From:
To: Environment Assessment Web Account
Subject: Northern Pulp Terms of Reference 2022
Date: January 11, 2022 3:21:14 PM

Jan 12, 2022

Nova Scotia Environment and Climate Change
Class 11 Environmental Assessment Process

1894 Barrington St

Halifax NS. B3J2P8

Re: Northern Pulp Terms of Reference Re: 9.2.3 Marine Waters- Vulnerability of current state of Gulf of St Lawrence

To Whom It May Concern:

Save Our Seas and Shores is a non-partisan coalition of fishers, First Nations and concerned citizens who have been advocating protection of the Gulf of St Lawrence for decades.

We are engaged in 5 provinces because the Gulf of St Lawrence is a fragile inland sea which shares its waters, fish and coastlines with NS, NB, PEI, QC and NL

Specifically, it has COUNTER-CLOCKWISE CURRENTS that only empty into the Atlantic Ocean once a year. Consequently, any pollutants that enter this inland sea will be carried throughout the Gulf and its 5 neighbouring provinces via prevailing currents and tides until responsible humans stop this irresponsible conduct. Marine waters are NOT a great, vast toilet.

This vulnerable body of water is home to thousands of marine species including lobster, herring, mackerel, snow crab, ground fish, Atlantic salmon, endangered right whale, blue whale, humpback whale, Leatherback turtle and harlequin duck, to name a few. It is considered one of the most precious marine ecosystems on Earth! According to DFO, there is spawning, nursing, migration and sensitive life stages of marine organisms present year around.

Because of these shared waters, it can only be legitimately studied in its entirety. This is because water and fish do not recognize provincial boundaries; neither does kraft bleached pulp mill effluent which is considered to be one of the most toxic industrial pollutants ever created by humans to enter our marine environment. These toxic effluents have been bio-accumulating and assaulting the Gulf of St Lawrence, our oceans and marine species for over half a century.

We are writing today regarding the terms of reference proposed by Northern Pulp to dump 70-90 million litres of heated kraft pulp mill effluent into the Gulf of St Lawrence.

<!--[if !supportLists]-->1) <!--[endif]-->First, we would like to acknowledge that former Premier Stephen McNeil's provincial government is the first government in 52 years to announce the closure of Boat Harbour in 2020– an atrocity that has been inflicted on Pictou Landing First Nations backyard for over half a century.

We applaud McNeil's provincial government for taking this action. The problem is, Northern Pulp is now proposing to dump their toxic effluent into Pictou Harbour, Pictou Landing First Nations front yard! Apart from the ironic, cruel, absurdity of this notion, dumping

any form of kraft bleached pulp mill effluent into the Northumberland Strait and Gulf of St Lawrence is not a feasible solution and in fact, is unconscionable in 2022.

<!--[if !supportLists]-->2) <!--[endif]-->Deoxygenation: This isn't the same Gulf of St Lawrence that was there in 1967 when this filth began. It's the same expanse of water, but it is now highly stressed and one of the most rapidly deoxygenated bodies of water on earth. In fact, according to international scientists, in a study published in science journal Nature in 2018, the Gulf of St Lawrence is one of the most deoxygenated bodies of water on Earth. Consequently, knowing what we now know, dumping any further pollution into this dying body of water could be considered crimes against nature.

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https://www.cbc.ca/amp/1.4847848

<!--[if !supportLists]-->3) <!--[endif]-->Stock Decline: We're seeing plankton levels down 50 per cent from what they were four or five years ago, and now the federal government is predicting the cod fishery will be extinct in a few years. A six-year-old fish today weighs what a four-year-old fish did 10 years ago.

Furthermore, in the last 20 years herring stocks in the Gulf have dropped 70 per cent, mackerel stocks are down 86 per cent, bluefin tuna, who feed off both, are starving, flocking to tuna-fishing boats for bait.

All of these symptoms reveal a fragile, formerly abundant body of water in dire need of protection, NOT FURTHER DEGRADATION.

<!--[if !supportLists]-->4) <!--[endif]-->PUBLIC TRUST, SOCIAL and ECONOMIC IMPACT: As it stands, this Kraft pulp mill in Abercrombie, Nova Scotia has a fifty year history of environmental negligence in Pictou County. The public's trust in this corporate entity is gone. And has been gone for a long time. This pulp mill has divided and created hostility in our region for too long. This has to stop. There is no possibility of reconciliation and its current plan for yet another effluent pipe will only further degrade our communities, quality of life and

place the delicate ecosystem of the Gulf of St. Lawrence at major risk.

Discharging 70 – 90 million liters of bleached Kraft pulp effluent daily into the Gulf of St. Lawrence will have a significant negative impact on the fragile and sensitive spawning, nursery and migratory habitat of lobster, herring, mackerel and many other species already in peril. This in turn, will threaten tourism and fishing industries in Nova Scotia, Prince Edward Island, New Brunswick, Newfoundland and Quebec, which support a global food supply and generate billions of dollars in economic activity.

Be advised, the economic backbone of our Maritime economy, our communities and the thousands of commercial fishers in the five provinces bordering the Gulf of St. Lawrence, depend on these sustainable fisheries to support their families and the hundreds of coastal communities in which they live.

Simply put, if we as humans are to save this extremely vulnerable body of water, we need to stop dumping our industrial waste into it. PERIOD. We owe this to future generations.

While we are grateful for the closure of Boat Harbour, and the closure of Northern Pulp, to complete this Historic action in good faith, and in terms of real and genuine reconciliation, the only viable, moral, ethical and ecological longterm solution is to STOP this effluent from entering our marine environment. NOW. Before it's too late.

Respectfully submitted,

Save Our Seas and Shores Coalition
Box 47, Merigomish, NS B0K1G0

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

17th January 2022

Dear Sirs,

With respect to the future health and growth of our local and regional economy – very much a focus for PSA Halifax where we can support – the Department might consider the following as it develops its process, together with Northern Pulp, with the goal of delivering environmental protection, increased employment and economic growth.

- As part of Canada's broader supply chain the employment PSA Halifax creates both directly and indirectly, within the Port of Halifax and related businesses, depends to a significant extent on the health of Nova Scotia and Atlantic Canada's broader economy. The uncertainty created by the sudden closure of Northern Pulp has been damaging for our sector – this business was, until temporarily closed, Port of Halifax's single-largest unitised export shipper.

- Consider also that the loss of Northern Pulp traffic was not a singular loss to our Nova Scotia port. It is worth recalling that developments at Port of Cornerbrook effectively removed Kruger Paper from using Port of Halifax and so in 2020 some of the staple business to a vibrant port-based economic-driver in the NS economy was undermined. In 2021 new traffic heading for Canada's interior has allowed us to right the ship for our Terminal and we believe that the pattern is repeated across the Port, but a healthy and productive local economy providing the agricultural, ocean, forestry, and industrial output to balance Canada's many imports via our gateway, is critical.

- Recognising the importance of environmental leadership, PSA Halifax is keen to see the transformation of Northern Pulp and anticipates that any Environmental Assessment Process be based on science and national standards, such that it might re-enter the market and further add to Nova Scotia's strengthening economy.

- Positive economic benefits might be expected beyond Northern Pulp itself. PSA Halifax's terminal operators (Staff, ILA and Management) and indirectly Forwarders, Customs, Truckers and Ocean Carriers can benefit, many of which will live outside of Pictou County - our broader community within supply-chain and the NS economy can all benefit through a return to operations for Northern Pulp. With this reality in mind it may be of assistance that an expert and independent review panel be formed to assist the Department to recognise all the opportunities that a new Northern Pulp may deliver.

Forest Products

Spencer's Island, NS

Tuesday, January 18, 2022

Environmental Assessment Branch
Nova Scotia Environment & Climate Change
PO Box 442
Halifax, NS
B3J 2P8

Re: Northern Pulp Environmental Assessment Draft Terms of Reference

Thank you for your consideration on my comments on the Draft Terms of Reference for Northern Pulp' proposed Environmental Assessment.

I am a private woodlot owner/operator that makes my living working on my 1600-acre woodlot. I operate in a sustainable manner and have been recognized for doing so. I was the Department of Natural Resources 2017 Provincial Woodlot Owner of the Year and have received recognition for my management practices by several other forestry organizations. I probably meet or exceed all of the recommendations of the Lahey Report, and actually made a presentation to him during his mandate.

When the Northern Pulp Mill was ordered closed in 2019, the majority of Nova Scotia lost their market for low quality wood fibre. What this did was eliminate any profit from forest stand improvement operations such as commercial thinning or other forms of good forest management, creating less will by land owners to do good forest management.

In my own particular situation, native spruce bark beetle is a big problem due to a large unmanaged provincial park to my west. When I have an outbreak on my lot, I was able to do "sanitation harvests" and sell the infected wood to Northern for pulp wood. This is no longer possible and when these stands are left unmanaged, create huge forest fire risk, similar to the pine beetle fires in BC. I have laid off the workers I had provided employment for and although I harvest about the same amount, I have lost about 20% of my revenue.

It is my hope that the department of Environment will do a fair and scientific evaluation of the EA proposal that Northern Pulp submits. After reading through the Draft Terms of Reference, several things seemed evident to me. (Some good some not so good)

On the positive side, I would agree with the appointment of a panel of experts to review the EA. I would encourage the department to appoint a panel that is completely independent and unconnected to any government agency, and if possible, experts in the field from other jurisdictions. That would ensure that no political interference or predetermined prejudice occurred and that the process was completely based on the

science of the issues and not in any way political. That would allow the final decision to be fair to all.

