From:
To: Environment Assessment Web Account
Subject: Draft terms of reference for EAR for Northern Pulp
Date: January 8, 2020 12:55:23 PM

** EXTERNAL EMAIL / COURRIEL EXTERNE **
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Could you please notify me where I can access the Draft Terms of Reference for Northern Pulps EAR

Thank you

From:
To: Environment Assessment Web Account
Cc:
Subject: Re Draft Terms of Reference for Northern Pulp proposed treatment facility, Jan. 8, 2020
Date: January 8, 2020 8:08:15 PM

Dear DOE
Regarding the above TOR, for several years in the first decade of this century the Pictou County Watershed Coalition attended repeated meetings with NS Department of Health representatives in search of baseline data on the health of Pictonians and how their health might have been and continue to be affected by the presence of the Northen Pulp mill. To date such a study has still not been undertaken.
There is no way this new EA can be adequately completed without this information. If NP undertakes the required studies, I urge the Province to complete a detailed health survey of Pictou County residents as soon as possible so that this information can be considered within the EA.
For your convenience I quote below one of the many correspondences we conducted during the above period...to no avail.
Yours sincerely,

Letter mailed Nov. 18/2009

Pictou County Watershed Coalition

November 18 2009

Dear

We are writing on behalf of the Pictou County Watershed Coalition. Thank you for your October 7, 2009 written response to our letter of Sept. 1, 2009, in which we stated our concerns over the health impacts of the poor air and water quality in Pictou County, and requested a baseline health study of the population. As you know, the incidence of some cancers and other illnesses in the County is the highest in the Province, if not in Canada, and we suspect that environmental factors play a role in this.

Before responding to your letter, the Coalition has asked me to clarify that our letter of Sept. 1 was sent to the Department of Environment to your attention as Minister. We also copied the letter to numerous individuals at various levels of government, including Premier Dexter and Health Minister Maureen MacDonald. We understand that a health study is more within the mandate of the Department of Health and appreciate your forwarding our letter to Ms.

MacDonald for her review and consideration. At this date we are still awaiting her response, which is disappointing considering the urgency of the issue.

In reference to your letter, we are encouraged that your Department recognizes the link between health and the quality of the environment, and we trust that your Department will do everything possible to ensure that the various pollution sources in the Pictou County watersheds will be cleaned up so that the citizens of Pictou County can live in a healthy environment in future. We also look forward to your Department's co-operation in providing relevant data which may be of assistance in completing the baseline health study. We look forward to working with you so that we may address health concerns as they relate to pollution sources in our County.

Sincerely,

Spokesperson
PCWC

From:
To: Environment Assessment Web Account
Subject: NO PIPE
Date: January 9, 2020 10:32:48 AM

** EXTERNAL EMAIL / COURRIEL EXTERNE **
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There will be no pipe in the Northumberland Strait. This mill has destroyed more then enough of our land and waters over the years. The fact they turn 85 million litres of fresh water into waste effluent every day in operation should be enough on its own to shut this place down. Jobs come and go, people have to adapt to new circumstances everyday and I am speaking from experience.
No pipe.

Sent from my iPhone

From: @hotmail.com
To: Environment Assessment Web Account
Subject: Proposed Project Comments
Date: January 9, 2020 11:47:19 AM

Project: replacement_effluent_treatment_facility_project Comments: Enough is enough. We the people have been through this enough. NP has shown time and time again their lack of commitment to upgrading their facility in a timely manner. The mill is beyond itâ?Ts life expectancy and itâ?Ts time now to shut it down and remediate the land it sits on and allow new green business to take its place. For the sake of our people, for the sake of our environment, and the sake of our tax payers dollars. Please shut it down so clean up can begin. The history of neglect is there and the indemnity agreement stands. We need to pull away from NP before they cost us further monies and damage to the environment. Name:
Email: @hotmail.com Address: Municipality:
email_message: Privacy-Statement: agree x: y:

From:
To: Environment Assessment Web Account
Cc: Sean.Fraser@parl.gc.ca
Subject: Feedback regarding Northern Pulp"s Terms of Reference
Date: January 9, 2020 12:37:56 PM

NS Department of Environment,

Please consider my feedback on the TOR regarding the Effluent Proposal

1. As the Studies are completed, the Proponent needs to make them available to the public so they can be reviewed in advance. Having 2000 pages to review within a 30 day period is not a sufficient amount of time to review the info and comment accurately.

2. The Proponent needs to address the additional air pollution that will come from the burning of the sludge and list the technology that will be used as well as a specific timeline, the cost and who will pay for it.

3. The Proponent needs to list the timeline for the implementation of O2 Delignification system as well as the cost and who is paying for it.

4. The Proponent needs to have timelines and goals set by the Government to ensure the TOR is being met. This info needs to be made public and scheduled updates need to be provided by the Proponent

5. The Proponent must list in detail examples of Bleach Kraft Mills that are using the exact same technology with the same the type of outflow and characteristics that the Northumberland Strait has. For example, comparing mills in Howe Sound, BC that are discharging effluent into 200-400ft of water is not the same as discharging effluent into 10-65 feet of water that has very little tidal activity, major ice scouring, etc.

6. The Proponent needs to conduct very detailed studies on Lobsters, Lobster Larvae and other shellfish that are within the Strait

7. The Proponent needs to conduct very detailed studies on all endangered or species at risk marine species. IE. Atlantic Salmon, Striped Bass etc.

8. The Proponent needs to conduct very detailed studies on all endangered or species at risk that are land based species.

9. The Proponent needs to spend adequate time and resources conducting baseline studies for Wetlands

10. The Proponent needs to spend adequate time and resources conducting baseline studies for the species that habit the land based portion of the pipe route. 2-3 days of observation is not adequate. This needs to be conducted over several months of the year spanning multiple seasons to ensure that the migration, hibernation, offspring etc is all being considered.

11. The Proponent needs to find another route for the land based portion of the pipe when it comes to the Pictou Town Water supply. The water supply cannot assume any risk and the only way to do so, is to go around it via another route.

12. The Proponent needs to provide a full and complete Human Health Risk Assessment based on the data from the proposed system.

13. The Proponent needs to find a way to reduce air emissions to well below safe limits, even during higher than normal production. The Focus Report showed various emissions exceeding safe limits.

Thank you for the consideration

From:
To: Environment Assessment Web Account
Subject: New ETF proposal
Date: January 9, 2020 1:13:52 PM

By honoring the commitment to close Boat Harbour, the Nova Scotia government FINALLY showed some decentsy and actual concern for the HORRIBLE environmental disaster they helped to create. Any backsteping on this action will show the colonialist attitudes and actions that are so prevalent in Nova Scotia.

Its time for these old, hate-based ideals to end. It's time for Nova Scotia to end its racist, ignorant path and step into a future that is not based on greed, and raping the earth for all her natural resources.

It's time for Nova Scotia and ALL her people to be heard. We need to be able to live honorably. We, as a people, need to be able to see the natural beauty that surrounds without seeing dollar signs attached to it.

To those who make their living off of the earth, please see the harm you are doing and be better human beings.
The human race is at a pivotal point in history. If we as a people don't change, then we are all to blame for the climate disasters we face from today onwards.

From:
To: Environment Assessment Web Account
Subject: Preparation of Terms of Reference - Effluent Treatment Northern Pulp Nova Scotia Corporation Northern Bleached Softwood Kraft pulp
Date: January 12, 2020 7:47:12 PM

May I say, that this is truly sad, this decision was supposedly arrived at on December 19th, yet on January 7th there was a 37 page document prepared with such detail, and technical material/filler that it is surprising, to say the least, that this document could be assembled within 18 short days over the Christmas / New Year Holiday season! I fully believe that this was prepared well in advance and that is obvious as the Terms of Reference (ToR) are requesting seasonal characterization of the effluent, which cannot be completed with the mill in a non-operating state. Many of the items within this report cover issues not even associated with the Effluent Treatment Plant, which was supposedly what this ToR was all about. This document is fully intended to ensure that mill will never run again! Well done Stephen McNeil, Well Done, you ensure Nova Scotia will be a have not province for a long time to come!!

This ordeal has resulted in 3 – 11,000 people being pushed around, insulted, prejudiced against, and finally impoverished, by groups that know nothing of science, but only fear mongering, suspicions, guessing, and rumors! Was it not the Lobster Fishermen who said confederation bride would destroy the fishery? Truth is that the Lobster Catch (see below ~ 50,000 more tonnes in 2017 than 1990) is almost doubled in tonnage since the 1980/90's. Was that fear based on science, or just a bunch of guys sitting around on a wharf. The increase in Lobster is probably due to Fishery management by the DFO, rather than anything else, but the numbers do indicate there does not appear to be any adverse effect to the Lobster fishery. Although the data does not look at each location within Atlantic Canada, it is well known that local catches are up in and around Pictou County, however, I am sure someone in the Department can validate or refute that statement for me. How much more does the Lobster Fisherman need to make?

You are an embarrassment to society, Steven McNeil and all the followers. I cannot believe when you have a company spending money and wanting to spend money why you let this slip away. Nova Scotia apparently does not need Forestry, they need handouts and transfer payments, because they don't want to work, or at least the politicians and the Department of Environment don't want people to work, unless they are selling Knickknacks on a wharf!!

I am confident you will not respond to this, and I feel quite sure that when some individuals send in their suspicions, guesses, and hunches they will be listened to, much more than a fact based submission. To allow people completely unfamiliar with the science is unfair not only to the Pulp Mill, but to the good people of Nova Scotia who will lose much of their livelihood, and self-respect because Stephen McNeil & his followers succumbed to a small group of uninformed individuals.
Sincerely Yours

Data from DFO https://www.dfo-mpo.gc.ca/stats/commercial/sea-maritimes-eng.htm

Year	Lobster Metric Tonnes Live Weight
1990	47853
1991	48450
1992	41944
1993	41061
1994	41541
1995	41120
1996	39934
1997	40079
1998	41186
1999	44777
2000	45511
2001	52123
2002	48940
2003	49837
2004	47479
2005	51616
2006	55008
2007	48870
2008	58984
2009	58342
2010	67227
2011	66978
2012	74790
2013	74686
2014	92779
2015	90875
2016	90624
2017	97452

From: @gmail.com
To: Environment Assessment Web Account
Subject: Proposed Project Comments
Date: January 16, 2020 4:16:28 PM

Project: replacement_effluent_treatment_facility_project Comments: Any proposal for an effluent pipeline through or near the well field that supplies Pictous drinking water should be a non-starter. Given the shoddy record of the pulp mills regard for the environment -- non-functioning scrubbers, unacceptable particulate emissions, leaking effluent lines -- theres no earthly reason to expect better in future. Shame on the government if it takes this ghastly charade seriously. The mill will do no more than it must to keep the environment clean, and weve already seen for more than fifty years how little it cares about the publics health. Name: Email: @gmail.com Address:
Municipality: email_message: Privacy-Statement: agree x: y:

January 15/20

With Regards : The Draft Terms of Reference
Northern Pulp

Concern # 1 Who is buying the new ETF for Northern Pulp. Is it tax payers money which a totally disagree NO public money should be used on project.

2 Why do they think they can run a pipe across a water shed & wetlands, which supply drinking water to a Town Pictou, & rural area. Pump waste into a shallow fresh & salt fish habitats. The only deep water is in Channel where the ferry to PEI departs. The decision was made in the 90's by Federal Fishery Department. No Pipe into Strait. Worst scenario is a dead toxic Northumberland Strait and a toxic Boat Harbour.

#3 The 3 Septic tanks at Northern Pulp. What toxic material is being released into Boat Harbour. Also everything being released out of the stacks. & I believe the plan to burn dried material from holding ponds. No Pipe too much risk

From:
To: Environment Assessment Web Account
Subject: Environmental Assessment Report - Northern Pulp - comments submitted by February 7th, 2020
Date: January 25, 2020 6:55:46 PM

I wish to put forward the following comments:

I am still concerned about expansion of the HDPE pipe that has been promoted in the previous two submissions. I have tried to alert my concerns about the high rate of expansion of the pipe in a confined trench. That pipe is meant to be used in an open sea bottom where it can naturally snake around and relieve any stresses. No attention was paid to my concerns.

I am also concerned about the necessary air release valves on the high spots that may relieve unnoticed, especially in the Town of Pictou watershed. This would certainly not be good. Notes in previous submissions went unaddressed.

Underwater leak detection went unaddressed.

Ability to sample the effluent at the diffuser went unaddressed.

My greatest concern is the amount of wood the mill has been using of late. Production has risen from 500 imperial tons per day in the original design which would require 1000 cords of wood to 1000 tons per day which requires the equivalent of 2000 cords of wood. Besides affecting the treatment of effluent, it is a race to the bottom in our forests in Nova Scotia. This is all for a company that is not publicly traded so there is no way that we can share the profit or get a true business picture of the operation. The harvesting and trucking in 1965 involved six times the workers that this increased production requires today. We have literally lost our forests, our rural communities and changed our climate. Yes we need a pulp and paper mill. But not kraft process and about 500 tons per day. We need our Acadian forest back. We need people back on the land. Not those big harvesters. We need 10 year interventions taking not more than 30 per cent of the overstory. Real foresters would agree with me. This is what they preached before Scott.

Thank you

Yarmouth, N.S.

From:	Minister, Env
To:	Environment Assessment Web Account
Subject:	FW: Correspondence #55676 RE: Northern Pulp
Date:	January 28, 2020 12:32:25 PM

From:
Sent: January 28, 2020 10:48 AM
To: Minister, Env <Minister.Environment@novascotia.ca>;
Subject: Re: Correspondence #55676 RE: Northern Pulp

Dear Mr. Minister:

Thank you for your reply of Jan. 23. The link provided for comments, at the bottom of your letter, does nor work so I am sending comments directly to you.

I also consider protection of the natural environment to be a top priority but, as explained in an item I wrote based on readily available information, to post on Facebook Jan. 12 and pasted below I could not see how Northern Pulp posed a threat.

At age 85 I have seen 50 years of destruction and degradation of the natural environment; mostly due to fragmentation of habitat by 100 series highways and siltation of streams by runoff from public and private highway construction/ditch cleaning. Destruction of this type could perhaps be minimized by better communication between Environment, Natural Resources, Agriculture and Highways.

START OF PASTE:

My take on the NP hype. Kraft paper, which I understand is what NP produces, is made by heating wood chips in a solution of Sodium sulfide (Na2S.9H2O) and Sodium hydroxide (NaOH). These chemicals, both strongly alkaline, enable lignin to be extracted from the cellulose fibers of the wood. Lignin is the glue which holds cellulose fibers together to make cell walls.

There is bound to be some Sodium sulfide and Sodium hydroxide in the discharge from a Kraft paper plant so it is prudent to ensure sufficient dilution before discharge. Or discharge in such a way that dilution will quickly take place. The proposed pipe (I think) was going to have perforations so not all of the discharge would be in one location.

But one of the current severe problems with respect to oceans is acidification due to excess CO2. So both of these chemicals would be desirable if delivered in relatively diluted form. (Abrupt and large changes in composition may have unforeseen effects on solubility of other chemicals in a solution containing many other chemicals, such as sea water).

There would no doubt be appreciable amounts of lignin in the liquid initially released from the plant. Many of our soils would benefit from application of the entire mill discharge, including lignin, but I think transportation of the waste would be too costly; too much water.

So once again, the ocean is right there and lignin would also be harmless (every time driftwood gets ground up lignin enters the ocean and most river water will contain some lignin) provided it reached the ocean widely dispersed.

NP ran into trouble, if anything, because they were being too cautious. Having Ottawa swinging back and forth on the fence did not help either.

END OF PASTE:

Yours truly,

On 1/23/2020 1:56 PM, Minister, Env wrote:

> Good Afternoon,
>
> Please find attached a response to your email to the Honourable Gordon Wilson, Minister of Environment.
>
> Thank you,
> NSE Correspondence Coordinator
> NS Environment
> 1894 Barrington Street, 18th floor
> PO Box 442
> Halifax NS B3J 2P8
> Phone: (902) 424-3736
> Minister.environment@novascotia.ca

Environmental Assessment Branch
Nova Scotia Environment
P.O. Box 442
Halifax, Nova Scotia B3J 2P8

Via Fax at (902) 424-6925

Dear Sir or Madam:

RE: Replacement Effluent Treatment Facility Project proposed by Northern Pulp Nova Scotia Corporation

I have reviewed the draft Terms of Reference for the above noted project. The following are my comments:

1. Page 12 - paragraph 1 - All cited specific codes of practice, guidelines and polices should be provided if not available to the public online. It is not sufficient that these items be just cited, they must be made available for the public to review.

2. Page 14 -paragraph 3 - Northern Pulp should provide details of response protocol to leaks which are detected *during periods of ice coverage*, in addition to those times when there is no ice. If a leak occurs in the middle of winter and there is significant ice coverage and flows, how does Northern Pulp propose to detect and fix the leak?

3. Page 18 - paragraph 9.2.3 - Marine environmental conditions are impacted by more than just the four seasons - consideration should be given to moon phases (big tides), wind, temperature, and extreme conditions (storms). Also, averages should not be used - should use maximums and minimums.

4. Page 19 - paragraph 3 - An ice scour study should also include historical analysis. What if the two winter seasons that they study are both mild or with little ice?

5. Page 22 - paragraph 5 - Baseline data should include shellfish tissue, as it does in the paragraph that follows.

6. page 22 - paragraph 8 - Recreational fishing has more than an "economic" importance. There are also social, mental health, and food source benefits which should be described.

7. Page 36 - last paragraph - The current community liaison committee is ineffective and secretive, leading to further distrust. Any community liaison committee should be more transparent so that the public knows who to provide their concerns to and then receive feedback, which will foster trust and understanding within the greater community.

8. General concerns:

   (a) The Environmental Assessment Report should use the definitions set out in the relevant legislation

   (b) The name and credentials of all those conducting studies and providing conclusions should be disclosed in the EAR

   (c) Consideration should be given to the various uses of the marine water by the commercial fishery (ex wash down, lobster floats, Logans fish plant)

   (d) specific reference should be made to the air quality concerns of the spill basin

Please consider amending the Terms of Reference to address my concerns. Thank you.

Yours truly.

@gmail.com

fax

From:
To: Environment Assessment Web Account
Subject: Draft of terms of reference for EA Northern Pulp effluent treatment project
Date: February 1, 2020 8:22:25 PM
Attachments: To coments re EA draft terms.docx

Sirs:

Please see the enclosed word document regarding my comments toward the draft "terms of reference" for an EA for the Northern Pulp effluent treatment project. Can my comments be considered toward a final document.

Thanking you.....

To: Hon. Gordon Wilson

Minister of Environment

Nova Scotia Environment

Date: Jan 16.2020

From:

Re: Draft Terms of Reference for the Preparation of an Environmental Assessment---- Northern Pulp Wastewater Treatment Project

I am a Pictou County resident in and retired in 2006 with a career in technical services. I had worked with in 1966 and 1967 and am also a woodlot owner.

I had submitted comments of concern for the two previous reports to The Department of Environment and follow up with comments regarding this request for a full Environmental Assessment.

I have found the Terms of Reference to be complete for definition and mitigation of the risks involved regarding the influence to air, land and water along with the potential for operation failures of installed equipment. It is not at all clear however, what is missing in the "Focus Report" studies which limits the project from meeting current or proposed new Federal or Provincial environmental guidelines for the pulping industry. To move forward, I believe that it is essential that all parties must have a very clear and fact based description of the needed process and results as this has a very big influence on our province.

There includes in this draft only brief request for reference to other world pulping installations. I feel that it is essential that we base decisions on not only models and studies of such a project but on installations and proven results at many other world projects as this. With 131 Kraft mills in North America and more worldwide, there will be many excellent examples of the performance of effluent treatment facilities. All of these mills will operate under specific Government environmental guidelines and there will be many where detailed environmental reviews have been made of the operations. For those mills which are Kraft, there should be the ability to make direct comparisons to the Northern Pulp project. Particularly in Europe and North America, there should exist well documented studies of Kraft mill environmental performance. Just as an example, the world has been building pipelines for much more than a century and proven examples of best practices for acceptable risk should be readily available.

I believe that there must be a complete section in the environmental Assessment which makes a real comparison to other installations and the proven results of comparable projects with their influence on the environment. We are not dealing with a new science when studying this project proposal although there certainly are many details of influence which need definition. All world pulp mills deliver treated effluent to receiving water systems and have exhaust air systems to the atmosphere. There will be many which should be very similar to this proposed project.

I would appreciate your consideration toward requesting detailed information of environmental performance studies for comparison project installations in several if not many other installations in other jurisdictions worldwide. It is also important to be very precise and clear in the demand for project information.

Thanking you……

From: @gmail.com
To: Environment Assessment Web Account
Subject: Proposed Project Comments
Date: February 2, 2020 3:16:18 PM

** EXTERNAL EMAIL / COURRIEL EXTERNE **
Exercise caution when opening attachments or clicking on links / Faites preuve de prudence si vous ouvrez une pièce jointe ou cliquez sur un lien

Project: replacement_effluent_treatment_facility_project Comments: There is no safe place to put a pipe. Not through the town of Pictous watershed, not out into prime fishing areas, not along the causeway endangering Pictou Harbour, not along the highway to Caribou because a spill would halt traffic, not near tourist destinations Pictou Lodge and the town of Pictou and not emptying anywhere near the ferry terminal - what a lovely mess to greet arriving tourists. The truth is that the mill has been a rotten neighbour - spills that had to be detected by random people out strolling in nature, *years* without scrubbers while fully aware of the particulates they were releasing on an unaware public, the rampant and ugly clear cutting to satisfy the owners in Indonesia owners with a hellish reputation around the globe, the volume of fresh water sold at give-away prices, and the profits that go overseas. And still this monster, which is more than 25 years past its promised lifespan, wants to continue to destroy everything around it. Busine sses come and businesses go because of the revolting smell who knows what opportunities have been missed simply because of the smell. As far away as Alberta people were asking us if Pictou still stinks. Then theres the freakishly high rates of cancer in this part of the province. And I havent even touched on the gross injustices done to Pictou Landing First Nations over the last 50-some years. It would be immoral, and should be illegal, for the mill to re-start in the future. The company has other mills where employees can go, and the logging companies had five years to figure out how to diversify their earnings. Enough is enough. Name: Email: @gmail.com Address:
Municipality: Pictou email_message: Privacy-Statement: agree x: y:

From:
To: Environment Assessment Web Account
Subject: Fishing Industry Associations" submission on Draft Terms of Reference, Northern Pulp
Date: February 7, 2020 8:47:17 AM
Attachments: Fishing Industry comments on draft Terms of Reference for Northern Pulp EA, Feb 2020.docx

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Dear Minister Wilson and Nova Scotia Environment EA Staff:

Please find attached comments submitted by Gulf Nova Scotia Fleet Planning Board; Prince Edward Island Fishermen's Association; and the Maritime Fishermen's Union regarding the draft Terms of Reference for Northern Pulp's Environmental Assessment.

Best regards,

--

January 30, 2020

COMMENTS ON THE DRAFT TERMS OF REFERENCE FOR THE PREPARATION OF AN ENVIRONMENATL ASSESSMENT REPORT FOR PUBLIC REVIEW AND COMMENT – *REGARDING THE REPLACEMENT EFFLUENT TREATMENT FACILITY PROJECT PROPOSED BY NORTHERN PULP NOVA SCOTIA CORPORATION*

SUBMITTED BY: Prince Edward Island Fishermen's Association, Gulf Nova Scotia Fleet Planning Board and the Maritime Fishermen's Union

The Gulf Nova Scotia Fleet Planning Board (GNSFPB), the Prince Edward Island Fishermen's Association (PEIFA) and the Maritime Fishermen's Union (MFU), including its subsidiary R&D company Homarus Inc., have reviewed the Draft Terms of Reference for the preparation of an Environmental Assessment report for public review and comment - *Regarding the Replacement Effluent Treatment Facility Proposed by Northern Pulp Nova Scotia Corporation*. The Terms of Reference are robust, but deficiencies remain regarding many key questions our organizations have regarding the effects to the ecosystem of the Northumberland Strait. These three organizations represent the interests of over 3000 commercial fishing licenses in New Brunswick, Prince Edward Island, and Gulf Nova Scotia.

These 3000 fishers are multi-species fishers which means that although lobster is the key species fished in the region, economically, this is not the only species fishers harvest. Some other commercially fished species include, but are not limited to: Atlantic halibut, bluefin tuna, Atlantic mackerel, Atlantic herring, Scallop, soft shell clam, smelts, snow crab, rock crab, and toad crab, just to name a few. The most economically significant species is American lobster which in recent years has grown in value, in the Gulf alone to over $250 million dollars. This is approximately 63% of the value of all the regions fisheries. The lobster landings from the Gulf represent 30% of the Canadian landed volume, coming from only 1% of the Canadian waters (https://www.dfo-mpo.gc.ca/fisheries-peches/commercial-commerciale/atl-arc/report-stat-rapport/lobster-homard/index-eng.html), a portion of which is being threatened by this proposed project.

The GNSFPB, PEIFA and MFU have been engaged since the beginning of this process and have reviewed all previously submitted documentation. We still have significant concerns going forward due to the threats posed to the sustainability of commercial fisheries.

Please review the following comments concerning "Draft terms of reference for the preparation of an environmental assessment report for public review and comment - *Regarding the Replacement Effluent Treatment Facility Proposed by Northern Pulp Nova Scotia Corporation*"

1.) **Forward - This document presents the Draft Terms of Reference for public review and comment. The Minister of Environment invites interested Nova Scotians to examine the Draft Terms of Reference and provide comments on their adequacy and suggestions for their modification**
    a. Does this mean comments from other Provinces, with an obvious investment in the project will not be considered?

2.) **Introduction - If the Minister is of the opinion that any adverse effects or significant environmental effects related to the project can be mitigated, then the project is able to proceed. If such effects cannot be mitigated, a project may be rejected**
    a. The term "significant" needs to be defined in the context of this terms of reference. The term significant, as defined by Webster dictionary is: "the quality of being worthy of attention; importance." What is important to the fishers may not be important to Northern Pulp Nova Scotia Corporation and therefore saying "there would be no significant harm to the ecosystem" is really just according to the mill and not the fishers. This is not quantifiable and is therefore just an opinion. The term scientifically significant or statistically significant is actually defined by a probability. "The probability being measured is how likely it is that different results found by different scientists is due to accident." Scientific significance would be the ideal definition used in this process, but ultimately, it CANNOT just be an opinion based on the what the company deems as significant.

3.) **Preparation and Presentation of the Environmental Assessment Report – The information obtained under subsection 19(2) shall be prepared taking into consideration comments from:**
- **the public;**
- **departments of Government;**
- **the Government of Canada and its agencies;**
- **municipalities in the vicinity of the undertaking or in which the undertaking is located;**
- **an affected aboriginal people or cultural community; and**
- **neighbouring jurisdictions to Nova Scotia in the vicinity of the undertaking.**
    a. We are aware that fishing organizations could fit into "the public" or "neighbouring jurisdictions to Nova Scotia" but there is no requirement for Northern Pulp Nova Scotia Corporation to consider comments from fishing organizations. Based on the economic value of the Northumberland Strait to

these organizations this section should be amended to include those organizations whose livelihoods are directly affected by this project.

b. Under "Government of Canada and its agencies" this should also list which agencies. Previous comments submitted were done so by the Maritimes Region Department of Fisheries and Oceans (DFO). The fishing organizations affected by this project are not represented by DFO Maritimes region but rather DFO Gulf Region. It is essential that scientists in DFO Gulf region are included in this list of comments to be taken into consideration.

4.) **Project Description - Comparison of the effluent characterization results from the above assessment with appropriate regulations and/or guidelines, including the draft Pulp and Paper Effluent Regulations (PPER) daily and monthly average limits;**

a. The appropriate regulations and/or guidelines should be included in this section. It is very possible that toxins affecting different fish species will be missed because it is not defined that Northern Pulp must use them as a comparison.

5.) **Project Description - Effluent flow data to support the proposed peak treatment capacity of 85,000 m3 flow of effluent per day using actual daily flow data from Point A over a minimum 1-year period;**

a. The 1-year period should be defined in the terms of reference to confirm that the year chosen by Northern Pulp is not a year with numerous shut downs or low productivity; therefore skewing results in their favour.

6.) **Description of alternatives to the project - Include an analysis of alternative means of carrying out the Project; describing functionally different ways to meet the Project need and achieve the Project purpose. AND Other methods for carrying out the project - Discuss other methods for meeting the need for the Project, including but not limited to, pipelines and treatment technologies. This section shall also discuss alternate locations for the Project. The rationale for rejecting other described methods of carrying out the Project must be provided, including a discussion of how environmental sustainability and impact avoidance criteria were applied.**

a. These 2 sections are really vague, I'm worried that Northern Pulp is not being given enough direction on this and in turn we will end up with holes in the data again.

7.) **Assessment Methodology - Study boundaries or Project area and all space that will be potentially impacted, by the Project as proposed, or subject to subsequent modifications, and the methodology used to identify the study boundaries;**

a. In the past there was never a methodology shared for how the study boundaries were chosen and the study area appeared extremely small considering the volume of effluent proposed to be released. There needs to be assurance that more area is covered under the study boundaries, especially in the marine environment. There are no walls at the edge of the study area to maintain the

COPCs and other elements, but the boundaries are being treated like a closed system, when in actuality they are not.

8.) **Assessment Methodology - Valued Ecosystem Components (VECs) within the study boundaries and the methodology used to identify the VECs. The methodology used for VEC identification shall include input from members of the public, government departments and agencies, other experts, and other interested parties, as well as direct engagement with the Mi'kmaq of Nova Scotia;**

a. Again, fishing organizations are excluded from this list. By assuming they are included in "other interested parties" this removes the requirement to engage with the fishing organizations and they are overlooked in the process. The fishing organizations need to be included in the engagement and input portions of this process.

