



MiningWatch Canada

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Mr. Cahill:

Please accept these comments regarding the Terrestrial Environment Component Study for the Long Harbour Commercial Nickel Processing Plant completed by Jacques Whitford Limited (April 27, 2007) based on data collected in 2006.

These comments refer to the baseline data provided in the Terrestrial Environment Component Study (TECS) and reference potential impacts highlighted in the Environmental Impact Statement and Federal Environmental Assessment Guidelines for the Long Harbour commercial Nickel Processing Plant (Placentia Bay, Newfoundland and Labrador) (October 23, 2006).

The Study Area is Too Limited:

The study area for the TECS takes in the area of “potential physical disturbance (i.e. Project footprint)” for the combined footprint “of the two process options (hydrometallurgical and matte processing)”(p.i). This is highly inadequate.

- There is recognition in the TECS that this area is prone to “strong winds” (p.1).
- There is also recognition in the Assessment Guidelines (October 23, 2006), that there are a large number of potential sources of air emissions. In particular, the Department of Environment and Conservation (Wildlife Division) “is concerned about the potential impacts of plant emissions on air quality. The boreal felt lichen, *Erioderma pedicellatum*, has been found in the general area. This species is extremely sensitive to air quality and even limited emissions may have a negative impact on local populations.” (p. 16, emphasis added). Other “endangered species,” or species of “special concern,” have also been identified in the area (see discussion below).

Clearly, this terrestrial base line study needs to be expanded to encompass the area that will be affected not only by physical disturbance, but by emissions from the operations of this facility, in particular air emissions.

Rare, Vulnerable and Critically Endangered Species:

The Terrestrial Environment Component Study has identified a number of species that need special attention with regard to potential impacts from a commercial nickel processing plant. In particular: Boreal Felt Lichen (*Erioderma pedicellatum*); *Lycopus americanus*; Red Crossbill (*Loxia Curvirostra percna*); Rusty Blackbird (*Euphagus carolinus*).

The Boreal Felt Lichen is listed as *critically endangered* on a global basis by the IUCN Red List of Threatened Species (IUCN 2006) and only exists now in North America in Newfoundland and Nova Scotia (where the population has collapsed). Boreal Felt Lichen is also listed as being of *Special Concern* under the federal Species at Risk Act (schedule 1) and as *Vulnerable* under the *Endangered Species Act* of Newfoundland and Labrador.

Lycopus americanus is listed as *Rare* on the Atlantic Canada Conservation Data Centre Rankings which means it “*may be vulnerable to extirpation*”

Red Crossbill is listed as *Endangered* by the Province and also on the SARA and COSEWIC lists.

Rusty Blackbird is listed as *Special Concern* by COSEWIC (2006) and the study notes it has experienced a “severe decline.”

- As this Terrestrial Environment Component Study has not taken potential impacts from air emissions into consideration in establishing the scope of the study area, the current base line of vulnerable species that may be impacted is very possibly incomplete.

- The Terrestrial Environment Component Study notes that 66 trees hosting 105 thalli of Boreal Felt Lichen were identified but that the “vast majority of the thalli were found in areas that do not directly overlap with the Project.” Again, that depends on how the impacted area is defined. The Terrestrial Environment Component Study only looks at the “physical disturbance” by the “Project footprint” (p.25). How many thalli may be affected if air emissions were taken into consideration? This is especially important as the Assessment Guidelines (October 23, 2006) specifically point to the extreme sensitivity (p.16) of Boreal Felt Lichen to air quality.
- Similarly, as this Terrestrial Environment Component Study has not considered air emissions, its conclusions that Red Crossbill “was likely just ‘passing through’ the area” and that Rusty Blackbird “could be migratory” (p.25) are not only speculative, but may not be relevant as habitat destruction or alteration is not the only consideration, potential impacts from air emissions may be more important.
- The presence of many breeding species needs to be considered from the perspective of impacts from air emissions.
- With respect to cumulative effects it is important that consideration be given to the fact that the Terrestrial Environment Component Study notes that Boreal Felt Lichen is already threatened by domestic wood harvesting.

Hydromet and Air Emissions:

The Assessment Guidelines (October 23, 2006) mention a large range of potential sources of air emissions, including those from the operation of either processing option (Hydromet or Matte). The Assessment Guidelines discuss “gaseous emissions that may result from the proposed process option,” (p. 14) and “the possibility of fugitive leaks of chlorine gas” (p.44).

A more thorough discussion of the potential air emission impacts of either processing option on vulnerable species will have to wait until more information is available about each option. However, there are specific concerns regarding possible air emissions from Hydromet that need to be addressed in the context of vulnerable species.

- Hydromet is still, globally, an experimental technology, necessitating the use of pilot plants. Furthermore, the precise chemical composition used in the process is frequently proprietary, making it difficult for the public and regulators to know which chemicals of concern may be involved. Finally, the process itself (particularly the heat, pressure and subsequent chemical reactions in the autoclaves) is known to generate chemical forms that are not present in the ore body or in the process chemicals. All of this has an impact on residues, air emissions, and effluent from the process.

- In the context of Hydromet plants proposed for other locations particular concerns have been raised about possible Chromium 6 emissions and the possible creation of Persistent Organic Pollutants (POPs) (PCBs, dioxins, furans, hexachlorobenzene etc.) which are well-known to be highly toxic to humans and to other species. We would like to know if Chromium 3 is a component of the ore that will be processed, as this may become Chromium 6 in the Hydromet process. We would also like to know whether chlorine and any carbon sources will be associated with the hydromet process.

Precautionary Principle:

There are a lot of information gaps with respect to the chemistry of Hydromet technology. Not the least as a result of proprietary chemical formulas. Unless we know exactly what will be in intended, or unintended, air emissions and can assure the safety of these emissions for flora, fauna and humans, we would not advocate the use of Hydromet technology.

We look forward to your response.

Sincerely,

A handwritten signature in black ink, appearing to read 'Catherine Coumans', followed by a long horizontal line extending to the right.

Catherine Coumans
Research Coordinator

c. Minister Clyde Jackman
Minister John Baird