In the process leading up to the 2019 decision to not accept the EA proposed for the effluent treatment facility at Boat Harbour, it was fairly obvious to all parties involved that there was going to be no way forward for the company, as the timeline was impossible and the requirements were constantly changing with no clear measurements or numbers to meet. It is my hope that this is not the case in this current process.

There are Canadian standards for pulp and paper effluent and air quality emissions with actual numbers. In the draft terms of reference, these are not used and that portion is very vague, leaving room for a subjective rather than objective evaluation of the proposal. It would be much fairer to both the company and the general public if the actual numbers were used for an objective and clear evaluation. The proposed project claims that it meets or exceeds all of these standards.

One point that critics keep pounding out in the press is that the mill is an old, outdated mill. That suggests that engineering in Canada isn't capable of modernizing the project. As a point of interest, there hasn't been a new pulp mill built in the world in 15 years but a number of them have been modernized and restarted recently.

Kraft Pulp is an integral component in many of our every day necessities and comforts. Northern Pulp produces kraft pulp that is used by many companies to manufacture these necessities and comforts. There would be no person in Nova Scotia that hasn't used some product that was derived from kraft pulp today. I would think that if Northern Pulp can meet or exceed the Canadian standards for a kraft pulp mill, we as Nova Scotians should welcome the opportunity to get products made from kraft pulp produced in a province with among the highest environmental standards in the world rather than imported from somewhere less environmentally conscious.

Thank you for the opportunity to present my thoughts on this important matter.

Halifax Longshoremen's Association
Local 269 I.L.A.

In Union there is Strength

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January 28, 2022

Environmental Assessment Branch
Nova Scotia Department of Environment and Climate Change
P.O. Box 442, Halifax, NS
B3J 2P8

Via email: EA@novascotia.ca

To whom it may concern;

I am writing to you today to provide comments on the draft Terms of Reference for the Class II Environmental Assessment for the Northern Pulp Mill Transformation project.

I am President of the International Longshoreman's Association (local 269). Our Association represents approximately 450 workers at the Port of Halifax. Our members load and unload the cargo at the Port. Northern Pulp was the Port of Halifax's largest local shipper. Each week, about 500, twenty-foot equivalent trailers were loaded for shipment to Asia. This represented important work volume for our workers and helped justify shipping lines calling at the Port of Halifax because shipping works best when containers are full in both directions. Northern Pulp provided important volume to Asia. We believe this project is important for the Port of Halifax and the overall economy of Nova Scotia.

We also believe the Environmental Assessment Process must be fair and clear. It must be thorough and based on science and national standards. There are 88 other pulp mills in Canada and hundreds around the world that operate in a way that is healthy for their economy and safe for the local environment.

We believe it is important to subject Northern Pulp's Plan to a rigorous assessment in the timelines that have been prescribed. We also feel it is very important the rules are set at the beginning and are not changed during the process.

It makes sense that Canada's national standards for treated pulp and paper effluent be used as the guiding standards for this project. We also believe that fair and just air emissions standards should be set for the company to meet.

Finally, we feel it is very important that an independent expert review panel be created as soon as possible. The NS Dept of Environment and Climate Change does not have the expertise or the independence to do this job objectively.

We urge the Department to conduct a clean, fair and objective process to assess the Northern Pulp plan.

Thank you,

President ILA 269

ELC | THE ENVIRONMENTAL LIAISON COMMITTEE

www.ELC4NS.ca
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January 24, 2022

Honourable Tim Halman

Minister of Nova Scotia Environment and Climate Change

Dear Minister Halman,

During the last year, a common theme that has been highlighted during conversations between the Environmental Liaison Committee (the "Committee") and people from the community, stakeholders' groups, and government members, is that people want detailed and clear information. The Northern Pulp Nova Scotia Corporation ("Northern Pulp") mill transformation Project (the "Project") must be explained in a non-technical manner so that everyone can understand. The process and documentation that Nova Scotia Environment and Climate Change ("NSECC") sets in place for completion of the environmental assessment ("EA") for the Project must be transparent, including the Final Terms of Reference (the "Final ToR").

The public's trust in NSECC's ability to manage this Project, and to make a recommendation to the Minister that is based solely on science, is as crucial as their confidence in Northern Pulp to be a trusted part of the community. In addition, adherence to the prescribed timelines detailed in the EA review overview are important and must be followed by the applicant and regulator.

It is also critical, in the opinion of the Committee that for the EA process to be effective and fair, a blue-ribbon evaluation panel must be convened and independent from Northern Pulp, Paper Excellence, and the NSECC. The panel must be made up of experts in the field of pulp mill effluent and their impacts on receiving environments. Premier Tim Houston has mentioned that the EA process should be clear, and science based, with an independent blue-ribbon expert panel. This recommended blue-ribbon panel will support the desire of the Premier to ensure transparency and trust for all parties involved.

It is critical that the Final ToR be comprehensive and not be subject to changes during the EA process. In addition, only with clearly defined limits can the EA process be effective and provide confidence for the public. The Committee believes that Northern Pulp should be held to fair and comprehensive standards. The province should set or adopt standards already in place

in Canada ~~to~~ assess the Project, subject to satisfactory completion of a receiving water study and human health and ecological report confirming no adverse environmental impacts.

The ELC has heard from communities outside of Pictou County where the mill is located and understand how economically important the mill's operations are to the entire province. This was heard continuously in meetings with the various Boards of Trade and the Nova Scotia Chamber Council.

The Committee has also heard through its discussions with various parties that this Project will impact the entire forestry sector (including private landowners) and communities throughout Nova Scotia that have already been negatively affected by not having a market for low-grade fiber. The Committee learned through discussions that the most financially viable market for this fiber is dependent upon a centrally located pulp mill, which goes with the broader provincial environmental goal of practicing ecological forestry as recommended in the Lahey Report and recently enshrined in provincial law. It is the opinion of the Committee that in order for the Lahey Report to be implemented, the Mill must be in operation, which will require all parties to work together to ensure transparency and clarity within the Final ToR to engage the public, encourage feedback, and increase the chances of a successful EA.

The ELC remains committed to ensure that regardless of whether NSECC accepts the observations reached by this Committee, the mill's transformation must be the best in class for the benefit of all Nova Scotians.

Open and clear dialogue will ensure all issues are properly addressed and thoroughly investigated. Without this, the ELC will struggle in meeting its objectives and continuing to encourage the economic and social well-being of the community as a whole within the province.

Sincerely,

Chair, Environmental Liaison Committee

Vice Chair

Members:

January 25, 2022

Environmental Assessment Branch
Nova Scotia Department of Environment and Climate Change
P.O. Box 442, Halifax, NS
B3J 2P8

Via email; EA@novascotia.ca

To whom it may concern;

We are writing to you today on behalf of the largest Crown Land licensee in our province to provide comments on the draft Terms of Reference for the Class II Environmental Assessment for the Northern Pulp Mill Transformation project.

WestFor Management is a corporation created in 2016 as a partnership of 12 Nova Scotian mills which holds a number of responsibilities, one of which is managing our province's forests to be healthy and viable for many generations to come. Without a market for mill residuals and low value timber, it is a near to impossible task.

WestFor is owned by 12 mills throughout central and western Nova Scotia. Our shareholding mills employ over 2,000 Nova Scotians in communities throughout rural Nova Scotia. The existence of a centrally located pulp mill is essential for viability of all mills as a pulp mill provides a critical market for milling residuals (chips, bark and sawdust). Mill residuals can amount to 35% of the total volume of fiber that enters a sawmill yard. The necessity to physically manage and derive revenue from these residuals is foundational for the long term viability of our mills. Northern Pulp was a high-value market for residuals accepting a lot of volume and paying a fair price.

The unexpected closure of Northern Pulp has had a huge impact on the forest industry. The doubt created by the loss of a premium residual market and a low grade timber market and the uncertainty about the future is challenging. So it is with increased interest, we have reviewed the draft Terms of Reference for the Northern Pulp Transformation Project. We have the following observations.

WestFor believes the Environmental Assessment Process must be fair and clear for all parties. It must be thorough and based on science and national standards. There are 88 other pulp mills in Canada and hundreds around the world that operate in a way that is healthy for their economy and safe for the local environment.

We believe it is important to subject Northern Pulp's Plan to a rigorous assessment in the timelines that have been prescribed. We are very concerned about the proposed timeline slipping. We also feel it is very important the rules are set at the beginning and are not changed during the process.

It makes sense that Canada's national standards for treated pulp and paper effluent be used as the guiding standards for this project. We also believe that fair and just air emissions standards should be set for the company to meet. It is inconceivable that a company could be expected to establish a major transformation plan with detailed components and operational plans without knowing what the environmental standards are going to be. To just trust the NS Department of Environment and Climate Change to be fair and reasonable is an unreasonable position for the company and forestry sector to accept. The last process that resulted in the closure of the mill was based on such a flawed and vague process which was totally susceptible to activist and political influence. The process ought to be guided by the best available science and an independent, expert assessment

In this regard, we feel it is very important that an independent expert review panel be created as soon as possible. The NS Dept of Environment and Climate Change does not have the expertise or the independence to do this job objectively.