9.) **Assessment Methodology - Method for predicting and evaluating Project impacts upon the environment; determining necessary avoidance, mitigation, remediation and/or compensation (in this order of consideration); and determining the significance of any residual impacts.**

a. This is another example of "significance". How is Northern Pulp going to determine the significance of residual impacts? This needs to be defined.

10.) **Existing Environment - Provide a baseline description of the environment in the vicinity of the Project and all other areas that could be impacted by the Project. This description must include the components of the existing environment and environmental processes, their interrelations and interactions, as well as variability in these components, processes and interactions over time scales appropriate to the effects assessment. The Proponent's description of the existing environment shall be in sufficient detail to permit the identification, assessment and evaluation of the significance of potentially adverse environmental effects that may be caused by the Project.**

a. This is a key paragraph to understanding the ecosystem and baseline information for the area. The statement "interactions over time scales" is important because ecosystem's communities in the Northumberland Strait shift based on temperature and therefore time of the year. This should help clarify with Northern Pulp that a two-day baseline study is insufficient to this study. Two days in January and two days in May could look completely different.

11.) **Existing Environment - Provide baseline studies that characterize environmental conditions for the four seasons over a minimum of one year for the marine environment, including: climate, water quantity (e.g., current profiles, wave height, tide levels), water quality (e.g., temperature, salinity, chemical and physical water quality), and marine sediment chemical characterization in the vicinity of proposed marine outfall location. These studies must be to the satisfaction of relevant government departments and are to be used to support modeling activities.**

a. Water quality should be monitored throughout the water column (surface, mid and bottom). This profile changes according to depth and therefore should be documented. What's happening and changing at the surface has less to do with lobster populations as they are bottom dwellers, but it does affect pelagic species. Both need to be considered in the scope of this project.

12.) **Existing Environment - Include a discussion of regional climate conditions and meteorology in the vicinity of the Project as well as expected changes over the next 50 years due to climate change. This section should include climate norms, extreme conditions, as well as trends in these conditions and climate change impacts, as well as the effect these changes may have on the Project and plans to mitigate against those impacts.**

a. YES, “expected changes over the next 50 years due to climate change”. As fishing organizations, we are the front line of seeing change in the environment regularly. That could be a shift in species biomass or arrival of new species to our area. These three fishing organizations take part in DFO science assessments which talk about climate change and how it is affecting the different species; their interactions with prey, habitat, etc. It is vital to understand these changes to be prepared for them. Climate change combined with the proposed release of effluent could have a synergistic effect on the Northumberland Strait over time. It is essential to thoroughly assess this possibility.

13.) **Existing Environment - Baseline study for fish and shellfish tissue with chemical analysis that includes COPCs of representative key marine species important for commercial, recreational and Aboriginal fisheries (food, social and ceremonial) in the vicinity of the proposed effluent pipeline and diffuser location. The locations of samples must be clearly identified.**

a. This should include a list of the COPC's (contaminants of potential concern) to be tested.

14.) **Adverse Effects and Environmental Effects Assessment - Description of the cumulative effects of Project activities**

a. Cumulative effects can increase with time. For this reason a timeline should be included as a requirement for this section. For example, what are the cumulative effects after 1, 5, 10, 20 and 50 years? The 50-year timeline lines up with the climate change comment in number 12.

15.) **Adverse Effects and Environmental Effects Assessment - Surface Water**

a. The surface water section looks good, but maybe section 10.2.3 should be Bottom Water with the identical requirements to surface water. As stated above different species live in different portions of the water column so understanding bottom, mid and surface water changes is essential to understanding the ecosystem.

16.) **Adverse Effects and Environmental Effects - Assess the impacts on commercial/recreational fishing, aquaculture or other marine harvesting which may be impacted by the proposed Project. The effects assessment should consider changes in commercial/recreational fishing, aquaculture or other marine harvesting species, including contamination of species consumed by people as a result of increased erosion, sedimentation and from effluent discharges from the Project, displacement, mortality or loss and/or alteration of habitat. Also discuss navigation restrictions and loss of traditional fishing areas of the Mi'kmaq of Nova Scotia.**

a. The changes being considered in commercial/recreational fishing should also include the displacement of marine species due to the shift in current flow and water quality. Mortality is not always the cause of a fishery being degraded; the majority of commercially fished species have the ability to walk away from undesirable areas resulting in a reduction in landings.

17.) **Adverse Effects and Environmental Effects - Based on the assessment of applicability of Point C representing Project ETF effluent quality, chronic and acute toxicity testing of non-diluted treated effluent is to be conducted through a series of controlled laboratory experiments.**

a. This section should also include sub-lethal effects.

18.) **Proposed Mitigation - Describe all mitigation measures that will be used in construction, operation and decommissioning phases of the Project to reduce impacts to marine water resources. Discuss all mitigation measures planned to prevent the release of hazardous substances into marine waters.**

a. In other sections of the Terms of Reference a request has been made to include measures for worst case scenarios. This should be the same here to provide mitigation measures for worst case scenarios.

19.) **Proposed Compliance and Effects Monitoring Programs - Submit an Environmental Effects Monitoring program that includes water quality, sediment and tissue sampling and is based on the results of various relevant baseline studies and receiving water study. The program should at a minimum be designed based on applicable regulatory requirements.**

a. This should also include monitoring of biomass and community structure to determine if the community in the vicinity is shifting due to changes in the water quality and currents.

From:
To: Minister, Env; Environment Assessment Web Account
Cc: ec.ministre-minister.ec@canada.ca; ceaa.northernpulp.acee@cess-acee.gc.ca @gmail.com; @gmail.com; @gmail.com; @hotmail.com
Subject: RE: Draft Terms of Reference for The Preparation of an Environmental Assessment Report Regarding the Replacement Effluent Treatment Facility Project
Date: February 7, 2020 12:57:11 PM
Attachments: Minister of Environment.pdf

Please find enclosed correspondence from in relation to the above-noted.

Thank you.

Regards,

MacIsaac Clarke & Duffy
Barristers and Solicitors

195 Foord Street
PO Box 849
Stellarton, Nova Scotia
B0K 1S0
Ph: (902) 752-5143
FAX: (902) 928-1299

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PO Box 849, 195 N Foord Street
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February 7th, 2020

Environmental Assessment Branch
Nova Scotia Environment
P.O. Box 442
Halifax, NS, B3J 2P8
Fax: (902) 424-6925

EA@novascotia.ca

Gordon Wilson
Department of Environment
1894 Barrington Street, Suite 1800
P.O. Box 442
Halifax, NS
B3J 2P8

Minister.Environment@novascotia.ca

Minister of Environment

Re: **Draft Terms of Reference for The Preparation of an Environmental Assessment Report Regarding the Replacement Effluent Treatment Facility Project**
Proposed by Northern Pulp Nova Scotia Corporation

Please be advised we are writing on behalf of the Harbour Authority of Caribou (hereafter "the Authority"), Pictou County, Nova Scotia.

Located at the mouth of Caribou Harbour, the Authority operates the busiest fishing port in Northern Nova Scotia. It is a hub of fishing activity from April to early December. The facility managed by the Authority is the 'heart' of the commercial fishing industry in northern mainland Nova Scotia. It is also the site of the Northern Pulp Nova Scotia's (NPNS) proposed marine effluent pipeline and effluent outfall.

The Authority has again retained our firm to provide input to the Terms of Reference (TOR) for the Preparation of an Environment Assessment Report regarding the

replacement ETF project proposed by Northern Pulp Nova Scotia Corporation on behalf of The Authority and the commercial fishermen who are our patrons.

We submit the following suggested changes to the Draft TOR. These suggestions reflect issues raised in our submission in response to Northern Pulp's Focus Report, including:

a) Leak repair to the marine pipe in Caribou Harbour in winter months virtually impossible
b) Risk of ice damage to marine pipe
c) Risk of siltation in the harbour during construction causing significant harm to marine life and to current users of the harbour
d) Effluent will enter Caribou Harbour with significant harmful effects

Some of the issues raised by the Authority are addressed in the Draft TOR. Our suggested additions to the Draft TOR are made so that the final TOR will direct Northern Pulp to address all issues of concern fully and satisfactorily.

1. Marine uses: In all sections of the Draft TOR which refer to land uses, the term "and marine uses" should be added. This change should be made in sections 3.2, 3.6, 9.7, 11.6.
   (A major part of Northern Pulp's proposed project is marine based. It is important that the TOR fully address all marine uses, present and planned, and the potential impact of the project on all marine uses.)

2. 3.3 Marine based sections of the pipeline
   Add: "Identification of all points of the marine based pipeline system that are susceptible to damage or failure."

3. 3.3 Marine based section of the pipeline
   Add to bullet point re leak detection and response protocols: "Provide details of response protocol to leaks in marine portion of pipe which are detected during periods of ice coverage."

4. 3.3 Marine based section of the pipeline, last bullet point starting Maps
Add: Locations and boundaries should be provided in latitude/longitude as well as UTM, so that they can be easily compared to data from fishermen's charts and navigation systems.

5. 3.4 Construction
   Add a new bullet point: "Evaluate the impacts of disturbance of soil, including sedimentation, during and following excavation/construction on marine uses, marine life and habitat."

6. 9.2.3 Marine Water

Draft TOR reads: Provide baseline studies that characterize environmental conditions for the four seasons over a minimum of one year for the marine environment,
Add: Studies must also characterize conditions during extremes of high and low tides, including spring tides and storm conditions with high winds, in particular nor'easters.

7. 9.2.3 Marine Water
   Draft TOR reads: Provide an ice scour baseline study for at least two winter seasons.

Add: "Provide a baseline study of ice scour and ice grounding for at least two winter seasons, and provide all available historical information on ice scour and grounding in the area for the last 20 years."

8. 10.0 Adverse Effects and Environmental Effects Assessment
   Add new point: "Provide details of response protocol to leaks in marine portion of pipe which are detected during periods of ice coverage."

9. 10.2.3 Marine, bullet 2: Draft TOR reads *"Adequacy of proposed pipeline burial depths with respect to ice scour;"*

Change to read: "Adequacy of proposed pipeline burial depths with respect to ice scour, ice grounding and other factors including ice movement and tides and currents during extreme conditions."

10. 10.2.3 Marine, bullet 7:
    Add "and marine accumulation" after "eg shoreline accumulation"

We thank you for your attention to these issues.

Yours truly,
MACISAAC CLARKE & DUFFY

cc Client
Minister of Environment and Climate Change
Canadian Environmental Assessment Agency NS Regional Office

From: @gmail.com
To: Environment Assessment Web Account
Subject: Proposed Project Comments
Date: February 7, 2020 1:41:42 PM

** EXTERNAL EMAIL / COURRIEL EXTERNE **
Exercise caution when opening attachments or clicking on links / Faites preuve de prudence si vous ouvrez une pièce jointe ou cliquez sur un lien

Project: replacement_effluent_treatment_facility_project Comments: page 19 - requirement for at least two winter seasons for ice scour baseline study - if EA report is due in March of 2022 - will that timeline be possible unless data is already being collected this winter page 19 - Climate change impacts - important aspect but wondering what role the government holds in providing the required information re: norms, extreme conditions etc. page 22 - 9.6 Socio-economic conditions - relevance of this particular bullet is unclear Name:
Email: @gmail.com Address: Municipality:
email_message: Privacy-Statement: agree x: y:

From:
To: Environment Assessment Web Account
Subject: Draft Terms of Reference NPNS EA
Date: February 7, 2020 2:26:48 PM
Attachments: image003.png
EAC ToR NP ltr to NS Environment February 7 2020.pdf
Draft ToR with changes EAC ECELAW Feb 2020.pdf

Hello,

Attached please find a letter from the Ecology Action Centre, with legal counsel from East Coast Environmental Law, regarding the draft Terms of Reference for the EA Report for Northern Pulp. Also attached please find a draft ToR document with recommended changes and comments.

Please feel free to contact me if you have any questions about these documents.

Thank you.

ECOLOGY ACTION CENTRE
2705 Fern Lane, Halifax, Nova Scotia, B3K 4L3
cell.
coastal@ecologyaction.ca
www.sealevelrise.ca
Ecology Action Centre
Become an **EAC Member** | Follow us on **Facebook** & **Twitter**

Ecology Action Centre

tel. 902.429.2202 2705 Fern Lane,
fax. 902.405.3716 Halifax, NS, B3K 4L3

February 7, 2020

Via email: EA@novascotia.ca

Environmental Assessment Branch
Nova Scotia Environment
P.O. Box 442
Halifax, Nova Scotia
B3J 2P8

To whom it may concern,

Re: Draft Terms of Reference for the Environmental Assessment Report on the Replacement Effluent Treatment Facility Project proposed by Northern Pulp Nova Scotia Corporation.

This letter is in response to the NS Environment public invitation to submit comments on the above noted document.

The Ecology Action Centre is in full support of the NS Environment Minister's December 17, 2019 decision to order a full Environmental Assessment Report from Northern Pulp Nova Scotia Corporation ("the Proponent"). As articulated by the Minister in that decision, there was 'not enough information provided in the Focus Report to properly assess whether there may be adverse effects or significant environmental effects on fish, air, water resources and human health'.

We understand the complexities inherent in creating a coherent and comprehensive Terms of Reference that will ensure an EA Report that will provide the public and the Minister with clear and sufficient information to consider the environmental effects of the Project. The previous documents provided by the Proponent did not meet that standard and, in our opinion, demonstrated an inclination toward meeting only the most basic requirements.

Given that history, we encourage government to establish very clear and specific requirements in the Terms of Reference ("ToR") to ensure that the Proponent is accountable to produce an EA Report that fully addresses those requirements. Throughout the ToR, the government must 'require' rather than 'recommend' directions to the Proponent. The Proponent must be required to commit to environmental controls that have been proven to mitigate environmental impact, such as an oxygen delignification system. The EA Report must have stated timelines and firm commitments by the Proponent for implementation of such necessary environmental controls. The government must articulate that the concordance table will be required to indicate where both information and resolution or mitigation of a concern can be found, to avoid the Proponent's ability to reference the topic without sufficiently addressing the concern (i.e. Total Suspended Solids concern).

To facilitate our review of the draft ToR and in an effort to provide clarity to our comments, we have attached to this letter a version of the draft ToR with some recommended changes.

In addition, there are a few terms used in the draft ToR that we recommend be defined or clarified, these include:

- Contaminants of potential concern (COPC)
- Ecologically sensitive areas
- Environmental protection objectives
- Predicted zone of influence

We are concerned about the ToR's Section 15.2 'Consultation with the Mi'kmaq of Nova Scotia'. The Proponent's Focus Report failed to meet the government's requirement to provide a Mi'kmaq Ecological Knowledge Study. Without a comprehensive plan for facilitated engagement and communication that has been agreed upon by all involved parties, any efforts by the Proponent will not be successful in engaging in a meaningful way. Despite the time constraints of the EA process, this complex requirement would benefit from additional up-front efforts to engage the necessary parties to develop a plan, which would then be embedded into the EA Report process.

An outstanding issue that must be addressed before a successful EA Report can be prepared is the pipeline's path and the risk to the Town of Pictou's water supply. Given the Town has firmly stated that this risk is too high and cannot be mitigated, Ecology Action Centre recommends that NS Environment accept the Town's position and require the Proponent to come up with an alternative pipeline route.

We trust that NS Environment will draw upon the technical expertise required to improve the Terms of Reference and thereby ensure that the EA Report will contain the necessary information to allow the Environment Minister to make an evidence-based sound decision on this matter.

Sincerely,

, Coastal Adaptation Senior Coordinator
, Marine Science and Conservation Coordinator
, Wilderness Coordinator

, Executive Director
East Coast Environmental Law Association

ecelaw
east coast environmental law

DRAFT TERMS OF REFERENCE FOR THE PREPARATION OF AN ENVIRONMENTAL ASSESSMENT REPORT FOR PUBLIC REVIEW AND COMMENT

Regarding the Replacement Effluent Treatment Facility Project Proposed by Northern Pulp Nova Scotia Corporation

NOVA SCOTIA ENVIRONMENT

January 8, 2020

FOREWARD

Current Context

On December 17, 2019, following an environmental assessment review of the Northern Pulp Effluent Treatment Facility Focus Report, the Minister of Environment decided that an Environmental Assessment Report was required to address deficiencies in the information provided. On December 20, 2019, Northern Pulp announced its intent to cease operations at the Northern Pulp Mill. Notwithstanding that announcement, on January 2, 2020, Northern Pulp informed Nova Scotia Environment of its intent to continue with the Environmental Assessment Report process. Since the company has chosen to continue with the process, Nova Scotia Environment is required to release this draft Terms of Reference in accordance with the Environmental Assessment Regulations.

This Draft Terms of Reference is based on the proposed Project as described in the February 2019 Environmental Assessment Registration Document and in the subsequent October 2019 Focus Report.

The *Boat Harbour Act* sets out a deadline of January 31, 2020. Further to the above, Nova Scotia Environment expects Northern Pulp to provide information as part of its input on this draft Terms of Reference about any anticipated changes to the proposed Project as a result of the *Boat Harbour Act*. Nova Scotia Environment further expects this information to include how these changes may affect the Terms of Reference.

Environmental Assessment Process to Date/Next Steps

An Environmental Assessment is a planning tool that allows sustainable development to occur while protecting the environment. When a company registers its project for an environmental assessment, government's expectation is that the company provide a complete and comprehensive assessment of the Project's potential risks and related mitigations. Based on the environmental assessment review, the Minister of Environment has a number of decision options: If the Minister is of the opinion that any adverse effects or significant environmental effects related to the project can be mitigated, then the project is able to proceed. If such effects cannot be mitigated, a project may be rejected. In cases where not enough evidence is provided to determine whether or not there may be adverse effects or significant environmental effects related to a project, the Minister may require more information (in the form of a more information decision, a Focus Report or an Environmental Assessment Report) to be provided to address gaps or deficiencies in the required information.

Northern Pulp registered it Effluent Treatment Facility for environmental assessment on February 7, 2019. A thorough environmental assessment review concluded that the Registration Document did not provide enough information to determine if adverse effects or significant environmental effects would result from the Project. On March 29, 2019, the Minister determined that the company would have up to one year to submit a Focus Report to address identified information gaps in the Registration Document.

On October 2, 2019, the company submitted a Focus Report. A thorough environmental assessment review of this information concluded that the company failed to provide enough information to properly assess whether there may be adverse effects or significant environmental effects as a result of the Project and, on December 17, 2019, the Minister decided an Environmental Assessment Report was required. Through the environmental assessment review process, concerns were raised about incorrect and incomplete baseline

information; assumptions and methodology used in the analysis; and the absence of mitigation measures related to the potential environmental effects. Further specifics regarding these deficiencies are outlined in comments provided during the consultation period, which are posted on our website and reflected in this Draft Terms of Reference, for the preparation of an Environmental Assessment Report.

Northern Pulp is expected to prepare an Environmental Assessment Report that addresses the deficiencies in the information provided to date through the environmental assessment process and which fulfills the intent of the Terms of Reference. The Environmental Assessment Report must consider all the effects that are likely to arise from the Project, including any not explicitly identified in the Terms of Reference.

Regulations require that Draft Terms of Reference for the Environmental Assessment Report be prepared by the Environmental Assessment Administrator and subsequently be made available for public review and comment prior to being finalized and provided to the Proponent (Northern Pulp).

This document presents the Draft Terms of Reference for public review and comment. The Minister of Environment invites interested Nova Scotians to examine the Draft Terms of Reference and provide comments on their adequacy and suggestions for their modification. **Only those comments related to specifics of the Terms of Reference will be used to inform the finalization of the Terms of Reference through this process. As required by the Environmental Assessment Regulations, the company must be advised of comments received through this process.**

Comments should be submitted in writing through the EA website at https://novascotia.ca/nse/ea/comments.asp, by email at EA@novascotia.ca or by mail to the following address on or before **February 7, 2020**, and addressed to:

Environmental Assessment Branch Nova Scotia Environment
P.O. Box 442, Halifax, Nova Scotia B3J 2P8 EA@novascotia.ca

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2020-2-6 7:51 PM
Comment [1]: Add to TOC

2020-2-6 7:51 PM
Comment [2]: Add to TOC

2020-2-6 7:51 PM
Comment [3]: Add to TOC

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2020-2-6 7:52 PM
Comment [4]: Add to TOC

2020-2-6 7:52 PM
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Comment [6]: Add to TOC

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2020-2-6 7:53 PM
Comment [7]: Add to TOC

2020-2-6 7:37 PM
Comment [8]: Should be 14.6 here and in text.

1.0 INTRODUCTION

1.1 Background

The Replacement Effluent Treatment Facility Project (the Project or undertaking) proposed by Northern Pulp Nova Scotia Corporation (Northern Pulp or the Proponent) was registered for environmental assessment (EA) as a Class 1 undertaking pursuant to Part IV of the *Environment Act* on February 7, 2019.

On March 29, 2019, the Minister of Environment determined that the registration information was insufficient to make a decision on the Project, and a Focus Report was required in accordance with clause 13(1)c of the Environmental Assessment Regulations, pursuant to Part IV of the *Environment Act*.

On October 2, 2019, Northern Pulp submitted the Focus Report for EA, in accordance with Part IV of the Environment Act. Public comments on the Focus Report were accepted until November 8, 2019.

On December 17, 2019, the Minister of Environment concluded that Northern Pulp would be required to complete an EA Report on this Project.

1.2 Purpose of the Terms of Reference

An Environmental Assessment is a planning tool that allows sustainable development to occur while protecting the environment. When a company registers its project for an environmental assessment, government's expectation is that the company provide a complete and comprehensive assessment of the Project's potential risks and related mitigations. Based on the environmental assessment review, the Minister of Environment has a number of decision options: If the Minister is of the opinion that any adverse effects or significant environmental effects related to the project can be mitigated, then the project is able to proceed. If such effects cannot be mitigated, a project may be rejected. In cases where not enough evidence is provided to determine whether or not there may be adverse effects or significant environmental effects related to a project, the Minister may require more information (in the form of a more information decision, a Focus Report or an Environmental Assessment Report) to be provided to address gaps or deficiencies in the required information.

The purpose of this document is to identify for Northern Pulp the information requirements for the preparation of an EA Report. Northern Pulp is expected to prepare an Environmental Assessment Report that addresses the deficiencies in the information provided to date through the environmental assessment process and which fulfills the intent of the Terms of Reference. The Environmental Assessment Report must consider all the effects that are likely to arise from the Project, including any not explicitly identified in the Terms of Reference. The EA Report will be used to meet the requirements of a provincial Class I Undertaking.

Northern Pulp must include in its EA Report all the information requested within the Terms of Reference, as a minimum, in accordance with the Environmental Assessment Regulations pursuant to Part IV of the *Environment Act*. The Terms of Reference include Valued Ecosystem Components (VECs) which must be adequately addressed in the EA Report. While the Terms of Reference provide a framework for preparing a complete EA Report, it is the responsibility of the Proponent to provide sufficient data and analysis on any potential environmental effects of the Project to permit a proper evaluation by governments, the Mi'kmaq of Nova Scotia and the public.

The EA Report is expected to provide a comprehensive and complete assessment of the potential effects of the Project, presented in a clear format that can easily be reviewed by the Minister, governments, the

Mi'kmaq of Nova Scotia and the public. If the Minister decides to refer the EA Report to an EA Review Panel for review, the EA Report will serve as the cornerstone of the Panel's review and evaluation of the potential effects of the Project and thus must be a stand-alone document. The EA Report will also allow governments, the Mi'kmaq of Nova Scotia and members of the public to understand the Project, the existing environment, and the potential environmental effects of the Project.

1.3 Proposed Project

This Section is based on the proposed Project as described in the February 2019 Environmental Assessment Registration Document (EARD). In response to this Draft Terms of Reference, Northern Pulp is required to provide information on any changes to the Project as a result of the *Boat Harbour Act* deadline. The Northern Pulp Northern Bleached Softwood Kraft pulp mill is located at Abercrombie Point adjacent to Pictou Harbour in Pictou County, Nova Scotia (NS). The proposed Project consists of the development of a new effluent (wastewater) treatment facility (ETF) constructed on Northern Pulp property, and a transmission pipeline that will carry treated effluent overland and in the marine environment and discharge via an engineered diffuser (marine outfall).

The ETF is proposed to employ the AnoxKaldnes BASTM Biological Activated Sludge process purchased from Veolia Water Technologies, which combines Moving Bed Biofilm Reactor (MBBR) technology with conventional activated sludge. Once treated onsite at Northern Pulp's facility, effluent is proposed to be sent through an approximately 15 km long pipeline, of which approximately 8.7 km is included in the overland section. An additional land-based section of effluent pipeline, less than 1 km will be installed on mill property as a part of the ETF design by KSH Solutions. Approximately 1.5 km of the treated effluent pipeline will follow a marine crossing in Pictou Harbour adjacent to the Pictou Causeway. The land-based section of the pipeline begins on the north side of Pictou Harbour where it enters the Nova Scotia Department of Transportation and Infrastructure Renewal's (TIR's) Highway 106 right-of-way (ROW) and runs generally north, parallel to Highway 106, along the outermost eastern portion of the ROW toward Caribou, NS. The pipeline will then travel through the marine environment to the proposed outfall location approximately 4.0 km offshore within the Northumberland Strait.

1.4 Environmental Assessment Requirements

The Project is a Class I Undertaking pursuant to Schedule A of the Environmental Assessment Regulations made under Section 49 of the *Environment Act*. In accordance with Section 18(b) of the Environmental Assessment Regulations, the Minister of Environment has determined that an EA Report is required.

The Environmental Assessment Regulations require that the proposed Terms of Reference for the EA Report be prepared by the EA Administrator (Administrator) and made available for public review. Public comments on the Draft Terms of Reference will be accepted from January 8 – February 7, 2020.

All comments will be provided to Northern Pulp within 5 days of the end of the comment period. Northern Pulp will then have 21 days to respond in writing to the comments. Within 14 days from the final date for written response from Northern Pulp, the Final Terms of Reference for the EA Report shall be provided to Northern Pulp.

The Proponent is required to submit the EA Report within 2 years of receipt of the Final Terms of Reference. If the EA Report does not meet the Terms of Reference, Northern Pulp will be required to include further information before the EA Report can be accepted. Upon acceptance of the EA Report, Nova Scotia Environment (NSE) has 14 days to publish a notice advising the public where the EA Report can be accessed for review and comment.

Once the EA Report has been accepted, the Minister has the option to refer the EA Report to an EA Review Panel for review. At the conclusion of this process, the Minister has 3 decision options: a) the undertaking is approved with conditions; b) the undertaking is approved without conditions; or c) the undertaking is rejected.

1.5 Access to Information for the Environmental Assessment Process

Copies of the Draft Terms of Reference for the Preparation of the EA Report may be examined at the following locations:

- Pictou Library, 40 Water Street, Pictou, NS
- New Glasgow Library, 182 Dalhousie Street, New Glasgow NS
- EA website https://www.novascotia.ca/nse/ea/

All information pertaining to this portion of the EA review will be posted to the EA website as it becomes available.

2.0 PREPARATION AND PRESENTATION OF THE ENVIRONMENTAL ASSESSMENT REPORT

Pursuant to the Environmental Assessment Regulations, the EA Report must include, but not be limited to, the following information:

- a description of the proposed undertaking;
- the reason for the undertaking;
- other methods of carrying out the undertaking;
- a description of alternatives to the undertaking;
- a description of the environment that might reasonably be affected by the undertaking;
- the environmental effects of the undertaking, including identifying any effects on species at risk, species of conservation concern and their habitats;
- an evaluation of advantages and disadvantages to the environment of the undertaking;
- measures that may be taken to prevent, mitigate or remedy negative environmental effects and maximize the positive environmental effects on the environment;
- a discussion of adverse effects or significant environmental effects which cannot or will not be avoided or mitigated through the application of environmental control technology;
- a program to monitor environmental effects produced by the undertaking during its construction, operation and abandonment phases;
- a program of public information to explain the undertaking; and
- information obtained under subsection 19(2) which the Administrator considers relevant.

The information obtained under subsection 19(2) shall be prepared taking into consideration comments from:

- the public;
- departments of Government;
- the Government of Canada and its agencies;
- municipalities in the vicinity of the undertaking or in which the undertaking is located;
- an affected aboriginal people or cultural community; and
- neighbouring jurisdictions to Nova Scotia in the vicinity of the undertaking.

In preparing the EA Report, Northern Pulp shall refer to comments from the above-noted parties during the EA review of both the EARD and the Focus Report submitted by Northern Pulp to NSE, to identify and include the supplementary information required to provide a comprehensive and complete assessment of the potential effects of the Project. The EA Report must be a stand-alone document that presents a complete discussion and analysis of predicted effects (direct and indirect effects) that is qualitative and quantitative, evidence-based and supported by credible sources of information. This report shall build upon, where appropriate, the science and evidence outlined in the EARD and in the Focus Report. Northern Pulp is expected to prepare an EA Report that fulfils the intent of the Terms of Reference and considers all the effects that are likely to arise from the Project, including those not explicitly identified in the Terms of Reference.

The order in which information is presented is at the discretion of the Proponent; however, a concordance table will be required to indicate where the information on both the concern and the resolution or mitigation of the concern can be found. In the event that the Minister has decided to refer the EA Report to an EA Review Panel for review, the Proponent may provide additional information to assist the EA Panel in making their recommendation to the Minister and assist the Minister in making the decision for the Project.

Since the EA Report is intended for public review, the information should include an Executive Summary presented non-technical language. The Proponent will be required to submit an electronic copy of the EA Report in accordance with the EA Branch Bulletin on Requirements for Submitting Electronic Copies of Environmental Assessment (EA) Documents for publication on the Department's website.

