground storage. As a result of this change, Long Harbour was evaluated and selected as the site for the commercial nickel processing facility"* (EIS April 2008: 3-2). As **Vale Inco did not choose Long Harbour for its suitability to a man-made underwater impoundment**, in fact the company argues that this location is largely unsuitable for this option, it is a fair conclusion that Vale Inco chose Long Harbor planning to use a local lake for its waste disposal.

Question – Can Environment Canada please provide evidence of advise it gave to Vale Inco to seek a site for its processing plant that would not necessitate destroying a lake with its waste?

II. Vale Inco's application of a Multiple Accounts Analysis is flawed and has received no effective regulatory review

Vale Inco's preferred use of Sandy Pond as a waste dump was noted in the Federal Environmental Assessment Guidelines for Long Harbour as early as October 23, 2006, and again in the Freshwater Component Study of May 12, 2007. This prior bias calls into question the validity of the Multiple Accounts Analysis (MAA) process that concluded in April 2008 that Sandy Pond *"ranked as the most suitable storage site."*

For example, only 4 points (out of a potential 55 points) separate the final value for "Environmental Criteria" ascribed to Sandy Pond, from that ascribed to the Excavated Pit, the latter of which would not affect fish habitat. **Adjustments made based on a recognition of anomalies and unsubstantiated assumptions and choices made by Vale Inco in determining the parameters for the MAA (the "criteria" assessed) and "values" ascribed to the criteria would easily tilt the outcome in favour of the Excavated Pit with respect to "Environmental Criteria."** Similar concerns exist in the categories "Technical and Operational" and "Socio-Economic." Some of these are detailed below.

Serious concerns with the application by Vale Inco of the MAA methodology, as discussed in this section, appear not to have been addressed in previous reviews of the EIS by provincial regulators. Nor are these flaws addressed in DFO and Transport Canada's Draft Screening Report (June 2008). Nor, apparently, has Environment Canada conducted a serious review of Vale Inco's application of MAA. When I requested the raw data that informed the choice of "criteria" and the "values" that Vale Inco used in the MAA I was told by you, Mr. Doiron, that you did not have this data. **I submit that without the raw data that informed the choice of values for many of the criteria chosen by Vale Inco it is impossible for regulators or the public to adequately assess the validity of many of the outcomes of the MAA.**

Concerns with the MAA include:

- Lack of accounting for the natural capital values of various alternative sites
The natural capital value of, say, Sandy Pond would include such ecological uses and services provided by the pond such as flood control and water filtering values; pest control services, nature related activities; net carbon sequestration potential, etc.¹
- Lack of accounting for the non-use existence values of various alternative sites.
People place a value on the mere existence of natural environments, even when they have no intention of using the area. Related to non-use existence values are the bequest values, the value to people of being able to pass on undisturbed environment to their children and grandchildren.
- Lack of accounting for the future option values of various alternative sites.
There is a recognized value of maintaining natural areas to allow for potential but currently unknown uses in the future, e.g., tourism, pharmaceutical uses, etc. This value essentially attempts to evaluate any future (discounted) opportunity costs that will (or could be) forgone by using it as a tailings pond.
- Lack of adequate justification for choice of criteria, or for leaving certain criteria out of the selection
On Page 28 of the MAA Vale Inco identifies 54 criteria in four categories, Environmental, Technical and Operational, Economic, and Socio-Economic. Subsequently the company identifies 21 “key criteria” for a comparison of these across 12 alternative sites. *There is no rationale provided for the choice of the initial 54 criteria, nor for the subsequent choice of 21 criteria. However, it is clear that these choices affect the ultimate outcome.*

For example, it is unclear if/how Vale Inco assessed the impacts on affected species, including species at risk, across the alternative sites. We know from the component study (May 12, 2007) that Sandy Pond contains healthy populations of brook trout and American eel. The trout are said to be exceptionally large and American Eel is listed as a species of concern by COSEWIC in 2006. The species has declined 99% in the St. Lawrence and Lake Ontario.