We urge the Department to conduct a clean, fair and objective process to assess the Northern Pulp plan.

We have an obligation to not only manage healthy forests but to provide an economy that Nova Scotian families can rely on. In order to do these things we need to have a pulp mill in our province that can provide our province's people with products made by their families, friends, and neighbours.

Thank you,

,
General Manager
WestFor Management Inc.

FREEMAN LUMBER

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January 27, 2022

Environmental Assessment Branch
Nova Scotia Environment and Climate Change
PO Box 422
Halifax NS
B3J 2P8

BY EMAIL AND REGULAR MAIL

To Whom It May Concern:

Re: Northern Pulp Mill Transformation Project - Draft Terms of Reference For Class II Environmental Assessment

Please accept this letter as the submission of Harry Freeman & Son Limited ("Freeman Lumber") in respect of the above-captioned terms of reference.

The Freeman family has been in the sawmill business in Greenfield, Queens County, Nova Scotia since 1832. Freeman Lumber's current operations represent 600 well-paid direct and indirect full-time jobs and produce approximately 120 million board feet of softwood lumber annually. This lumber is sold throughout eastern North America and around the world. Our 2021 sales outside the province brought approximately $105 million of badly needed hard currency into the Nova Scotia economy.

Northern Pulp was Freeman Lumber's largest and most critical customer until it was forced out of business in January 2020. The closure of Northern Pulp has cost our family business $6 million annually in lost roundwood and chip revenues; plus $1.7 million annually in increased log harvesting costs; plus $455,000 annually in silviculture costs formerly paid by Northern Pulp. These aggregate numbers - far exceeding our "bottom line" in typical lumber markets - would have devastated our business but for the lumber boom attending COVID. Moreover, without pulpwood markets vast forest areas are no longer viable for forest stand improvement with untold ecological and economic consequences.

As evidenced by court filings, the Environmental Assessment Process for Northern Pulp has been an abomination since Day 1 and the most recent Draft Terms of Reference show little (if any) sign of improvement.

The Department shows little understanding that Nova Scotia must compete with other jurisdictions for capital investment. This requires a thorough, fair and clear Environmental Assessment Process based on science and national standards. Canada's national standards for treated effluent should be the guiding standards for this project. Fair and just air emissions standards based on those set by other Canadian Provinces with operating mills should also be established at the outset. These standards are rigorous and prudent, and already consider variable conditions in plant location. Moreover, the Department must not again change the rules or move the goal posts during this process.

It is also essential that an independent expert review panel of subject matter experts be created as soon as possible. The Department clearly lacks the expertise, independence and understanding required to do this important job objectively.

There are 88 other pulp mills in Canada and hundreds around the world that operate in a way that is healthy for their economy and the environment. Pulp mills are a key element of forestry and the natural resources sector. There is no reason why an up-to-date facility using the best available clean technology cannot be approved, built and operated in Nova Scotia. Thousands of badly-needed jobs and hundreds of million in badly-needed annual economic activity can be responsibly re-established without negatively impacting the environment.

All of which is respectfully submitted.

Yours truly,

HARRY FREEMAN & SON LIMITED
Per:

Forest Nova Scotia

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Environmental Assessment Branch
Nova Scotia Environment and Climate Change
PO Box 442
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January 26, 2022

Comments on the Draft Terms of Reference for the Preparation of the Northern Pulp Environmental Assessment Report

Forest Nova Scotia appreciates the opportunity to participate in and contribute to policies that impact the forest sector in Nova Scotia. We take this role seriously, knowing that the provincial government is under high scrutiny to balance many different values and points of view surrounding this project.

Forest Nova Scotia represents over 650 active businesses and landowners in Nova Scotia. Most of our members are woodlot owners with holdings larger than 20 hectares, with the majority being small woodlot owners with less than 2500 hectares each. Fifteen percent of our members are large, active forest woodlot owners or wood processing facilities with substantial land holdings. Our members are impacted significantly by changes in forest product market conditions and government policies because they are actively managing their woodlots to provide income and livelihoods to many rural families across the province. We represent a significant portion of the entire forest sector in Nova Scotia.

<u>Comments from Forest Nova Scotia</u>

- Page 12 of the draft terms of reference mentions that "*the EA Report shall be prepared taking into consideration comments from*" 6 different target audiences. We are concerned, however, that this list does not identify the thousands of woodlot owners around the province or the wood processing facilities that are impacted by the future of this mill. The active private woodlot owners and sawmill owners have been significantly impacted financially by the closure of the mill. Without a market for low quality wood like Northern Pulp, woodlot owners

will be unable to manage their woodlots effectively. Other mill owners have very marginal markets for their waste wood and current supply chains are deeply impacted. The voices of woodlot owners and other mill owners and managers must be recognized and incorporated into decisions that impact the future of their livelihoods.

- The previous and current governments both committed to implementing the recommendations of the Lahey Report. Forest Sector advocates and environmental activists also agree that the Lahey recommendations should be implemented. Having said that, without a substantial market for low quality wood and a market for sawmill waste - like Northern Pulp provided in the past, Prof. Lahey's recommendations will not be achievable. Ecological Forestry can only occur if woodlot owners and forestry contractors have a market for low quality wood that is produced when they carry out stand improvement treatments. In addition, sawmills will be forced to pay lower prices for sawlogs from high value stands if they do not have a market for their waste wood. The forest sector is integrated, and these factors cannot be isolated when considering the future of a major consumer of wood by-products in the local market.

- The Environmental Assessment Process must be fair and clear. We believe it should be robust - based on science and established standards. There are 88 other pulp mills in Canada and hundreds around the world that operate safely and effectively. Canada already has national standards that pulp and paper mills must meet for air and water emissions. We feel that it would only be fair to Northern Pulp that the government of Nova Scotia establish minimum emission "goal posts". If the EA process shows that the receiving environment requires higher minimum standards, then the higher standards can be set when a final approval permit is issued for operations. However, we feel that the government regulator (Department of the Environment and Climate Change) should at least establish a minimum baseline in the terms of reference to provide transparency to all participating in this process to understand what passing or failing on emissions means in a quantifiable way.

- There are experts across the country who have studied and are involved with pulp and paper industry air and water emissions on a daily basis. We believe that the Department of Environment and Climate Change should employ an independent panel of these experts to review and make recommendations to the Department to ensure a fair and objective assessment of the EA Report.

- Section 11.5 on page 45 of the Draft EA terms of Reference mentions that the company needs to "*discuss measures that will be taken to minimize the impacts of the project on…forestry."* However, this statement leads us to believe that the Department does not have an appreciation of the massive positive impacts that an operational mill of this size has on the sector. Having a centrally located pulp mill that utilizes waste wood enables the province (on crown land) and woodlot owners (on private land) to manage and maintain healthy forests that help to capture and store carbon for the long term. Without a mill, our forests are at risk of becoming carbon emitters rather than a carbon sink. In addition, a healthy forest sector can thrive with a market for low quality wood by employing rural families and supporting long term careers.

Respectfully submitted,

Forest Nova Scotia

Native Council of Nova Scotia

The Self-Governing Authority for Mi'kmaq/Aboriginal Peoples residing Off-Reserve in Nova Scotia throughout traditional Mi'kmaq Territory

"Going Forward to a Better Future"

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Aboriginal/Treaty Rights Negotiations Facilitating Directorate

NCNS Citizenship Information Office

Education & Student Services

Rural & Native Housing Group

Aboriginal Peoples Training & Employment Commission (APTEC)

Netukulimkewe'l Commission

Wenjikwom Housing Commission

Social Assistance Recipient Support for Employment & Training (SARSET)

Micmac Language Program

Native Social Counselling Agency

Child Help Initiative Program (CHIP)

E'pit Nuji Ilmuet Program (Prenatal)

Reaching Home Indigenous Program

Parenting Journey Program

Youth Outreach Program

Mi'Kma'ki Environments Resource Developments Secretariat (MERDS)

Aboriginal Connections in Trades & Apprenticeship (ACITA)

January 28, 2022

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

RE: Mill Transformation and Effluent Treatment Facility, Draft Terms of Reference

To Whom it Concerns,

The Native Council of Nova Scotia was organized in 1974 and represents the interests, needs, and Rights of Off-Reserve Status and Non-Status Section 91(24) Indians/Mi'kmaq/Aboriginal Peoples continuing on our Traditional Ancestral Homelands throughout Nova Scotia as Heirs to Treaty Rights, Beneficiaries of Aboriginal Rights, with Interests to Other Rights, including Land Claim Rights.

The Native Council of Nova Scotia (NCNS) Community of Off-Reserve Status and Non-Status Indians/Mi'kmaq/Aboriginal Peoples supports projects, works, activities and undertakings which do not significantly alter, destroy, impact, or affect the sustainable natural life ecosystems or natural eco-scapes formed as: hills, mountains, wetlands, meadows, woodlands, shores, beaches, coasts, brooks, streams, rivers, lakes, bays, inland waters, and the near-shore, mid-shore and off-shore waters, to list a few, with their multitude of in-situ biodiversity.