The EA Report must include, but not be limited to, the following information, as identified under the corresponding sections.

3.0 PROJECT DESCRIPTION

Nova Scotia Environment expects Northern Pulp to provide information, as part of its comment on the draft Terms of Reference, about any anticipated changes to the proposed Project as a result of the *Boat Harbour Act*. Nova Scotia Environment further expects this information to include how these changes, if any, may affect the Terms of Reference.

Describe each component of the Project as it is planned through its full life cycle, including site preparation, construction, commissioning, operation, maintenance, and decommissioning:

- changes to existing mill infrastructure and in-mill improvements;
- effluent treatment facility (ETF);
- land-based sections of pipeline; and
- marine based sections of pipeline and the diffuser.

Where final decisions have not been made in regard to an element of Project design, or several options exist for a particular component or activity, the assessment of effects of that element of the Project on the environment should be conducted at the same level of detail for all available options.

3.1 The Proponent

Outline the Proponent's corporate commitment to sustainable development and environmental protection goals and principles including pertinent corporate policies, programs, plans, strategies, protocols, guidelines, codes, and environmental management systems (EMS).

Provide summary information on the Proponent's environmental record including any enforcement actions taken under federal or provincial environmental legislation over the past 10 years. This shall include, but is not limited to, written warnings, directives, orders or other actions taken by an enforcement officer, Administrator or the Minister.

Provide summary information on the nature of the management structure and organizational accountability for designing, constructing, operating and modifying the Project; implementing environmental mitigation measures and environmental monitoring; and managing potential adverse environmental effects.

Provide details on relevant corporate experience (the Proponent and related companies) and experience in building and operating other similar facilities. Provide a record of the environmental performance and capability of the Proponent in conducting this type of Project.

3.2 Project Location

Provide a concise description of the geographical setting in which the Project is to be constructed/operated. Describe how the Project site was chosen, including a discussion of the specific environmental considerations used in site selection of all Project components, and the advantages and disadvantages of the proposed site. Describe the Project's compatibility with existing local and regional land-use policies and plans, and opportunities to integrate Project planning into regional scale development efforts. Discuss compatibility of the Project location in relation to people and their community and traditional activities and land uses by the Mi'kmaq of Nova Scotia.

Describe the spatial and temporal boundaries of the Project in a regional context including existing and proposed land uses and infrastructure such as road networks, highway realignment, railways, power lines, pipelines, proximity to permanent and seasonal residences, individual and community water supplies, wetlands, watercourses (as defined by the Environment Act), parks, protected areas, ecologically sensitive areas, and cultural and archaeological sites. Include mapping at an appropriate scale.

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Provide details on ownership of property within the Project footprint including lands owned by the Proponent, the Crown, or private lands. Provide details of existing agreements to develop the Project on lands not owned by the Proponent. Provide detailed plans for the required acquisition or use of private lands and Crown Lands and discuss any contingencies should these lands not be available for Project development.

Provide a list and map of communities in the region, including Mi'kmaq communities, potentially affected by the Project and indicate the distance between those communities and the specific Project components as appropriate. Identify proposed local shipping routes for importing and exporting products.

3.3 Project Design and Components

Describe the design plans and appropriate design standards for all Project components, associated and ancillary works, and other characteristics that will assist in understanding the Project, including: changes to existing mill infrastructure and in-mill improvements, ETF, land-based sections of pipeline, and marine based sections of pipeline and the diffuser. All associated infrastructure and components must be detailed. Also discuss environmental controls planned for the Project and how environmental protection, conservation, best management practices (BMPs), and best available technology have been considered in the design.

Provide potential design variations and implications (including advantages or disadvantages to the environment) of those variations. Describe any assumptions which underlie the details of the Project design. Where specific codes of practice, guidelines and policies apply to items to be addressed, those documents shall be cited.

For the EA Report, all site-specific data must be collected using equipment installed, operated, maintained and calibrated as specified by the manufacturer's instructions. All samples are to be collected, preserved and analyzed, by qualified personnel, in accordance with recognized industry standards and procedures and at accredited laboratories. Data shall undergo quality assurance and quality control (QA/QC) processes.

In addition to the above, this section will include, but not be limited to information on the following Project design components:

Changes to Existing Mill Infrastructure and In-Mill Improvements

- Preliminary design overview for any in-mill improvement projects necessary to achieve the design assumptions for the Project (e.g., in-mill cooling towers);
- Preliminary design overview of other projects that interact with the performance of the ETF (e.g., oxygen delignification) and a schedule for these projects relative to the proposed ETF construction schedule; and
- A waste dangerous goods management plan to accommodate for worst case scenario within design of the proposed ETF. It is important to note that the ETF is not proposed to treat waste dangerous goods based on the information provided in the EARD and in accordance with requirements of NSE.

Effluent Treatment Facility (ETF)

- Footprint, location and preliminary designs for the ETF;
- Equipment description and specifications, including appropriate diagrams and flow charts for the proposed ETF and infrastructure components;
- Details (including characteristics and toxicities) and quantities of all products produced, stored, and imported to and exported from the facility (including by-products and chemical intermediaries);
- Justification of spill basin size and appropriateness of multi-purpose usage. Describe worst-case scenarios and how such will be addressed.
- Address requirements under the Dangerous Goods Management Regulations;
- Proposed design for the spill basin, including but not limited to, management and disposal of contaminated material that may be present at the site, liner details, secondary containment features, clean-out access and connection to the mill infrastructure and ETF;

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- Submit additional data regarding the complete physical and chemical characterization of NPNS' raw wastewater at Point A (as defined in EARD and Focus Report), to support the assessment of the appropriateness of the proposed treatment technology. The sampling data for complete characterization (i.e., broad chemical analysis) must be statistically relevant and adequately represent ETF influent for various operating conditions that may exist at the mill (e.g., seasonality, flow rates, changes in sources of fibre or production, start-up and shut-down cycles, etc.);
- Using NPNS' raw wastewater characterization results, evaluate all contaminants of potential concern (COPCs) with respect to the effluent discharge quality following treatment using the proposed technology. This statistically relevant assessment shall include, but not be limited to, bench-scale testing of the mill's actual Point A effluent. Provide results of all expected COPCs influent and effluent concentration ranges. Include chemical oxygen demand (COD) fractionation (soluble and total) concentrations in the assessment;
- Comparison of the effluent characterization results from the above assessment with all applicable federal and provincial regulations and/or guidelines, including the most current draft of the modernized Pulp and Paper Effluent Regulations (PPER) daily and monthly average limits;
- Effluent flow data to support the proposed peak treatment capacity of 85,000 m^3 flow of effluent per day using actual daily flow data from Point A over a minimum 1-year period;
- Information regarding how the facility will achieve compliance with COD influent limits once the in-mill changes and ETF are operational; and
- Evaluation of sludge disposal options and management plans, including the rationale for the preferred option. If the preferred option uses the biomass boiler, provide a secondary disposal option.

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Land-Based Sections of Pipeline Route

- Information on corridor width requirements, accounting for minimal possible corridor width requested by TIR;
- Appropriate, intrusive geotechnical survey results to support proposed pipeline construction methods;
- Risk assessment of pipeline design, including the following:
    - An evaluation of the probability of a potential leak, spill or release from the pipeline installation and its operation, based on a literature review and on comparable design.
    - Identification of points of the system that are susceptible to failure.
    - Based on the risk assessment, a suitable secondary containment system (e.g., a double-walled pipeline system) and proposed locations. Secondary containment is at a minimum required in all areas where the pipeline crosses over or near surface water including wetlands and within the Town of Pictou's water supply protection area;
- Preferred option(s) for both external and internal leak detection technologies for all sections of the on-land pipeline, with specific consideration to any section of the pipeline that crosses over or near surface water, including wetlands or is located in the Town of Pictou's water supply protection area and near private supply wells. Identify the corresponding sensitivity of instruments, maintenance and staff training plan, inspection frequencies, methodologies and response protocols to leaks detected in any part of the pipeline;
- Maps, at an appropriate scale of the Project location and pipeline route that show Project components, boundaries with UTM coordinates, major existing infrastructure, important environmental features, and adjacent land uses that will intersect with the pipeline route (e.g., road networks, railways, power lines, pipelines, proximity to settled areas, individual and community

water supplies, watercourses, wetlands, ecologically sensitive areas, priority flora and fauna and archaeological sites); and
- A list of all properties (i.e., Parcel Identification Numbers) that will intersect with the pipeline route.

Marine Based Sections of Pipeline Route

- Selected options for both external and internal leak detection technologies for marine sections of the pipeline. Identify the corresponding sensitivity of instruments, maintenance and staff training plan, inspection frequencies, methodologies and response protocols to leaks detected in any part of the pipeline; and
- Maps, at an appropriate scale, detailing: the Project location, the Project components (e.g., confirmed locations of marine sections of the proposed pipeline including diffuser), boundaries of the proposed site with UTM coordinates, the major existing infrastructure, adjacent land uses that will intersect with the pipeline route, and important environmental features (e.g., spatial and temporal marine habitat distribution, marine refuge (Scallop Buffer Zone 24), etc.).

3.4 Construction

Describe the construction of all Project components and supporting infrastructure. This will include but not be limited to:

- Proposed construction schedule for all Project components (including those mentioned in Section 3.3 of the Terms of Reference), including days of the week, times of the day, seasonal schedules and anticipated commencement and completion dates;
- All physical works and activities carried out during the construction phase are to be identified and described by location. This, includes but is not limited to: clearing and grubbing; blasting; site access and roadways; marine construction methods; road construction methods; dangerous goods storage areas; disposal at sea; watercourse crossings or diversions; utilities; and description of equipment used for construction activities, both terrestrial and marine;
- Dredge management/disposal plans that characterize and quantify marine sediments to be dredged and disposed (or re-used) in accordance with requirements in the Disposal at Sea Regulations under the Canadian Environmental Protection Act and Environment and Climate Change Canada (ECCC) standards and guidelines and in consultation with relevant government departments. Identify areas where dredging activities will occur and identify the location, quantity and chemistry of any dredge materials that are expected to require land-based disposal;
- Evaluation of pipe jacking feasibility where crossing roads or structure locations that includes addressing limitations associated with practical pipe length at crossings and available space for thrust/reception pits on either side of crossings;
- Evaluation of the effects of excavating and replacing large rock fill along the alignment route near Harvey A. Veniot Pictou Causeway;
- Storage areas for fuels, explosives and dangerous goods including how these sites will comply with Dangerous Goods Management Regulations; and
- Waste disposal plans (types of waste, methods of disposal, quantity).

3.5 Operation

Describe the operation of all Project components and supporting infrastructure to all components. The description of the operation shall include but not be limited to the following:

- Routine and maintenance operations for all Project components;
- Environmental controls and BMPs, including pollution prevention plans and techniques in addition to traditional treatment and disposal practices;
- A spill basin management plan that proactively addresses the management of different types of materials, including compatible and non-compatible waste dangerous goods, sequential spills/leaks/releases, clean-out and liquid/solid removal procedures for the different types of collected materials, and appropriate final disposal procedures that observe applicable provincial and federal statutes and regulations; and
- A plan to ensure adequate on-site staffing and operation oversight of ETF by trained personnel at all times.

3.6 Decommissioning and Reclamation

Describe the proposed plans for decommissioning the Project, including all infrastructure and reclamation of any impacted site. The EA Report shall also discuss the post-decommissioning land use options of the property.

4.0 REGULATORY ENVIRONMENT

List all federal and provincial statutes and regulations and all municipal plans and by-laws that apply to the Project and identify specific provisions within each that apply to the Project. Include a schedule of each permit, license, approval or other regulatory permission required that apply to all phases of the Project and associated infrastructure. Include anticipated dates of application and receipt of each and any public engagement required as part of the permitting or approval process.

Significant portions of the proposed Project to be evaluated by the EA Report are located on federal lands; therefore, federal authorities have indicated that they must make a determination as to whether the Project is likely to cause significant adverse effects and/or in the case of Public Services and Procurement Canada (PSPC) seek an Order in Council prior to providing authorizations, licenses, or leases. To ensure potential environmental effects are addressed to the satisfaction of federal authorities under Section 82 of the *Impact Assessment Act*, provide all necessary authorizations, licenses, or leases for all applicable federal authorities.

Describe applicable guidelines and standards that would apply to the Project. Those applicable standards or guidelines shall also be referenced in the appropriate sections of the EA Report and linked to environmental protection objectives.

5.0 NEED FOR AND PURPOSE OF THE PROJECT

Describe the need for and purpose of the Project including any potential benefits of the Project and how the Project will contribute to sustainability, established from the perspective of the Proponent. The Project is being designed to meet specific objectives and these objectives should be discussed. If the objectives of the Project are related to or contribute to a larger private or public sector policy, program or plan, this information should be included.

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6.0 DESCRIPTION OF ALTERNATIVES TO THE PROJECT

Include an analysis of alternative means of carrying out the Project; describing functionally different ways to meet the Project need and achieve the Project purpose.

7.0 OTHER METHODS FOR CARRYING OUT THE PROJECT

Discuss other methods for meeting the need for the Project, including but not limited to, pipelines and treatment technologies. This section shall also discuss alternate locations for the Project.

The rationale for rejecting other described methods of carrying out the Project must be provided, including a discussion of how environmental sustainability and impact avoidance criteria were applied.

8.0 ASSESSMENT METHODOLOGY

Include the study strategy, methodology and boundaries used for preparing the EA Report. The following must be clearly defined:

- Temporal boundaries (i.e., duration of specific Project activities and potential impacts) for construction and operation through to decommissioning and post-decommissioning;
- Study boundaries or Project area and all space that will be potentially impacted, by the Project as proposed, or subject to subsequent modifications, and the methodology used to identify the study boundaries including the predicted area of influence;
- Valued Ecosystem Components (VECs) within the study boundaries and the methodology used to identify the VECs. The methodology used for VEC identification shall include input from members of the public, government departments and agencies, other experts, and other interested parties, as well as direct engagement with the Mi'kmaq of Nova Scotia. How the input has been used must be specifically identified in the methodology;
- Where appropriate, identify environmental protection objectives (including those contained in applicable legislation or guidelines) associated with each VEC;
- Strategy for investigating the interactions between the Project and each VEC and how that strategy was used to coordinate the individual studies undertaken; and
- Method for predicting and evaluating the Project impacts upon the environment; determining necessary avoidance, mitigation, remediation and/or compensation (in this order of consideration); and determining the significance of any residual impacts.

The EA Report is to be prepared using an accepted and proven EA methodology and a qualified person should predict and evaluate Project impacts upon the environment, as defined by section 3 of the Environment Act. If there are no predicted effects to a specific VEC, provide reasons to support that claim. A complete discussion and analysis of predicted effects (direct, indirect and cumulative effects) should be provided that is qualitative and quantitative, evidence-based and supported by credible sources of information. Provide a list of literature and sources used in the preparation of the EA Report.

The following sections outline specific concerns and requirements related to the existing environment, adverse effects and environmental effects assessment, proposed mitigation, residual environmental impacts, proposed compliance and effects monitoring, and the public information program that are to be addressed in the EA Report for the proposed Project.

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9.0 EXISTING ENVIRONMENT

Provide a baseline description of the environment, as defined by section 3 of the Environment Act, in the vicinity of the Project and all other areas that could be impacted by the Project. This description must include the components of the existing environment and environmental processes, their interrelations and interactions, as well as variability in these components, processes and interactions over time scales appropriate to the effects assessment. The Proponent's description of the existing environment shall be in sufficient detail to permit the identification, assessment and evaluation of the significance of potentially adverse environmental effects that may be caused by the Project and any change to the Project that may be caused by the environment.

The EA Report shall build upon, where appropriate, the science and evidence outlined in the EARD and in the Focus Report, considering comments on those documents during their respective EA review processes. The EA Report shall be a stand-alone document that presents a complete discussion and analysis of predicted effects (direct and indirect effects) that is qualitative and quantitative, evidence- based and supported by credible sources of information. Supplementary information shall be included to provide a comprehensive and complete assessment of the potential effects and may provide additional information to assist the EA Panel in making their recommendation to the Minister in the case of a panel review and to assist the Minister in making the decision for the Project.

The EA Report shall clearly indicate baseline data/information which is not available or where existing data cannot accurately represent environmental conditions in the Project area. If the background data have been extrapolated or otherwise manipulated to depict environmental conditions in the Project area, modelling methods and equations shall be described and shall include calculations of margins of error.

For the EA Report, the spatial boundaries must include the Project footprint and relevant receiving environments such as airsheds and watersheds. Temporal boundaries must address applicable guidelines, standards and regulatory requirements and include Project construction, operation, decommissioning and post-decommissioning.

The Proponent is encouraged to consult with relevant government departments when determining the need for, extent, methods, and timing of site-specific studies/surveys. Where technical reports are included or referenced, they must be finalized and signed by the qualified individual(s). Also provide the name and credentials of the person(s) conducting baseline studies/surveys. Mapping clearly indicating the extent of studies/surveys, sampling points, and illustrating key findings should also be included and presented logically within the EA Report in a location that allows for ease of review. Wherever possible, mapping should be presented at common scales and datum to allow for comparison and overlap of mapped features.

The components of the environment to be discussed shall include identified VECs and those indicated within Sections 9.1 – 9.8.

9.1 Geophysical Environment

9.1.1 Topography, Geomorphology and Geology

Topographical maps should be provided locating the Project in both regional and local contexts. Describe the physical geography of the Project study area including post-glaciated landforms, coastal features, and marine features.

9.1.2 Geology

Include a description of bedrock geology, surficial geology and soils. The results of the geotechnical survey referenced in Section 3 of the Terms of Reference should be included. Geological properties of all Project sites in the study area which may influence stability, occupational health and safety, rehabilitation programs, or the quality of discharge water leaving any area disturbed by the Project should be described. The EA Report must identify and consider the potential for Acid Rock Drainage/Metal Leaching (ARD/ML) where new bedrock may be exposed and/or excavated.

Assessment of the marine component of the Project must include information on surficial sediment characteristics and mobility under present and future environmental conditions. This section should also identify any mineral resources that may be impacted by the Project.

9.2 Water Resources

Include a description of groundwater, surface water, marine water and wetlands potentially affected by the Project.

9.2.1 Groundwater

Provide a description of the regional and local hydrogeology of the study area. A discussion of groundwater use in the study area, including both current and likely potential future uses must be provided. Provide a map showing all water supply wells locations and all watercourses within 500 metres of the pipeline route.

9.2.2 Surface Water

Provide a general hydrologic, hydraulic and water quality description of all surface watercourses in the study area, including upstream and downstream to all Project components. Existing uses, withdrawal capacities, and users of the watercourses shall be identified, including use by the Mi'kmaq of Nova Scotia.

9.2.3 Marine Water

Provide baseline studies that characterize environmental conditions for the four seasons over a minimum of one year for the marine environment, including: climate, water quantity (e.g., current profiles, wave height, tide levels) , water quality (e.g., temperature, salinity, chemical and physical water quality), and marine sediment chemical characterization based on near-field and far-field studies of the proposed marine outfall location. These studies must be to the satisfaction of relevant government departments and are to be used to support modeling activities.

Provide marine sediment chemical characterization along the proposed marine based pipeline section routes. Marine sampling locations must be clearly identified.

Conduct an intrusive marine geotechnical investigation in the areas identified to have potential bedrock of uncertain depth and along proposed route near base of Harvey A. Veniot Pictou Causeway.

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Provide an ice scour baseline study for at least two winter seasons.

9.2.4 Wetlands

Identify the location, size and class(es) of any wetland and/or wetland complexes within the predicted zone of influence and conduct a wetland evaluation on each. Evaluation of the wetlands shall include wildlife habitat potential (including the potential for core or critical habitat of any species-at-risk and habitat for migratory birds), groundwater recharge potential, role of the wetland in surface water regulation (stormwater retention and flood control) and the role of the wetland in watershed health. Based on the results of the evaluation, the EA Report must provide more detailed information on wetlands that:

- Support any species-at-risk, significant species or species assemblages;
- Support core or critical habitat or high wildlife value; and/or
- Have social or cultural importance.

Describe all work activities and predict the effects (direct and indirect), with supporting rationale, on impacted wetland and wetland functions.

Wetland evaluations shall include additional assessment of adjacent wetland areas and anticipated extent of impacts associated with construction activities. The wetland evaluation must include identification of assessment areas and catchment areas used in the evaluation and include any associated outputs or assessment scoring outputs.

Baseline studies must describe and document pre-construction conditions, including, but not limited to, wetland class distribution, vegetation community structure, soil characteristics, and hydrology trends.

9.3 Atmospheric Resources

Describe the atmospheric resources including ambient air quality, the acoustic environment, greenhouse gas emissions, and impacts on climate.

9.3.1 Climate

Include a discussion of regional climate conditions and meteorology in the vicinity of the Project as well as expected changes over the next 50 years due to climate change, considering changes in all four seasons. This section should include climate norms, extreme conditions, as well as trends in these conditions and climate change impacts, as well as the effect these changes may have on the Project and plans to mitigate against those impacts.

In addition to historical and projected climate data, include a summary of greenhouse gas emission projections for the Project and plans to mitigate those emissions in both the design and operation.

Please follow the EA guidance documents when completing this section:
https://novascotia.ca/nse/ea/docs/Development.Climate.Change.Guide.pdf.

9.3.2 Air Quality

For the study area, provide a review of baseline ambient air quality and meteorological data, including annual and seasonal climatic conditions for the region.

Provide a description of existing ambient air quality conditions for the study area, with particular attention to ambient and peak levels of nitrogen dioxide (NO_2), sulfur dioxide (SO_2), carbon monoxide (CO), ozone

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(O3), particulate matter (total suspended particulate (TSP), fine particulate matter (diameter less than 2.5 microns) (PM2.5) and coarse particulate matter (diameter less than 10 microns) (PM10), total reduced sulphur (TRS) and volatile organic compounds (VOCs) levels.

Discuss the influence of local and regional emission sources and the influence of climate and weather conditions. Use the data in the development of an appropriate model(s) for the study area to be provided in the EA Report. Also describe any potentially sensitive receptors and/or locations.

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9.3.3 Ambient Noise and Light Levels

Describe the existing ambient acoustical environment at the Project site (including the marine environment), and in any other areas where Project activities could be expected to have an environmental effect.

Provide the spatial boundaries of existing noise and vibration levels, as well as locations of recording stations and length of record for any acoustic or vibration data presented. Consider the effects of different meteorological conditions on noise propagation. Provide information on any existing relevant standards, guidelines or objectives with respect to noise and vibration levels.

Describe existing ambient light levels at the Project site and at any other areas where Project activities could have an environmental effect on light levels. Describe night-time illumination levels during different weather conditions and seasons.

9.4 Flora and Fauna

Identify flora, fauna, and habitat types that will be intersected by all components of the Project. Appropriate field surveys agreed to by Nova Scotia Lands and Forestry (NSLAF) – Wildlife Division, shall be conducted as part of the evaluation. Surveys should be described by results, methodology, and spatial and temporal boundaries.

9.4.1 Terrestrial Environment

This section must include, but not be limited to the following:

- Identification of typical species of flora, sensitive flora, flora species-at-risk, and potential core and critical habitat for flora species-at-risk in the study area;
- Identification of areas of old growth forest. Current information on old growth forests shall be obtained from NSLAF – Wildlife Division; the Atlantic Canada Conservation Data Center; ECCC; the Nova Scotia Museum of Natural History, and local naturalists and relevant interest groups. Field surveys and investigations required to supplement the available data shall be completed in a manner that is acceptable to NSLAF – Wildlife Division. Available data, survey results, and detailed mitigation measures that demonstrate a special emphasis on avoidance of impacts shall be included in the EA Report;
- Identification of any existing or planned parks wildlife management areas, ecological reserves or wilderness areas, nature reserves as well as managed wetlands and significant wildlife habitat;
- Identify and delineate on a map 'roadless areas' and discuss their potential value to Nova Scotia's protected areas network. Include areas with high wildlife concentrations, wildlife corridors or habitats rare/unique to Nova Scotia;
- Identification of typical species of fauna (including invertebrate species), sensitive fauna, fauna species-at-risk, and potential core and critical habitat for fauna species-at-risk in the study area.

Current information shall be obtained from NSLAF – Wildlife Division; the Atlantic Canada Conservation Data Center; ECCC; Nova Scotia Communities, Culture and Heritage; the latest Committee on the Status of Endangered Wildlife in Canada (COSEWIC) list; the Atlas of Breeding Birds of the Maritime Provinces; and local naturalists and relevant interest groups. Field surveys and investigations required to supplement the available data shall be completed by professional biologists in a manner that is acceptable to NSLAF – Wildlife Division and Canadian Wildlife Service;

- Additional migratory bird surveys at representative survey points along the pipeline route;
- Bird surveys transects to provide a complete view of bird species distribution and habitat use along the pipeline route, including transect bird surveys and fall migratory bird survey. Identification of nests of bird species, which are protected under the *Wildlife Act*, Endangered Species Act, Migratory Birds Convention Act and federal Species at Risk Act regardless of whether they are active or not must also be considered;
- Bird baseline survey for common nighthawk (*Chordeiles minor*), including rationale for survey point selection to the satisfaction of NSLAF;
- Raptor nest survey to identify nest locations for the entire Project area including the pipeline route;
- Herptile survey for the Project area, which includes the pipeline route, to include both spring and fall survey information. Prior to conducting survey, develop survey methodology in consultation with NSLAF; and
- When surveys are necessary to supplement the available data and adequately describe the use of the area by migratory birds during different times of the year (breeding season, migration, winter), emphasis will be placed on determining whether any bird species-at-risk, colonial nesting species, species particularly vulnerable to habitat fragmentation, etcetera, occur or breed in or near the study area.

9.4.2 Freshwater Aquatic and Marine Environment

This section must include, but not be limited to the following:

- Description and baseline surveys of fish and fish habitat in the marine environment, including characterisation of benthic vegetation in the area predicted zone of influence and particulate settlement;
- Description and baseline surveys of any freshwater fish or fish habitat in any identified watercourse or any other watercourse that may be impacted by the Project;
- Identify any potential core or critical habitat for species-at-risk, ecologically sensitive areas and migratory routes of fish;
- Description of the relative distribution and abundance of valued fish resource components within the predicted zone of influence. Fish species, age, health, and diversity shall be described;
- Description of any seasonal variation in the location, abundance and activities of aquatic species. Describe and identify key habitat features, such as spawning, rearing, nursery, feeding, migration and overwintering areas, as they occur within the Project area. Also describe the criteria utilized for determining the zone of influence this Project has on the fish habitat;
- Description of the marine habitat and species of fish, including pelagic and demersal finfish, shellfish, crustaceans, and marine mammals, likely to be present within the surrounding marine environment. The description of these species and habitats should identify any species-at-risk and ecologically sensitive or critical habitat and migratory routes of fish and marine mammals;
- Baseline data for existing mercury concentrations in fish tissue that are adequate to be used for comparison purposes for impact monitoring programs. Provide data on total mercury in whole fillets accompanied by fish species and size data; and

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- Baseline study for fish and shellfish tissue with chemical analysis that includes COPCs of representative key marine species important for commercial, recreational and Aboriginal fisheries (food, social and ceremonial) in the vicinity of the proposed effluent pipeline and diffuser location. The locations of samples must be clearly identified.
- Include fish assemblage characterisation. Biases and shortcomings associated with sampling methods (e.g. video sampling) should be noted for all studies and multiple methods used to ensure accurate characterisation.

9.5 Agriculture, Aquaculture and Forestry Resources

Identify and describe agricultural resources in the study area. Identify agricultural operations in the study area and describe livestock, crop types, growing seasons and growing methods.

Describe all commercial, recreational and Aboriginal fisheries (including food social ceremonial (FSC) as well as commercial), aquaculture, and harvesting (e.g., marine plants, shellfish) in the study area. Describe the commercial and recreational species, caught, grown or harvested, and their economic importance. Identify fishing, aquaculture and harvesting locations, the amount caught, and methods used.

Identify and describe forestry activities in the study area.

9.6 Socio-Economic Conditions

Describe the current socio-economic conditions of the study area, including population demographics and economic conditions for all residents of the area. Provide details of employment rates and trends at the municipal and regional level. The spatial boundaries of this analysis should include areas within which employees of the Project are expected to reside. Identify key industries in the region (both land-based and marine-based) and describe their contribution to the local and regional economies. Provide details of residential and commercial property values. Describe any local and regional economic development goals and objectives identified through community consultation, or existing economic development plans and strategies. Describe any community plans or strategic plans for the area, including plans for the development of new or existing economic activities.

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9.7 Existing and Planned Land Uses

Describe the patterns of current and planned land use and settlement in the study area including residential, industrial, agricultural, parks, and protected areas. Provide details of areas under existing mineral exploration licenses as well as areas licensed for pulpwood harvesting. Identify locations of abandoned mine workings, mine tailings and waste rock disposal areas, as well as contaminated sites. This section shall include map(s) to illustrate land uses and provide distances to significant settlements.

The EA Report must also identify lands and resources of special social, cultural or spiritual value to the Mi'kmaq of Nova Scotia, with particular emphasis on any current use of land for traditional purposes. A Mi'kmaq Ecological Knowledge Study (MEKS) should be used to identify land and resource use that have and/or continue to be pursued by the Mi'kmaq of Nova Scotia.

9.8 Archaeological Resources

Identify any areas containing features of historical, paleontological, cultural or archaeological importance in a manner acceptable to the Nova Scotia Communities, Culture and Heritage (CCH). Describe the nature of the features located in those areas. Particular attention shall be given to Mi'kmaq of Nova Scotia archaeological sites and burial sites. All heritage research permits acquired, and engagement with the

Mi'kmaq of Nova Scotia during this analysis should be identified in the document. Results of the Archaeological Resource Impact Assessment reports related to Indigenous land use and known archaeological sites of interest to the Mi'kmaq, should be provided to the Office of Aboriginal Affairs and PLFN.

