

Dear Premier McNeil, Minister Miller and CEAA,

I am writing in relation to Northern Pulp's Replacement Effluent Treatment Facility project.

My name is Dave Gunning and I live in Pictou County and have been following this issue very closely for a few years now. I would like to identify some uniquenesses about Northern Pulp, some differences between the current and proposed ETF along with some other concerns that I feel should be taken into consideration by you.

A 2010 AMEC study presented to the Province of NS identified that Northern Pulp were in the 100th percentile when compared to other similar bleached kraft pulp mills in the country for: average flow rate (water usage), COD levels and colour of effluent. And since this study was completed Northern Pulp has not reduced their water usage, still use chlorine dioxide for bleaching and have made no known upgrades that would have improved effluent quality. Bleached kraft mills by nature are the worst polluters out of all the different types of pulp mills in the world. The production yield of a bleached kraft mill is approximately 50% meaning that half of the tree gets used for production and the other half ends up being released into the waste stream. TMP mills like Port Hawkesbury Pulp & Paper have a production yield closer to 95% so 95% of the tree gets used and 5% ends up in the waste stream. Plus bleached kraft pulping requires the use of chemicals to break down the lignin in the wood to make pulp and the use of chlorine dioxide to bleach with versus TMP mills that use thermal mechanical energy to make pulp and peroxide to whiten the product. So by nature, bleached kraft pulp mills are the worst polluters out of all the different pulping processes and Northern Pulp is in the 100 percentile in Canada for water usage, COD levels and colour of effluent. They are the worst of the worst in Canada.

According to the KSH Engineering's projections the new EFT system would be better than Northern Pulp's current system, approximately 20-60% better depending on which variable you view. However, the receiving water now for the treated effluent is the Boat Harbour Basin and not the Northumberland Strait. After leaving the Boat Harbour Treatment Facility - at point C, the treated effluent is then released into the Boat Harbour Basin where it is retained for approximately 20-30 additional days. Point C is the federally regulated point. The new ETF would release the treated effluent directly into the Northumberland Strait without the added bonus of the 20-30 day retention time for additional cooling, dilution and settling in the large Boat Harbour Basin. The elimination of the Boat Harbour Basin is a huge factor because EEM data

shows that the Basin has a large effect on effluent quality that is currently reaching the saltwater.

The receiving water for the treated effluent is at point C where it is released into the Boat Harbour Basin. Point D is where it leaves the Boat Harbour Basin at the opposite end and meets the saltwater at the shoreline of Pictou Landing. EEM data from 2014 showed a significant improvement in effluent quality between points C and D proving that the Boat Harbour Basin does have a positive affect on effluent quality. It shows an improvement in TSS of 77.6% to 80.8% during the months of October, November and December between points C and D. And during that same period it showed that BOD levels were improved between 74.1% and 77.4% between points C and D. Strangely it showed that these numbers were worse at point D during the month of August. One industry professional that we spoke with speculated that there was either a problem with how the data was collected that month or that summertime pollen and dust could have settled on the surface of the Boat Harbour Basin contributing to the results measured. But regardless it is very clear that the elimination of the Basin would have a substantial and negative impact on the effluent quality reaching the Strait. Based on this data there is enough information to conclude that the new ETF would be worse than the old facility because of the elimination of the Boat Harbour Basin. So Northern Pulp is proposing a newer system but a worse location for the receiving water. The elimination of the Boat Harbour Basin would result in more of the toxins reaching the Northumberland Strait.

Many third party consultants have completed studies and documents for Northern Pulp and the Province of NS including: R.V. Anderson, CBCL, Neil McCubbin, Stantec, AMEC plus an internal audit conducted by their parent company. There are known problems internally at Northern Pulp which are causing air emissions problems (i.e. the High Level Roof Vent that is identified in NPulp's current Industrial Approval). Are other Canadian mills allowed to vent unfiltered pollution through high level roof vents? We are unaware of any other Canadian mills allowed this same privilege which is essential a way around the regulations for Northern Pulp given that that stack is not regulated. Northern Pulp's proposed ETF shows that much of the waste sludge would be burned in the power boiler. This is of great concern because the power boiler has no precipitator and there have been several reports about non-functioning scrubbers. And there is no hourly or daily monitoring of the stacks at Northern Pulp, only quarterly self-reported results conducted by Stantec who are hired by Northern Pulp.