Our NCNS Community has continued to access and use natural life within those ecosystems and eco-scapes where the equitable sharing of benefits arising from projects and undertakings serve a beneficial purpose towards progress in general and demonstrate the sustainable use of the natural wealth of Mother Earth, with respect for the Constitutional Treaty Rights, Aboriginal Rights, and Other Rights of the Native Council of Nova Scotia Community continuing throughout our Traditional Ancestral Homeland in the part of the Mi'kma'ki now known as Nova Scotia.

Review of the Northern Pulp Terms of Reference (ToR)

The following is the Maritime Aboriginal Peoples Council's (MAPC's) review, on behalf of the NCNS, of the *Draft Terms of Reference* (*ToR*) regarding Northern Pulp Nova Scotia Corporation's Mill Transformation and Effluent Treatment Facility Project. The *Draft ToR* is a generally well put together document, though upon MAPC's review, there are a number of comments we would like to put forward to inform the finalization of the document. These comments are described and discussed below.

9.4.1 Wildlife, Wildlife Habitat and Species-at-Risk, Terrestrial Environment

Within section 9.4.1, there is a list of groups and resources the proponent is to obtain "current information" regarding the identification of terrestrial organisms within the study area. It is of note, that indigenous communities are not listed within this section. Both the On and Off-Reserve communities have collective knowledge of the species within the area that can be invaluable to the development of a Class II Environmental Assessment. MAPC would recommend mandating the proponent to engage with all of the On-Reserve communities listed in section 15.2, and the Off-Reserve communities represented by the NCNS who will be affected by this project. These communities should be added to the list of groups that have knowledge about the species and resources in the area.

9.4.2 Freshwater Aquatic and Marine Environment

MAPC recommends that the province require the proponent to describe the relative distribution and abundance of fish beyond "valued fish resource components", and expand the requirements to include the ecosystem as a whole. By mandating the proponent to account for "valued fish resource components" alone, there is left an opportunity for the proponent to overlook the non-monetarily valued fish resources. Section 35 (1)[1] of the *Constitution Act* reaffirms that "The existing aboriginal and Treaty Rights of the aboriginal peoples of Canada are hereby recognized and affirmed". Indigenous Treaty Rights affirm the Right, or free liberty of Indigenous People to harvest wildlife for food, ceremonial, social, and trade purposes, which produce a value to "fish resource components". Through the recognition that food, social, and ceremonial fisheries derive their own "value" of "fish resource components", the *Draft ToR* should more accurately reflect the Indigenous Eco-centric world view for the use of aquatic resources.

11.4 Wildlife, Wildlife Habitat and Species at Risk

Aquatic invasive species have an immense negative impact on native species and ecosystems. The only mention of invasive species is in section 11.4.1 Terrestrial Environment of the *Draft ToR*, which states, "Describe measures to address invasive species management and prevention of the spread of invasives both on and off-site." MAPC recognizes that this project may include various construction through aquatic habitat, and therefore poses the potential to introduce aquatic invasive species into the study area and surrounding region. We would recommend mandating the proponent to describe measures to address invasive species management and prevent the spread of aquatic invasive species both on and off-site.

15.0 Consultation Program

We want to bring the Environmental Liaison Committee (ELC) to the attention of the province, as it is a stakeholder hosted forum about Northern Pulp's reopening. While the ELC is not an organization developed or managed by Northern Pulp, Northern Pulp has advertised and encouraged community members to join and participate in the ELC as an outlet for public consultation. Thus far, MAPC has had inconsistent dealings with the ELC. In addition to the emphasis Northern Pulp has put on the ELC as a form of engagement, we fear the ELC may be an avenue by which bias may take root, and not all opinions may be voiced.

On behalf of the NCNS, MAPC participated in an early engagement meeting with representatives of Northern Pulp on July 15th, 2021. During this meeting, MAPC was informed about, and encouraged to join the ELC by Northern Pulp. During initial conversations with the ELC's Vice-Chair (VC), it was

[1] Constitution Act, 1867-1982, SC 2020, c 35, s 1.

stated that the committee would welcome MAPC as a member. Upon further discussions though, the invitation was demoted, and MAPC was offered non-member status. The reasoning for this decision was explained by the VC as a precaution as to not to disrupt the relationship with Pictou Landing First Nation (PLFN).

It is the self-proclaimed role of the ELC, according to their website, to "engage in dialogue and receive feedback to ensure Northern Pulp is listening to what was being said by stakeholders and Rights holders." While conventional Community Liaison Committees (CLC) are intended to be unbiased entities, it is clear within the hierarchy of the ELC that the guiding members, such as the VC and Committee Chair tend to lean in favour of Northern Pulp's agenda. The ELC also has a clear lack of Rights holding Indigenous People or Indigenous organization representatives on the membership list. We would caution the province against accepting the ELC's collaboration with Northern Pulp as the primary, or foundational form of public consultation or engagement. Furthermore, we would advise mandating a non-biased forum to be utilized in commenting on the Environmental Assessment if an ELC or CLC is to be used by the proponent.

15.2 Consultation with the Mi'kmaq of Nova Scotia

We would like to take this opportunity to reiterate that it is important for all proponents of projects to understand that the Off-Reserve Aboriginal Community represented by the NCNS is included within the definition of the word "Indian" of Section 91(24) of the *Constitution Act*, 1982. The Supreme Court of Canada in a landmark decision in *Daniels v. Canada (Indian Affairs and Northern Development)*, 2016 SCC 12. declared that "the exclusive Legislative Authority of the Parliament of Canada extends to all Indians, and Lands reserved for the Indians", and that the "word 'Indians' in s. 91(24) includes the Métis and non-Status Indians".[2] Since 2004, in multiple decisions passed by the Supreme Court of Canada: *Haida Nation*[3], *Taku River Tlingit First Nation*[4], *and Mikisew Cree First Nation*[5], has established that,

> Where accommodation is required in making decisions that may adversely affect as yet unproven Aboriginal Rights and title claims, the Crown must balance Aboriginal concerns reasonably with the potential impact of the decision on the asserted right or title and with other societal interests.[3]

On review of the *Draft ToR*, it is noted that the province has excluded the NCNS within the list of Mi'kmaq groups of Nova Scotia that will potentially be affected by this project within section 15.2, "*Consultation with the Mi'kmaq of Nova Scotia*". This contradicts the guidelines within the Nova Scotia Office of L'nu Affairs' *Proponent's Guide: The Role of Proponents in Crown Consultation with the Mi'kmaq of Nova Scotia* (2011) that the *Draft ToR* "encourages" the proponent to reference within the same section. Within the *Proponents Guide*, it is clearly stated "Step 1 – Notify Mi'kmaq Early in the Development Process… to contact the Native Council of Nova Scotia (NCNS)". By excluding the NCNS from the list of Mi'kmaq groups that may also be affected by the project, the province is excluding the Off-Reserve community of Mi'kmaq people that have their elected representative body, the NCNS.

Further, both the Government of Nova Scotia and the Government of Canada are aware that the "made in Nova Scotia Process", and the *Mi'kmaq-Nova Scotia-Canada Consultation Terms of Reference* does not circumvent the Federal Government's responsibility to hold consultations with other organizations in Nova Scotia that represent Indigenous Peoples of Nova Scotia. While the proponent may have to

[2] Daniels v. Canada (Indian Affairs and Northern Development), 2016 SCC 12, [2016] 1 S.C.R. 99
[3] Haida Nation v. British Columbia (Minister of Forests), (2004), 3 S.C.R. 511.
[4] Taku River Tlingit First Nation v. British Columbia (Project Assessment Director), (2004), 3 S.C.R. 550.
[5] Mikisew Cree First Nations v. Canada (Minister of Canadian Heritage), (2005), 3 S.C.R. 388.

engaged with the thirteen Mi'kmaq First Nations through the Assembly of Nova Scotia Mi'kmaq Chiefs, represented by the Kwilmu'kw Maw-klusuaqn Negotiation Office (KMKNO),[6] the KMKNO does not represent the Off-Reserve Aboriginal Community who has elected to be represented by the NCNS, since 1974.

We assert the Off-Reserve Aboriginal Communities, as 91(24) Indians, are undeniably heirs to Treaty Rights and beneficiaries of Aboriginal Rights as substantiated by Canada's own Supreme Court jurisprudence. As such, there is absolutely an obligation to consult with the off-reserve community through their elected representative body of the NCNS. The Crown's duty to consult with all Indians extends beyond that only with Indian Act Bands, or as through the truncated Terms of Reference for a Mi'kmaq Nova Scotia Canada Consultation Process. MAPC, on behalf of the NCNS, requests that this oversight be rectified through the addition of the NCNS being added to the list of Mi'kmaq of Nova Scotia groups that may also be affected by the project.

Going Forward To
A Better Future

Maritime Aboriginal Aquatic Resources Secretariate

Cc:

[6] Beaver Dam Mine Project 2021 EIS Update Version 3, 2021, 4-3.