10.0 ADVERSE EFFECTS AND ENVIRONMENTAL EFFECTS ASSESSMENT

Describe the effects of the Project on the environment during all phases of the Project (construction, operation, and decommissioning and reclamation), including any environmental change on health, socio-economic conditions, archaeology, and the current use of land for traditional purposes by the Mi'kmaq of Nova Scotia. The EA Report shall identify and describe the accidents and/or malfunctions that may occur during all phases of the Project and assess the effects on VECs.

Provide a detailed contingency plan that considers site-specific conditions and sensitivities, the lifespan of different components and includes, but is not limited to:

- Full hazard identification and qualitative risk assessment associated with Project construction and operation, including those which have or may have an environmental impact (directly or indirectly);
- Prevention, mitigation and contingency measures to mitigate potential Project impacts;
- Discussion of measures to mitigate potential impacts or damages on the environment, properties and human health (e.g., liability insurance, financial security, etc.);
- Emergency response procedures;
- Description and quantification of releases that could occur under both normal conditions and a 'worst-case scenario';
- Description the types, fate and distribution of contaminants within the study area under normal and worst-case scenarios during construction, operations and post-reclamation;
- Discussion of potential Project impacts on emergency and health services in communities near the Project area, and associated mitigation and contingency measures in the events of major Project related accidents and malfunctions;
- Description of the cumulative effects of all Project activities, including but not limited to modelling how changes in temperature, sea level, acidity and oxygen concentrations in the Northumberland Strait may interact with effects of effluent over the lifetime of the project to affect fish and fish habitat; and
- The effects assessment shall also consider impacts of the environment (including weather and climate) on the Project, including a discussion of how climate change may impact all components of the Project.

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10.1 Geophysical Environment
Potential effects of the Project on the geophysical environment must be discussed in the EA Report.

The EA Report must also discuss the potential cumulative and residual effects of the Project on the geophysical environment and the significance of these effects.

10.2 Water Resources
In conducting the effects assessment on water resources, the EA Report must identify and evaluate:

- Changes in groundwater and surface water quality as a result of effluent discharges from the Project site;
- Potential effects on groundwater quality and quantity and associated impacts to users of groundwater;
- Potential cumulative and residual effects of the Project on all water resources including surface water, marine water, groundwater and wetlands; and the significance of these effects including ecosystem integrity and changes in hydrology to areas adjacent to the Project area;
- Where wetland avoidance is not possible, the EA Report must discuss wetland specific construction activities (including trench dewatering, surface water diversions and maintenance of hydrologic connection of wetland complexes), proposed mitigations and anticipated impact on wetland area and function.
- The Canadian Council for Ministers of the Environment (CCME) Water Quality Guidelines with background water quality results shall be used to ensure the protection of relevant water uses (aquatic life, recreational use, agricultural use, and drinking water supply) and shall be used as the basis for evaluating the significance of the predicted impacts; and
- Health Canada's Guidance for Evaluating Human Health Impacts in Environmental Assessment: Water Quality, shall be reviewed and applied in the evaluation where relevant.

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10.2.1 Groundwater

Provide an assessment of the potential risk to groundwater resources associated with the construction and operation of the pipeline. The assessment shall include but is not limited to quantitative calculation of time of travel between the pipeline and water supply wells and watercourses, delineation of well capture zones and determination of groundwater flow directions. The results of this assessment shall be considered in the final pipeline design in terms of providing for greater protection in areas of greatest risk.

The groundwater assessment results need to be discussed with the Town of Pictou to establish confidence that the risk of negative impacts to the Town water supply has been reduced to an acceptable level.

10.2.2 Surface Water

In conducting the effects assessment on surface water resources, the EA Report must identify and evaluate:

- Potential effects to surface water quality on fish and fish habitat, community water supplies (protected and unprotected), and recreational and agricultural users.
- Potential effects to surface water quality following an accident or malfunction of the pipeline.

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10.2.3 Marine

The proponent is encouraged to consult with relevant government departments when determining the need for, extent, methods, and timing of site-specific studies/surveys. In conducting the effects assessment on the marine environment, the EA Report must identify and evaluate, to the satisfaction of relevant government departments:

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- Marine pipeline construction methods along the full route and construction requirements (e.g., blasting), using results from geotechnical investigations;
- Adequacy of proposed pipeline burial depths with respect to ice scour;
- Geotechnical assessment of stability of underwater excavation works near base of Causeway with respect to causeway embankment and structures;

- Potential risk of impacts to the marine environment resulting from leaks from marine based sections of pipeline;
- Receiving water study that assesses fate and transport of COPCs in the receiving water environment for a range of scenarios reflective of conditions possible at the chosen site. This study shall identify potential short and long-term impacts. This study is to be completed using modelling techniques and scenarios for all COPCs in the receiving environment, based on the results of the effluent characterization in Section 3.6 of the Terms of Reference and other relevant studies, such as Human Health Risk Assessment. All baseline climate and marine water quantity and quality data shall be applied to this study for model setup, calibration and validation. Results shall include, but not be limit to, discharge plume dimensions and dilution ratios;
- Goodness of Fit statistical procedures are to be applied to evaluate model adequacy in representing the receiving water environment for the calibration and validation periods. Assessment must be provided on the adequacy of the seasonal variation and lengths of observed datasets used in model setup and calibration/validation. A summary of model confidence in adequately representing multi-year effluent discharge transportation of COPCs and accretion/build-up within the receiving water environment is to be included;
- Potential build-up of COPCs resulting from the proposed activity (e.g., shoreline accumulation). Provide the estimated dilution potentials at various distances from the diffusers based on calibrated model results as appropriate;
- In conjunction with the above, provide sediment transport modelling, including model(s) and scenarios to assess the impacts of sediment transport within near-field and far-field model areas. The results of the modelling activities are to be assessed with respect to chemical and physical characterization of the distributed solids, interaction with marine sediments and waters, and effects within the marine environment, particularly to marine organisms; and
- Based on the results of the receiving water study, evaluate whether colour is expected to be visible at the ocean surface above the diffuser site, including influence of in-water reactions (e.g., potential stratification of the water column) on colour levels. Assess impact of colour and its interaction and effect on the marine sediments and associated marine life.
- Conduct a risk assessment for benthic vegetation, invertebrate community and fish assemblage.

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10.2.4 Wetlands

In conducting the effects assessment on wetlands, the EA Report must identify and evaluate:

- Potential direct and indirect impacts to wetlands and how Project development will adhere to the Nova Scotia Wetland Conservation Policy; and
- Where wetland avoidance is not possible, discuss wetland specific construction activities (including trench dewatering, surface water diversions and maintenance of hydrologic connection of wetland complexes), proposed mitigations and anticipated impact on wetland area and function.

10.3 Atmospheric Resources

Describe the sources, types and estimated quantities of air emissions from the mill facility for all potential air contaminants of concern related to the Project under routine conditions and in the case of malfunctions and accidental events on a seasonal and annual basis. Air contaminants to be evaluated should include but not be limited to, impacts of CO, hydrogen sulphide (H2S) nitrogen oxides (expressed as nitrogen dioxide) (NO2), O3, SO2, TSP, PM25, PM10, TRS, speciated VOCs, semivolatile VOCs, polycyclic aromatic

hydrocarbons (PAHs) and metals. The description shall include appropriate models based on known or measured atmospheric conditions throughout the year.

For all Project phases, construction, operation and decommissioning, estimate the GHG emissions and provide an inventory of GHG emissions from all Project components. This includes carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O) chlorofluorocarbons (CFCs) and hydrochlorofluorocarbons (HCFCs), sulfur hexafluoride (SF_6), nitrogen trifluoride (NF_3) and conversion of these emissions to an equivalent amount of CO_2. Also include an inventory of the precursors or tropospheric ozone (CO, NOx, and VOCs).

Where possible, include a comparison of the above information with estimates of total GHG contributions from NS, and from similar facilities in Canada. The EA Report must also include a discussion of measures that have been considered and/or are proposed to reduce air emissions and reduce or offset GHG emissions.

While considering the effects on air quality, the EA Report must discuss the potential impacts of predicted increases in noise and light levels during all phases of the Project, on surrounding residential, commercial, recreational and institutional areas, human health and marine and terrestrial species and habitats.

Health Canada's Guidance for Evaluating Human Health Impacts in Environmental Assessment: Air and Noise, shall be reviewed and applied in the evaluation where relevant.

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In addition, based on concerns raised by government reviewers, the EA Report must also include, but not be limited to the following additional items:

Revised air dispersion modelling including the following:

- Consideration of the effects of fumigation and coastal interaction in the modelling;
- Modelling based on the operating scenario for the occasion when the highest concentration of an air contaminant occurs at ground level. The operating condition that corresponds to the maximum air contaminant concentration at ground level may occur when the facility is at the maximum production level or running at a lower production level or when the process is in transition. The EA Report shall include a description of the operating conditions that result in the maximum ground level concentration of an air contaminant;
- Air emission modeling must take into account both proximity to population centres and the effects of nearby large waterbodies. The AERMOD air emissions modeling software does not meet this requirement. The CALPUFF or similar modelling software is recommended;
- Identification of individual emission rates as measured or estimated and include the reference and justification for values used;
- Comparison of the maximum predicted ground level concentrations of all contaminants with relevant ambient air quality criteria. In the absence of NS adopted ambient air quality criteria, the Proponent shall utilize criteria from Federal or other Provincial jurisdictions;
- Comparison of the maximum predicted ground level concentrations of all contaminants with their relevant upper risk thresholds;
- Risk assessment and mitigation plan for contaminants that demonstrate a potential predicted exceedance of a relevant upper risk threshold;
- Inclusion of isopleth mapping for all contaminants predicted to exceed relevant ambient air quality criteria;

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- Identification of discrete receptors on all isopleth mapping;
- Mitigation options to address any predicted exceedances of relevant ambient air quality criteria used in the modelling. The model shall be rerun incorporating the mitigation projects to demonstrate no predicted exceedances; and
- Implementation schedule for potential mitigation options.
- Plan to demonstrate capacity to reduce emissions.

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10.4 Flora and Fauna

10.4.1 Terrestrial Environment

Identify and evaluate the potential effects on flora and fauna and avifauna species/communities during all phases of the Project. Include a full account of impacts on species at risk or of concern, significant habitats and protected areas or areas of potential value to Nova Scotia's protected areas network that may be potentially disturbed, altered or removed. The effects assessment must also consider the potential for effects to flora and fauna associated with landscape fragmentation and sensory disturbances.

10.4.2 Freshwater Aquatic and Marine Environment

Evaluate the potential effects on aquatic environments, including fish and fish habitat.

While considering the effects that the Project may have on freshwater and marine species, include a full account of species at risk or of concern and significant habitats, including potential core and critical habitats. This section must include activities that may affect avifauna in the aquatic environments. This section must also include evaluation of impacts on invertebrate communities and benthic vegetation using appropriate sampling methods (e.g. grabs) and adequate sample size. Also consider potential effects to marine species from blasting, dredging and other marine construction, as well as vessel traffic and Project operation. Where impacts to fish habitat cannot be avoided or mitigated, discuss compensation measures to ensure impacts are offset.

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Assessment of COPCs in the baseline fish and shellfish populations and potential effects due to expected discharge quality.

Include a summary of the potential effects on flora/fauna known to be important to the Mi'kmaq of Nova Scotia.

10.5 Agriculture, Tourism, Aquaculture and Forestry Resources

Include an effects assessment of the Project on existing and future agriculture activity within the study area.

Include an effects assessment of the Project on existing and future tourism in the region.

Assess the impacts on commercial/recreational fishing, aquaculture or other marine harvesting which may be impacted by the proposed Project. The effects assessment should consider changes in commercial/recreational fishing, aquaculture or other marine harvesting species, including contamination of species consumed by people as a result of increased erosion, sedimentation and from effluent discharges from the Project, displacement, mortality or loss and/or alteration of habitat. Also discuss navigation restrictions and loss of traditional fishing areas of the Mi'kmaq of Nova Scotia.

Conduct an impact assessment of treated effluent on representative key marine fish species important for commercial, recreational and Aboriginal fisheries. This must be based upon information, studies and an understanding of expected movement of contaminants according to the revised receiving water study. Based on the assessment of applicability of Point C representing Project ETF effluent quality, chronic and acute toxicity testing of non-diluted treated effluent is to be conducted through a series of controlled laboratory experiments. Species used in the assessment should be applicable to the receiving water environment. Consideration should be given to using either the plant's current effluent or another acceptable and representative substitute. The selection of information sources, representative marine species and assessment methodology must first be agreed upon by relevant government departments.

Undertake a model-based evaluation of the chronic effects of thermal cooling water discharge on fish and fish habitat in the receiving water. Based on the results of the evaluation, develop appropriate mitigation measures and/or project changes.

The EA Report must include a discussion on the potential effects on any forestry resources within the Project area.

10.6 Human Health

Provide the completed Human Health Risk Assessment (HHRA) in accordance with Health Canada's Guidance for Evaluating Human Health Impacts in Environmental Assessments: Human Health Risk Assessment and other Guidance for Evaluating Human Health Impacts in Environmental Assessment documents for noise, air quality, drinking and recreational water, etc. as applicable. Federal contaminated sites guidance documents such as the Detailed Quantitative Risk Assessment (DQRA) may be used to supplement the EA Guidance documents where appropriate. The risk assessment must consider human consumption of fish and other seafood, consumption of potentially contaminated drinking water, exposure to recreational water and sediment, outdoor air inhalation, and any other potential exposure pathways. The analysis must inform the identification of contaminants of concern and updating of the receiving water study.

The HHRA must consider baseline data and represent all marine species which are harvested and consumed in the area with respect to the marine component of the Project and in all types of fisheries- commercial, food, social and ceremonial. In addition, information for these species should be included in the baseline studies for COPCs in marine organism tissues where possible. The HHRA must consider bioaccumulation and the potential for biomagnification in the food chain. The exposure route associated with consumption of seaweed and sea vegetables must also be included.

The HHRA is to include appropriate receiving water study and associated modelling activity results (e.g., contaminant fate and transport) as to accurately assess the potential risk to human health.

Include monitoring and mitigation measures for elevated COPCs in air emissions in HHRA problem formulation.

Screen COPCs in Project effluent discharge according to guidance from Health Canada. Incorporate findings from receiving water study. Discuss the potential for interactive effects from similarly acting chemicals. Include an evaluation of the risk associated with exposure to chemical mixtures. Provide calculation of Hazard Quotients (HQ) and Incremental Lifetime Cancer Risk (ILCR) which account for additivity.

Ensure any screening values used from the EPA are adjusted to be consistent with the health protection endpoints prescribed by Health Canada and CCME.

Provide clarification on methodology applied to selection of COPCs for seafood ingestion in consultation with Health Canada.

10.7 Socio-Economic Conditions

Identify potential impacts of the Project on economic conditions, populations and employment.

Identify potential impacts of the proposed Project on residential property values and property demand during all phases of the Project (including temporary accommodation required during construction).

Describe the effect of the proposed Project on present and future commercial, residential, institutional, recreational and resource land uses within the study area, including impacts to areas under mineral exploration licenses or forestry licenses.

Identify the potential impact on recreational opportunities, including the effects on aesthetics from areas surrounding the Project area. This analysis should be supported by visual impact assessments from both the land and water.

Identify the potential impact on the current use of land and resources for traditional purposes and any Aboriginal specific land claims within the study area.

While considering the effects on economic conditions and employment, include a discussion on expenditures and the anticipated direct and indirect employment positions that will be created during all phases of the Project.

10.8 Existing and Planned Land Uses

The EA Report must consider the effects that may restrict the ability of people to use and enjoy adjacent lands and marine area presently, and in the future. Describe the potential impacts from existing or planned land uses in the study area. This shall include a discussion of Project interactions with any rural planning initiatives, parks, protected areas, contaminated sites, former mine workings, and mine disposal areas.

Identify and evaluate potential effects on traditional and current recreational and commercial use by the Mi'kmaq of Nova Scotia.

Discuss the anticipated changes in traffic density and patterns during all phases of the Project including the effects on transportation.

While assessing the effects on navigation and navigable waters, consider navigation patterns of all waters that may be impacted by the Project. Potential effects on traditional and current recreational and commercial use must be identified and evaluated.

10.9 Archaeological Resources

Evaluate the potential effects of any changes in the environment as a result of Project activities on physical and cultural resources, structures and/or sites of historic, archaeological, or paleontological significance.

In conducting the effects assessment on archaeological resources consult with CCH and with the Archaeology Research Division of KMKNO.

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11.0 PROPOSED MITIGATION

Describe all measures that have, or will be, taken to avoid or mitigate adverse effects, and maximize the positive environmental effects for all aspects of the Project (as described in Section 9.0 of the Terms of Reference). Mitigation includes the elimination, reduction or control of the adverse effects or the significant environmental effects of the Project and may include restitution for any damage to the environment caused by such effects through replacement, restoration, compensation or any other means.

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Describe proposed compensation that will be provided when environmental damage is unavoidable or cannot be adequately mitigated by any other means.

In considering mitigation measures to be employed, the EA Report must describe any legislation, regulations, guidelines, policies, BMPs, and specifications that will be adhered to during construction and operation of the facility that will lead to mitigation of environmental impacts.

11.1 Geophysical Environment

If applicable, describe alternatives to disrupting net acid producing bedrock. When no practical alternative to exposing acid producing bedrock exists, mitigation plans shall be developed to mitigate the impacts on the aquatic environment. Discuss commitments to provide contingency and remediation plans for watercourses that have been degraded due to the disturbance of net acid producing bedrock or tills.

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If contaminated soils are to be disturbed, discuss methods to avoid adverse impacts.

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Provide applicable mitigation measures and preliminary agreements and plans that meet Provincial regulatory disposal and transportation requirements for potential dredge materials.

11.2 Water Resources

11.2.1 Groundwater Quality and Quantity

Describe actions that will be taken to avoid and mitigate any negative impacts on groundwater quality and quantity.

Provide a Groundwater Protection Plan based on the assessment of risks to local water supplies (municipal and private) and the environment. This plan should include management/contingency response actions and reference the groundwater monitoring plan as well.

Describe measures to be employed in the event of accidental contamination or dewatering of any water supply wells as a result of the construction, operation or decommissioning of the Project, including compensation for loss or degradation of water supplies. Describe mitigation measures planned to prevent and remediate contamination of groundwater from the accidental release of a hazardous substance.

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Discuss commitments to provide contingency and remediation plans for any contamination of groundwater resources, including decrease of water quality.

11.2.2 Surface Water Quality and Quantity

Describe all mitigation measures that will be used in construction, operation and decommissioning phases of the Project to avoid and reduce impacts to surface water resources, including but not limited to erosion and run- off control features and storm drainage management.

Discuss all mitigation measures planned to prevent the release of hazardous substances into local surface waters.

Discuss commitments to provide contingency and remediation plans for any impact to surface water resources, including decrease of water quality or quantity.

11.2.3 Marine Water Quality and Quantity

Describe all mitigation measures that will be used in construction, operation and decommissioning phases of the Project to avoid and reduce impacts to marine water resources.

Discuss all mitigation measures planned to prevent the release of hazardous substances into marine waters.

Discuss commitments to provide contingency and remediation plans for any impact to marine water resources, including decrease of water quality or quantity.

11.2.4 Wetlands

Describe measures to avoid, minimize or otherwise mitigate effects on wetlands within the Project area. Specifically, the EA Report must describe measures to maintain ecological and hydrological integrity of any wetlands in the area. Where avoidance is not possible, provide wetland specific mitigations proposed to lessen impacts of the Project at all stages and describe commitments to monitoring and compensation for any loss of wetland habitat. Also provide discussion and commitment regarding remediation/rehabilitation of aquatic habitat as a result of incidental releases of treated effluent in wetlands.

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11.3 Atmospheric Resources

Describe measures to avoid, minimize or otherwise mitigate effects on biological receptors during all phases of the Project (vegetation, fish, wildlife, and human health).

Specifically, describe measures that will be taken to control emissions including but not limited to CO, H2S, nitrogen oxides expressed as NO2, O3, SO2, TSP, PM2.5, PM10, TRS, speciated VOCs, semivolatile VOCs, PAHs and metals. Describe any GHG mitigation plans.

11.4 Flora and Fauna

11.4.1 Terrestrial Environment

Discuss measures that will be taken to minimize the impacts of the Project construction and operation on flora species. Include any landscaping plans for preservation of existing vegetation.

Describe the measures that will be taken to minimize the impacts of the Project at all stages on terrestrial fauna and avifauna. Include any plans for preservation of existing habitat and compensation for loss or degradation of terrestrial habitat (i.e., habitat rehabilitation/replacement). Measures to comply with federal and provincial wildlife legislation, including but not limited to the Wildlife Act, Endangered Species Act Species at Risk Act *Migratory Birds Convention Act* and regulations) must also be provided.

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Describe commitments to provide contingency and remediation plans for impacts to terrestrial habitat as a result of accidental events.

In addition, based on concerns raised by government reviewers during the review of the EARD and the Focus Report, the EA Report must also include, but not be limited to the following additional items:

- Mitigation plan developed in consultation with NSLAF that includes additional details to protect wildlife and wildlife habitat, including birds, mammals, herptiles, raptors, and species-at-risk. The plan must include but not be limited to the following:

  a) mitigation measures that will be taken to avoid destroying rare priority species detected in the 2019 floristic surveys;

  b) mitigation and monitoring plan for the Eastern Wood-Pewee (*Contopus virens*, SARA Special Concern, NSESA Vulnerable) and Barn Swallow (*Hirundo rustica*, SARA Threatened, NSESA Endangered) found during the course of field surveys and Kildeer (*Charadrius vociferous*) identified to likely be breeding in the Project area, in consultation with both ECCC and NSLAF;

c) additional details on how impacts to the Double-Crested Cormorant (*Phalacrocorax auratus*) colony located along the east side of Highway 106 causeway will be mitigated during installation of the pipeline across Pictou Harbour. Identify appropriate mitigation measures to protect Double-crested Cormorant nests in the event of a pipeline rupture;

d) specific measures to be developed to discourage waterfowl from accessing the spill basin and other open ETF components;

e) specific measure to identify and control of spread of invasive species;

f) specific measures to address potential foraging and overwintering habitat for turtles; and

g) a training program for field staff to enable them to recognize the potential for species occurrences and procedures to follow.

11.4.2 Freshwater Aquatic and Marine Environment

Discuss measures that will be taken to avoid and mitigate the impacts of the Project construction, operation and decommissioning on marine and freshwater aquatic species, avifauna and their habitats, including benthic vegetation and invertebrate communities. Include any plans for preservation of existing habitat and compensation for loss or degradation of aquatic habitat.

Describe the measures that will be taken to minimize the introduction of non-native species to the area.

Discuss commitments to provide contingency and remediation plans for impacts to aquatic habitat as a result of accidental events.

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11.5 Agriculture, Tourism, Aquaculture and Forestry Resources
Discuss measures that will be taken to avoid and mitigate the impacts of the Project on agriculture, fishing, aquaculture, marine harvesting, tourism and forestry.

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11.6 Human Health
Describe actions that will be taken to prevent, minimize and mitigate potential direct and indirect Project related impacts on human health during construction, operation and decommissioning of the Project.

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11.6 Socio-Economic Conditions
Describe actions that will be taken to mitigate adverse impacts on private and commercial property, existing industry and businesses, planned land use, recreation and other human activities, including traditional activities and land uses by the Mi'kmaq of Nova Scotia.

Provide a dispute resolution policy for addressing Project related complaints and concerns that may be received throughout construction, operation, decommissioning and reclamation, and post-decommissioning.

11.7 Existing and Planned Land Uses
Describe the measures planned to minimize the potential impacts of the Project on existing and planned land uses.

Discuss the mitigation measures planned to address anticipated impacts from any predicted changes in traffic speed, traffic routes, marine navigation, exclusion zones and density in adjacent residential and commercial areas.

11.8 Archaeological Resources
Describe mitigation measures to preserve, protect, or recover any resources of cultural or archaeological value that are identified in the study area.

12.0 RESIDUAL EFFECTS AND ENVIRONMENTAL EFFECTS

This section of EA Report shall list and contain a detailed discussion and evaluation of the residual impacts for each VEC, including the criteria for determining significance. Residual impacts are those adverse effects or significant environmental effects which cannot or will not be avoided or mitigated through the application of environmental control technologies or other acceptable means. Those impacts that can be mitigated or avoided shall be clearly distinguished from those impacts that will not be mitigated or avoided.

These impacts become important in the evaluation of a proposed Project as they represent the environmental cost of the Project.

13.0 EVALUATION OF THE ADVANTAGES AND DISADVANTAGES TO THE ENVIRONMENT

Present an overall evaluation of the advantages and disadvantages to the environment, including the VECs, during the construction, operation and decommissioning phases of the Project. The evaluation of the disadvantages shall include an examination and justification of each disadvantage.

14.0 PROPOSED COMPLIANCE AND EFFECTS MONITORING PROGRAMS

Include a framework upon which compliance and effects monitoring will be based throughout the life of the proposed Project, including decommissioning and post-decommissioning activities. Monitoring programs must be designed to determine the effectiveness of the implemented mitigation measures. The EA Report shall describe the compliance reporting methods to be used, including reporting frequency, duration, methods, parameters, comparison standards or guidelines, format, and receiving agencies. Mapping clearly illustrating baseline and proposed monitoring locations must also be included.

Recognizing that the effectiveness of compliance and effects monitoring depends on a workforce that can identify and address potential impacts during construction and operation of the Project, the framework shall include training and orientation procedures that address potential impacts, compliance and monitoring requirements to on site employees during construction and operation of the Project.

The description of the compliance and effects monitoring program shall also include any procedures/plans for addressing potential exceedances of environmental protection regulations, standards, guidelines and approvals.

The discussion of compliance monitoring shall include, but not be limited to Sections 14.1 – 14.4.

14.1 Geophysical Environment

Describe plans and procedures for assessing ARD potential and associated monitoring in the event of disturbance or exposure.

14.2 Water Resources

Wetland specific post construction monitoring and comparison to baseline condition must be provided to identify post-construction wetland indicator performance and adaptive management to address impacts at all project stages. The EA Report must address compensation measures that may be required to ensure no net loss of wetland area and functions.

Submit a groundwater quality and level monitoring plan for the construction, operation and decommissioning phases of the Project, including the pipeline route and mill site location. This is to include the location of monitoring wells, monitoring sampling frequency and monitoring parameters. The plan must consider the final pipeline design as well as the potential risk to the environment and local water supplies as a result of pipeline construction and possible pipeline leak. The plan must address, as a minimum, sensitive areas along the pipeline route, such as shallow water table intersecting surface water features, proximity to water supply wells and areas along the pipeline more susceptible to failure. Locations where the pipeline may be constructed below the seasonal high-water table shall be identified.

Discuss plans for a survey of structures if blasting is planned, to include wells, building foundations, etcetera, which may experience damage or impact due to seismic vibrations or air concussion.

Describe surface water monitoring plans for the construction, operation and decommissioning phases of the Project, including both water quality and quantity aspects.

Develop a marine discharge plume delineation monitoring program to confirm plume dimensions, and effluent concentrations and characteristics in support of the Environmental Effects Monitoring program.

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14.3 Fish and Fish Habitat
Submit an Environmental Effects Monitoring program that includes water quality, sediment and tissue sampling and is based on the results of various relevant baseline studies and receiving water study. The program must, at a minimum, be designed to address all applicable regulatory requirements.

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14.4 Atmospheric Resources
Complete an ambient air quality monitoring plan, acceptable to the Department, based on the results of the air dispersion modelling. This plan must include but not be limited to sampling locations, parameters, monitoring methods, protocols and frequency. The plan shall ensure adequate monitoring coverage of areas where predicted levels of air contaminants are elevated.

Describe plans for GHG monitoring, reduction targets and reduction plans.

Discuss the plans for monitoring baseline, construction and operational noise levels at the site, and at any residential or commercial areas near the Project.

14.5 Human Health
Provide suitable monitoring measures to confirm impact predictions. Where monitoring is proposed, include a plan for reporting/communicating reporting exceedances of relevant guidelines/thresholds.

14.5 Other Monitoring Plans
Include any other monitoring plan which may include an Environmental Protection Plan or other guidelines, polices or plans, proposed for the construction, operation and decommissioning of the Project.

15.0 CONSULTATION PROGRAM

A Notice regarding the Draft Terms of Reference for Preparation of an Environmental Assessment Report pursuant to the Nova Scotia *Environment Act* was published in the Chronicle Herald and Royal Gazette on January 8, 2020 and posted on the NSE internet site (www.gov.ns.ca/nse/ea/). Information pertaining to this EA will be available on this site.

The Class I EA process for the Project includes the following opportunities to participate (specifically government departments/agencies, the Mi'kmaq of Nova Scotia and the general public will be invited to provide comments):

- the Draft Terms of Reference; and
- the Environmental Assessment (EA) Report.

15.1 Public Consultation
For any consultation undertaken with the general public, the EA Report must describe ongoing and proposed consultation and information sessions.

Describe all steps taken by the Proponent to identify the concerns of the public about the adverse effects or environmental effects of the Project. Include a summary of all concerns expressed by the public and all steps taken by the Proponent to address these concerns. Moreover, the EA Report must describe any outstanding concerns.

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The EA Report will also provide details of efforts made to distribute Project information and provide a description of the information and materials distributed to inform the general public.

