Date: Nov 8, 2019

To: Environment Assessment Branch,

Reference: Response to the Focus Report on Northern Pulp's proposed replacement effluent treatment facility
project.

Dear Minister:

I have reviewed (within the time frame provided) the revised focus report provided to Northern Pulp by Stantech
(Expanded Air Dispersion modeling study File 121416276 Sept 27, 2019) and have concerns about the information
or lack of information provided.

My main focus of my response is the intended use and <u>disposal</u> of the AST sludge in the Power Boiler commonly
known as a Biomass boiler, Hog fuel boiler or Bark burner. For the intent of this response, I will use the term
Power Boiler for consistency.

My background is a degree in Mechanical Engineering from the Technical University of NS (1983) and a 34 year
career in the boiler and pressure vessel industry ranging from boiler & component design, manufacturing and
servicing, inspection and regulation. I am familiar with this particular unit.

<u>Is this bio sludge really a fuel or a just hazardous waste?</u>

First, with the information provided in their Focus report, I find inconsistencies in their use of the wording quoted
4.1.2

"It is emphasized that biosludge is considered by Environment and Climate Change Canada (ECCC) to be a non-hazardous
fuel, and the combustion of biosludge in an industrial boiler (such as the biomass boiler) is not considered a form of
incineration". This is consistent with guidance published by ECCC (ECCC 2016), "incineration does not include industrial
processes where fuel derived from waste is fired as an energy source, such as industrial boilers"

 At the time of this response, I was not able to find the supporting documents quoted especially the last portion
referencing;

"incineration does not include …. such as industrial boilers".

I was able however to find wording in the Gov of Canada website that references the CWS (Canadian Wide
Standards) which has a similar quote where incineration;

'' does not include industrial processes where fuel derived from waste is fired as an energy source as a matter of incidental to
the manufacture of the primary product."

My question remains whether this bio sludge qualifies as a fuel and thus qualifies as exempt from more stringent
controls when considered as incineration of a waste product especially when part of their model includes
information about the burning of sewage due to lack of information on this.

An EPA Federal Register Vol 56 … report Dated Feb 21, 1991 … 40 CFR Parts 260,261,264,265 etc. RIN 2050-AA72 Titled "Burning of Hazardous Waste in Boilers and Industrial Services" Which speaks specifically about not permitting an existing boiler to burn such waste which is "not a fuel"

The report further describes that to be considered a fuel, it must contain at least 5,000 Btu's / lb. I was not able to ascertain from the information provided in the Focus report that the sludge meets or exceeds this limit as it is being mixed to enable combustion. Is it a fuel or waste product?

Operations

My second concern is the existing inconsistent operation inherent in burning solid fuels. The recovery boiler operates with fixed input rates input however the biomass currently burned in the Power Boiler is by its nature inconsistent both in heat and moisture content. Addition of bio sludge into the Power Boiler will further complicate the operation, as fuel input and mixing would not be stable.

Early in my career I was involved with a very high tech incineration system that was not able to meet the stack emissions and noise standards. This unit also had a wet scrubbing system and a multiple stage fluidized bed combustion cycle. We were only able to pass emissions under ideal operating conditions and the project was eventually decommissioned. So with purpose built equipment barely able to meet the standards in the 1980's, how will this very antiquated Power Boiler & wet scrubber react once REAL data is measured? If it is found to not meet emissions standards, how could this be mitigated with such basic technology as found in this boiler.

After recently hearing the synopsis of the scientific study provided by Emma Hoffman titled " Pilot Study Investigating Ambient Air Toxics Emissions Near Craft Pulp and Paper Facility in Pictou County NS", my concerns seemed justified that even with modern scientific analysis and results, this project my still proceed without a top level Environmental review and that her findings are not being recognized.

Not only does unknown stack emissions present a risk to neighboring communities and the town of Pictou, Occupational Health and Safety should be aware that anyone working at the Mill near the tons of ash produced in the boiler that has to be disposed of will likely be exposed to unburned or improperly burned remaining toxins. Will this be disposed of in the existing landfills?

There is also no mention in their focus report relating to planned upgrades to the Power Boiler feed system to ensure even mixing of the fuel and sludge to ensure optimum combustion such as found in the fluidized bed technology utilized at Point Aconi power plant. Are there any plans to ensure the existing wet scrubber can process the additional stack emissions?

I ask that you reject this proposal for the following reasons:

1. The information provided does not prove that there will be no adverse human health or environmental effects that can be mitigated with the existing Power Boiler and scrubbing system.

2. The proposal shifts from one pollutant type and location (Boat Harbor) to the atmosphere where additional toxins are created in the combustion cycle thus creating a new unknown!

Rejecting this proposal could initiate an Engineering opportunity to create a world leading solution to this issue, creating new technologies and an updated plant to eliminate the pollutants at source and not dealing with contaminated waste!

As a closing note, the first line on following sign in Pictou Landing quotes: "Safeguarding our Environment is our Goal"

Respectfully yours,
Peter Dodge, P.Eng.
Dartmouth, NS