

Dear Premier Stephen McNeil and Minister for the Environment Gordon Wilson,

I have read the EARD documents previously submitted by Northern Pulp Nova (NPNS) concerning their proposed replacement Effluent Treatment Facility (ETF) and submitted a letter of concern to the Department of Environment regarding this project. Upon review of the Focus Report recently submitted by NPNS in response to the terms of reference outlined by the Department of Environment for this project, I am still unsurprisingly left with questions and concerns about this proposed new ETF project. It is a significantly large document and if we were given an appropriate amount of time, I would have liked to thoroughly dissect this report before writing a response. Given the lack thereof, I will focus on a few key points in this report which concern me greatly.

- The terms of reference required that NPNS to: *"Provide viable options including the **selected** option for leak detection technologies and inspection methodologies, with specific consideration to any portion of the pipeline located in the Town of Pictou's water supply protection area".*

NPNS's attempted to address this requirement in section 3.5 is as follows: *"A leak detection system as described below will be installed with the effluent pipeline to monitor for potential leaks in the overland portion of the route between Pictou and Caribou, in the unlikely event that one occurs. Leak Detection Programs (LDP) for liquid pipeline systems generally fall into two categories, internal or external.*

*Examples of external leak detection systems include:*

- *Visual checks including aerial inspections and video surveillance;*
- *Sound monitoring; or*
- *Fibre optic cable systems sensing temperature, pipe strain or other operational signs.*

*Internal systems for leak detection include:*

- *Operational systems checks;*
- *Metering for volume flow, pressure loss, and flow/mass balancing; and*
- *Automated Computational Methods such as statistical models and/or real time transient modelling (RTTM).*

....

*LDP's utilizing fibre optic systems, line balance metering, or, RTTM methods generally provide the highest level of sensitivity*

....

*The leak detection system installed at NPNS between Pictou and Caribou will fall into one of these three categories. Final selection will be made during the detailed design phase. Automated leak detection will not be installed in the rest of the fused HDPE pipeline outside of this land-based section."*

This is nothing more than brief musings about a few options that exist for pipeline leak detection systems without any actual analysis towards selecting the appropriate solution. There is a wealth of information on this topic that is readily available which has been applied to countless industrial projects worldwide. I expected to see a rather large appendix outlining an in depth review of all applicable pipeline leak detection technologies available. Such a study would have led NPNS to selecting the best technology for their proposed application. There is nothing of this nature in their focus

report and given that the selection of the appropriate technology was a clear requirement of the terms of reference; NPNS has clearly not met this requirement.

It is not secret that NPNS does not have a spotless track record concerning effluent leaks and one particular leak has been a catalyst leading to the premature closure of the current Boat Harbour Effluent Treatment Facility. It is my opinion that if NPNS had a serious commitment to satisfying this requirement, there would have been significantly more content on this matter given it has been 4+ years since the conception of this project.

In addition to the existing terms, it would be prudent to require NPNS to outline the exact procedures for dealing with alarms from this hypothetical leak detection system. This is an incredibly long pipeline (>15km) and we need assurances that there is a sound procedure in place in the event that a leak is detected. Given the critical exposure risks along this route, a redundant detection system is warranted and should be a requirement.

It is also very disappointing to see that a leak detection system is only being considered for the over land portion of the route between Pictou and Caribou Harbour. The excluded marine portions are the only sections including the seemingly precarious "spool pipe segments" (section 3.5.1) of the entire route. Without a leak detection system on these sections of the pipe, we are putting Pictou and Caribou Harbour at risk without any justifications whatsoever cited in this report.

Furthermore, it appears that the overlaying of survey data from the Province of Nova Scotia on the map of the Town of Pictou's source water protection area has the appearance of being nothing more than a "back of the napkin" sort of analysis. I would strongly urge that a more detailed analysis be provided, including a wide variety of worst case scenarios including high flow leaks coupled with extreme environmental conditions such as floods, snow melt, surface icing, snow damming, transient construction projects, temporary berms, etc.

Like all structures, this equipment has a life expectancy and we cannot afford to push the boundaries of this, as was done before. The project should require a detailed plan for maintenance of the equipment and ultimately, a binding agreement to replace the pipe prior to the end of its expected life expectancy.

· Most, if not all, baseline studies are insufficient within this report. Likely due to the simple fact that the time-frame in which they have been completed is entirely insufficient. For example in section 2.2 of the Focus Report, ice scour data was only collected in the spring of 2019. A single year is insufficient data to statistically determine the maximum ice scouring that may occur in this area. At a minimum, the Federal Canadian Ice Service data should have been consulted in order to ensure the reference year is not a statistical anomaly. Even with the currently measured maximum ice scour of 0.4m in some of the 133 observed ice scour locations along the proposed pipe route; it is reasonable to question if the cumulative annual excavation of seabed materials will result in the eventual exposure of the pipe. How will the ongoing monitoring of this marine pipe route be surveyed, to ensure that the risk of damage by ice scour or marine activities is mitigated properly?