15.2 Consultation with the Mi'kmaq of Nova Scotia

To assist the provincial Government in their consultation process with the Mi'kmaq of Nova Scotia, the EA Report must describe all steps taken by the Proponent to identify the concerns of Mi'kmaq of Nova Scotia about the adverse effects or environmental effects of the Project. It shall provide a summary of all concerns expressed by the Mi'kmaq of Nova Scotia and all steps taken by the Proponent to address these concerns. Moreover, the EA Report must describe any outstanding concerns.

During the EA process, NSE will serve as the provincial Crown consultation coordinator.

The EA Report will also provide details of efforts made to distribute Project information and provide a description of the information and materials distributed to inform the Mi'kmaq of Nova Scotia.

In parallel to Proponent engagement with the Mi'kmaq of Nova Scotia, the Government of Nova Scotia will undertake continued consultation directly with the Mi'kmaq of Nova Scotia pursuant to the Mi'kmaq- Nova Scotia-Canada Consultation Process (2010).

The Proponent is encouraged to engage the Mi'kmaq of Nova Scotia as referenced in the Nova Scotia Office of Aboriginal Affairs' Proponent's Guide: The Role of Proponents in Crown Consultation with the Mi'kmaq of Nova Scotia (2011).

Include any plans for ongoing community consultation or formation of a community liaison committee (CLC) during construction, operation and decommissioning.

16.0 ASSESSMENT SUMMARY AND CONCLUSION

This section of the EA Report shall summarize the overall findings of the EA with emphasis on the main environmental issues identified and predict the significance of adverse environmental effects of the Project.

From:
To: Environment Assessment Web Account; Minister, Env
Cc:
Subject: Comments of the Friends of the Northumberland Strait on the Draft Terms of Reference for the Preparation of an Environmental Assessment Report
Date: February 7, 2020 2:48:06 PM
Attachments: 2020 02 07 - Letter and Comment of FONS on Draft Terms of Reference of EA Report on NPNS ETF Final.pdf

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Good afternoon,

Please see the attached file enclosing comments on behalf of the Friends of the Northumberland Strait (FONS) on the Draft Terms of Reference for the Preparation of an Environmental Assessment Report in regard to the proposed Replacement Effluent Treatment Facility Project of Northern Pulp Nova Scotia Corporation.

Please confirm that this attachment has been received and accepted by the Environmental Assessment Branch at your earliest convenience. If there should be a technical difficulty, we shall arrange for alternate submission.

Best regards,

Legal Administrative Assistant/Office Administrator | Ecojustice
520-1801 Hollis Street, Halifax, NS B3J 3N4
T: | 1-800-926-7744 ext.
F: 902-417-1701

VANCOUVER CALGARY TORONTO OTTAWA HALIFAX

ecojustice

@ecojustice.ca

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520-1801 Hollis St
Halifax, NS B3J 3N4
, ext
File No: 1003

February 7, 2020

The Honourable Minister Gordon Wilson
Department of Environment
Barrington Tower
1894 Barrington Street, Suite 1800
P.O. Box 442
Halifax, NS B3J 2P8
Minister.Environment@novascotia.ca

Environmental Assessment Branch
Nova Scotia Environment
PO Box 442
Halifax, NS B3J 2P8
EA@novascotia.ca

Sent via Electronic Mail

Re: Submission in response to request for comments on Draft Terms of Reference for Environmental Assessment Report – Northern Pulp Nova Scotia proposed replacement Effluent Treatment Facility

On behalf of the Friends of the Northumberland Strait (FONS) we write to provide comments on the January 8, 2020 Draft Terms of Reference (TOR) for the Environmental Assessment Report in respect of the above-captioned project.

We support the efforts of the Minister and Nova Scotia Environment to create these TOR, and we hope they will lead to a thorough analysis of all environmental impacts associated with this proposed project.

Our comments on the draft TOR are attached, as shown via a red markup of specific sections of the text of the January 8, 2020 draft TOR.

We provide these comments to assist the Minister and Nova Scotia Environment in creating a workable framework for the preparation of the Environmental Assessment Report for the ETF project. If the proponent uses this framework appropriately, it can assist greatly in ensuring that the proponent's Environmental Assessment Report is comprehensive and conducts a science-based evaluation of the environmental impacts of this proposed project.

The environmental assessment in this case must not be rushed, as it can only be done properly once the proponent and its advisors have objectively obtained and compiled a fulsome set of baseline data regarding the actual conditions in the entire study area for the project. Reliable and representative baseline information must be obtained from many data points throughout annual

cycles, and must accurately reflect both typical and extreme weather conditions and marine and atmospheric dynamics, as well as climate change impacts. It is crucial that the impacts of a continuous discharge of air emissions and treated effluent, at any concentration, be assessed realistically and in light of the levels of harmful substances accumulating in our environment from industrial emissions and other human activity. The assessment must encompass not only the immediate environments of Pictou County and the Northumberland Strait, but also the Gulf of St. Lawrence and the North Atlantic Ocean. The diluted effluent and other project emissions will impact all such areas and an assessment that fails to look seriously at alternatives, or even past 100 metres from the proposed diffuser, will not yield any useful result nor help the Minister make the ultimate decision whether to approve or reject this project.

We trust that the Environmental Assessment Report process will result in a genuine assessment of the true impact of sending this project's waste substances into the air, land and waters of our region and our world.

FONS and Ecojustice are grateful to Dr. Ellen Sweeney, Dr. Oliver Fringer, Dr. Daniel Rainham, Dr. Lynn Cameron and Arthur MacKay for their advice and comments on the draft TOR. Their comments are incorporated herein and were of great assistance to us in preparing the attached submissions.

Sincerely,

Barrister & Solicitor

Barrister & Solicitor

c. Friends of the Northumberland Strait, by electronic mail

DRAFT TERMS OF REFERENCE FOR THE PREPARATION OF AN

ENVIRONMENTAL ASSESSMENT REPORT

FOR PUBLIC REVIEW AND COMMENT

Regarding the Replacement Effluent Treatment Facility Project
Proposed by Northern Pulp Nova Scotia Corporation

Comments of the Friends of the Northumberland Strait as represented by Ecojustice
Proposed changes shown using track changes

~~**NOVA SCOTIA ENVIRONMENT**~~

~~**January 8**~~**February 7, 2020**

FOREWARD

Current Context

On December 17, 2019, following an environmental assessment review of the Northern Pulp Effluent Treatment Facility Focus Report, the Minister of Environment decided that an Environmental Assessment Report was required to address deficiencies in the information provided. On December 20, 2019, Northern Pulp announced its intent to cease operations at the Northern Pulp Mill. Notwithstanding that announcement, on January 2, 2020, Northern Pulp informed Nova Scotia Environment of its intent to continue with the Environmental Assessment Report process. Since the company has chosen to continue with the process, Nova Scotia Environment is required to release this draft Terms of Reference in accordance with the Environmental Assessment Regulations.

This Draft Terms of Reference is based on the proposed Project as described in the February 2019 Environmental Assessment Registration Document and in the subsequent October 2019 Focus Report.

The *Boat Harbour Act* sets out a deadline of January 31, 2020. Further to the above, Nova Scotia Environment expects Northern Pulp to provide information as part of its input on this draft Terms of Reference about any anticipated changes to the proposed Project as a result of the *Boat Harbour Act*. Nova Scotia Environment further expects this information to include how these changes may affect the Terms of Reference.

Environmental Assessment Process to Date/Next Steps

An Environmental Assessment is a planning tool that allows sustainable development to occur while protecting the environment. When a company registers its project for an environmental assessment, government's expectation is that the company provide a complete and comprehensive assessment of the Project's potential risks and related mitigations. Based on the environmental assessment review, the Minister of Environment has a number of decision options: If the Minister is of the opinion that any adverse effects or significant environmental effects related to the project can be mitigated, then the project is able to proceed. If such effects cannot be mitigated, a project may be rejected. In cases where not enough evidence is provided to determine whether or not there may be adverse effects or significant environmental effects related to a project, the Minister may require more information (in the form of a more information decision, a Focus Report or an Environmental Assessment Report) to be provided to address gaps or deficiencies in the required information.

Northern Pulp registered its Effluent Treatment Facility for environmental assessment on February 7, 2019. A thorough environmental assessment review concluded that the Registration Document did not provide enough information to determine if adverse effects or significant environmental effects would result from the Project. On March 29, 2019, the Minister determined that the company would have up to one year to submit a Focus Report to address identified information gaps in the Registration Document.

On October 2, 2019, the company submitted a Focus Report. A thorough environmental assessment review of this information concluded that the company failed to provide enough information to properly assess whether there may be adverse effects or significant environmental effects as a result of the Project and, on December 17, 2019, the Minister decided an Environmental Assessment Report was required. Through the environmental assessment review process, concerns were raised about incorrect and incomplete baseline information; assumptions and methodology used in the analysis; and the absence of mitigation measures related to the potential environmental effects. Further specifics regarding these deficiencies are outlined in comments provided during the consultation period, which are posted on our

website and reflected in this Draft Terms of Reference, for the preparation of an Environmental Assessment Report.

Northern Pulp is expected to prepare an Environmental Assessment Report that addresses the deficiencies in the information provided to date through the environmental assessment process and which fulfills the intent of the Terms of Reference. The Environmental Assessment Report must consider all the effects that may ~~are likely to~~ arise from the Project, including any not explicitly identified in the Terms of Reference.

Regulations require that Draft Terms of Reference for the Environmental Assessment Report be prepared by the Environmental Assessment Administrator and subsequently be made available for public review and comment prior to being finalized and provided to the Proponent (Northern Pulp).

This document presents the Draft Terms of Reference for public review and comment. The Minister of Environment invites interested Nova Scotians to examine the Draft Terms of Reference and provide comments on their adequacy and suggestions for their modification. **Only those comments related to specifics of the Terms of Reference will be used to inform the finalization of the Terms of Reference through this process. As required by the Environmental Assessment Regulations, the company must be advised of comments received through this process.**

Comments should be submitted in writing through the EA website at https://novascotia.ca/nse/ea/comments.asp, by email at EA@novascotia.ca or by mail to the following address on or before **February 7, 2020**, and addressed to:

Environmental Assessment Branch
Nova Scotia Environment
P.O. Box 442, Halifax, Nova Scotia B3J 2P8
EA@novascotia.ca

[TABLE OF CONTENTS REMOVED]

1.0 INTRODUCTION

1.1 Background

The Replacement Effluent Treatment Facility Project (the Project or undertaking) proposed by Northern Pulp Nova Scotia Corporation (Northern Pulp or the Proponent) was registered for environmental assessment (EA) as a Class 1 undertaking pursuant to Part IV of the *Environment Act* on February 7, 2019.

On March 29, 2019, the Minister of Environment determined that the registration information was insufficient to make a decision on the Project, and a Focus Report was required in accordance with clause 13(1)c of the Environmental Assessment Regulations, pursuant to Part IV of the *Environment Act*.

On October 2, 2019, Northern Pulp submitted the Focus Report for EA, in accordance with Part IV of the Environment Act. Public comments on the Focus Report were accepted until November 8, 2019.

On December 17, 2019, the Minister of Environment concluded that Northern Pulp would be required to complete an Environmental Assessment Report (EA Report) on this Project.

1.2 Purpose of the Terms of Reference

An Environmental Assessment is a planning tool that allows sustainable development to occur while protecting the environment. When a company registers its project for an environmental assessment, government's expectation is that the company provide a complete and comprehensive assessment of the Project's potential risks and related mitigations. Based on the environmental assessment review, the Minister of Environment has a number of decision options: If the Minister is of the opinion that any adverse effects or significant environmental effects related to the project can be mitigated, then the project is able to proceed. If such effects cannot be mitigated, a project may be rejected. In cases where not enough evidence is provided to determine whether or not there may be adverse effects or significant environmental effects related to a project, the Minister may require more information (in the form of a more information decision, a Focus Report or an EA Report) to be provided to address gaps or deficiencies in the required information.

The purpose of this document is to identify for Northern Pulp the information requirements for the preparation of an EA Report. Northern Pulp is expected to prepare an EA Report that addresses the deficiencies in the information provided to date through the environmental assessment process and which fulfills the intent of the Terms of Reference. The EA Report must consider all the effects that ~~are likely to~~may arise from the Project, including any not explicitly identified in the Terms of Reference. The EA Report will be used to meet the requirements of a provincial Class I Undertaking.

Northern Pulp must include in its EA Report all the information requested within the Terms of Reference, as a minimum, in accordance with the Environmental Assessment Regulations pursuant to Part IV of the *Environment Act*. The Terms of Reference include Valued Ecosystem Components (VECs) which must be adequately addressed in the EA Report. While the Terms of Reference provide a framework for preparing a complete EA Report, it is the responsibility of the Proponent to provide sufficient data and analysis on any potential environmental effects of the Project to permit a proper evaluation by governments, the Mi'kmaq of Nova Scotia and the public.

The EA Report is expected to provide a comprehensive and complete assessment of the potential effects of the Project, presented in a clear format that can easily be reviewed by the Minister, governments, the Mi'kmaq of Nova Scotia and the public. If the Minister decides to refer the EA Report to an EA Review Panel for review, the EA Report will serve as the cornerstone of the Panel's review and evaluation of the potential effects of the Project and thus must be a stand-alone document. The EA Report will also allow

governments, the Mi'kmaq of Nova Scotia and members of the public to understand the Project, the existing environment, and the potential environmental effects of the Project.

1.3 Proposed Project

This Section is based on the proposed Project as described in the February 2019 Environmental Assessment Registration Document (EARD). In response to this Draft Terms of Reference, Northern Pulp is required to provide information on any changes to the Project as a result of the *Boat Harbour Act* deadline. The Northern Pulp Northern Bleached Softwood Kraft pulp mill is located at Abercrombie Point adjacent to Pictou Harbour in Pictou County, Nova Scotia (NS). The proposed Project consists of the development of a new effluent (wastewater) treatment facility (ETF) constructed on Northern Pulp property, and a transmission pipeline that will carry treated effluent overland and in the marine environment and discharge via an engineered diffuser (marine outfall).

The ETF is proposed to employ the AnoxKaldnes BAS™ Biological Activated Sludge process purchased from Veolia Water Technologies, which combines Moving Bed Biofilm Reactor (MBBR) technology with conventional activated sludge. Once treated onsite at Northern Pulp's facility, effluent is proposed to be sent through an approximately 15 km long pipeline, of which approximately 8.7 km is included in the overland section. An additional land-based section of effluent pipeline, less than 1 km will be installed on mill property as a part of the ETF design by KSH Solutions. Approximately 1.5 km of the treated effluent pipeline will follow a marine crossing in Pictou Harbour adjacent to the Pictou Causeway. The land-based section of the pipeline begins on the north side of Pictou Harbour where it enters the Nova Scotia Department of Transportation and Infrastructure Renewal's (TIR's) Highway 106 right-of-way (ROW) and runs generally north, parallel to Highway 106, along the outermost eastern portion of the ROW toward Caribou, NS. The pipeline will then travel through the marine environment to the proposed outfall location approximately 4.0 km offshore within the Northumberland Strait.

1.4 Environmental Assessment Requirements

The Project is a Class I Undertaking pursuant to Schedule A of the Environmental Assessment Regulations made under Section 49 of the *Environment Act*. In accordance with Section 18(b) of the Environmental Assessment Regulations, the Minister of Environment has determined that an EA Report is required.

The Environmental Assessment Regulations require that the proposed Terms of Reference for the EA Report be prepared by the EA Administrator (Administrator) and made available for public review. Public comments on the Draft Terms of Reference will be accepted from January 8 – February 7, 2020.

All comments will be provided to Northern Pulp within 5 days of the end of the comment period. Northern Pulp will then have 21 days to respond in writing to the comments. Within 14 days from the final date for written response from Northern Pulp, the Final Terms of Reference for the EA Report shall be provided to Northern Pulp.

The Proponent is required to submit the EA Report within 2 years of receipt of the Final Terms of Reference. If the EA Report does not meet the Terms of Reference, Northern Pulp will be required to include further information before the EA Report can be accepted. Upon acceptance of the EA Report,

Nova Scotia Environment (NSE) has 14 days to publish a notice advising the public where the EA Report can be accessed for review and comment.

Once the EA Report has been accepted, the Minister has the option to refer the EA Report to an EA Review Panel for review. At the conclusion of this process, the Minister has 3 decision options: a) the undertaking is approved with conditions; b) the undertaking is approved without conditions; or c) the undertaking is rejected.

1.5 Access to Information for the Environmental Assessment Process

Copies of the Draft Terms of Reference for the Preparation of the EA Report may be examined at the following locations:

- Pictou Library, 40 Water Street, Pictou, NS
- New Glasgow Library, 182 Dalhousie Street, New Glasgow NS
- EA website https://www.novascotia.ca/nse/ea/

All information pertaining to this portion of the EA review will be posted to the EA website as it becomes available.

It is recommended that the proponent make all reports and supporting documents developed in connection with the EA Report available to the public for review as soon as each report or document is completed.

2.0 PREPARATION AND PRESENTATION OF THE ENVIRONMENTAL ASSESSMENT REPORT

Pursuant to the Environmental Assessment Regulations, the EA Report must include, but not be limited to, the following information:

- a description of the proposed undertaking;
- the reason for the undertaking;
- other methods of carrying out the undertaking;
- a description of alternatives to the undertaking;
- a description of the environment that might reasonably be affected by the undertaking;
- the environmental effects of the undertaking, including identifying any effects on species at risk, species of conservation concern and their habitats;
- an evaluation of advantages and disadvantages to the environment of the undertaking;
- measures that may be taken to prevent, mitigate or remedy negative environmental effects and maximize the positive environmental effects on the environment;
- a discussion of adverse effects or significant environmental effects which cannot or will not be avoided or mitigated through the application of environmental control technology;
- a program to monitor environmental effects produced by the undertaking during its construction, operation and abandonment phases;
- a program of public information to explain the undertaking; and
- information obtained under subsection 19(2) which the Administrator considers relevant.

The information obtained under subsection 19(2) shall be prepared taking into consideration comments from:

- the public;
- departments of Government;
- the Government of Canada and its agencies;
- municipalities in the vicinity of the undertaking or in which the undertaking is located;
- an affected aboriginal people or cultural community; and
- neighbouring jurisdictions to Nova Scotia in the vicinity of the undertaking.

In preparing the EA Report, Northern Pulp shall refer to comments from the above-noted parties during the EA review of both the EARD and the Focus Report submitted by Northern Pulp to NSE, to identify and

include the supplementary information required to provide a comprehensive and complete assessment of the potential effects of the Project. The EA Report must be a stand-alone document that presents a complete discussion and analysis of predicted effects (direct and indirect effects) that is qualitative and quantitative, evidence-based and supported by credible sources of information. This report shall build upon, where appropriate, the science and evidence outlined in the EARD and in the Focus Report. Northern Pulp is expected to prepare an EA Report that fulfils the intent of the Terms of Reference and considers all the effects that ~~are likely to~~may arise from the Project, including those not explicitly identified in the Terms of Reference.

The order in which information is presented is at the discretion of the Proponent; however, a concordance table will be required to indicate where the information can be found. In the event that the Minister has decided to refer the EA Report to an EA Review Panel for review, the Proponent may provide additional information to assist the EA Panel in making their recommendation to the Minister and assist the Minister in making the decision for the Project. Such additional information must also be made available to the public in a reasonable and timely manner.

Since the EA Report is intended for public review, the information should include an Executive Summary presented non-technical language. The Proponent will be required to submit an electronic copy of the EA Report in accordance with the EA Branch Bulletin on Requirements for Submitting Electronic Copies of Environmental Assessment (EA) Documents for publication on the Department's website.

In the EA Report where documents information and reports are referenced or relied upon copies shall be appended or working weblinks to current electronic versions shall be provided.

All maps and charts included in the EA Report or supporting reports shall use and provide coordinates in a manner that is understandable and accessible to the public without specialized surveyor knowledge (i.e. using standard latitude and longitude coordinates in addition to GPS and UTM references).

The EA Report must include, but not be limited to, the following information, as identified under the corresponding sections.

3.0 PROJECT DESCRIPTION

Nova Scotia Environment expects Northern Pulp to provide information, as part of its comment on the draft Terms of Reference, about any anticipated changes to the proposed Project as a result of the *Boat Harbour Act*. Nova Scotia Environment further expects this information to include how these changes, if any, may affect the Terms of Reference.

Describe each component of the Project as it is planned through its full life cycle, including site preparation, construction, commissioning, operation, maintenance, and decommissioning, and also including malfunctions, accidents, spills, service disruptions, re-starts and unplanned events:

- changes to existing mill infrastructure, mill site, and in-mill improvements;
- effluent treatment facility (ETF);
- land-based sections of pipeline; and
- marine based sections of pipeline and the diffuser.

Where final decisions have not been made in regard to an element of Project design, or several options exist for a particular component or activity, the assessment of effects of that element of the Project on the environment should be conducted at the same level of detail for all available options.

3.1 The Proponent

Outline the Proponent's corporate commitment to sustainable development and environmental protection goals and principles including pertinent corporate policies, programs, plans, strategies, protocols, guidelines, codes, and environmental management systems (EMS).

Provide summary information on the nature of the management structure and organizational accountability for designing, constructing, operating and modifying the Project; implementing environmental mitigation measures and environmental monitoring; and managing potential adverse environmental effects.

Provide details on relevant corporate experience (the Proponent and related companies) and experience in building and operating other similar facilities. Provide a record of the environmental performance and capability of the Proponent in conducting this type of Project.

3.2 Project Location

Provide a concise description of the geographical setting in which the Project is to be constructed/operated. Describe how the Project site was chosen, including a discussion of the specific environmental considerations used in site selection of all Project components, and the advantages of the proposed site. Describe the Project's compatibility with existing local and regional land-use policies and plans, as well as existing uses of freshwater bodies and the marine areas, and opportunities to integrate Project planning into regional scale development efforts. Discuss compatibility of the Project location in relation to people and their community and traditional activities and land uses by the Mi'kmaq of Nova Scotia.

Describe the ultimate boundaries of the Project in a regional context including existing and proposed land uses and infrastructure such as road networks, highway realignment, railways, power lines, pipelines, proximity to permanent and seasonal residences, individual and community water supplies, wetlands, water bodies, streams, ecologically sensitive areas, and archaeological sites. Include mapping at an appropriate scale.

Provide details on ownership of property within the Project footprint including lands owned by the Proponent, the Crown, or private lands. Provide details of existing agreements to develop the Project on lands not owned by the Proponent. Provide detailed plans for the required acquisition or use of private lands and Crown Lands and discuss any contingencies should these lands not be available for Project development.

Provide a list and map of communities in the region, including Mi'kmaq communities, potentially affected by the Project and indicate the distance between those communities and the specific Project components as appropriate. Identify proposed local shipping routes for importing and exporting products.

Provide a detailed description of the mill site and property at Abercrombie Point, including historical and current uses of the site, and a comprehensive description of current environmental conditions and environmental issues associated with past activities and operations at the mill or on the Abercrombie Point site. The description shall include all known or suspected spills and contaminants historical or recent, present on or under the site, along with detailed information as to their extent, precise location, depth concentration mobility and composition and shall be depicted in detail on appropriate maps charts and diagrams.

3.3 Project Design and Components

Describe the design plans and appropriate design standards for all Project components, associated and ancillary works, and other characteristics that will assist in understanding the Project, including: changes to the mill site existing mill infrastructure and in-mill improvements, ETF, land-based sections of pipeline,

and marine based sections of pipeline and the diffuser. All associated infrastructure and components must be detailed. Also discuss environmental controls planned for the Project and how environmental protection, conservation, best management practices (BMPs), and best available technology have been considered in the design.

Provide potential design variations and implications (including advantages or disadvantages to the environment) of those variations. Describe any assumptions which underlie the details of the Project design. Where specific codes of practice, guidelines and policies apply to items to be addressed, those documents shall be cited.

For the EA Report, all site-specific data must be collected using equipment installed, operated, maintained and calibrated as specified by the manufacturer's instructions. All samples are to be collected, preserved and analyzed, by qualified personnel, in accordance with recognized industry standards and procedures and at accredited laboratories. Data shall undergo quality assurance and quality control (QA/QC) processes. The standards and procedures used for all data collection, sampling and testing programs shall be appended to the EA Report, along with field and laboratory notes, logs and reports.

In addition to the above, this section will include, but not be limited to information on the following Project design components:

Changes to Existing Mill Infrastructure and In-Mill Improvements

- Preliminary design overview for any in-mill improvement projects necessary to achieve the design assumptions for the Project (e.g., in-mill cooling towers);
- Preliminary design overview of other projects that interact with the performance of the ETF (e.g., oxygen delignification) with sufficient detail to identify with precision the particular design and specifications of each such "other project" and a schedule for these projects relative to the proposed ETF construction schedule; ~~and~~
- A waste dangerous goods management plan to accommodate for worst case scenario within design of the proposed ETF. It is important to note that the ETF is not proposed to treat waste dangerous goods based on the information provided in the EARD and in accordance with requirements of NSE; and~~.~~
- A waste dangerous goods management plan or environmental protection plan for the mill site as a whole addressing future disposal of run-off and other sources from locations on the mill site which are or have been discharged through the effluent stream.

Effluent Treatment Facility (ETF)

- Footprint, location and preliminary designs for the ETF;
- Equipment description and specifications, including appropriate diagrams and flow charts for the proposed ETF and infrastructure components;
- Details (including characteristics and toxicities) and quantities of all products produced, stored, and imported to and exported from the facility (including by-products and chemical intermediaries);
- Justification of spill basin size and appropriateness of multi-purpose usage. Consider worst-case scenarios and requirements under the Dangerous Goods Management Regulations;

- Proposed design for management of mill site run-off landfill run-off leachate and other wastes generated by the site and mill operations;
- Proposed design for the spill basin, including but not limited to, management and disposal of contaminated material that may be present at the site, liner details, secondary containment features, clean-out access and connection to the mill infrastructure and ETF;
- Submit additional data regarding the complete physical and chemical characterization of NPNS' raw wastewater at Point A (as defined in EARD and Focus Report), to support the assessment of the appropriateness of the proposed treatment technology. The sampling data for complete characterization (i.e., broad chemical analysis) must be statistically relevant and adequately represent ETF influent for all ~~various~~ operating conditions that may exist at the mill (e.g., seasonality, flow rates, changes in sources of fibre or production, accidents, system disruptions, spills, malfunctions, start-up and shut-down cycles, etc.);
- Using NPNS' raw wastewater characterization results, identify and e~~e~~valuate all contaminants of potential concern (COPCs) and all persistent organic pollutants (POPs), with respect to the effluent discharge quality following treatment using the proposed technology. This statistically relevant assessment shall include, but not be limited to, bench-scale testing of the mill's actual Point A effluent. Provide results of all expected COPCs, POPs and influent and effluent concentration ranges. Include chemical oxygen demand (COD) fractionation (soluble and total) concentrations in the assessment;
- Comparison of the effluent characterization results from the above assessment with appropriate regulations and/or guidelines, including the draft Pulp and Paper Effluent Regulations (PPER) daily and monthly average limits;
- Effluent flow data to support the proposed peak treatment capacity of 85,000 m^3 flow of effluent per day using actual daily flow data from Point A over a minimum 1-year period;
- Provide analysis and documentation showing past exceedances from 2015-2020 of COD and ~~i~~information regarding how the facility will achieve compliance with COD influent and effluent limits once the in-mill changes and ETF are operational; and
- Evaluation of sludge disposal options and management plans, including the rationale for the preferred option. If the preferred option uses the biomass boiler, provide a secondary disposal option.
- Provide details of all operational conditions which have the potential to compromise the effective functioning of any component of the proposed new ETF and how any compromised function will be detected in a timely manner, the potential length of time any system or function could be compromised, and how materials in process, including effluent and other processing substances, will be addressed until system function is fully restored.

Land-Based Sections of Pipeline Route

- Information on corridor width requirements, accounting for minimal possible corridor width requested by TIR;
- Appropriate, intrusive geotechnical survey results to support proposed pipeline construction methods;
- Risk assessment of pipeline design, including the following:

- An evaluation of the probability of a potential leak, spill or release from the pipeline installation and its operation, based on a literature review and on comparable design.
- Identification of points of the system that are susceptible to failure.
- Based on the risk assessment, a suitable secondary containment system (e.g., a double-walled pipeline system) and proposed locations. Secondary containment is at a minimum required within the Town of Pictou's water supply protection area;

- Preferred option(s) for both external and internal leak detection technologies for all sections of the on-land pipeline, with specific consideration to any section of the pipeline located in the Town of Pictou's water supply protection area and near private supply wells. Identify the corresponding sensitivity of instruments, maintenance and staff training plan, inspection frequencies, methodologies and response protocols to leaks detected in any part of the pipeline;

- Maps, at an appropriate scale of the Project location and pipeline route that show Project components, boundaries with UTM coordinates, major existing infrastructure, important environmental features, and adjacent land uses that will intersect with the pipeline route (e.g., road networks, railways, power lines, pipelines, proximity to settled areas, individual and community water supplies, watercourses, wetlands, ecologically sensitive areas, priority flora and fauna and archaeological sites); and
- A list of all properties (i.e., Parcel Identification Numbers) that will intersect with the pipeline route.

Marine Based Sections of Pipeline Route

- Selected options for both external and internal leak detection technologies for marine sections of the pipeline. Identify the corresponding sensitivity of instruments, maintenance and staff training plan, inspection frequencies, methodologies and response protocols to leaks detected in any part of the pipeline for all times of the year including during periods of inclement weather and/or winter ice cover;
- Identify all sections of the marine pipeline that are at risk of damage, rupture or failure, including but not limited to the points where the pipeline transitions from a land-based to a marine environment and all points along the marine route where the pipeline may be exposed to ice ice grounding storm and wave risks and
- Maps, at an appropriate scale, detailing: the Project location, the Project components (e.g., confirmed locations of marine sections of the proposed pipeline including diffuser), boundaries of the proposed site with UTM coordinates, the major existing infrastructure, adjacent land and sea uses that will intersect with the pipeline route, and important environmental features (e.g., spatial and temporal marine habitat distribution, marine refuge (Scallop Buffer Zone 24), etc.). Map coordinates should be provided in a manner that is understandable and accessible to the public without specialized surveyor knowledge (i.e. using standard latitude and longitude coordinates).

