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* TROUT UNLIMITED * URANIUM WATCH

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Dear Mr. Steiner and Dr. Noronha,

At the one-year anniversary of the catastrophic failure of the tailings dam at the Mount Polley mine in British Columbia, Canada, and subsequent tailings dam disasters at mines in Mexico, we are writing to urge you to seriously consider the implications for tailings dam design and operational safety at hardrock mines around the world.

Based on the findings and recommendations of the technical review panel of the Mount Polley tailings dam failure, we urge UNEP to push for states and mining companies to immediately address threats posed by similar tailings dams at existing and proposed mines around the world.

In January, a panel of independent experts released its findings from its investigation of the Mount Polley tailings dam, a modern impoundment that breached on August 2014 and released 25 million cubic meters of tailings into the Fraser River watershed in British Columbia. The panel concluded that the dam failed because of a faulty design that did not account for the instability of the glacial till on which it was constructed. The failure was complicated by operational practices including storage of excess water in the facility and over-steepening of dam slopes.

The results of the Mount Polley investigation are of significant importance to mine management around the world for a number of reasons:

1) The Mount Polley catastrophe is the latest in an all-too-common series of mining dam failures around the world. In fact, your agency collaborated with the International Commission on Large Dams (ICOLD) on a report highlighting these incidents, titled *Tailings Dams: Risks of Dangerous Occurrences*. The report detailed incidents of dam failures around the world, from Zimbabwe to Romania to the Philippines, and attributed many of these disasters to faults in design and management. UNEP has also stressed the importance of “introducing contingency measures to ameliorate the impact of tailings dam incidents at the design stage.”¹

Such disasters continue after publication of the report. In fact, just a week after the Mount Polley disaster, two separate mine waste spills occurred in Mexico, polluting nearby rivers with millions of gallons of acid-laced sludge that led to water restrictions and reports of fish and livestock deaths.

2) Knight Piesold and AMEC, two of the engineering firms involved with the construction and management of the Mount Polley tailings dam, have also been involved in designs at tailings dams of other often controversial mining projects, including Yanacocha in Peru, the proposed Pebble mine in Alaska and the Canathuan mine in the Philippines.

3) Long-term safety and stability of tailings dams is a crucial public safety issue, yet there’s no international agency dedicated to oversight of tailings dam safety and many countries impose few if any requirements.

4) The panel of experts that reviewed the Mount Polley tailings dam failure identified critical risk factors, and made a number of key recommendations. These include:

- Creating an independent tailings review board to evaluate tailings dam designs.
- Using Best Available Technology (BAT) that fundamentally shifts tailings storage away from tailings ponds that store water to dry tailings, such as recommendations to:
 - Eliminate surface water from the impoundment,
 - Promote unsaturated conditions in the tailings with drainage provisions, and
 - Achieve dilatant conditions throughout the tailings deposit by compaction.
- Evaluating tailings dam designs for these potential failure modes:
 - Undrained shear failure for dams with silt and clay foundation soils
 - Water balance adequacy, including provisions and contingencies for wet years
 - Filter adequacy, especially for dams containing broadly graded soils or mine waste
- Applying design, construction and safety standards developed specifically for tailings

¹ <http://www.unep.fr/media/review/vol23si/unep23.pdf>

dams, rather than adapting those used for water retention dams. This point was also noted in the aforementioned UNEP-ICOLD report.

We urge UNEP to:

1. Issue new guidance on tailings dam management based on the recommendations made by the Mount Polley tailings dam review panel, including the shift to dry tailings storage;
2. Advocate for the creation of regulations specific to tailings dams;
3. Encourage the World Bank and other multilateral financial institutions to review the Mount Polley committee recommendations as they overhaul their lending safeguard policies.

In addition, we urge UNEP to recognize that there are certain places where the downstream values are too great to expose to the risks associated with the placement of a tailings dam that must be maintained in perpetuity. The cleanup of modern hardrock mines – without dam failures – can cost hundreds of millions of dollars per mine. With failures, the cost of reclamation could exceed one billion dollars. Such facilities warrant the most rigorous review and the most stringent standards.

We look forward to a response and welcome the opportunity for a more detailed discussion on these matters. Please reply to Payal Sampat at Earthworks (psampat@earthworksaction.org). Thank you.

Sincerely,

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