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Response to : Focus Report on Northern Pulp Proposed Replacement Effluent Treatment Facility Project

Respectfully submitted to The Minister of the Environment :

“Nova Scotia Environment works to protect and promote a healthy environment.
.....protecting the provinces land, water and air. “

Having spent my 57 years summering at our family cottage in Pictou landing, I have spent a lifetime being exposed to the pollution of the land, water and air created by the paper mill at Abercrombie Point and the Boat Harbour effluent treatment facility 😞 My children and now my grandchildren have lived with the pollution and we often have had to vacate our cottage due to the nausea and chest pain that can ensue from breathing the plume of emissions that descend like a fog from the Boat Harbour treatment facility and Northern pulp mill.

I have many concerns, but would like to focus on the air quality/ emissions that will be created by the proposed new activated sludge treatment (AST) effluent treatment facility (ETF) and the plan to burn BIOSLUDGE , along with the current biomass, in the biomass (power) boiler. My focus is on AIR QUALITY in the terms of reference (section6) requested by the Nova Scotia Dept. of Environment April 23,2019 and Northern Pulps response in the focus report.

I reference Northern Pulps focus report Appendix 6.2 -updated air dispersion model (which also addresses 6.1 - revised air contaminants). I noted while preparing this that there was a revision to 6.1 just last week (October 28/19) – summary of maximum predicted GLC's (ground level concentrations) from the operation of the project.

Appendix 6.2 opens to Stantec Expanded Air Dispersion Modelling Study for the replacement ETF. There are many shocking statistics upon reading the study. The first (section 2.0 Facility description & process overview) is that there are 6 primary sources of air contaminants, with only 4 stated as being equipped with some form of pollution control technology .

There are 11 other secondary emission sources stated in the pulping process.

3.0 Air contaminants of interest – there are 86 (Appendix A, Table A1) air contaminants determined to be potentially emitted from ‘the Project’ (ie. replacement ETF & co-combustion of biomass and biosludge in the biomass boiler)

4.0 Emission inventory lists 86 emission contaminants associated with the project.

4.1 Biomass boiler (biomass + biosludge) – expected to potentially release metals, CACs, PAHs, dioxons and furans and VOC's. Emmision rates for all these contaminants from the biomass boiler were estimated.

Page 25/68 stated “as ETF is not yet operational , site specific sludge composition could not be obtained and sludge composition noted was used as a surrogate.”

Page 26/68 stated “... there is limited information publicly available pertaining to combustion of biosludge from pulp and paper mills.”

Guidelines published by US environmental protection agency (US EPA AP-42, Chap. 2.2) for sewage sludge incineration was used to estimate contribution from biosludge for emission rates of CAC's and VOC's.

4.2 Activated sludge treatment ETF is expected to potentially release TRS, VOS's ammonia and some species of PAH's .

4.3 Emission rates for other existing sources of air contaminants were also estimated (the definition of estimate Merriam Webster is to determine roughly)

5.0 Next sections referred to Air Dispersion Modeling Methodology

6.0 Air Dispersion Modeling Results

7.0 Discussion - air contaminants with modeled exceedances are ammonia , chloroform, total reduced sulphur , hexavalent chromium.

8.0 Summary and conclusion stated “As the biomass boiler is not yet operating with the co-combustion of biosludge and biomass, Facility- specific stack testing results are not available. As such, emissions were estimated using emission factors, stack testing results from similar operations at other Kraft pulp mills (Howe Sound and Crofton), and/or sludge composition from another Kraft mill with similar operations (Howe Sound). The data quality is lower when non-site-specific data is used, as there is a level of UNCERTAINTY on representativeness of actual operations.

Once the replacement ETF is operational, pending approval by the province, Northern Pulp will conduct stack testing of the co-combustion of biomass and biosludge in the biomass boiler. Upon receipt of the stack testing results, the emission rate of hexavalent chromium will be revised, and the air dispersion modelling will be updated to determine if the maximum predicted GLC is below the corresponding ambient air quality standards. In addition, the contaminants that were predicted to exceed ambient air quality criteria with the main contribution being from the AST ETF (ammonia, chloroform, and TRS) will be monitored at ambient monitoring station(s) surrounding the Facility to assess whether air criteria are being met. It is recommended that the monitoring data be used to refine the emission rates and the air dispersion modelling be updated at that time. If the revised air dispersion modelling results and/or the monitoring results indicate the need for mitigation (i.e. an air criteria exceedance is measured or predicted), an air emission reduction plan will be developed and submitted to NSE for review and approval, prior to implementing mitigation actions.”

In regards to the above statement , since there are so many unknowns in regard to burning of the biosludge and associated air quality/ emissions , Northern Pulp is responsible for follow up stack testing. How are we to trust them with their history of poor compliance (ie. failing stack emission guidelines repeatedly, failing to detect ruptured effluent pipes) and disregard for the environment.

9.0 Closing stated, “ This report has been prepared by Stantec Consulting Ltd. with the input and assistance of Northern Pulp for the sole benefit of Northern Pulp.”

Appendix 9.2 Human Health Risk Assessment by Ecomatrix Inc., states in 2.7 Uncertainties , “ Throughout the HHRA process, assumptions must be made due to a lack of absolute scientific knowledge. every assumption introduces some degree of uncertainty into the risk assessment process. “

“The predicted air emissions presented in this HHRA are from the updated air dispersion modeling study (Stantec,2019a). The emission rates were estimated by using the existing emissions from the '19 stack test, anticipated biomass fuel feed rates & adjusting to include anticipated ETF biosludge in the biomass boiler. Stantec found little information related to the combustion of pulp and paper sludge, but uses a sewage sludge incineration guidance to assist with predicting emissions for VOC's and NSE criteria air contaminants.

AS SUCH, THERE IS UNCERTAINTY IN THE PREDICTED EMISSION RATES.”

What is missing ?

Concrete data on air quality/ emissions associated with burning of the biosludge in the biomass boiler and data on whether the existing biomass boiler, with its antiquated wet scrubber as the only environmental protection technology, can do the job.

Will Northern pulp adhere to the 14 parts biomass to 1 part biosludge burn ratio in the boiler ?

What is the BTU value of the biosludge to confirm its categorization for fuel vs incineration (re. US environmental protection agency guidelines)?

Sections 12 of the Environmental Assessment Regulations (specifically 12.c, 12.d,12.da) have not been satisfied with the Northern Pulp Focus Report.

Respectfully, I ask the Environment Minister to reject the proposed project. Northern Pulp has not provided enough information to prove that the project will not harm the environment, or more importantly, harm or have adverse effects on human health ! Northern Pulp has been allowed to pollute our land, sea and air for far too long with a pulp and paper facility that was never meant to operate past 25 years !!!

We cannot trust Northern Pulp to monitor air quality / emissions created by the burning of biosludge in the biomass boiler associated with the new AST ETF nor take action to mitigate the risk to human health and the environment based on their history.

A solution for Northern Pulp would be to construct an up to date closed loop system. This would mitigate all environmental and human health risks and concerns. The technology does exist and the owners have the resources. It is time to stop this antiquated facility from continuing to pollute our environment and adversely effect our human health.

Again, Nova Scotia Environment works to protect and promote a healthy environment.

We are depending on you to protect us and the next generation !

Respectfully ,
Dr. Shelagh Cantley-Dodge