3.4 Construction

Describe in detail the construction of all Project components and supporting infrastructure. This will include but not be limited to:

- Proposed construction schedule for all Project components (including those mentioned in Section

3.3 of the Terms of Reference), including days of the week, times of the day, seasonal schedules and anticipated commencement and completion dates;

- All physical works and activities carried out during the construction phase are to be identified and described by location. This, includes but is not limited to: clearing and grubbing; blasting; site access and roadways; marine construction methods; road construction methods; dangerous goods storage areas; disposal at sea; watercourse crossings or diversions; utilities; and description of equipment used for construction activities, both terrestrial and marine;

- Dredge management/disposal plans that characterize and quantify marine sediments to be dredged and disposed (or re-used) in accordance with Environment and Climate Change Canada (ECCC) standards and in consultation with relevant government departments. Identify areas where dredging activities will occur, and provide methodology for identification and avoidance of all sensitive marine areas. Identify the location, quantity and chemistry of any dredge materials that are expected to require land-based disposal and evaluate the impact of disturbance of soil and resulting sedimentation during and after excavation/construction;

- Evaluation of pipe jacking feasibility where crossing roads or structure locations that includes addressing limitations associated with practical pipe length at crossings and available space for thrust/reception pits on either side of crossings;

- Evaluation of the effects of excavating and replacing large rock fill along the alignment route near Harvey A. Veniot Pictou Causeway;

- Storage areas for fuels, explosives and dangerous goods; and

- Waste disposal plans (types of waste, methods of disposal, quantity).

3.5 Operation

Describe the operation of all Project components and supporting infrastructure to all components. The description of the operation shall include but not be limited to the following:

- Routine and maintenance operations for all Project components;

- Environmental controls and BMPs, including pollution prevention techniques in addition to traditional treatment and disposal practices;

- A spill basin management plan that proactively addresses the management of different types of materials, including compatible and non-compatible waste dangerous goods, sequential spills/leaks/releases, clean-out and liquid/solid removal procedures for the different types of collected materials, and appropriate final disposal procedures that observe applicable provincial and federal regulations; and

- A plan to ensure adequate staffing and operation oversight of ETF by trained personnel at all times.

3.6 Decommissioning and Reclamation

Describe the proposed plans for decommissioning the Project, including all infrastructure and reclamation of any impacted site. The EA Report shall also discuss the post-decommissioning land use options of the property.

4.0 REGULATORY ENVIRONMENT

Describe the existing regulatory environment (Federal, Provincial and Municipal) including all permitting, licensing and regulatory requirements that apply to all phases of the Project and associated infrastructure. Provide a schedule indicating anticipated dates for required regulatory approvals.

Significant portions of the proposed Project to be evaluated by the EA Report are located on federal lands; therefore, federal authorities have indicated that they must make a determination as to whether the Project is likely to cause significant adverse effects and/or in the case of Public Services and Procurement Canada (PSPC) seek an Order in Council prior to providing authorizations, licenses, or leases. To ensure potential environmental effects are addressed to the satisfaction of federal authorities under Section 82 of the *Impact Assessment Act*, provide a detailed list of all necessary authorizations, licenses, or leases for all applicable federal authorities and the proponent's plan and estimated timelines to apply for all such instruments and receive decisions.

Describe all applicable guidelines and standards that would apply to the Project and provide copies of, or links to all such materials. Where there is a choice as to which standard to apply the content of each standard and the advantages and disadvantages of using each standard shall be examined and a detailed justification shall be provided as to why a particular standard has been chosen. Those applicable standards or guidelines shall also be referenced in the appropriate sections of the EA Report and linked to environmental protection objectives.

Commented]: It is unclear what is meant by "environmental protection objectives" and how and why they need to be linked to applicable standards and guidelines.

5.0 NEED FOR AND PURPOSE OF THE PROJECT

The need for and purpose of the Project should be established from the perspective of the Proponent. The Project is being designed to meet specific objectives and these objectives should be discussed. If the objectives of the Project are related to or contribute to a larger private or public sector policy, program or plan, this information should be included.

6.0 DESCRIPTION OF ALTERNATIVES TO THE PROJECT

Include an analysis of alternative means of carrying out the Project; describing functionally different ways to meet the Project need and achieve the Project purpose. The analysis shall include examination of the full range of factors, benefits and drawbacks relating to use of alternative and new technologies, including those that would not require effluent treatment and discharge of effluent and other emissions into the environment. Alternatives will be considered in terms of all relevant factors including but not limited to their relative effectiveness in preventing or controlling adverse environmental effects and shall not be evaluated solely as to their relative profitability for the proponent.

7.0 OTHER METHODS FOR CARRYING OUT THE PROJECT

Discuss other methods for meeting the need for the Project, including but not limited to, pipelines and treatment technologies. This section shall also discuss alternate locations for the Project and alternative pipeline routes and discharge sites.

The rationale for rejecting other described methods of carrying out the Project must be provided, including a discussion of how environmental sustainability and impact avoidance criteria were applied.

8.0 ASSESSMENT METHODOLOGY

Include the study strategy, methodology and boundaries used for preparing the EA Report. The following must be clearly defined:

- Temporal boundaries (i.e., duration of specific Project activities and potential impacts) for construction and operation through to decommissioning and post-decommissioning;

- The study area (also referred to as "study boundaries" and "Project area") shall include ~~Study boundaries or Project area and~~ all space that will be potentially impacted, by the Project as proposed, or subject to subsequent modifications, and the methodology used to identify the study area~~boundaries~~; at a minimum the study area is to include terrestrial areas encompassing and in proximity to, the mill site and the overland pipeline route, all terrestrial areas that could be impacted by an effluent leak or spill from the overland pipeline, all sections of the marine pipeline route and the near and far field marine areas as set out in NPNS' previous receiving water study models;

- For greater certainty, the study area shall include, *inter alia*, any areas and ecosystems that will come into contact with the mill's air emissions effluent and suspended solids at any quantity or concentration. The marine portions of the study area shall include at a minimum Caribou Harbour, Caribou Channel, Pictou Harbour, Pictou Island, Munroe's Island, Pictou Road, Pictou Landing, Boat Harbour, the coast of Nova Scotia from Cape John to Arisaig, the coast of Prince Edward Island from Point Prim to Murray Harbour and the Northumberland Strait within and between all such areas.

- Valued Ecosystem Components (VECs) within the study boundaries and the methodology used to identify the VECs. The methodology used for VEC identification shall include input from members of the public, government departments and agencies, other experts, and other interested parties, as well as direct engagement with the Mi'kmaq of Nova Scotia;

- Where appropriate, identify environmental protection objectives (including those contained in applicable legislation or guidelines) associated with each VEC;

- Strategy for investigating the interactions between the Project and each VEC and how that strategy was used to coordinate the individual studies undertaken; and

- Method for predicting and evaluating Project impacts upon the environment; determining necessary avoidance, mitigation, remediation and/or compensation (in this order of consideration); and determining the significance of any residual impacts.

The EA Report is to be prepared using an accepted and proven EA methodology and a qualified person should predict and evaluate Project impacts upon the environment. If there are no predicted effects to a specific VEC, provide reasons to support that claim. A complete discussion and analysis of predicted effects (direct and indirect effects) should be provided that is qualitative and quantitative, evidence-based and supported by credible sources of information. Provide a list of literature and sources used in the preparation of the EA Report.

The following sections outline specific concerns and requirements related to the existing environment, adverse effects and environmental effects assessment, proposed mitigation, residual environmental impacts, proposed compliance and effects monitoring, and the public information program that are to be addressed in the EA Report for the proposed Project.

Commented]: These TOR do not, and should, provide a mecnanism for obtaining public input and how the proponent is required to use he public input to identify VECs

Commented : As per the comment above, it is unclear what is meant by "environmental protec ion objectives". In this context, it is also not clear how to determine what would constitute an "appropriate" context within which to iden ify them in relation to each VEC.

9.0 EXISTING ENVIRONMENT

Provide a baseline description of the environment in the vicinity of the Project and all other areas that could be impacted by the Project. This description must include the components of the existing environment and environmental processes, their interrelations and interactions, as well as variability in these components, processes and interactions over time scales appropriate to the effects assessment. The Proponent's description of the existing environment shall be in sufficient detail to permit the identification, assessment and evaluation of the significance of potentially adverse environmental effects that may be caused by the Project.

The EA Report shall build upon, where appropriate, the science and evidence outlined in the EARD and in the Focus Report, considering comments on those documents during their respective EA review processes. The EA Report shall be a stand-alone document that presents a complete discussion and analysis of potential and predicted effects (direct and indirect effects) that is qualitative and quantitative, evidence- based and supported by credible sources of information. Supplementary information shall be included to provide a comprehensive and complete assessment of the potential effects and may provide additional information to assist the EA Panel in making their recommendation to the Minister in the case of a panel review and to assist the Minister in making the decision for the Project.

The EA Report shall clearly indicate baseline data/information which is not available or where existing data cannot accurately represent environmental conditions in the ~~Project~~ study area. If the background data have been extrapolated or otherwise manipulated to depict environmental conditions in the ~~Project~~ study area, modelling methods and equations shall be described and shall include calculations of margins of error.

For the EA Report, the spatial boundaries must include the Project footprint and relevant receiving environments such as airsheds and watersheds. Temporal boundaries must address applicable guidelines, standards and regulatory requirements and include Project construction, operation, decommissioning and post-decommissioning.

The Proponent is encouraged to consult with relevant government departments when determining the need for, extent, methods, and timing of site-specific studies/surveys. Where technical reports are included or referenced, they must be finalized and signed by the qualified individual(s). Also provide the name and credentials of the person(s) conducting baseline studies/surveys. Mapping clearly indicating the extent of studies/surveys, sampling points, and illustrating key findings should also be included and presented logically within the EA Report in a location that allows for ease of review. Wherever possible, mapping should be presented at common scales and datum to allow for comparison and overlap of mapped features.

The components of the environment to be discussed shall include identified VECs and those indicated within Sections 9.1 – 9.8.

9.1 Geophysical Environment

9.1.1 Topography, Geomorphology and Geology

Topographical maps should be provided locating the Project in both regional and local contexts. Describe the physical geography of the Project study area including post-glaciated landforms, coastal features, and marine features.

9.1.2 Geology

Include a description of bedrock geology, surficial geology and soils. The results of the geotechnical survey referenced in Section 3 of the Terms of Reference should be included. Geological properties of all Project

sites in the study area which may influence stability, occupational health and safety, rehabilitation programs, or the quality of discharge water leaving any area disturbed by the Project should be described. The EA Report must consider the potential for Acid Rock Drainage/Metal Leaching (ARD/ML) where new bedrock may be exposed and/or excavated.

The marine component of the Project should also include a discussion pertaining to surficial sediment characteristics and mobility under present and future environmental conditions. This section should also identify any mineral resources that may be impacted by the Project.

9.2 Water Resources

Include a description of groundwater, surface water, marine water and wetland resources that may be ~~potentially~~ affected by the Project.

9.2.1 Groundwater

Provide a description of the regional and local hydrogeology of the study area. A discussion of groundwater use in the study area, including both current and likely potential future uses must be provided. Provide a map showing all water supply wells locations and potentially affected watercourses within 500 metres of the pipeline route.

9.2.2 Surface Water

Provide a general hydrologic, hydraulic and water quality description of all surface water bodies in the study area, including upstream and downstream to all Project components. Existing uses, withdrawal capacities, and users of the watercourses shall be identified, including use by the Mi'kmaq of Nova Scotia.

9.2.3 Marine Water

Provide baseline studies that characterize environmental conditions for all seasons and conditions, on a bi-weekly basis, ~~the four seasons~~ over a minimum of one year for the marine environment, including: climate, water quantity (e.g., current profiles, water column stratification wave height, tide levels), water quality (e.g., temperature, salinity, nutrient levels chemical and physical water quality), and marine sediment chemical characterization in the vicinity of proposed marine outfall location, the near-shore, coastal, island and harbour areas, and over the full study area at multiple locations. These studies shall include characterization of both normal and extreme and/or atypical environmental conditions (e.g. extreme high or low tides water levels detailed localized and overall currents and water flows water and air temperatures, wave heights, wind, storms and ice). These studies must be conducted to the satisfaction of relevant government departments and are to be used to support modeling activities.

Provide marine sediment chemical characterization along the proposed marine based pipeline section routes and over the full study area at multiple locations. Marine sampling locations must be clearly identified and justified.

Marine sediment characterization must include a survey to detect and assess existence of algal blooms and/or algal cysts in the Northumberland Strait throughout the full study area at multiple locations. The survey should be conducted over all 4 seasons and for a minimum duration of 2 years. Sampling locations must be recorded. A plan should be in place for ongoing and regular routine sampling following construction.

Conduct an intrusive marine geotechnical investigation in the areas identified to have potential bedrock of uncertain depth and along proposed route near base of Harvey A. Veniot Pictou Causeway.

Provide a comprehensive sea ice baseline study including detailed bi-weekly measurements over two winter seasons as to ice depth extent movement ice grounding ice scour shoreline accumulation and duration of ice cover as well as predicted changes over the projected lifespan of the proposed ETF for the

study area at multiple locations. The study shall also include and assess all existing data (from all relevant sources) on sea ice in the study area since 1990.

~~n ice scour baseline study for at least two winter seasons.~~

9.2.4 Wetlands

Identify the location, size and class(es) of any wetland and/or wetland complexes within the predicted zone of influence and conduct a wetland evaluation. Evaluation of the wetlands shall include wildlife habitat potential (including rare and endangered species), groundwater recharge potential, role of the wetland in surface water regulation (stormwater retention and flood control) and the role of the wetland in watershed health. Based on the results of the evaluation, the EA Report must specifically identify wetlands that:

- Support a significant species or species assemblages;
- Support high wildlife value; and/or
- Have high social or cultural importance.

Describe all work activities and predict the effects (direct and indirect), with supporting rationale, on impacted wetland and wetland functions.

Wetland evaluations shall include additional assessment of adjacent wetland areas and anticipated extent of impacts associated with construction activities. The wetland evaluation must include identification of assessment areas and catchment areas used in the evaluation and include any associated outputs or assessment scoring outputs.

Baseline studies must describe and document pre-construction conditions, including, but not limited to, wetland class distribution, vegetation community structure, soil characteristics, and hydrology trends.

9.3 Atmospheric Resources

Atmospheric resources will include ambient air quality, the acoustic environment, greenhouse gas emissions, and impacts on climate.

9.3.1 Climate

Include a discussion of regional climate conditions and meteorology in the vicinity of the Project as well as expected changes over the next 50 years due to climate change. This section should include climate norms, extreme conditions, as well as trends in these conditions and climate change impacts, as well as the effect these changes may have on the Project and plans to mitigate against those impacts.

In addition to historical and projected climate data, the climate sub-section of the existing environment should include a summary of greenhouse gas emission projections for the Project, including plans to mitigate those emissions in both the design and operation.

Please follow the EA guidance documents when completing this section:
https://novascotia.ca/nse/ea/docs/Development.Climate.Change.Guide.pdf.

9.3.2 Air Quality

For the study area, provide a review of baseline ambient air quality and meteorological data, including annual and seasonal climatic conditions for the region.

Provide a description of existing ambient air quality conditions for the study area, with particular attention to ambient and peak levels of nitrogen dioxide (NO_2), sulfur dioxide (SO_2), carbon monoxide (CO), ozone (O3), particulate matter (total suspended particulate (TSP), fine particulate matter (diameter less than 2.5 microns) ($PM_{2.5}$) and coarse particulate matter (diameter less than 10 microns) (PM_{10}), total reduced sulphur (TRS) and volatile organic compounds (VOCs) levels.

Discuss the influence of local and regional emission sources and the influence of climate and weather conditions. The data should be used for the development of an appropriate model(s) for the study area to be provided in the EA Report.

Also describe any potentially sensitive receptors and/or locations. The EA Report shall expressly define the term "receptor" and will describe the steps taken to evaluate the existence of potential receptors in relation to stated and justified criteria. The criteria shall be drawn from relevant and current scientific literature which will be cited and access to copies or weblinks provided.

9.3.3 Ambient Noise and Light Levels

Describe the existing ambient acoustical environment at the Project site (including the marine environment), and in any other areas where Project activities could be expected to have an environmental effect.

Provide the spatial boundaries of existing noise and vibration levels, as well as locations of recording stations and length of record for any acoustic or vibration data presented. Consider the effects of different meteorological conditions on noise propagation. Provide information on any existing relevant standards, guidelines or objectives with respect to noise and vibration levels.

Describe existing ambient light levels at the Project site and at any other areas where Project activities could have an environmental effect on light levels. Describe night-time illumination levels during different weather conditions and seasons.

9.4 Flora and Fauna

Identify flora, fauna, and habitat types that will be intersected by all components of the Project. Appropriate field surveys agreed to by Nova Scotia Lands and Forestry (NSLAF) – Wildlife Division, shall be conducted as part of the evaluation over all four seasons. Surveys ~~should~~ shall be described by results, methodology, and spatial and temporal boundaries.

9.4.1 Terrestrial Environment

This section must include, but not be limited to the following:

- Identification of typical species of flora, sensitive flora, flora species-at-risk, and potential habitat for flora species-at-risk in the study area;
- Identification of areas of old growth forest. Current information shall be obtained from NSLAF – Wildlife Division; the Atlantic Canada Conservation Data Center; ECCC; the Nova Scotia Museum of Natural History, and local naturalists and relevant interest groups. Field surveys and investigations required to supplement the available data shall be completed in a manner that is acceptable to NSLAF – Wildlife Division. Available data, survey results, and detailed mitigation measures that demonstrate a special emphasis on avoidance of impacts shall be included in the EA Report;
- Identification of any existing or planned wildlife management areas, ecological reserves or wilderness areas as well as managed wetlands and significant wildlife habitat;
- Identify and delineate on a map 'roadless areas' and discuss their potential value to Nova Scotia's protected areas network. Include areas with high wildlife concentrations, wildlife corridors or habitats rare/unique to Nova Scotia;

- Identification of typical species of fauna (including invertebrate species), sensitive fauna, fauna species-at-risk, and potential habitat for fauna species-at-risk in the study area. Current information shall be obtained from NSLAF – Wildlife Division; the Atlantic Canada Conservation Data Center; ECCC; Nova Scotia Communities, Culture and Heritage; the latest Committee on the Status of Endangered Wildlife in Canada (COSEWIC) list; the Atlas of Breeding Birds of the Maritime Provinces; and local naturalists and relevant interest groups. Field surveys and investigations required to supplement the available data shall be completed by professional biologists in a manner that is acceptable to NSLAF – Wildlife Division and Canadian Wildlife Service;

- Additional migratory bird surveys at representative survey points along the pipeline route;

- Bird surveys transects to provide a complete view of bird species distribution and habitat use along the pipeline route, including transect bird surveys and fall migratory bird survey. Identification of nests of bird species, which are protected under the *Wildlife Act*, regardless of whether they are active or not must also be considered;

- Bird baseline survey for common nighthawk (*Chordeiles minor*), including rationale for survey point selection to the satisfaction of NSLAF;

- Raptor nest survey to identify nest locations for the entire ~~Project~~ study area including the pipeline route;

- Herptile survey for the ~~Project~~ study area, which includes the pipeline route, to include both spring and fall survey information. Prior to conducting survey, develop survey methodology in consultation with NSLAF; and

- When surveys are necessary to supplement the available data and adequately describe the use of the area by migratory birds during different times of the year (breeding season, migration, winter), emphasis will be placed on determining whether any bird species-at-risk, colonial nesting species, species particularly vulnerable to habitat fragmentation, etcetera, occur or breed in or near the study area.

9.4.2 Freshwater Aquatic and Marine Environment

This section must include, but not be limited to the following:

- Fish and fish habitat baseline surveys for the marine environment over the study area;

- Baseline survey and study of the abundance and health of all marine invertebrates, plankton and other marine ecosystem foundational species over the study area;

- Description of any freshwater fish or fish habitat that exists in any identified watercourse or any other receiving watercourse that may be impacted by the development. The description of these species and habitat should identify any species-at-risk and ecologically sensitive or critical habitat and migratory routes of fish;

- Description the relative distribution and abundance of valued fish resource components within the ~~predicted zone of influence~~study area. Fish species, age, health, and diversity shall be described;

- Description of any seasonal variation in the location, abundance and activities of aquatic species shallould be included. Describe and identify key habitat features, such as spawning, rearing, nursery, feeding, migration and overwintering areas, as they occur within the Project area. Also describe the criteria utilized for determining the zone of influence this Project has on the fish habitat;

- Description of the marine habitat and species of fish, including pelagic and demersal finfish, shellfish, crustaceans, and marine mammals, as well as all marine invertebrates plankton and other benthic organisms and marine ecosystem foundational species likely to be present within the surrounding marine environment in the study area. The description of these species and habitats should identify any species-at-risk and ecologically sensitive or critical habitat and migratory routes of fish and marine mammals;

- Baseline gene expression profiling study including but not limited to endocrine pathway genes for fish and shellfish.

- Baseline data for existing mercury concentrations in fish tissue and benthic invertebrates sampled in the study area that are adequate to be used for comparison purposes for impact monitoring programs. Provide data on total mercury in whole fillets accompanied by fish species and size data; and

- Baseline study for fish and shellfish tissue with chemical analysis that includes COPCs and POPs of representative key marine species including foundational species and invertebrates important for commercial, recreational and Aboriginal fisheries (food, social and ceremonial) in the vicinity of the proposed effluent pipeline and diffuser location, as well as over the study area at multiple locations. The locations of samples must be clearly identified and justified.

9.5 Agriculture, Aquaculture, Fishery and Forestry Resources

Identify and describe agricultural resources in the study area. Identify agricultural operations in the study area and describe crop types, growing seasons and growing methods.

Describe all commercial, recreational and Aboriginal fisheries (including food social ceremonial (FSC) as well as commercial), aquaculture, and harvesting (e.g., marine plants, shellfish) in the study area. Describe the commercial and recreational species, caught, grown or harvested, and their economic importance. Identify fishing, aquaculture and harvesting locations, the amount caught, and methods used. Describe also all uses of sea water for activities associated with fishing and fish processing.

Identify and describe forestry activities in the study area.

9.6 Socio-Economic Conditions

Describe the current socio-economic conditions of the study area, including population demographics and economic conditions (including Aboriginal Peoples). Provide details of employment rates and trends at the municipal and regional level. The spatial boundaries of this analysis should include areas within which employees of the Project are expected to reside. Identify key industries in the region (both land-based and marine-based) and describe their contribution to the local and regional economies. Provide details of residential and commercial property values. Describe any local and regional economic development goals and objectives identified through community consultation, or existing economic development plans and strategies.

9.7 Existing and Planned Land and Marine Area Uses

Describe the patterns of current and planned land use and settlement in the study area including residential, industrial, agricultural, tourist destinations, parks, and protected areas. Provide details of

areas under existing mineral exploration licenses as well as areas licensed for pulpwood harvesting. Identify locations of abandoned mine workings, mine tailings and waste rock disposal areas, as well as contaminated sites. This section shall include map(s) to illustrate land uses and provide distances to significant settlements.

Describe the existing planned and potential marine uses of the area potentially impacted by the project.

The EA Report must also identify lands, including marine areas, and resources of special social, cultural or spiritual value to the Mi'kmaq of Nova Scotia, with particular emphasis on any current uses ~~of land~~ for traditional purposes. Past and historical land and marine area uses of the Mi'kmaq of Nova Scotia should also be identified including uses prior to creation of the Boat Harbour Effluent Treatment Facility. A Mi'kmaq Ecological Knowledge Study (MEKS) should be used to identify land, including marine areas, and resource use that have and/or continue to be pursued by the Mi'kmaq of Nova Scotia.

9.8 Archaeological Resources

Identify any land and marine areas containing features of historical, paleontological, cultural or archaeological importance in a manner acceptable to the Nova Scotia Communities, Culture and Heritage (CCH). Describe the nature of the features located in those areas. Particular attention shall be given to Mi'kmaq of Nova Scotia archaeological sites and burial sites. All heritage research permits acquired, and engagement with the Mi'kmaq of Nova Scotia during this analysis should be identified in the document. Results of the Archaeological Resource Impact Assessment reports related to Indigenous land use and known archaeological sites of interest to the Mi'kmaq, should be provided to the Office of Aboriginal Affairs and PLFN.

10.1 ADVERSE EFFECTS AND ENVIRONMENTAL EFFECTS ASSESSMENT

Describe the effects of the Project on the environment during all phases of the Project (construction, operation, and decommissioning and reclamation), including any environmental change on health, socio-economic conditions, archaeology, and the current use of land for traditional purposes by the Mi'kmaq of Nova Scotia. The EA Report shall identify and describe the accidents and/or malfunctions as well as any process changes, system disruptions, planned or unplanned shutdowns and start-ups, and associated or other changes in air, effluent and other emissions, that may occur during all phases of the Project, and assess the effects individual and cumulative on VECs.

Provide a detailed contingency plan that considers site-specific conditions and sensitivities, the lifespan of different components and current age and condition of existing equipment that will be operated in connection with the ETF, and includes, but is not limited to:

- Full hazard identification quantitative and qualitative risk assessment associated with Project construction and operation, including those which have or may have an environmental impact (directly or indirectly);
- Prevention, mitigation and contingency measures to mitigate potential Project impacts;
- Discussion of measures to mitigate potential impacts or damages on the environment, properties and human health (e.g., liability insurance, financial security, etc.);
- Emergency response procedures; Description and quantification of releases that could occur under both normal conditions and a 'worst-case scenario';

- Description the types, fate and distribution of contaminants within the study area under normal and worst-case scenarios during construction, operations and post-reclamation;

- Discussion of potential Project impacts on emergency and health services in communities near the ~~Project~~ study area, and associated mitigation and contingency measures in the events of major Project related accidents and malfunctions;

- Description of the cumulative effects of Project activities; and

- The effects assessment shall also consider impacts of the environment on the Project, ~~(~~including but not limited to impacts of weather and climate, and extreme events such as storms, extreme temperatures very high and low tides significant ice movement etc.) ~~on the Project,~~ The effects assessment shall includ~~eing~~ a discussion of how potential climate change and associated ocean warming and weather changes ~~–~~will impact all components of the Project during the expected lifespan of the ETF.

Modelling

All models used to predict environmental effects and conditions shall be calibrated, set up, operated and interpreted in accordance with the applicable program manuals and established industry standards. The standards manuals and methodologies used and the steps taken to conduct all aspects of the modelling exercises must be set out and justified in detail in the applicable study discussing the modelling exercise and results. All aspects of each modelling exercise must be performed by qualified and trained personnel, and credentials for all personnel must be provided. All input data for all models must be included in the EA Report report package in appropriate useable formats such that the modelling exercises can be replicated by independent modellers using the same or comparable modelling applications.

Modelling studies shall discuss all available data, and data ranges, for all modelling conducted, and the selection of all particular input data for each model must be explained and justified. As well modelling of alternative scenarios shall be conducted using alternative input data and parameters also drawn from available baseline data (following compilation of the comprehensive data required by all sections of these terms of reference). The study shall detail efforts made to ensure that data is accurate and representative of actual and worst-case conditions in the entire study area over the full year in all seasons and in all conditions.

10.1 Geophysical Environment

Potential effects of the Project on the geophysical environment must be discussed in the EA Report.

The EA Report must also discuss the potential cumulative and residual effects of the Project on the geophysical environment and the significance of these effects.

10.2 Water Resources

In conducting the effects assessment on water resources, the EA Report must identify and evaluate:

- Changes in groundwater and surface water quality as a result of effluent discharges from the Project site;

- Potential effects on groundwater quality and quantity and associated impacts to users of groundwater;

- Potential cumulative and residual effects of the Project on water resources and the significance of these effects including ecosystem integrity and changes in hydrology to areas immediately adjacent to the ~~Project~~ study area;

- Where wetland avoidance is not possible, the EA Report must discuss wetland specific construction activities (including trench dewatering, surface water diversions and maintenance of hydrologic connection of wetland complexes), proposed mitigations and anticipated impact on wetland area and function.

- The Canadian Council for Ministers of the Environment (CCME) Water Quality Guidelines with background water quality results ~~shall be used to ensure the protection of relevant water uses~~ (freshwater aquatic life, recreational use, agricultural use, and drinking water supply) ~~and~~ shall be used as a tool to assist in ~~the basis for~~ evaluating the significance of the predicted impacts on freshwaters;

- ~~And~~Compliance with all applicable legislation and regulatory standards must be discussed and clearly evaluated and demonstrated including compliance with the *Fisheries Act* and regulations made thereunder, including the *Pulp and Paper Effluent Regulations,* and the *Canadian Environmental Protection Act, 1999,* and regulations made thereunder, including but not limited to the *Pulp and Paper Mill Effluent Chlorinated Dioxins and Furans Regulations.*

- Any standard or guideline which the proponent seeks to apply to assist in evaluating adverse effects and environmental effects must be explained and its application justified and all requirements of each such standard or guideline must be fully examined, in relation to actual and predicted ecosystem conditions, sensitivities and uses. As stated above, complete copies of such standards or guidelines must be appended or linked in an accessible manner to the EA Report or individual supporting study.

- It is recommended Health Canada's Guidance for Evaluating Human Health Impacts in Environmental Assessment: Water Quality, be reviewed and applied in the evaluation where relevant.