CANADIAN PARKS AND WILDERNESS SOCIETY
NOVA SCOTIA CHAPTER

Canadian Parks and Wilderness Society
Nova Scotia Chapter
P.O. Box 51086 Rockingham Ridge
Halifax, NS
B3M 4R8

Re: Public consultation on the Draft Terms of Reference for the preparation of the Environmental Assessment Report for the Mill Transformation and Effluent Treatment Facility Project

January 28, 2022

To: Environmental Assessment Branch Nova Scotia Environment and Climate Change (NSECC)

The Nova Scotia Chapter of the Canadian Parks and Wilderness Society (CPAWS-NS) provides the following recommendations for the Draft Terms of Reference for the preparation of the Environmental Assessment Report for the Mill Transformation and Effluent Treatment Facility Project. CPAWS-NS is a science-based, non-government organization that works to protect Nova Scotia's rich natural heritage for the benefit and enjoyment of all Nova Scotians. We collaborate with governments, Indigenous peoples, local communities, academics, and other organizations on conservation initiatives.

In the face of climate change and rapid biodiversity loss, the importance of protecting our land and ocean has been recognized nationally and internationally. The federal government has committed to protecting 25 per cent of its land and waters by 2025, and 30 per cent by 2030. These targets are in line with scientific advice that we need to protect at least 30 per cent of our ocean in order to reverse biodiversity loss and restore ocean health and abundance by 2050. Canada has agreed to these conservation targets through international negotiations through the Convention on Biological Diversity.

The proposed Undertaking lies within Scallop Buffer Zone SFA 24, which is declared by the federal government as a protected marine refuge that counts towards Canada's protected area targets. SFA 24 is closed to scallop dragging under the *Fisheries Act*, as it is important habitat for biodiversity protection providing nursery habitat for juvenile American lobster (more information on SFA 24 can be found here - https://www.dfo-mpo.gc.ca/oceans/oecm-amcepz/refuges/sfa-zpp-eng.html).

Scallop Buffer Zone - SFA 24 (DFO)

Marine refuges, classified as 'Other Effective area-based Conservation Measures' (OECMs), are an important conservation tool that are critical to meeting the federal governments marine conservation targets. In 2019, the Government of Canada announced protection standards for all federal marine protected areas to better conserve sensitive and important parts of the ocean, which includes assessing activities in OECMs on a case-by-case basis.[1] As a marine refuge, Scallop Buffer Zone SFA 24 must meet the minimum standards in order to continue counting towards the marine conservation targets. Dumping is one of the four harmful activities prohibited in these minimum standards (alongside oil and gas activity, bottom trawling and mining).

CPAWS-NS is concerned about potential negative effects on marine refuge "Scallop Buffer Zone SFA 24" from the proposed Undertaking, particularly as it relates to minimum protection standards that prohibit dumping within marine refuges and marine protected areas. To ensure that the Environmental Assessment process properly addresses the potential impacts on marine refuge "Scallop Buffer Zone SFA 24", CPAWS-NS recommends adding the following text (in red) into the relevant sections of the Terms of Reference document:

- Section 3.2 *Project Location*

This section does not include any reference to the marine environment. We suggest adding the following sentences:

'Clearly describe the marine uses in the surrounding waters and discuss the compatibility of the project with these uses. Describe Scallop Buffer Zone SFA 24 and its proximity to the project.'

- Section 3.3 *Project Design and Components*

The following request should not be limited to the benthic environment:

'Detailed assessment of interaction between the effluent discharge plume and the seabed, the benthic environment and the wider marine ecosystem, including any impacts to Scallop Buffer Zone SFA 24.'

[1] https://www.dfo-mpo.gc.ca/oceans/mpa-zpm/standards-normes-eng.html

- Section 4.0 *REGULATORY ENVIRONMENT*

'Describe the existing regulatory environment (Federal, Provincial and Municipal) including marine regulations for fisheries and marine refuges, and 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.'

- Section 9.4.2 *Freshwater Aquatic and Marine Environment*

Section 9.4.1 requires the identification of wildlife management areas, yet Section 9.4.2 does not ask for the same identification of marine protected areas, despite the presence of Scallop Buffer Zone SFA 24. We recommend adding the following bullet point:

  - 'Identification of any existing or planned Marine Protected Areas (MPAs), Other Effective Area-Based Conservation Measures (OECMs) including marine refuges, and critical habitat for species at risk;'

- Section 9.7 *Existing and Planned Land Uses*

This section should be expanded to address marine as well as land uses. We recommend that the title read *'Existing and Planned Land and Marine Uses'* and that the section include the following changes:

'Describe the patterns of current and planned land and marine use and settlement in the study area including residential, commercial, industrial, agricultural, parks, and protected areas. This should include important fishing areas and Scallop Buffer Zone SFA 24. 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 and marine uses and provide distances to significant settlements.'

- Section 10.4.2 *Freshwater Aquatic and Marine Environment*

Section 10.4.1 requires an evaluation of impacts on terrestrial protected areas, so Section 10.4.2 should require the same evaluation of impacts for marine protected areas, especially given the presence of Scallop Buffer Zone SFA 24. We recommend that the following sentence is expanded:

'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 impacts on species at risk or of concern, significant habitats, and protected areas and areas of potential value to the federal Department of Fisheries and Oceans (DFO) protected area network that may be disturbed, altered or removed.'

- Section 10.8 *Existing and Planned Land Uses*

This section does make some reference to marine areas, so the title should read *'Existing and Planned Land and Marine Uses'*. It should also include the following addition:

'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, as well as a discussion of interactions with Scallop Buffer Zone SFA 24.'

- Section 11.4.2 *Freshwater Aquatic and Marine Environment*

Similar to previous sections, 11.4.1 asks for measures to comply with wildlife legislation and a mitigation plan developed in consultation with the government, yet these requests are absent from Section 11.4.2. We recommend the addition of the following sentences:

'Discuss measures to avoid, minimize or otherwise mitigate effects 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. Measures to comply with marine legislation (e.g., *Fisheries Act* and regulations) should also be provided. The EA report must include a mitigation plan developed in consultation with DFO that includes additional details to protect marine life and habitat.'

- Section 11.7 *Existing and Planned Land Uses*

As above, this section should be titles '*Existing and Planned Land and Marine Uses*' and should include the following sentence.

'Describe the measures planned to minimize the potential impacts of the project on Scallop Buffer Zone SFA 24 and future protected areas under DFO's protected area network. '

- Section 14 *PROPOSED COMPLIANCE AND EFFECTS MONITORING PROGRAMS*

This section should include a sub-section (e.g. Section 14.6) titled '*Protected Areas*', that requires a monitoring plan for terrestrial and protected areas in proximity to the project, including Scallop Buffer Zone SFA 24. We recommend the following text:

'Submit a post-construction monitoring plan for each protected area, including for Scallop Buffer Zone SFA 24. Each plan must consider collection of pre-construction baseline conditions and identify post- construction ecological integrity indicators to address impacts. For Scallop Buffer Zone SFA 24, the plan must ensure that the site meets the federal minimum protection standards for marine protected areas. The plan must detail proposed methodologies that will be used to complete the monitoring program and must detail the proposed frequency of data collection and the location of proposed monitoring points.'

Thank you for the opportunity to provide input on the draft Terms of Reference. We look forward to our recommendations being included in the final version of the Terms of Reference and to further engagement in the Environmental Assessment as this process unfolds. Thank you.

'

CPAWS Nova Scotia
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529 Valleydale Road
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B2N 5A9

Environmental Assessment Branch

Nova Scotia Environment and Climate Change

P.O. Box 442, Halifax, NS

B3J 2P8

Re: Class II Environmental Assessment Process, Terms of Reference for Northern Pulp

Dear Nova Scotia Environment,

As an operator of a large sawmill in Valley, Nova Scotia which employees 170+ direct employees, and provides work for 100s of other non-direct forestry and construction contractors, we understand the importance of the forestry sector in Nova Scotia. A key component of any forestry sector is a pulp mill.

Pulp mills not only consume residual products from sawmill operations but also provide a market for low grade wood products resulting from forestry operations. This market for low grade products is key to ecological forestry as forest improvement practices significantly increases the percentage of harvested low-grade products compared to that of some traditional practices.

Northern Pulp ("**NP**") is currently in the beginning stages of the Environmental Assessment Process ("**EA**") which is part of the process to re-open its pulp mill. The following is a list of key items, which we would suggest, need to be addressed in the Terms of Reference for this EA process:

- the Terms of Reference should be revised to clearly define the limits NP needs to meet, specifically regarding air emission and treated effluent;
- the EA process must be led by an independent panel with expertise in kraft pulp production and environmental management;
- the EA process should happen in a timely fashion according to committed timelines, extensions and delays should be avoided where possible; and
- Canada standards for air and water emissions should be the guiding standards on this EA.

By following the above suggestions, we are of the opinion that the EA process will provide a fair and correct outcome for all parties involved.

Sincerely,

J.D. Irving, Limited

VANCOUVER CALGARY TORONTO OTTAWA HALIFAX

ecojustice

1801 Hollis St
Halifax, NS

File No: 2081

January 31, 2022

The Honourable Tim Halman
Minister of Environment and Climate Change
Department of Environment
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Environmental Assessment Branch
Environment and Climate Change Nova Scotia
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Sent via Electronic Mail

Re: Submission in response to request for comments on Draft Terms of Reference for Environmental Assessment Report – Mill Transformation and Effluent Treatment Facility Project proposed by Northern Pulp Nova Scotia Corporation

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On behalf of the Friends of the Northumberland Strait (**FONS**) we write to provide comments on the December 21, 2021 Draft Terms of Reference (**TOR**) for the Environmental Assessment Report in respect of the Mill Transformation and Effluent Treatment Facility Project (the **Project**) proposed by Northern Pulp Nova Scotia Corporation (**NPNS**).