The “pristine” nature of the various alternatives was not selected as a criteria. In a component study Sandy Pond is noted to be “undeveloped” and water in the Sandy Brook drainage area has not been affected by the operations of a former phosphorus plant as in the Rattling Brook watershed. From the perspective of sustainable development and maintaining untainted resources for future generations, the pristine nature of Sandy Pond should cause it to be ranked lowly as a candidate for destruction by mine waste. From the perspective of future potential development of sustainable economic activity in the area, the large size of the trout should also cause Sandy Pond to be ranked lowly as a candidate for destruction by mine waste. From the perspective of conservation of threatened species, Sandy Pond should also be ranked lowly as a candidate for destruction by mine waste.

Question - There is no apparent inclusion in the criteria of an evaluation of the impacts of various disposal options on groundwater. Vale Inco expects there to be a contaminant plume reporting to groundwater out of Sandy Pond. How is this impact captured in the MAA and how does it compare to the alternative sites?

- Lack of data to justify the allocation of “scores” from 1-5
The MAA does not provide the raw data upon which scores from 1-5 (five being “best”) for each criteria are based. This is problematic as slight shifts in values on various criteria could significantly

¹ See work done by the National Round Table on the Environment and the Economy for more on Natural Capital

change the outcome of the MAA. Furthermore, while some data are quantitative (“total watershed area”) others are qualitative (“perceived community response”). The data that these scores are based on should be provided.

For example, Vale Inco rates “perceived community response” at 3 out of five. Presumably Vale Inco is indicating hereby that more than 50% of “the community” finds Sandy Pond an acceptable location for the plants waste. Vale Inco does not specify who makes up “the community” nor does the company provide any evidence to back up the allocation of this value. Did Vale Inco conduct a referendum?

- Lack of justification for differences in importance assigned criteria

Vale Inco’s EIS assigns a total of 20 points for aquatic and terrestrial habitat disturbed, while the Doris North EIS, for example, only assigns 10 points. Why are habitat values less important in the Doris North evaluation? And if habitat is valued less, then something else has to be valued more. By what reasoning are these weights chosen? Importantly, there is a general view that each alternative has attached to it the same probabilities for success and failure (a dam is a dam is a dam and there are no differences in the characteristics, longevity, safety, etc. of each dam).

- Lack of justification for weighting schemes and differences in weighting schemes per project

It is possible to alter the weighting scheme and weighting definitions such that a desired outcome is achieved. Besides the example referred to earlier (that habitat disturbance is weighted differently), the environmental criteria are weighted at 50% for the Doris North EIS while in the Vale Inco EIS the environmental criteria are weighted at slightly over 50%. There does not appear to be any justification for either weighting.

- Lack of justification for the ranking scale chosen

Related to this is how the rankings, 1 to 5, are partitioned. Why, for example, is a ranking of 5 (best) used when the disposal site is less than 1 km from the plant? Why not less than 2.5 kms or less than 4 kms? Suffice to say that, by simply changing the ranking partitions taken across all criteria, different results would be generated. Without an agreed set of ranking tools that are used by everyone, there is an opportunity for abuse

- Lack of assessment of probabilities of adverse effects

There does not seem to be any attempt to assign probabilities to adverse impacts. It is, for example, assumed that failure of a dam would be the same within a natural water body like Sandy Pond (despite increased likelihood of geological failure) as in a constructed environment such as the Excavated Pit. Equal probabilities may be the case, but there does not seem to be any attempt to examine the issue.

- There are serious flaws in the assumptions made by Vale Inco that fed into the MAA.

For example, Vale Inco states with regard to American eel that “Eels are present but in low abundance” in Sandy Pond. There is no evidence to back up this assertion.

With respect to “resource use and recreation” Vale Inco notes of Sandy Pond that it is used for “Some berry picking and ATV use. No cabins.” This description, and the one under “Angling,” fail to mention the use of Sandy Pond noted by fishermen namely its value as a location to catch award winning trophy trout due to the exceptionally large size of the fish.

Vale Inco notes that there will be “medium term return to original aquatic habitat...” for Sandy Pond. This is pure speculation. There is no evidence to support this assertion.