Black liquor spills, sometimes referred to as process disturbances or process upsets have been documented by third party consultants as well. These events often result in raw untreated effluent being released from the mill. These statements come from a

Neil McCubbin memo to Northern Pulp dated April 6th 2015. "A few other kraft mills operate with annual average COD discharges of 15 kg/ton, demonstrating this level is attainable, but not without considerable effort. I consider that oxygen delignification, improved brown stock washing and screen-room closure, and substantially upgraded spill recovery systems for black liquor would be required to attain such a COD discharge level in the NPNS mill." The report also states, "The data in the AMEC report indicates that the sources of colour discharge are roughly one third each for brown stock washer losses, bleach plant and spills. The sources of COD are probably distributed similarly, except the condensates and causticising department will contribute some COD. These latter two sources will contribute virtually nothing to the COD of the treated effluent since the substances in them are very efficiently oxidized in any kind of biological treatment system." "COD from the bleach plant can be cut by about 40% by installing an oxygen delignification stage. This would leave the so called "spills", which consist of accidental losses, leaks, draining equipment for maintenance, operator errors, etc. Consideration of the variations in daily COD discharges suggests to me that there is room for fairly inexpensive and substantial improvement in this area. However, it must be recognized that while spills can be reduced, one can no more eliminate spills completely than one can eliminate traffic accidents." The Neil McCubbin memo also states, "Replacing the ASB with an AST system would reduce COD discharges somewhat, probably by roughly 20%. However, the cost would be significant."

Take away points from above paragraph;

1. There are three main sources of COD, divided evenly at NPNS; brown stock washer losses, bleach plant and spills.
2. An oxygen delignification system would only improve the COD level from the bleach plant by 40%. So that's 1/3 of 40% which equals 13.333%. At best an oxygen delignification would only reduce COD levels at NP by 13.3333 %
3. Northern Pulp would need substantial upgrades to obtain a COD discharge level that matches the level of other bleached kraft pulp mills.
4. The new AST system would likely only reduce COD levels by 20% compared to their current ASB system.

Again, it has been identified that Northern Pulp uses more water per ton of production than any other pulp mill in Canada. The Province of NS is aware of this issue and NSE has listed water use reduction requirements in Northern Pulp's current Industrial Approval. In an email obtained through freedom of information the

manager of Northern Pulp informed NSE in November 2017 that they will not be able to reduce their water usage moving forward with the newly proposed ETF even though this was a requirement within the current Industrial Approval.

A study conducted by R.V. Anderson Associates studied Middle River where Northern Pulp draws its water from. "The sustainable water withdrawal rate for the Granton water intake was determined to be 1.10 m³/s (95,040 m³/day)". "The Middle River watershed has a drainage area of 239 km² at the water intake location in Granton." In an email to Nova Scotia Environment from Northern Pulp dated November 3, 2017 it states, "NPNS will achieve the maximum daily water consumption rate of 92,310 m³/day by the end of the current IA". And it goes on to say "a future 2020 annual water withdrawal limit of 70,000 m³/day is now not realistic or achievable." So Northern Pulp is using almost all of the water that is sustainable in a watershed area of 239 km² and despite the requirements to reduce water usage to 70,000 m³/day by 2020 they are telling Nova Scotia Environment that they will reach 92,310 m³/day by the end of the current Industrial Approval.