We appreciate and support the efforts of the Minister and Nova Scotia Environment (**NSE**) in creating these TOR which build upon earlier environmental assessment processes and iterations. We hope that they will set the foundation for a comprehensive and thorough analysis of all impacts associated with the new mill and effluent treatment facility.

Our comments on the draft TOR are attached (**Tab A**), as shown via a coloured markup of specific sections of the text of the December 21, 2021 draft TOR.

We provide these comments to assist the Minister and Nova Scotia Environment in setting out a clear and workable framework for the preparation of the Environmental Assessment Report for the Project. If the proponent appropriately applies the framework, it can assist greatly in ensuring not only that the proponent's Environmental Assessment Report is comprehensive and constitutes a science-based evaluation of the environmental impacts of this proposed Project, but also will support and facilitate the work of the environmental assessment panel by ensuring they have available to them all relevant and necessary information.

As a guide and supplement to our redline comments below, we take this opportunity to highlight some of the cross cutting issues, and more significant gaps or areas for improvement we have identified.

Modelling

Numerical modelling forms a significant aspect of the assessment of the mill's impacts across various areas of interest. It is therefore essential that all marine models are programmed using accurate and comprehensive baseline data, with detailed bathymetric mapping and multiple cycle measurements of all relevant conditions. The models must be optimally designed for use in the conditions presented by the proposed Project. They must be used as intended in accordance with industry standards, and must be calibrated and operated by qualified, trained personnel. Three-dimensional modelling must be used where it will obtain the best and most reliable predictions. The results must also be fairly represented. Models must reflect all scenarios, with typical and atypical conditions, and must be run in relation to annual cycles, accurately portraying ice conditions, extreme weather events, extreme conditions, and potential variations due to climate change, as well as taking into account scenarios resulting from accidents, malfunctions and unplanned events. All data inputs used in modelling scenarios must be disclosed and made available to be tested and replicated by others with such expertise. Modelling should be conducted of effluent discharge (and accumulation), sediment transport (and accumulation), air emissions (and cumulative impacts) and leachate discharges.

All modelling (including air emissions, sediment transport, effluent discharge and behaviour, and leachate) must be based on the principles as set out above. Such modelling must be comprehensive and based on detailed, comprehensive and reliable baseline data and measurements, taken through all seasons and over several years. It must encompass not only optimal conditions, but extreme weather and climate change. Selective, incomplete or unrepresentative data will result in unreliable models and must not be permitted.

Study Area

We submit that the scope and extent of the study area must be sufficiently broad to enable a true assessment of the full impacts of the proposed Project and its emissions. In the past, much of NPNS's submissions as to the environmental impacts of its effluent and air emissions have been based on the premise that they dilute and disperse into the environment beyond the study area. However, this does not take due account of the fact that many contaminants can persist in the environment and can adversely impact ecosystems even at low concentrations. Consequently, the assessment must detail, model and evaluate the full area over which emissions disperse, and not focus artificially and solely on the immediate area surrounding the discharge points of the mill's emissions. The proponent must demonstrate the full fate and dispersal of all emissions, and the full impacts of those dispersed emissions across the region and marine areas.

As set out in the attached annotated draft TOR (Tab A) at section 8.0, we propose the following description of the study area as it allows for a more complete and comprehensive assessment:

> At a minimum, the project area is to include terrestrial areas encompassing and in proximity to, the mill site, the pipeline route, all terrestrial areas that could be impacted by an effluent leak or spill from the pipeline, all sections of the marine pipeline route and the near and far field marine areas as set out in NPNS's previous receiving water study models;
>
> For greater certainty, the project area shall include, *inter alia*, any areas and ecosystems that may come into contact with the mill's air emissions, effluent and suspended solids, leachate, and mobilized contaminants at any quantity or concentration. The marine portions of the project area shall include, at a minimum, the West River, Middle River and East River tributaries and estuaries, 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, as well as all shoreline lands adjacent to these marine areas.

On-site contaminants

We are deeply concerned about the presence of mercury contamination (among other contaminants) on the Abercrombie Point site. The Mill is located on that site, as are many of the proposed construction activities associated with the new Project proposal. We are very concerned about how the phases of the proposed Project may interact with existing contaminants, and the potential impacts (immediate and long-term) from such contamination and its potential migration, into surrounding soils, groundwater and surface waters, and into the marine environment of Pictou Harbour. We are of the view that mercury, along with all other potential contaminants, and

associated potential impacts, must be disclosed, investigated, delineated and assessed within this environmental assessment process. Likewise, the assessment must include evaluation of the effectiveness of potential mitigations and residual effects in the short and long-term. All such issues and requirements should therefore be reflected in the Terms of Reference for the Project.

We provide two additional documents. The first document is an excerpt from an affidavit filed on behalf of the Proponent in creditor protection proceedings (Tab B), demonstrating that mercury and other hazardous substances are present on the Northern Pulp site. The second document consists of excerpts from a decommissioning plan for the Canso Chemicals area of the Abercrombie Point site (Tab C). which is adjacent to the Northern Pulp site and was previously the site of a chlor-alkali plant. Documentation relating to the Canso Chemicals site notes that mercury will likely leach into Pictou Harbour over time. To the best of our knowledge, there has been no identification or assessment of the mercury and other hazardous substances present on the Northern Pulp site, and this issue is not addressed in the Draft TOR for Northern Pulp's new project.

Effluent Outfall

We submit that the Proponent's failure to specify a specific effluent outfall site in its environmental assessment registration document significantly hinders the ability of the NSE and public to ensure that the TOR properly identifies necessary studies, data and information needed to assess impacts. NSE and the public, including our clients, are left to attempt to imagine every potential path and the issues and questions that might arise from each. Further, absent this crucial information, it is not possible for interested parties to perform their own investigations. Ultimately, by the time the proponent does specify the proposed effluent outfall site, it is likely that further information gaps will be identified, however, at that time it may be too late.

Need and Purpose

While the proponent is asked to set out the need and purpose for the Project, we submit that further depth and detail is required to canvas the full scope of the Project. Given that the mill has been closed for some time, real comparative data should be required to verify claims of impacts or benefits for the local economy. Such an analysis should assess the impacts on the local economy, not only those industries that rely on and support the mill but also those industries that are negatively impacted by an operating mill, such as tourism and real estate. NPNS's financial capacity to not only carry out the proposed Project, but also the required long-term monitoring and mitigation must be assessed and bonded where appropriate. It will also be important for the panel to be informed about, and to consider, the costs to the taxpayers of Nova Scotia in supporting and subsidizing this mill since it was first constructed. In particular, the panel should

be provided with a full set of information regarding the massive damage claims made by NPNS against the province, and NPNS's failure to repay its significant debts owing to Nova Scotians. NPNS's ability and commitment to fund this project and fulfill its obligations to its employees, including those relating to pensions and pension plans, must be fully detailed, proven and subject to audit. This information will be of great assistance in determining the true cost/benefit balance of this mill in the local and provincial economy.

Public Input

We are pleased that public input is to be sought for various aspects of the Environmental Assessment Report. We note however that the mechanism, and nature of such public engagement is not delineated. For example, in section 8.0 as it pertains to Valued Ecosystem Components (VECs), input from members of the public is to be sought. However, there is no detail as to who may or must be consulted, how that input might be obtained and what use, if any, input would ultimately be put to. Therefore, we submit that such public engagement ought to be carried out in a manner that is open and transparent, easily accessible to the public and ensures that all public input and the final determination on VECs is made available to the public as soon as practicable. We have provided wording at sections 8.0 and 15.1 to ensure that, at a minimum, any and all public consultation, to the extent it is led by the proponent, be conducted in accordance with basic principles.

Incomplete information cannot facilitate reasonable and useful public engagement. In the present case, as mentioned, the absence of an identified discharge point and a receiving water study compromise any meaningful public consultation. Given the importance and intense public interest in this project, it is vital that such information be made available to the public as soon as practicable and well in advance of any public engagement process that may be undertaken.

Comprehensive Assessment

As no mill has been in operation on Abercrombie Point from January 2020, and as the proposed Project involves a new effluent treatment facility and mill changes resulting in what the proponent asserts will be a substantially new mill, the impacts assessment must be equivalent to that of an entirely new Project. The baseline against which the new proposed Project is assessed must be the current state without an operating mill. The environmental assessment 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.

Furthermore, by its operation, the proposed mill will require timber to feed the mill. The impacts of this forestry activity will not be limited to the study area and the proponent must be required to address the full impacts of the demand the mill is expected to place on the forests of Nova Scotia for the projected operational lifespan of this project. It is evident that NPNS intends to put forward evidence of the socioeconomic benefits of the forestry jobs it will assert would be created in connection with the operation of the mill. It must also therefore be required to describe and detail the mill's impacts on forests, biodiversity and species at risk, including from harvesting and management activities, such as clearcutting and herbicide use, as well as greenhouse gas emissions that will result.

Acknowledgement

FONS and Ecojustice are grateful to 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.

We trust that the Environmental Assessment Report process will result in a genuine assessment of the Project's impacts, including sending this Project's waste substances into the air, land and waters of our region and our world, and of the real risks presented by the Project to biodiversity and the remaining forests of Nova Scotia.