I have frequented Caribou Harbour for 30+ years and can attest to the fact that this location does experience environment extremes that do not provide a stable location for a marine outfall. The seabed changes frequently, storms and surges have gotten more extreme, ice densities vary greatly from year to year, and currents can be extremely high or slack. One year of data is simply not enough to determine the viability of this location.

· The effluent quality is undeniably worse than the current system for all but one of the documented pollutants in Table 2.4-3. To be clear, I am by no means advocating the continuation of the current treatment facility. However, it appears NPNS is proposing to put a worse quality effluent in a different place, with a blinded hope that dilution will improve the situation. This is not a forward thinking solution! It should also be noted that the Human Health Risk Assessment (HHRA), uses the current BHETF effluent characteristics for this assessment and stated that "*The future effluent from the new ETF is expected to equal to or better than the existing BHETF. Therefore, the assumed performance is conservative.*" The aforementioned table in the report contradicts this statement making the HHRA model not just incomplete, but not so conservative after all.

· It is strongly doubtful that air emissions qualities can be improved by the additional burning bio-sludge in the power boiler. In fact, within the HHRA, it was stated that "*Stantec found little information related to the combustion of pulp and paper sludge but used a sewage sludge incineration guidance to assist with predicting emissions for volatile organic compounds and NSE criteria air contaminants. As such, there is uncertainty in the predicted emission rates.*" In contradiction, section 6.2 states that "*references to other pulp and paper operations have confirmed that there are no specific emission issues that are created when bio-sludge is mixed with biomass.*" The Focus Report also states that "*the diversion of sludge for combustion in the power boiler may, in fact, displace the use of fossil fuels, thereby reducing the overall greenhouse gas (GHG) emissions and reducing the potential for odours from the pulp mill.*" (1.1.1). It is absurd to suggest a benefit in air quality without providing an incremental comparison of airborne

emissions resulting by burning this sludge simply because the results are largely unknown. The best assurance that was offered was to simply state that both the current and modeled future emissions are within the ambient air quality standards identified in the Nova Scotia Air Quality Regulations. If the emissions are to be worse or better, we deserve clarity on the matter regardless of meeting guidelines.

· There are successful and healthy commercial shell-fisheries thriving in the Caribou area, whereas all other surrounding areas are typically closed due to contamination. This project will undoubtedly put these and many other nearby fisheries at risk. It is worth mentioning that I personally harvest or purchase a significant quantity of seafood in the Caribou area. I also frequently use these waters for recreational activities and am a part time resident of the area for roughly half of the year, which makes these risks somewhat more personal.

Upon review of the current HHRA, I must say that it is very incomplete and ripe with assumptions thus far. In particular, I take issue with the data collection method for the food survey in this HHRA. "Cold calling" residents of the province and only collecting data from Pictou county residents is not the correct approach. Given that only 300 phone respondents have completed the survey (<1% of Pictou County) it is very unlikely that they have proper representation of the scale of seafood consumption sourced from this area. Under the current method it is likely that that no commercial fishers were contacted, most consumers are unaware of the exact source of the food, and this affected area being largely seasonal properties has possibly been omitted. Without including all local commercial fisheries registered in this area, proactively reaching out to local and seasonal property owners and gathering a larger sample set of random citizens, the data collection method cannot be considered sufficient for a proper HHRA

I also disagree with the chosen local zone radius of 5km. The residency and migratory habits of all consumed seafoods, coupled with various other environmental parameters within a larger area needs to be understood in order to conclude what the appropriate local radius should be for this HHRA. Until this has been completed along with a more thorough and inclusive food survey, I would consider the HHRA term to be grossly incomplete.

In closing, this report does indicate that NPNS has spent some effort making improvements to their original submission. Yet a great deal of the document appears to be an attempt to provide spin on their economic importance and boast mediocre improvements to their facilities and environmental impacts. The report has no doubt been derived in haste given the glaring contradictions, mistakes, and admissions of broad assumptions made in place of scientific data; most of which could have been obtained with proper due diligence on this matter. Any negative net benefits of the project are shrouded in ambiguity and some data is seemingly deceitfully omitted. This report provides me with little faith or comfort that approving this project is in the best interest of the governed citizens and I compel you to outright reject this proposal.

Sincerely,

D. Taylor Ash