In the EA on page 33, Northern Pulp / via Stantec (who were hired by Northern Pulp) are being very critical of the "Pilot study investigating ambient air toxics emissions near a Canadian kraft pulp and paper facility in Pictou County Nova Scotia" but they are leaving out important details from the rest of the study. According to the data collected the prevailing wind direction more often blows toward the Town of Pictou than it does toward Granton where the monitor was placed to collect the data for this study. The study concluded that "the mill is a likely contributor to increased concentrations" and "in addition, there are clear seasonal variations of meteorological conditions and VOC concentrations. Southwest prevailing winds blowing towards Pictou dominate during summer months, when people spend more time outdoors, and consequently are exposed to higher concentrations". Northern Pulp is trying to claim that it's really not clear that they are the source of the high VOC levels found present in the air. Yet this is a scientific, peer-reviewed study and the fact that the authors suggested that Northern Pulp is the likely source could also be taken that NP is indeed the source if the rest of the study is considered in its entirety. Given that the cancer risk thresholds were exceeded and that the scientists recommended that more monitors be located in areas of higher population, wouldn't we be better served by listening to the science instead of Northern Pulp / Stantec? With all the talk about "listening to the science" why does Northern Pulp put such an effort into trying to discredit the science. Science that isn't approved by Northern Pulp and their hired consultants does not make it non-science.

So there are air emissions problems, black liquor spills at Northern Pulp and more water per ton of production being used at Northern Pulp when compared to other Canadian bleached kraft mills. The mill is in need of significant updates internally before a treatment system dumping into the Northumberland Strait can be considered.

This is a very complex issue and one that many including myself have been studying for years. I could send in a hundred pages of comments but I chose just a few things knowing others are covering some of the other important points. Looking back I believe that we started our group with naive intentions. We were hopeful that the mill would clean up its act and that the government would more strongly enforce existing regulations and perhaps tighten up some of the weaker ones that we have in Nova Scotia when compared to the other provinces with regards to pulp and paper effluent and air emissions. My brother and a group of us have made a real effort to become informed and stick to facts. We have been very fortunate that the issue has attracted the attention and support of many local business people, doctors, scientists, lawyers and other concerned citizens along with three pulp and paper experts, including two engineers, a wastewater treatment expert and former employees of Northern Pulp along with third party consultant firms. One of our mill professionals has worked all over the world at many different mills including some zero effluent mills. I'm just a folk-singer but thanks to all of the support from many industry professionals I have become very informed about this issue and at this point it's safe to say that I know more about pulp mills than folk music.

During one government meeting it was said to us that "your group is spreading misinformation and being far too emotional and there are crazy things being posted on your Facebook Group". We were quick to respond that "our group" isn't all of the 5000 plus members on a Facebook Group. The people who've joined the Facebook Group are every kind of person with every kind of opinion on both sides, from mild to extreme. In fact, many of the members include forestry workers and mill workers too. It is social-media and you should think of it as a giant town-hall discussion and not "a group". So to put it bluntly, it's not "our group" - but they are your constituents.

I'll conclude with a list of points in no particular order although the last one has been the fuel for me throughout my involvement with this issue:

1. Northern Pulp's known and identified internal problems create a unique situation and building a new ETF would not cure the internal problems at the mill.
2. There is an active fishing industry in the Northumberland Strait that needs to be protected.

3. Many of the air pollution issues have not been fixed at the mill despite requests by the community and NSE for Northern Pulp to move forward.

4. Northern Pulp uses more water per ton of production than any other mill in the country and draws upwards of 92 million litres per day from a river that drains an area of 239 square kms and has a sustained recovery rate of only 95 million litres per day. So Northern Pulp is using almost all of the water available within a 239 square km watershed area.

5. The elimination of the Boat Harbour Basin and the change in location for the receiving water means that more pollutants would reach the Northumberland Strait than compared to the current system.

6. I believe there would be a protest of 'never before seen in NS' proportion to stop a Boat Harbour extension and a pipe from going into the Northumberland Strait. And this would not be about a community whining that it didn't "get its way". This has been a 50 year plus battle for a lot of people.

7. Many first nations people and non-natives have had this pollution dumped on them for over 50 years. But our entire, and one and only Mi'kmaq community have been victims of environmental racism from the beginning and throughout the entire history of this mill. It must be stopped and they must be protected and respected in a real and meaningful way moving forward. Moving the pollution from their backyard to their front yard and putting their fishing fleet at risk would not be the way to do this.

A sincere thank you for the opportunity to be engaged with this very important issue. I do not envy the position you're in but I do know that enough information is available to back your decision should you not approve this project.

Dave Gunning

#noextension #nopipe #honourtheact