Sincerelv

Barrister & Solicitor

Barrister & Solicitor

c. Friends of the Northumberland Strait, by electronic mail

TAB A

DRAFT TERMS OF REFERENCE FOR THE PREPARATION OF AN ENVIRONMENTAL ASSESSMENT REPORT

Mill Transformation and 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 in track changes)

Submitted on January 31, 2022

Executive Summary

Background

Environmental Assessment

An Environmental Assessment is a planning tool that allows 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.

The EA process does not propose or identify specific effluent and emission limits. It is up to the proponent, based on a full identification and evaluation of the potential impacts of the project, the capacity of the environment to handle these impacts, and any mitigations that would reduce them, to determine the overall impact of the project and recommend specific limits that a particular receiving environment can support. If, through the EA review, proposed emission limits are identified and evaluated, and it is clearly established that all such limits will actually be achieved through the use of the proposed processes and technology, and that those limits will not cause any significant environmental or adverse effects, the emission limits may be acceptable, but subject to the project meeting all other statutory and regulatory requirements and demonstrating full compliance with these Terms of Reference. ~~If, through the EA review, proposed emission limits are identified to address the potential impacts of a project without causing significant environmental or adverse effects, the project can receive an EA approval.~~ Specific limits (i.e., pertaining to effluent and emissions) are established through subsequent authorizations (i.e., industrial approval) once this planning phase and the environmental review is complete.

Former Project

NPNS's former *Replacement Effluent Treatment Facility Project* was originally ~~twice~~ registered under the Class I EA process. Two ~~A~~ thorough environmental reviews of the materials filed by NPNS concluded ~~each time~~ that NPNS did not provide enough information to determine if adverse effects or significant environmental effects would result from the project. Concerns were raised about many aspects of the proposed project, for example: incorrect and incomplete

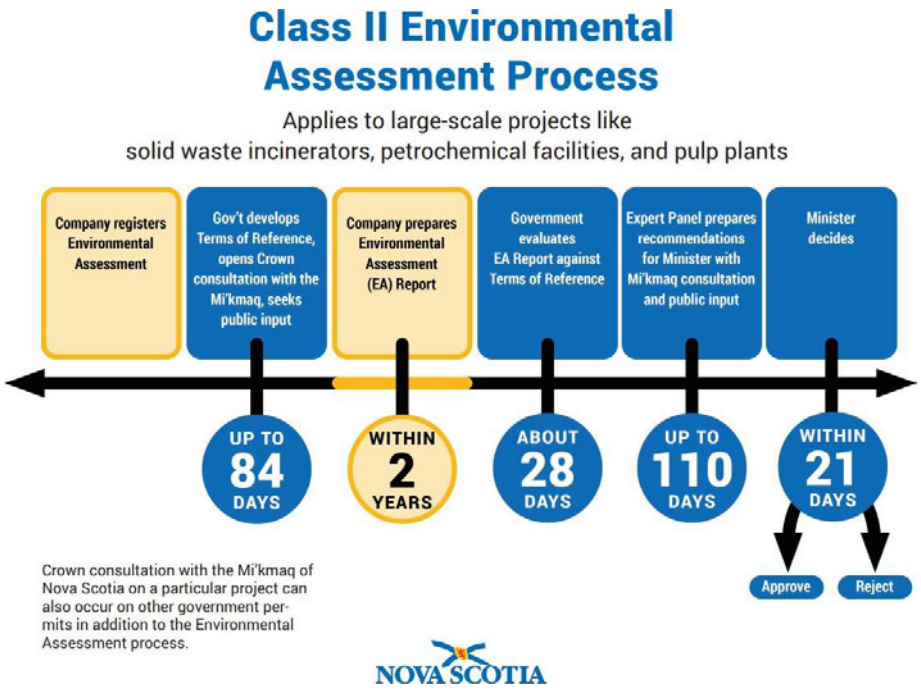
baseline information; assumptions and methodology used in the analysis; and the absence of mitigation measures related to the potential environmental effects.

As a next step in the EA process, NPNS was required to submit an Environmental Assessment Rreport on the *Replacement Effluent Treatment Facility Project* by April 2022 that met the expectations of the Terms ofr Reference provided to NPNS in ~~December~~ April 2020. On March 5, 2021, NPNS formally withdrew this project.

New Project

On July 16, 2021, the Minister of Environment and Climate Change (Minister) determined that NPNS's proposed new project, the *Mill Transformation and Effluent Treatment Facility Project* requires a Class II Environmental Assessment in accordance with the Environmental Assessment Regulations.

On December 7, 2021, NPNS formally registered the *Mill Transformation and Effluent Treatment Facility* project for a Class II Environmental A~~a~~ssessment. NPNS's registration document is available online at Mill Transformation and Effluent Treatment Facility Project | Environmental Assessment | Nova Scotia Environment.



Purpose of the Terms of Reference

This draft Terms of Reference has been developed based on a review of the proposed project described in NPNS's registration document. The purpose of the Terms of Reference is to guide the company in understanding the information required for inclusion in their Environmental Assessment R~~r~~eport that will be evaluated through the Class II EA process.

Comments from the Mi'kmaq, interested stakeholders, and the public on this draft Terms of Reference will inform the development of these requirements.

Comments obtained through the review period are provided to the company which can provide input on the comments prior to the finalization of the Terms of Reference. Once the Terms of Reference is finalized and provided to the company, NPNS will have up to two years to submit their Environmental Assessment R~~r~~eport. NPNS is expected to prepare an Environmental

Assessment Report that fulfills the intent of the final 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.

Under the Class II process, the Minister refers the report to the Environmental Assessment Panel (Panel), who conducts public review of the Environmental Assessment Report that can include public hearings. The Panel prepares a report and recommendation to the Minister based on review of the Environmental Assessment Report and input gathered through the public review and consultation with the Mi'kmaq. Following receipt of the Panel's recommendation, the Minister can choose to approve or reject the project.

Next Steps

This document presents the Draft Terms of Reference for public review and comment on their adequacy and any 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 **January 31, 2022**, and addressed to:

Environmental Assessment Branch Nova Scotia Environment and Climate Change

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

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INTRODUCTION

1.1 Background

The *Mill Transformation and Effluent Treatment Facility Project* (the project or undertaking) proposed by Northern Pulp Nova Scotia Corporation (NPNS or the Proponent) was registered for environmental assessment (EA) as a Class 2 undertaking pursuant to Part IV of the *Environment Act* on December 7, 2021

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.

The purpose of this document is to identify for Northern Pulp the information requirements for the preparation of an Environmental Assessment Report (EA Report) to be evaluated through the Class II EA process. Northern Pulp is expected to prepare an EA Report which fulfills the intent of the Terms of Reference. The EA Report must consider all the effects that the undertaking ~~are likely to~~may cause in the environment~~arise from the project~~, including any not explicitly identified in the Terms of Reference.

Commented [ ] The phrase "are likely to" is too narrow - and does not reflect the definition of "environmental effect" which refers to changes or effects that the undertaking **"may"** cause in the environment...(s 3(v)(i) - 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 provides a framework for preparing a complete EA Report, it is the responsibility of NPNS to provide sufficient data and analysis on any potential environmental effects of the project presented in a clear format that can easily be reviewed and evaluated by the Minister, government reviewers, the Mi'kmaq of Nova Scotia and the public.

Once the Minister refers the EA Report to the Environmental Assessment Review Panel (Panel), 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 government reviewers, 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. In addition, it will help with understanding of the potential impacts of the project to potential or established Aboriginal or Treaty rights.

The Panel is responsible to review the EA Report, conduct a public review of the EA Report, which can include public hearings, and prepare a report and recommendation to the Minister that includes input gathered through the public review and consultation with the Mi'kmaq.

The Minister then has the following 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 may be approved ~~is able to proceed~~, with or without conditions. If such effects cannot be mitigated, a project may be rejected.

1.3 Proposed Project

This Section is based on the proposed project as described in the November 2021 Environmental Assessment Registration Document (EARD). 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 mill infrastructure and process components that will be changed or updated as well as the design and development of a new effluent (wastewater) treatment facility (ETF) constructed on Northern Pulp property, and a transmission pipeline that will carry treated effluent to the Pictou Harbour estuary and discharge via an engineered diffuser (marine outfall).

The mill transformation components of the project include upgrades to a number of the existing in-mill processes. Modifications or additions to the mill infrastructure or processes include:

- Upgrades to washing and screening components of the pulping process and collection of odour producing gases;
- Installation of a two-stage oxygen delignification process and on-site oxygen generator;
- Upgrades to the bleaching plant;
- Lignin separation;
- Upgrades to green and white liquor clarifiers;
- Calcium liquor cycle upgrades;
- Conversion to a low-odour recovery boiler;
- Replacement and decommissioning of emission stack scrubber equipment;
- Steam stripper system upgrades;
- Upgrades to mill's spill containment and cooking chemical recovery processes; and
- Installation of cooling towers and cooling water loops within the mill.

The project components are identified by the proponent as being ~~to have been~~ designed to meet Best Available Technology standards for the ~~pulp~~mill. They are intended to: improve overall air and effluent emissions from the mill, reduce visible plumes and odours during normal mill

operations, improve the quality of effluent to the treatment facility, and reduce the mill's water usage.