10.2.1 Groundwater

Provide an assessment of the potential risk to groundwater resources associated with the construction and operation of the pipeline. The assessment shall include but is not limited to quantitative calculation of time of travel between the pipeline and water supply wells and watercourses, delineation of well capture zones and determination of groundwater flow directions. The results of this assessment shall be considered in the final pipeline design in terms of providing for greater protection in areas of greatest risk.

The groundwater assessment results need to be discussed with the Town of Pictou to establish confidence that the risk of negative impacts to the Town water supply has been reduced to an acceptable level.

10.2.2 Surface Water

In conducting the effects assessment on surface water resources, the EA Report must identify and evaluate:

- Potential effects to surface water quality on fish and fish habitat, community water supplies (protected and unprotected), and recreational and agricultural users.

10.2.3 Marine

Subject to the express requirements of these terms of reference, ~~T~~the proponent is ~~encouraged~~ required to consult with relevant government departments when determining the need for, extent, methods, and timing of site-specific studies/surveys. In conducting the effects assessment on marine resources, the EA Report must identify and evaluate, to the satisfaction of relevant government departments:

- Marine pipeline construction methods along the full route and construction requirements (e.g., blasting), using results from geotechnical investigations;
- Adequacy of proposed pipeline burial depths with respect to ice scour and ice grounding;
- Geotechnical assessment of stability of underwater excavation works near base of Causeway with respect to causeway embankment and structures;
- Potential risk of impacts to the marine environment resulting from leaks from marine based sections of pipeline;
- Receiving water study that assesses fate and transport of COPCs and POPs in the receiving water environment for a range of scenarios reflective of conditions possible at the chosen site and over the full study area. Modelling shall include a detailed analysis of fate and transport including in coastal, near-shore, island and harbour areas, as well the more open areas of the Strait. This study shall identify potential short and long-term impacts. This study is to be completed using 3 dimensional modelling techniques and scenarios for all COPCs and POPs in the receiving environment, based on the results of the effluent characterization in Section 3.6 of the Terms of Reference and other relevant studies, such as Human Health Risk Assessment. All baseline climate and marine data (tides local and overall currents water flows waves water levels salinity ice cover temperature water column stratification freshwater inputs and all other dynamics as well as water quantity and quality data, including but not limited to conditions associated with seasonal changes and extreme weather events and dynamics), should be applied to this study for model setup, calibration and validation. Results shall include, but not be limited to, discharge plume dimensions and dilution ratios;
- Goodness of Fit and other appropriate industry-standard statistical procedures are to be applied to evaluate model adequacy in representing the receiving water environment for the calibration and validation periods. Assessment must be provided on the adequacy of the seasonal variation and lengths of observed datasets used in model setup and calibration/validation. A summary of model confidence in adequately representing multi-year effluent discharge transportation of COPCs and POPs and accretion/build-up within the receiving water environment is to be included;
- Potential build-up of COPCs and POPs resulting from the proposed activity (e.g., marine and shoreline accumulation) including but not limited to build-up of COPCs and POPs within marine plants and benthic invertebrates and subsequent biomagnification in the food chain). Provide the estimated dilution potentials at various distances from the diffusers based on calibrated model results as appropriate;
- In conjunction with the above, provide 3 dimensional sediment transport modelling, including model(s) and scenarios to assess the impacts of sediment transport within near-field and far-field model areas and the full study area. Modelling shall include a detailed analysis of sediment

transport and accumulation in coastal near-shore island and harbour areas as well the more open areas of the Strait. Sediment transport modelling shall be conducted using all appropriate modules for study area conditions including a properly calibrated MIKE (or comparable industry standard) sediment transport module that accurately accounts for the three dimensional currents in the study area. The results of the modelling activities are to be assessed with respect to chemical and physical characterization of the distributed solids, interaction with marine sediments and waters, and effects within the marine environment, particularly to marine organisms including build-up of COPCs and POPs within marine species marine plants and benthic intervebrates; and

- Based on the results of the receiving water study, evaluate whether colour is expected to be visible at the ocean surface above the diffuser site, including influence of in-water reactions (e.g., potential stratification of the water column) on colour levels. Assess impact of colour and its interaction and effect on the marine sediments and associated marine life.

- All marine models must incorporate all appropriate industry-standard modules designed specifically to account for all relevant conditions in the study area, including but not limited to the influence of sea ice and climate change effects in reaching the results and predictions. All marine models must include worst-case scenarios in the range of predicted outcomes and results.

10.2.4 Wetlands

In conducting the effects assessment on wetlands, the EA Report must identify and evaluate:

- Potential direct and indirect impacts to wetlands and how Project development will adhere to the Nova Scotia Wetland Conservation Policy; and
- Where wetland avoidance is not possible, discuss wetland specific construction activities (including trench dewatering, surface water diversions and maintenance of hydrologic connection of wetland complexes), proposed mitigations and anticipated impact on wetland area and function.

10.3 Atmospheric Resources

Describe the sources, types and estimated quantities of air emissions from the mill facility and spill basin for all potential air contaminants of concern related to the Project under routine conditions and in the case of process changes, system disruptions, planned or emergency shutdowns and start-ups, malfunctions and accidental events on a seasonal and annual basis. Air contaminants to be evaluated should include but not be limited to, impacts of CO, hydrogen sulphide (H_2S), nitrogen oxides (expressed as nitrogen dioxide)(NO_2), O_3, SO_2, TSP, $PM_{2.5}$, PM_{10}, TRS, speciated VOCs, semivolatile VOCs, polycyclic aromatic hydrocarbons (PAHs) and metals. The description shall include appropriate models based on known or measured atmospheric conditions throughout the year.

For all Project phases, construction, operation and decommissioning, estimate the GHG emissions and provide an inventory of GHG emissions from all Project components. This includes carbon dioxide (CO2), methane (CH4), nitrous oxide (N2O) chlorofluorocarbons (CFCs) and hydrochlorofluorocarbons (HCFCs), sulfur hexafluoride (SF6), nitrogen trifluoride (NF3) and conversion of these emissions to an equivalent amount of CO2. Also include an inventory of the precursors or tropospheric ozone (CO, NOx, and VOCs).

Where possible, include a comparison of the above information with estimates of total GHG contributions from NS, and from similar facilities in Canada. The EA Report must also include a discussion of measures that have been considered and/or are proposed to reduce air emissions and reduce or offset GHG

emissions to ensure all air and GHG emissions remain below safe levels under all operating conditions including service disruptions and unplanned events, shut-downs and start-ups.

While considering the effects on air quality, the EA Report must discuss the potential impacts of predicted increases in noise and light levels during all phases of the Project, on surrounding residential, commercial, recreational and institutional areas, and marine and terrestrial habitats.

It is recommended Health Canada's Guidance for Evaluating Human Health Impacts in Environmental Assessment: Air and Noise, be reviewed and applied in the evaluation where relevant.

In addition, based on concerns raised by government reviewers, the EA Report must also include, but not be limited to the following additional items:

Revised air dispersion modelling including the following:

- Consideration of the effects of fumigation and coastal interaction in the modelling;
- Modelling based on the operating scenario for the occasion when the highest concentration of an air contaminant occurs at ground level. The operating condition that corresponds to the maximum air contaminant concentration at ground level may occur when the facility is at the maximum production level or running at a lower production level or when the process is in transition. The report shall include a description of the operating conditions that result in the maximum ground level concentration of an air contaminant;
- Identification of individual emission rates as measured or estimated and include the reference and justification for values used;
- Comparison of the maximum predicted ground level concentrations of all contaminants with relevant ambient air quality criteria. In the absence of NS adopted ambient air quality criteria, the Proponent shall utilize criteria from Federal or other Provincial jurisdictions;
- Comparison of the maximum predicted ground level concentrations of all contaminants with their relevant upper risk thresholds;
- Risk assessment and mitigation plan for contaminants that demonstrate a predicted exceedance of a relevant upper risk threshold;
- Inclusion of isopleth mapping for all contaminants predicted to exceed relevant ambient air quality criteria;
- Identification of discrete receptors on all isopleth mapping;
- Mitigation options to address any predicted exceedances of relevant ambient air quality criteria used in the modelling. The model shall be rerun incorporating the mitigation projects to demonstrate no predicted exceedances; and
- Implementation schedule for potential mitigation options.

All air dispersion models must incorporate all appropriate industry-standard modules designed specifically to account for all relevant conditions in the full study area, including but not limited to the influence of marine, coastal and terrestrial environments during all seasons, and including climate change effects in reaching the results and predictions. All models must include worst-case scenarios in predicted outcomes and results.

10.4 Flora and Fauna

10.4.1 Terrestrial Environment

Identify and evaluate the potential effects on flora and fauna and avifauna species/communities during all phases of the Project. Include a full account of impacts on species at risk or of concern, significant habitats and protected areas or areas of potential value to Nova Scotia's protected areas network that may be potentially disturbed, altered or removed. The effects assessment must also consider the potential for effects to flora and fauna associated with landscape fragmentation and sensory disturbances.

10.4.2 Freshwater Aquatic and Marine Environment

Evaluate the potential effects on aquatic environments, including but not limited to fish fish forage and fish habitat.

While considering the effects that the Project may have on freshwater and marine species, include a full account species at risk or of concern and significant habitats. This section must include activities that may affect avifauna in the aquatic environments. Also consider potential effects to marine species from blasting, dredging and other marine construction, as well as vessel traffic and Project operation. Where impacts to fish habitat cannot be avoided or mitigated, discuss compensation measures to ensure impacts are offset.

Assessment of COPCs in the baseline fish and shellfish populations and potential effects due to expected discharge quality.

Include a summary of the potential effects on flora/fauna known to be important to the Mi'kmaq of Nova Scotia.

10.5 Agriculture, Aquaculture Fishery and Forestry Resources

Include an effects assessment of the Project on existing and future agriculture activity within the study area.

Assess the impacts on commercial/recreational fishing, aquaculture or other marine harvesting which may be impacted by the proposed Project. The effects assessment should consider changes in commercial/recreational fishing, aquaculture or other marine harvesting species, including contamination of species consumed by people as a result of increased ~~-~~erosion, sedimentation and from effluent discharges from the Project, displacement, mortality or loss and/or alteration of habitat. Also discuss navigation restrictions and loss of traditional fishing areas of the Mi'kmaq of Nova Scotia.

Conduct an impact assessment of treated effluent on representative key marine fish species important for commercial, recreational and Aboriginal fisheries. This must be based upon information, studies and an understanding of expected movement of contaminants according to the revised receiving water study. Based on the assessment of applicability of Point C representing Project ETF effluent quality, chronic and acute toxicity testing of non-diluted treated effluent is to be conducted through a series of controlled laboratory experiments. Species used in the assessment should be applicable to the receiving water environment. Consideration should be given to using either the plant's current effluent or another acceptable and representative substitute. The selection of information sources, representative marine species and assessment methodology must first be agreed upon by relevant government departments.

Undertake a model-based evaluation of the chronic effects of thermal cooling water discharge on fish and fish habitat in the receiving water. Based on the results of the evaluation, develop appropriate mitigation measures and/or project changes.

The EA Report must include a discussion on the potential effects on any forestry resources within the ~~Project~~ study area.

10.6 Human Health

Provide the completed Human Health Risk Assessment (HHRA) in accordance with Health Canada's Guidance for Evaluating Human Health Impacts in Environmental Assessments: Human Health Risk Assessment and other Guidance for Evaluating Human Health Impacts in Environmental Assessment documents for noise, air quality, drinking and recreational water, etc. as applicable. Federal contaminated sites guidance documents such as the Detailed Quantitative Risk Assessment (DQRA) may be used to supplement the EA Guidance documents where appropriate. The risk assessment must consider human consumption of fish and other seafood, consumption of potentially contaminated drinking water, exposure to recreational water and sediment, outdoor air inhalation, and any other potential exposure pathways. The analysis must inform the identification of contaminants of concern and updating of the receiving water study.

The HHRA must consider baseline data and represent all marine species which are harvested and consumed in the area with respect to the marine component of the Project and in all types of fisheries-commercial, food, social and ceremonial. In addition, information for these species should be included in the baseline studies for COPCs in marine organism tissues where possible. The HHRA must consider bioaccumulation and the potential for biomagnification in the food chain. The exposure route associated with consumption of seaweed and sea vegetables must also be included.

The HHRA is to include appropriate receiving water study and associated modelling activity results (e.g., contaminant fate and transport) as to accurately assess the potential risk to human health.

Include monitoring and mitigation measures for elevated COPCs in air emissions in HHRA problem formulation.

Screen COPCs in Project effluent discharge according to guidance from Health Canada. Incorporate findings from receiving water study. Discuss the potential for interactive effects from similarly acting chemicals. Include an evaluation of the risk associated with exposure to chemical mixtures. Provide calculation of Hazard Quotients (HQ) and Incremental Lifetime Cancer Risk (ILCR) which account for additivity.

Ensure any screening values used from the EPA are adjusted to be consistent with the health protection endpoints prescribed by Health Canada and CCME.

Provide clarification on methodology applied to selection of COPCs for seafood ingestion in consultation with Health Canada.

The HHRA should require identification and consideration of susceptible populations and their histories of exposure. Vulnerable or susceptible populations should be included in risk assessments, including women (and pregnant women) and children who may be more susceptible to exposures to toxic substances and subsequent health outcomes based on the timing of exposure and windows of susceptibility. Low dose, cumulative and synergistic effects must be considered as a result of exposure to complex mixtures of toxic substances, including endocrine disrupting chemicals. As well, sex- and gender-based analysis should be applied to any evaluation of health risk and exposure to toxic substances.

10.7 Socio-Economic Conditions

Identify potential impacts of the Project on economic conditions, populations and employment.

Identify potential impacts of the proposed Project on residential property values and property demand during all phases of the Project (including temporary accommodation required during construction).

Describe the effect of the proposed Project on present and future commercial, residential, institutional, recreational and resource land uses within the study area, including impacts to areas under mineral exploration licenses or forestry licenses.

Identify the potential impact on recreational opportunities, including the effects on aesthetics from areas surrounding the Project area. This analysis should be supported by visual impact assessments from both the land and water.

Identify the potential impact on the current use of land and marine resources for traditional purposes and any Aboriginal specific land claims within the study area.

While considering the effects on economic conditions and employment, include a discussion on expenditures and the anticipated direct and indirect employment positions that will be created during all phases of the Project.

10.8 Existing and Planned Land and Marine Area Uses

The EA Report must consider the effects that may restrict the ability of people to use and enjoy adjacent lands and marine areas presently, and in the future. Describe the potential impacts from existing or planned land uses in the study area. This shall include a discussion of Project interactions with any rural planning initiatives, parks, protected areas, contaminated sites, former mine workings, and mine disposal areas.

Identify and evaluate potential effects on traditional and current recreational and commercial use by the Mi'kmaq of Nova Scotia.

Discuss the anticipated changes in traffic density and patterns during all phases of the Project including the effects on transportation.

While assessing the effects on navigation and navigable waters, consider navigation patterns of all waters that may be impacted by the Project. Potential effects on traditional and current recreational and commercial use must be identified and evaluated.

10.9 Archaeological Resources

Evaluate the potential effects of any changes in the environment as a result of Project activities on physical and cultural resources, structures and/or sites of historic, archaeological, or paleontological significance.

In conducting the effects assessment on archaeological resources, it is recommended that the Proponent consult with CCH and with the Archaeology Research Division of KMKNO.

11.0 PROPOSED MITIGATION

Describe all measures that have, or will be, taken to avoid or mitigate negative impacts, and maximize the positive environmental effects of the Project (as described in Section 9.0 of the Terms of Reference). Mitigation includes the elimination, reduction or control of the adverse effects or the significant environmental effects of the Project and may include restitution for any damage to the environment caused by such effects through replacement, restoration, compensation or any other means.

Describe proposed compensation that will be provided when environmental damage is unavoidable or cannot be adequately mitigated by any other means.

In considering mitigation measures to be employed, the EA Report must describe any legislation, regulations, guidelines, policies, BMPs, and specifications that will be adhered to during construction and operation of the facility that will lead to mitigation of environmental impacts.

11.1 Geophysical Environment

If applicable, describe alternatives to disrupting net acid producing bedrock. When no practical alternative to exposing acid producing bedrock exists, mitigation plans shall be developed for minimizing the impacts on the aquatic environment. Discuss commitments to provide contingency and remediation plans for watercourses that have been degraded due to the disturbance of net acid producing bedrock or tills.

Discuss measures to be taken to investigate the existence of contaminated soils, known or unknown, in advance of project construction and as construction proceeds. If contaminated soils are to be disturbed, discuss methods to minimize and eliminate adverse impacts.

Provide applicable mitigation measures and preliminary agreements and plans that meet Provincial regulatory disposal and transportation requirements for potential dredge materials.

11.2 Water Resources

11.2.1 Groundwater Quality and Quantity

Describe actions that will be taken to mitigate any negative impacts on groundwater quality and quantity.

Provide a Groundwater Protection Plan based on the assessment of risks to local water supplies (municipal and private) and the environment. This plan should include management/contingency response actions and reference the groundwater monitoring plan as well.

Describe measures to be employed in the event of accidental contamination or dewatering of any water supply wells as a result of the construction or operation of the Project, including compensation for loss or degradation of water supplies. Describe mitigation measures planned to prevent and remediate contamination of groundwater from the accidental release of a hazardous substance.

Discuss commitments to provide contingency and remediation plans for any contamination of groundwater resources, including decrease of water quality.

11.2.2 Surface Water Quality and Quantity

Describe all mitigation measures that will be used in construction, operation and decommissioning phases of the Project to reduce impacts to surface water resources, including but not limited to erosion and run-off control features and storm drainage management.

Discuss all mitigation measures planned to prevent the release of hazardous substances into local surface waters.

Discuss commitments to provide contingency and remediation plans for any impact to surface water resources, including decrease of water quality or quantity.

11.2.3 Marine Water Quality and Quantity

Describe all mitigation measures that will be used in construction, operation and decommissioning phases of the Project to reduce impacts to marine water resources.

Discuss all mitigation measures planned to prevent the release of hazardous substances into marine waters.

Discuss commitments to provide contingency and remediation plans for any impact to marine water resources, including decrease of water quality or quantity.

11.2.4 Wetland Resources

Describe measures to avoid, minimize or otherwise mitigate effects on wetland resources within the Project area. Specifically, the EA Report must describe measures to maintain ecological and hydrological integrity of any wetlands in the area. Where avoidance is not possible, provide wetland specific

mitigations proposed to lessen impacts of the Project at all stages and describe commitments to monitoring and compensation for any loss of wetland habitat. Also provide discussion and commitment regarding remediation/rehabilitation of aquatic habitat as a result of incidental releases of treated effluent in wetlands.

11.3 Atmospheric Resources

Describe measures to avoid, minimize or otherwise mitigate effects on biological receptors during all phases of the Project (vegetation, fish, wildlife, and human health).

Specifically, describe measures that will be taken to control emissions including but not limited to CO, H_2S, nitrogen oxides expressed as NO_2, O_3, SO_2, TSP, $PM_{2.5}$ and PM_{10}, TRS, speciated VOCs, semivolatile VOCs, PAHs and metals. Describe any GHG mitigation plans.

Describe all measures that will be taken to mitigate any potential increase in noise and light levels during construction and operation.

11.4 Flora and Fauna

11.4.1 Terrestrial Environment

Discuss measures that will be taken to minimize the impacts of the Project construction and operation on flora species. Include any landscaping plans for preservation of existing vegetation.

Describe the measures that will be taken to minimize the impacts of the Project at all stages on terrestrial fauna and avifauna. Include any plans for preservation of existing habitat and compensation for loss or degradation of terrestrial habitat (i.e., habitat rehabilitation/replacement). Measures to comply with wildlife legislation and associated regulations (e.g., *Migratory Birds Convention Act* ~~and regulations~~ *Species at Risk Act* and the *Endangered Species Act*) should also be provided.

Discuss commitments to provide contingency and remediation plans for impacts to terrestrial habitat as a result of accidental events.

In addition, based on concerns raised by government reviewers during the review of the EARD and the Focus Report, the EA Report must also include, but not be limited to the following additional items:

- Mitigation plan developed in consultation with NSLAF that includes additional details to protect wildlife and wildlife habitat, including birds, mammals, herptiles, raptors, and species and risk. The plan must include but not be limited to the following:

  a) mitigation measures that will be taken to avoid destroying rare priority species detected in the 2019 floristic surveys;

  b) mitigation and monitoring plan for the Eastern Wood-Pewee (*Contopus virens*, SARA Special Concern, NSESA Vulnerable) and Barn Swallow (*Hirundo rustica*, SARA Threatened, NSESA Endangered) found during the course of field surveys and Kildeer (*Charadrius vociferous*) identified to likely be breeding in the Project area, in consultation with both ECC and NSLAF;

  c) additional details on how impacts to the Double-Crested Cormorant (*Phalacrocorax auratus*) colony located along the east side of Highway 106 causeway will be mitigated during installation of the pipeline across Pictou Harbour. Identify appropriate mitigation measures to protect Double-crested Cormorant nests in the event of a pipeline rupture;

  d) specific measures to be developed to discourage waterfowl from accessing the spill basin and other open ETF components;

e) specific measure to be developed to control of spread of invasive species;

f) specific measures to be developed to address potential foraging and overwintering habitat for turtles; and

g) a training program for field staff to enable them to recognize the potential for species occurrences and procedures to follow.

11.4.2 Freshwater Aquatic and Marine Environment

Discuss measures that will be taken to minimize the impacts of the Project construction and operation on marine and freshwater aquatic species, avifauna and their habitats. Include any plans for preservation of existing habitat and compensation for loss or degradation of aquatic habitat.

Describe the measures that will be taken to minimize the introduction of non-native species to the area.

Discuss commitments to provide contingency and remediation plans for impacts to aquatic habitat including marine habitats as a result of accidental events.

11.5 Agriculture, Aquaculture, Fishery and Forestry Resources

Discuss measures that will be taken to minimize the impacts of the Project on agriculture, fishing, aquaculture, marine harvesting, and forestry.

11.6 Human Health

Provide suitable avoidance and/or mitigation measures to prevent and minimize potential Project impacts on human health.

11.6 Socio-Economic Conditions

Describe actions that will be taken to mitigate adverse impacts on private and commercial property, existing industry and businesses, planned land use, existing and planned marine uses recreation and other human activities, including traditional activities and land and marine uses by the Mi'kmaq of Nova Scotia.

Provide a dispute resolution policy for addressing Project related complaints and concerns that may be received throughout construction, operation, decommissioning and reclamation, and post-decommissioning.

11.7 Existing and Planned Land and Marine Area Uses

Describe the measures planned to minimize the potential impacts of the Project on existing and planned land and marine uses.

Discuss the mitigation measures planned to address anticipated impacts from any predicted changes in traffic speed, traffic routes, marine navigation, fishing activities exclusion zones and density in adjacent residential and commercial areas.

11.8 Archaeological Resources

Describe mitigation measures to preserve, protect, or recover any resources of cultural or archaeological value that are identified in the study area.

12.0 RESIDUAL EFFECTS AND ENVIRONMENTAL EFFECTS

This section of EA Report shall list and contain a detailed discussion and evaluation of the residual impacts for each VEC, including the criteria for determining significance. Residual impacts are those adverse effects or significant environmental effects which cannot or will not be avoided or mitigated through the application of environmental control technologies or other acceptable means. Those impacts that can be

mitigated or avoided shall be clearly distinguished from those impacts that will not be mitigated or avoided.

The discussion and evaluation shall include all COPCs, POPs and sediments/solids that are to be discharged, or may be discharged following treatment into the marine environment (and/or other receiving environments) under any operating conditions including due to malfunctions system changes or disruptions and the residual effects and environmental effects (including but not limited to human health) of each such COPC and POP and the ongoing cumulative effects of such discharge on all aspects of the receiving environment, both locally and within the larger marine environment of the Northumberland Strait the Gulf of St. Lawrence and the North Atlantic Ocean over the full lifespan of the ETF.

These impacts become important in the evaluation of a proposed Project as they represent the environmental cost of the Project.

13.0 EVALUATION OF THE ADVANTAGES AND DISADVANTAGES TO THE ENVIRONMENT

Present an overall evaluation of the advantages and disadvantages to the environment, including the VECs, during the construction, operation and decommissioning phases of the Project. The evaluation of the disadvantages shall include an examination and justification of each disadvantage.

14.0 PROPOSED COMPLIANCE AND EFFECTS MONITORING PROGRAMS

Include a framework upon which compliance and effects monitoring will be based throughout the life of the proposed Project, including decommissioning and post-decommissioning activities. Monitoring programs must be designed to determine the effectiveness of the implemented mitigation measures. The EA Report shall describe the compliance reporting methods to be used, including reporting frequency, duration, methods, parameters, comparison standards or guidelines, format, and receiving agencies. Mapping clearly illustrating baseline and proposed monitoring locations should also be included.

Recognizing that the effectiveness of compliance and effects monitoring depends on a workforce that can identify and address potential impacts during construction and operation of the Project, the framework shall include procedures for providing training and orientation to on site employees during construction and operation of the Project.

The description of the compliance and effects monitoring program shall also include any procedures/plans for addressing potential exceedances of environmental protection standards, guidelines or approvals in a timely and effective manner.

The discussion of compliance monitoring shall include, but not be limited to Sections 14.1 – 14.4.

14.1 Geophysical Environment

Describe plans and procedures for assessing ARD potential and associated monitoring in the event of disturbance or exposure.

14.2 Water Resources

Wetland specific post construction monitoring and comparison to baseline condition must be provided to identify post-construction wetland indicator performance and adaptive management to address impacts at all project stages. The report should address compensation measures that may be required to ensure no net loss of wetland area and functions.

Submit a groundwater quality and level monitoring plan for the construction, operation and decommissioning phases of the Project, including the pipeline route and mill site location. This is to include the location of monitoring wells, monitoring sampling frequency and monitoring parameters. The plan must consider the final pipeline design as well as the potential risk to the environment and local water supplies as a result of pipeline construction and possible pipeline leak. The plan must address, as a minimum, sensitive areas along the pipeline route, such as shallow water table intersecting surface water features, proximity to water supply wells and areas along the pipeline more susceptible to failure. Locations where the pipeline may be constructed below the seasonal high-water table shall be identified.

Discuss plans for a survey of structures if blasting is planned, to include wells, building foundations, etcetera, which may experience damage or impact due to seismic vibrations or air concussion.

Discuss any surface water monitoring plans for the construction, operation and decommissioning phases of the Project, including both water quality and quantity aspects.

Develop a marine discharge plume delineation monitoring program to confirm plume dimensions, and effluent concentrations and characteristics in support of the Environmental Effects Monitoring program.

14.3 Fish and Fish Habitat

Submit an Environmental Effects Monitoring program that includes water quality, sediment and tissue sampling and is based on the results of various relevant baseline studies and receiving water study. The program should at a minimum be designed based on applicable regulatory requirements. The program should also demonstrate that fish and shellfish are not affected in size abundance or sub-lethally. The program should also provide for timely and effective means to address and correct all adverse effects on fish and fish habitat.

Submit a post construction monitoring program for regular sampling of gene expression profiling, including but not limited to endocrine pathway genes for fish and shellfish.

Submit a post construction sampling and monitoring program for algal blooms and algal cysts in the Northumberland Strait between Nova Scotia mainland Pictou Island and Prince Edward Island at multiple locations and sampled at regular intervals over all seasons.

14.4 Atmospheric Resources

Complete an ambient air quality monitoring plan, acceptable to the Department, based on the results of the air dispersion modelling. This plan must include but not be limited to sampling locations, parameters, monitoring methods, protocols and frequency. The plan shall ensure adequate monitoring coverage of areas where elevated levels of air contaminants may occur and will set out steps to address and eliminate any such exceedances in a timely and effective manner. ~~predicted levels of air contaminants are elevated.~~

Describe plans for GHG monitoring, reduction targets and reduction plans.

Discuss the plans for monitoring baseline, construction and operational noise levels at the site, and at any residential or commercial areas near the Project.

14.5 Human Health

Provide suitable monitoring measures over the study area to confirm impact predictions. ~~Where~~ The proposed monitoring measures shall ~~is proposed,~~ include a plan for reporting/communicating ~~reporting~~ exceedances of relevant guidelines/thresholds and set out steps to address and eliminate such exceedances in a timely and effective manner.

Monitoring must be conducted over the study area for COPCs, POPs, and including endocrine disrupting chemicals that have low dose, cumulative and synergistic effects as a result of exposure to complex mixtures of toxic substances

14.5 Other Monitoring Plans
Include any other monitoring plan which may include an Environmental Protection Plan or other guidelines, polices or plans, proposed for the construction, operation and decommissioning of the Project.

15.1 CONSULTATION PROGRAM

A Notice regarding the Draft Terms of Reference for Preparation of an ~~Environmental Assessment Report~~EA Report pursuant to the Nova Scotia *Environment Act* was published in the Chronicle Herald and Royal Gazette on January 8, 2020 and posted on the NSE internet site (www.gov.ns.ca/nse/ea/). Information pertaining to this EA will be available on this site.

The Class I EA process for the Project includes the following opportunities to participate (specifically government departments/agencies, the Mi'kmaq of Nova Scotia and the general public will be invited to provide comments):

- the Draft Terms of Reference; and
- the Environmental Assessment (EA) Report.

15.1 Public Consultation
For any consultation undertaken with the general public, the EA Report must describe ongoing and proposed consultation and information sessions. All public information and consultation sessions shall be held only after appropriate and timely notice is given to the public and only after sufficient information and time is provided to enable the public to understand and respond to the issues raised.

Describe all steps taken by the Proponent to identify the concerns of the public about the adverse effects or environmental effects of the Project. ~~It~~ The EA Report shall provide a summary of all concerns expressed by the public and all steps taken by the Proponent to address these concerns. Moreover, the EA Report must describe any outstanding concerns.