- Apparent Anomalies in assigned rankings
 1. Environmental #7 (Dam Failure Consequences): The Excavated Pit (EP) receives a rating of 2 (same as Sandy Pond (SP)) despite the acknowledged fact that, since there is no dam, there is no possibility of failure. The EP should have received a rating of five in this case.
 2. Environmental #9 (Water Quality): defined as the ratio of watershed to residue area. Why this makes sense given the EP is contained, is not clear. It also is not clear why SP deserves a rating of 3 while a contained pit gets a 0. This, of course, reduces the Environmental score for the EP.
 3. Environmental #10 (Post Closure): defined as “being able to return to original use ... least change to natural water bodies”. SP receives a rating of 2 while EP gets a rating of 0. With the EP there is no change to natural water bodies. There is also very limited ability to return SP to “original” use.
 4. Environmental #11 (Dam Reliability): Sandy Pond, with its 3 dams, received a value of 5 for this criteria while the Excavated Pit that has no dams that could fail received a 4. This is most peculiar!
 5. Technical and Operational #1 (Dam Design): it is not clear why the EP receives the same value (4) as Sandy Pond when there is no dam with the EP?
 6. Technical & Operational #3 (Dam, Storage Footprint): highly correlated to Environment #5, so really the same criterion is being used twice (and twice the EP gets a value of 0). It is also strange that the EP footprint is 160 – 180 ha. while Ship Harbour Big Pond is 185 ha., yet Ship Harbour Big Pond has a somewhat higher rating (1).

Overall, while the MAA appears comprehensive, the fact that the measurement criteria and how they are applied are left up to the evaluating team, and raw data are not provided to those of us being asked to provide feedback on this project, makes for a less-than transparent assessment of the alternatives.

Finally, the fact that the natural capital values of in-tact ecosystems such as Sandy Pond are not being accounted for means that the costs, to society, of a mining company using a natural water body as a TIA are not being fairly assessed. Currently, the “value” of Sandy Pond is assumed to be zero. Lakes are being offered to mining companies, in effect privatizing a public good, without accounting for the cost of this subsidy to society.

Questions – Can Environment Canada explain how it was able to conduct a serious evaluation of Vale Inco’s MAA without benefit of the raw data that informed the values ascribed?

Can EC please explain what advice EC provides proponents preparing MAA and what standards exist, if any, that need to be applied by any proponent?

On Fish Habitat Compensation – Do no harm

The proposed aspect of the fish habitat compensation scheme for Sandy Pond that entails enlarging two nearby ponds into one large pond by placing a dam on one pond and flooding both ponds is unacceptable. The first principle of habitat compensation should be “do no harm.” To create an unnecessary impact on two natural water bodies that are not in need of improvement, and to employ a dam that will need care and maintenance where none is required cannot possibly be considered a successful fish habitat compensation scheme. If there is little “like” habitat in the vicinity of Sandy

Pond that needs improving it would be better to seek fish habitat that can be legitimately improved in another area rather than degrade perfectly good habitat in the area of Sandy Pond.

The only option that requires no fish habitat compensation, because it does not destroy fish habitat in the first place, is the excavated pit.

On implications of expanding the reach of the MMER to include hydromet facilities

Environment Canada is expanding the reach of the MMER to include hydromet facilities for the sole purpose of accommodating Vale Inco's preferred option of using Sandy Pond for its waste dump site. Of primary concern is that metals covered by the MMERs were selected on the basis of expected metals of concern from traditional milling and processing facilities. If the MMERs are to be expanded to include hydromet facilities there should be a review of the metals currently being assessed through the MMERs to be sure they cover metals one can expect from a hydromet facility. In particular chromium, selenium and manganese seem to be some of the metals of concern in marine pipe effluent from Vale Inco's facility at Long Harbour. None of these metals are covered by the MMERs.

Question – Why has Environment Canada not provided an overview of the implications for other aspects of the MMER related to the inclusion of hydrometallurgical plants in the MMER?

Sincerely,



Catherine Coumans, Ph.D.