The EA Report will also provide details of efforts made to distribute Project information and provide a description of the information and materials distributed to inform the general public.

15.2 Consultation with the Mi'kmaq of Nova Scotia
To assist the provincial Government in their consultation process with the Mi'kmaq of Nova Scotia, the EA Report must describe all steps taken by the Proponent to ~~identify the concerns of~~ meet with and consult the Mi'kmaq of Nova Scotia about the adverse effects or environmental effects of the Project and their concerns about the Project. It shall provide a summary of all concerns expressed by the Mi'kmaq of Nova Scotia and all steps taken by the Proponent to address these concerns. Moreover, the EA Report must describe any outstanding concerns.

During the EA process, NSE will serve as the provincial Crown consultation coordinator.

The EA Report will also provide details of efforts made to distribute Project information and provide a description of the information and materials distributed to inform the Mi'kmaq of Nova Scotia.

In parallel to Proponent engagement with the Mi'kmaq of Nova Scotia, the Government of Nova Scotia will undertake continued consultation directly with the Mi'kmaq of Nova Scotia pursuant to the Mi'kmaq-Nova Scotia-Canada Consultation Process (2010).

The Proponent is encouraged to engage the Mi'kmaq of Nova Scotia as referenced in the Nova Scotia Office of Aboriginal Affairs' Proponent's Guide: The Role of Proponents in Crown Consultation with the Mi'kmaq of Nova Scotia (2011).

Community Liaison Committee

Include any plans for ongoing community consultation or formation of a community liaison committee (CLC) during construction, operation and decommissioning. The proposed terms of reference of this committee shall be included in the EA Report. These proposed terms of reference shall include at a minimum, details as to the composition of the committee membership, how to become a member of the committee, the type and extent of information that will be provided to the committee, the role and mandate of the committee and how interactions between the committee and the public will take place. The terms of reference for the committee will also set out the types of information about the project and its ongoing operations that will not be provided to the committee and the justification for not providing such information.

16.0 ASSESSMENT SUMMARY AND CONCLUSION

This section of the EA Report shall summarize the overall findings of the EA with emphasis on the main environmental issues identified and predict the significance of adverse environmental effects of the Project.

From:
To: Environment Assessment Web Account
Subject: Northern Pulp
Date: February 7, 2020 3:11:59 PM

** EXTERNAL EMAIL / COURRIEL EXTERNE **
Exercise caution when opening attachments or clicking on links / Faites preuve de prudence si vous ouvrez une pièce jointe ou cliquez sur un lien

Minister Gordon Wilson:

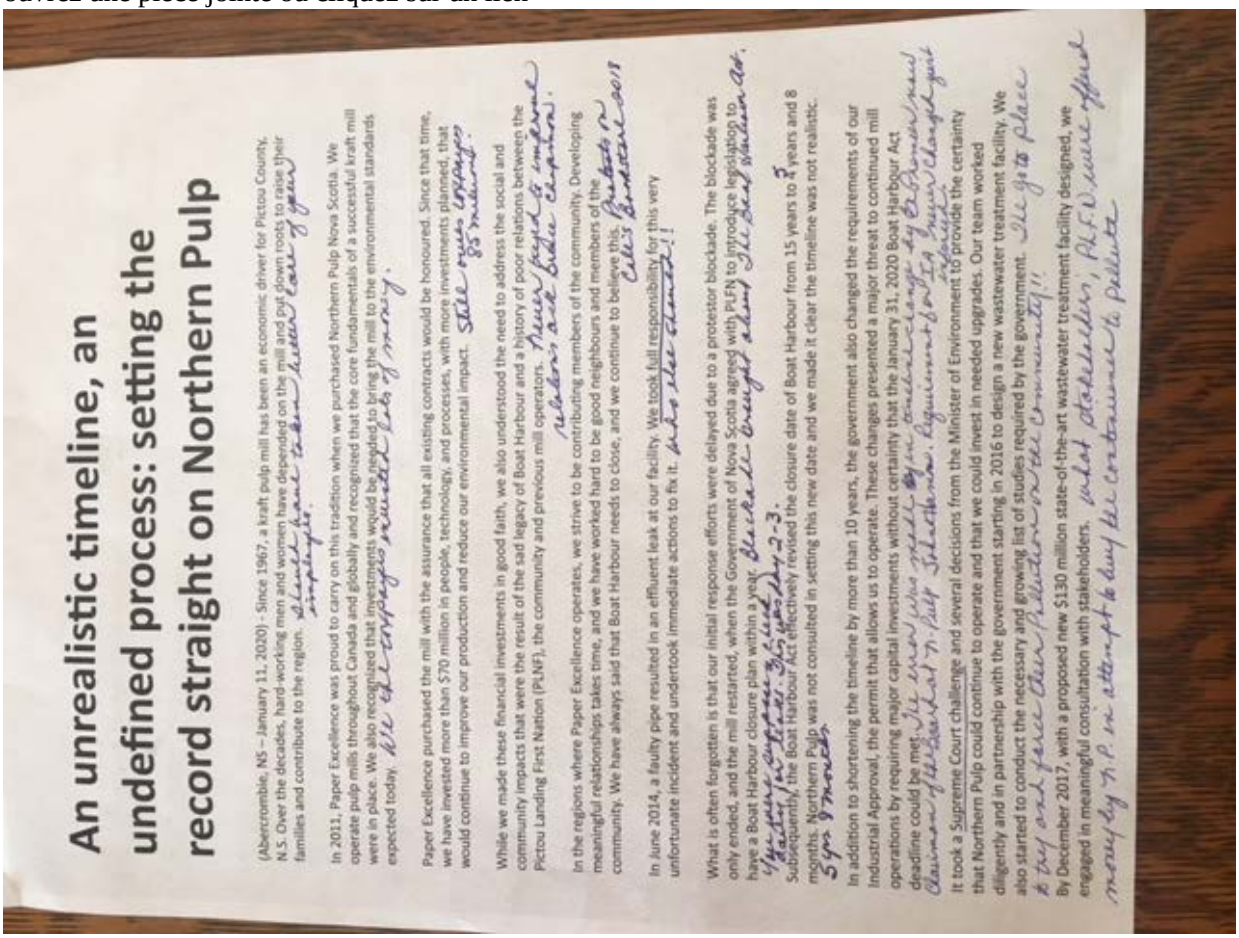
I write today to express my satisfaction with your decision to hold Northern Pulp to our provincial environmental standards, that all industries and residents are held accountable in Nova Scotia.

Many previous governments have given a pass on environmental infractions to this kraft pulp mill. Paper Excellence has difficulty adjusting to Premier Stephen McNeil and his environmental Ministers holding them to meet provincial requirements that are not new as claimed, or, that the goal posts have been moved. Northern Pulp could not deliver scientific information that the toxic effluent was not harmful to the fishing industry or adverse affects to our community. N Pulp gained hope in January when permission to extended use of Boat Harbour until April 30/2020. A second hopeful excitement came when Peter MacKay entered the Conservative leadership race. Within days N pulp announced they were filing court action against the Dept. of Environment for ; unrealistic timelines and undefined process. As a resident of Pictou Landing I witnessed daily the abuse of NPulp pollution in our air and waters. Northern Pulp spoke of our poor relations between PLFN's and community by previous mill operators; I attest their relations were just as negatively blatant!

The propaganda NPulp put in circulation throughout the province , boycotting Coles Book Store against the book signing of " The Mill" set a higher standard of abuse and disregard for Pictou Co. community second to none. Northern Pulp claims their failure was brought on by our community and government. These letter inserts incites negativity between mill employees and community. In closing I request this polluter be stopped forever. Allow our community to heal and together thrive going forward. With Northern Pulp in our past we will have clean air, water and soil to grow our future in better health. Let the cleanup begin!!! Attached find a cope of N.Pulp letter distributed throughout communities of NS . Thank you for your time. Yours truly; . .

From:
To: Environment Assessment Web Account
Subject: Northern Pulp letter.
Date: February 7, 2020 3:13:09 PM

** EXTERNAL EMAIL / COURRIEL EXTERNE **
Exercise caution when opening attachments or clicking on links / Faites preuve de prudence si vous ouvrez une pièce jointe ou cliquez sur un lien



An unrealistic timeline, an undefined process: setting the record straight on Northern Pulp

(Abercrombie, NS – January 11, 2020) - Since 1967, a kraft pulp mill has been an economic driver for Pictou County, N.S. Over the decades, hard-working men and women have depended on the mill and put down roots to raise their families and contribute to the region.

In 2011, Paper Excellence was proud to carry on this tradition when we purchased Northern Pulp Nova Scotia. We operate pulp mills throughout Canada and globally and recognized that the core fundamentals of a successful kraft mill were in place. We also recognized that investments would be needed to bring the mill to the environmental standards expected today.

Paper Excellence purchased the mill with the assurance that all existing contracts would be honoured. Since that time, we have invested more than $70 million in people, technology, and processes, with more investments planned, that would continue to improve our production and reduce our environmental impact.

While we made these financial investments in good faith, we also understood the need to address the social and community impacts that were the result of the sad legacy of Boat Harbour and a history of poor relations between the Pictou Landing First Nation (PLNF), the community and previous mill operators.

In the regions where Paper Excellence operates, we strive to be contributing members of the community. Developing meaningful relationships takes time, and we have worked hard to be good neighbours and members of the community. We have always said that Boat Harbour needs to close, and we continue to believe this.

In June 2014, a faulty pipe resulted in an effluent leak at our facility. We took full responsibility for this very unfortunate incident and undertook immediate actions to fix it.

What is often forgotten is that our initial response efforts were delayed due to a protestor blockade. The blockade was only ended, and the mill restarted, when the Government of Nova Scotia agreed with PLFN to introduce legislation to have a Boat Harbour closure plan within a year.

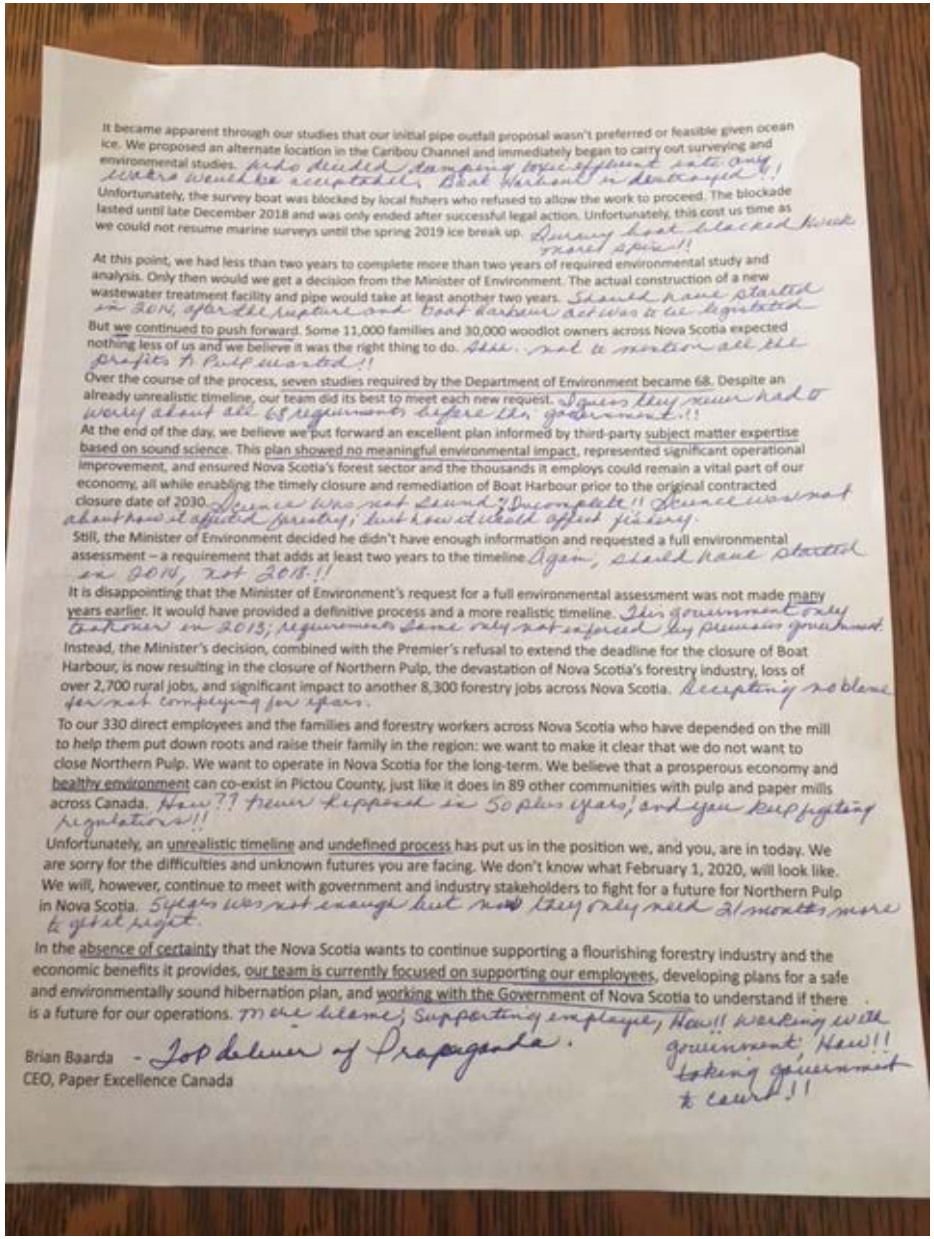
Subsequently, the Boat Harbour Act effectively revised the closure date of Boat Harbour from 15 years to 4 years and 8 months. Northern Pulp was not consulted in setting this new date and we made it clear the timeline was not realistic.

In addition to shortening the timeline by more than 10 years, the government also changed the requirements of our Industrial Approval, the permit that allows us to operate. These changes presented a major threat to continued mill operations by requiring major capital investments without certainty that the January 31, 2020 Boat Harbour Act deadline could be met.

It took a Supreme Court challenge and several decisions from the Minister of Environment to provide the certainty that Northern Pulp could continue to operate and that we could invest in needed upgrades. Our team worked diligently and in partnership with the government starting in 2016 to design a new wastewater treatment facility. We also started to conduct the necessary and growing list of studies required by the government.

By December 2017, with a proposed new $130 million state-of-the-art wastewater treatment facility designed, we engaged in meaningful consultation with stakeholders.

Sent from my iPhone



It became apparent through our studies that our initial pipe outfall proposal wasn't preferred or feasible given ocean ice. We proposed an alternate location in the Caribou Channel and immediately began to carry out surveying and environmental studies. Who decided dumping toxic effluent into only waters would be acceptable. Boat Harbour is destroyed!!

Unfortunately, the survey boat was blocked by local fishers who refused to allow the work to proceed. The blockade lasted until late December 2018 and was only ended after successful legal action. Unfortunately, this cost us time as we could not resume marine surveys until the spring 2019 ice break up. Survey boat blocked heck moral spirit!!

At this point, we had less than two years to complete more than two years of required environmental study and analysis. Only then would we get a decision from the Minister of Environment. The actual construction of a new wastewater treatment facility and pipe would take at least another two years. Should have started in 2014, after the rupture and boat harbour act was to be legislated

But we continued to push forward. Some 11,000 families and 30,000 woodlot owners across Nova Scotia expected nothing less of us and we believe it was the right thing to do. Ahh. not to mention all the profits to Pulp wanted!!

Over the course of the process, seven studies required by the Department of Environment became 68. Despite an already unrealistic timeline, our team did its best to meet each new request. I guess they never had to worry about all 68 requirements before the government!!

At the end of the day, we believe we put forward an excellent plan informed by third-party subject matter expertise based on sound science. This plan showed no meaningful environmental impact, represented significant operational improvement, and ensured Nova Scotia's forest sector and the thousands it employs could remain a vital part of our economy, all while enabling the timely closure and remediation of Boat Harbour prior to the original contracted closure date of 2030. Science was not sound & Incomplete!! Science was not about how it affected pulping; but how it could affect fishery.

Still, the Minister of Environment decided he didn't have enough information and requested a full environmental assessment – a requirement that adds at least two years to the timeline. Again, should have started in 2014, not 2018!!

It is disappointing that the Minister of Environment's request for a full environmental assessment was not made many years earlier. It would have provided a definitive process and a more realistic timeline. This government only took over in 2013; requirements same only not enforced by previous government

Instead, the Minister's decision, combined with the Premier's refusal to extend the deadline for the closure of Boat Harbour, is now resulting in the closure of Northern Pulp, the devastation of Nova Scotia's forestry industry, loss of over 2,700 rural jobs, and significant impact to another 8,300 forestry jobs across Nova Scotia. Accepting no blame for not complying for years.

To our 330 direct employees and the families and forestry workers across Nova Scotia who have depended on the mill to help them put down roots and raise their family in the region: we want to make it clear that we do not want to close Northern Pulp. We want to operate in Nova Scotia for the long-term. We believe that a prosperous economy and healthy environment can co-exist in Pictou County, just like it does in 89 other communities with pulp and paper mills across Canada. How?? Never happened in 50 plus years, and you keep fighting regulations!!

Unfortunately, an unrealistic timeline and undefined process has put us in the position we, and you, are in today. We are sorry for the difficulties and unknown futures you are facing. We don't know what February 1, 2020, will look like. We will, however, continue to meet with government and industry stakeholders to fight for a future for Northern Pulp in Nova Scotia. 5 years was not enough but now they only need 21 months more to get it right.

In the absence of certainty that the Nova Scotia wants to continue supporting a flourishing forestry industry and the economic benefits it provides, our team is currently focused on supporting our employees, developing plans for a safe and environmentally sound hibernation plan, and working with the Government of Nova Scotia to understand if there is a future for our operations. More blame; Supporting employees; How!! Working with government; How!! taking government to court!!

Brian Baarda - Top Deliverer of Propaganda.
CEO, Paper Excellence Canada

From:
To: Environment Assessment Web Account
Subject: Draft terms of reference for Northern Pulp
Date: February 7, 2020 4:31:47 PM

To whom it may concern,
I believe an ombudsman should be appointed to oversee the EA for Northern Pulp. This would allow for an independent moderator facilitate the process.
I also believe the province should hire an independent engineering firm, familiar with effluent treatment systems, to evaluate the EA submitted by Northern Pulp, and follow their recommendation.
Lastly the province should not be allowed to add additional studies required once they have provided the terms of reference to Northern Pulp

From:
To: Environment Assessment Web Account
Cc:
Subject: Terms of Reference for the Environmental Assessment Report for Northern Pulp
Date: February 7, 2020 6:06:09 PM

Dear Sir or Madame,

Terms of Reference for the Environmental Assessment Report for Northern Pulp

This e-mail is in response to the Terms of Reference wherein the public can provide feedback for the Environmental Assessment Report for Northern Pulp.

. Since 2014 I have closely followed all media and social media information on Northern Pulp. I have been a member of the Clean Up the Pictou County Pulp Mill Facebook group since 2014. This group currently has 6,100 members. I also attended Northern Pulp open houses in 2014 and 2017. I read and responded to the EA and the focus report. Unless you live in the town of Pictou it is difficult to understand how relieved we are that the Mill is closed as of January 31, 2020. We can breath clean air and do not have noise pollution at night from the drone and clanging of the Mill. I am totally opposed to an Effluent Treatment Facility being built by Northern Pulp and the effluent pipe going out in to the prime fishing grounds of the Northumberland Strait. I commend the decisions of the Nova Scotia Department of Environment on the EA and Focus Report submitted by Northern Pulp. There was much incorrect and missing information in both their submissions. For someone such as myself who has university degrees but did not take science past high school, it was very disorganized and difficult to read. It took me two weeks just to read the EA submitted by Northern Pulp in 2019.

Here are my comments for the Terms of Reference:

1. Pipe route through the watershed for potable water for Pictou and Caribou.Mayor Jim Ryan of Pictou was very clear in a letter to Northern Pulp and responses to the EA and Focus report that the company cannot go through the watersheds for drinking water. Alternate route(s) must be provided. Margaret Miller had suggested doubling the pipe through the
watershed.
In Northern Pulp's focus report they proposed slightly thickening the pipe not doubling it. There was no alternate route(s) This is not acceptable to the Mayor and the town residents. We will not allow Northern Pulp to go through watersheds for our drinking water. Mayor Ryan also provided an engineer's letter that a leak from a pipe anywhere along route 106 to the Ferry would impact our water supply. To mitigate this risk the pipe must be double walled along route 106.

2. Delays or cancellation of the Ferry to and from PEI and Caribou.
Specific information needs to be provided as this will impact the tourist economy of the town of Pictou. How long will delays be and details on Ferry cancellations need to be provided. When will this occur and for how many days or partial days, weeks or partial weeks or months? The town of Pictou depends very much on the Ferry from PEI for business in it's downtown core. Will compensation be offered by Northern Pulp to the Ferry, Town of Pictou businesses or PEI?

3. Sewage disposal at the Northern Pulp Plant.
On February 6, 2020 I spoke to an inspector for the Department of Environment about sewage disposal from Northern Pulp. Two methods were used for sewage disposal.

(i) Raw sewage went in to Boat Harbour until January 31, 2020
(ii)Sewage also went to holding tanks that were pumped out.
When I asked the inspector about the percentage that went in to Boat Harbour he said he did not know and I should contact Northern Pulp. I do not plan on contacting Northern Pulp. I have sent questions to them in the past and never received answers . Also, members of the publiccould not contact the Northern Pulp Citizen's Committee as the names of members of the committee or contact information were never published in the minutes.
Sewage disposal is not addressed in the Terms of Reference. Raw sewage should not be going in to the proposed Effluent Treatment Facility and through a pipe in to the Northumberland Strait. Other alternatives are available or can be constructed. You need to address this issue in the TOR that all sewage go in to holding tanks. It needs to be made clear to Northern Pulp that they can no longer put raw sewage in the effluent.

4. Smell from the proposed new Effluent Treatment Facility
We know the smell from Boat Harbour was overpowering. In 2014 when the pipe leak was blockaded at Pictou Landing First Nation, I attempted to walk to the Boat Harbour site accompanied by a native person. I could only go about 20 feet from the bridge and had to turn back due to the smell. If this same smell or worse is going to be carried over to the Town of Pictou it will harm our tourism on the waterfront and our downtown businesses. Northern Pulp has not addressed this.

5. Oxygenators
There was no mention in the EA or the Focus report submitted by Northern Pulp of using oxygenators as part of the proposed Treatment Facility. I am not sure if sxygenators is the correct term but it is the method that was used at Boat Harbour to add oxygen to the effluent treatment. It is mentioned in the Terms of Reference but it is not mentioned as requirement for Northern Pulp. The DOE should require oxygenators as part of the proposed Effluent Treatment Facility. If this is not done a larger dead zone will be created where the effluent enters the ocean.

6. Public Consultation by Northern Pulp
For the EAR it is not enough to state that Northern Pulp needs to consult with the public. Colourful brochures and flyers sent to households through the mail as done with their EA and Focus Report does not constitute consultation. The company should be required to hold open houses in key communities such as Pictou and New Glasgow. Members of the public must be afforded the opportunity to ask questions at the open houses. Furthermore only members of the company that are presenting and key managers should be there. At the last public open house in 2017 all Northern Pulp employees were required to let their supervisor which of the two nights they would be attending in Abercrombie or New Glasgow. The letter they received from the company was published. There was nothing held in Pictou. All the employees that were there resulted in overcrowding and difficulty asking questions and getting answers. While I was speaking with a presenter after their presentation I was interrupted by a Northern Pulp employee sharing how fish are thriving in the river in Pennsylvania. This information was distracting and totally irrelevant to what was being discussed.

Thank you for your consideration of these issues for the Terms of Reference.

From: UA Local 244
To: Environment Assessment Web Account
Subject: Northern Pulp
Date: February 7, 2020 9:20:15 PM
Attachments: npeafeb2020scanned copy20200207221347595.pdf

Please see attached

UNITED ASSOCIATION
of Journeymen and Apprentices of the
Plumbing and Pipe Fitting Industry of
the United States and Canada

Founded 1889

UA Local Union:

Letters should be confined to one subject

Subject:

244, P.O. Box 40, St. Andrews
Antigonish County, Nova Scotia, B0H-1X0
Phone **Fax 902-386-2006**
Email: **@ns.sympatico.ca**

Environmental Assessment Branch
Nova Scotia Environment
P.O. Box 442
Halifax, NS, B3J 2P8
Fax: (902) 424-6925
EA@novascotia.ca

February 7/2020

I am writing this letter to express my concerns on the way that Northern Pulp was treated in this Environmental Assessment Process.

In reality an Environmental Assessment should be a balance between the Economy , Industry & Employment all of which enhance socio economic conditions.
Vs.
The issues that need to be addressed for each particular project to protect and conserve the Environment, during the life of the Project.

Given what happened to Northern Pulp I don't think the principals of how an EA Process should be conducted were met.

An Environmental Assessment is suppose to be a legal process with defined goals.

It is not suppose to be a process where all the Political Party Leaders gang up on a particular Industry and pressure the EA Board and the Minister into pretending they couldn't understand the professional documentation supplied by Northern Pulp.

Both Federal and Provincial EA Legislation refer to "promote sustainable development" by protecting and conserving the Environment.

The federal Assessment Basics refers to the EA bringing "informed decisions that contribute to responsible development of Natural Resources.
A Federal Assessment process also refers to completing as Assessment in a "timely manner".
It goes on to say "Encourage Federal Authority's to take action in a manner that promotes sustainable development".
If I read this correctly the Federal Environmental Process sets the standards that the Provinces are to emulate or the Federal System can overrule.

The Atlantic Chamber of Commerce spells it out in pretty clear terms "with the closure of Northern Pulp, environmental issues may have been resolved locally, but from a global perspective they will simply shift to another jurisdiction with Forestry Operations while impoverishing People, Businesses and Communities across Nova Scotia"
.
I really cannot understand how Premier McNeil could intimidate the Opposition Party's into complete silence while he is destroying the Rural Economy.

I see Conflict of Interest mentioned a lot in Social Media.
Others will decide on the legal terminology before the next Election.

That will be about the time Employment Insurance Claims will be running out and Bankruptcy's will be happening.

The reality of the situation is that this Mill has been in operation since 1967 without dire consequences described in this EA. The Fishing Industry has never been better.

The Board would be well aware of the linkage between the Forest Industry and how important it is to the Economy.
The Construction Industry has not been included in the estimated job loss but we are looking forward to building the new Effluent Treatment Plant. Actually we have enough unemployed Members to do the job in half the time if material and equipment were available.
This would be several hundred jobs in a Province that does not have one Industrial Project under Construction. Actually we have Native Trades Members who also are waiting for a year or two's work at home.

It beats me how the EA Board cannot understand that Veolia Water Technologies Equipment Northern Pulp is planning to use is the World Standard in Effluent Plants that is currently going to clean up the effluent to a better standard than Boat Harbour ever did.

The solution to the Caribou Pipeline and the Fisherman situation is to put in the new effluent Diffuser in the same location as it is now.
That is where the biggest lobsters in Pictou Harbour are being caught.

The solution to this assault on the Economy, the Mill, Jobs, Families and the overall Socio Economic good of the Province is to grant Northern Pulp permits to proceed with the Construction of the new state of the artBiological Activated Sludge Process from Veolia Water Technologies.

Let the science prevail.....not Politics
Thank you.

Sincerely.

UA Local 244
Plumbers, Pipefitters,
Welders, Instrument
Techs and Apprentices

From:
To: Environment Assessment Web Account
Subject: Comments on the Draft Terms of Reference For Northern Pulp"s Treatment Facility
Date: February 7, 2020 9:25:25 PM

To Whom it may Concern,

I perhaps do not understand completely on what is required for me to put my questions and concerns forward on this project for the Effluent Treatment Plant for Northern Pulp at Abercombie Point. None the less I would still like to put forth some things I feel are very important about this project and what is in the terms of reference.

1)

I see no request for soil testing for contamination at the location where the treatment facility will be constructed. My concern is that it will be built on lands that were once part of the Canso Chemical Plant and there has been information available about past issues with Canso Chemical and there loses of mercury at their site. I feel soil testing is important before construction so that further contamination of the area will not occur.

2)

I see no request as to the scientific and chemical contents of the Effluent from Northern Pulp. If we do not have a baseline to start with, how can we possibly say if the new effluent coming out of a newly constructed system is any better or worse than what was coming out of the pipe before.

3)

I see no request for emergency measures for an under sea Pipe rupture, doing winter when ice covers the Northumberland Strait. Will the whole plant shut down until the ice in the Northumberland Strait clears in the spring and the pipe can be repaired ? Or will it continue to run and pump into the Strait until an ice free time window is in place to repair the Pipe.

4)

Finally with the possibilities of the dried sludge from the treatment plant being burned in the power boiler system, what guarantees do we have that serious contamination will not be coming from the stacks.
Given Northern Pulps past records of failed stack tests and unhealthy emission being spread all over Pictou County. Since according to the Canadian Environmental Protection Act for Effluents from Mills Using Bleaching... Document of 1991 which is still in use today. Where it tells us that “It should be noted, however, that wastewater treatment leads to the generation of sludges which contain large

amounts of chlorinated organic
compounds for which as yet no monitoring or disposal strategy has been developed."

I have lived in the Town of Pictou the whole 65 years of my life and I am a very concerned citizen who worries about my future here and that of my children and grand children. We cannot rest until every avenue of this project can be explored and proven to be absolutely safe for not only the environment, but also for all the people who reside here.

I thank you for your time in reviewing my remarks and I hope it is helpful and also beneficial to finding the right answers for this very large and complicated project. The fate of our environment and all the people surrounding this Mill are in your hands.

If you require any information or have any questions for me, please do not hesitate to contact me at any time.

Most Sincerely,