In addition, the mill transformation work will also include the exterior of the existing mill building. Work will be undertaken to rejuvenate external areas of the mill, including cleaning of brick facades, cladding replacement, removal of obsolete equipment and tanks, repainting, and general landscaping.

NPNS also proposes the design and development of a three-stage effluent treatment facility to be located on the mill property. Primary treatment is proposed to consist of a two-stage process including an automatic raked bar screen to remove large debris from the effluent stream and a concrete circular clarifier to remove wood fiber and lime by gravity. Secondary treatment at 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. The tertiary treatment stage will consist of rotating disc filters (Veolia's Hydrotech Filters) to remove suspended solids and address effluent colour.

Once treated onsite at Northern Pulp's facility, effluent is proposed to be sent from the mill property through a pipe ~~(discharge point to be determined through completion of a receiving water study and engineering design process)~~ and discharged via an engineered multi-port diffuser into the Pictou Harbour estuary, (discharge point to be determined through completion of a receiving water study and engineering design process) ~~from the mill property~~.

NPNS also proposes to construct a 35,000 m^3 spill basin between the mill and the ETF in the event of major process upsets. The basin is proposed to be designed to be able to contain 20 hours of mill effluent and will be kept empty during normal mill operations.

1.4 Environmental Assessment Requirements

The project is a Class II Undertaking pursuant to Schedule A of the Environmental Assessment Regulations made under Section 49 of the *Environment Act*.

The Environmental Assessment Regulations require that the proposed Terms of Reference for the EA Report be prepared by the EA Administrator and made available for public review. Public comments on the Draft Terms of Reference will be accepted from December 21, 2021, to January 31, 2022.

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.

NPNS is required to submit the EA Report within two 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 and Climate Change (ECC) 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 is required by the EA Regulations to refer the EA Report to an EA Review Panel (Panel) for review. To assist in their review and preparation of a recommendation, the Panel may also choose to hold public hearings to receive submissions and comments from any interested party. At the conclusion of this process, the Minister has the following 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.

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) (see below) which the Administrator considers relevant. Also to be included are:
- the environmental effects of the undertaking on reserve lands, as well as suspected or known burial and archeological sites;
- a description of the potential impacts of the proposed undertaking to potential or established Aboriginal or Treaty rights, in respect of the Crown's duty to consult, and where appropriate, accommodate Aboriginal peoples.

Commented [This references is not explained - it is intended to refer to subsection 19(2) of the *Environmental Assessment Regulations* which says that TOR shall be prepared taking into consideration comments from the public, gov't depts, Govt of Canada, municipalities, Indigenous communities and neighbouring jurisdictions to NS

As required by subsection 19(2) of the *Environmental Assessment Regulations*, t~~T~~he EA Report 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.

  ** including departments, offices, and agencies*

In preparing the EA Report, as applicable, NPNS shall ~~may~~ refer to comments from the above-noted parties during the EA review of the previous Replacement Effluent Treatment Facility project, for both the EARD and the Focus Report previously submitted by NPNS, 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 the project and its associated ~~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 November 2021 EARD. 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 EA report ~~should~~ shall apply intuitive methods to depict data, models, analyses, and their relevance to the environment, processes, and/or assessments as applicable.

Commented [As noted above, use of the phrase, "are likely to" in this context is contrary to requirements of *Environment Act*

The order in which information is presented is at the discretion of NPNS; however, a concordance table will be required to indicate where the information can be found. When the Minister refers the EA Report to the EA Review Panel for review, NPNS may provide additional information to the EA Panel prior to the close of a public hearing. All such information shall be made public within a timely manner, to permit meaningful review and informed comment from all concerned individuals, organizations and groups.

Since the EA Report is intended for public review, the information should include an Executive Summary presented in non-technical language. NPNS 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.

It is recommended that the proponent make all reports, supporting studies and data developed in connection with the EA Report, and/or relevant to the proposed project, available to the public as soon as each report, study or data set is completed or collected. 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).

All models used to evaluate and 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 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, possible and worst-case conditions in the entire study area over the full year, in all seasons and in all conditions.

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

3.0 PROJECT DESCRIPTION

NPNS must provide information, as part of its comment on the draft Terms of Reference, about any anticipated changes to the proposed project relating to work required to return the mill to an operational state, including how these changes, if any, may affect the Terms of Reference. All such information must be made public and be published by Nova Scotia Environment in a timely manner to enable the public to evaluate it, to make informed comments and to participate meaningfully.

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

- 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; and
- leachate collection systems, landfills and other facilities, whether existing, proposed, or contemplated, to be used for collection and/or disposal of hazardous substances and materials.

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 NPNS'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; managing potential adverse environmental effects, and mitigating potential adverse impacts to Aboriginal and Treaty rights.

Provide details on relevant corporate experience (NPNS and related companies) and experience in building and operating other similar facilities. Provide a record of the environmental performance and capability of NPNS 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 risks associated with ~~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 and marine areas, and opportunities to integrate project planning into regional scale development efforts. Clearly describe the location and distance from the proposed site(s) to all potential receptors (e.g., permanent, seasonal or temporary), taking into consideration the different land uses (e.g., residential, recreational, industrial, commercial, etc.), and all sensitive populations (e.g., schools, hospitals, retirement complexes, assisted care homes, etc.)~~.~~ Consider the types of residents and visitors, based on land uses, and include members of the public and/or members of specific population sub-groups (e.g., Indigenous peoples, campers, hunters, etc.)~~.~~ 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, railways, power lines, pipelines, proximity to permanent and seasonal residences, individual and community water supplies, wetlands, water bodies, streams, watersheds and airsheds, 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 company, the Crown, or private lands. Provide details of existing agreements to develop the project on lands not owned by NPNS. 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 NPNS mill site and property at Abercrombie Point, including historical and current site uses, 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 (including, but not limited to, the operations and site impacts of the Canso Chemicals facility).

Conduct a study to investigate the presence of contaminants in soils, water and bedrock. The study shall address all known or suspected spills and contaminants, historical and recent, present on or under the site, along with detailed information as to their extent, delineation, precise location, depth, concentration, mobility and composition, and potential and actual migration pathways, and shall be depicted on appropriate maps, charts and diagrams, accompanied by a complete set of sampling and test results. The above shall include, but is not limited to, known and suspected mercury contamination, and/or other contamination, on the mill site. The study shall obtain and include baseline data and delineation of contamination, and describe and evaluate measures that will be put into place to prevent mobilization of, fully contain and remove all on-site contamination. The study will assess all risks and potential impacts, over time, due to the presence of mercury and other contamination on the mill site. The study shall further identify and delineate all sources, characterization, composition, accumulation and migration pathways of leachate that are, or may be, in soils, groundwater or surface water on the site, and/or migrating off-site.

As NPNS relies on large quantities of wood products to make pulp at the mill, provide a detailed description of all forested lands that will be harvested to obtain raw materials, including lands owned or leased directly by NPNS or a related company, and/or in respect of which it has harvesting rights or access due to its association and/or agreements with WestFor Management Inc.

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: all planned changes to the mill site, mill infrastructure and in-mill improvements, on-site or off-site waste and hazardous material/substance storage and/or disposal, leachate collection, the ETF, land and marine based sections of effluent pipeline and the diffuser. All associated infrastructure and components must be detailed. In cases where existing equipment are proposed to be re- purposed, converted or modified to support the proposed project, provide detailed assessments and engineering re-design plans to address the suitability for the proposed purpose, condition of equipment and life expectancy, including the effect of gases and chemicals proposed to be collected on mill equipment and infrastructure. 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 and copies attached to the study or report (or working hyperlinks to the precise documents will be provided).

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, procedures and protocols 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. Detection levels shall be included for data where relevant.

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

Planned Changes to Existing Mill Infrastructure and Processes

- Preliminary design, performance expectations, and/or other documentation to demonstrate how the proposed mill transformation/project components will achieve the stated performance objectives;
- Identification and characterization of the proposed water supply, including how the water will be conveyed to the site;
- Schedule of in-mill component construction/installation and other changes relative to the ETF construction schedule; and
- A waste dangerous goods management plan to accommodate for worst case scenario within design of the proposed ETF, including releases of black liquor, major equipment malfunctions, etc. 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 ECC. Additional details relating to disposal of waste goods, hazardous substances and materials, and construction materials ~~may be~~are required.
- A plan for on-site leachate collection, monitoring and disposal .

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;
- Description of the time duration, sequence and volumes for effluent generation and treatment through all phases and steps until discharge;
- 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);
- Details (including characteristics and toxicities) and quantities of all sludges, ashes, or other wastes generated from the biological activated sludge (BAS) treatment process and/or from the boilers;
- Justification of spill basin size. Consider worst-case scenarios and requirements under the Dangerous Goods Management Regulations. Provide information on any proposed process or chemical changes that may impact the quality and quantity of materials that may be released and how leakage will be tracked and contained to ensure that incompatible materials do not come into contact and may be contained for collection and disposal without adverse reaction or dilution;
- 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. Demonstrate that its capacity will be sufficient for all intended use cases, including justification and clearly outlining assumptions used to support proposed basin sizing;
- Provide a complete physical and chemical characterization of NPNS's anticipated raw wastewater (influent to ETF), to support the assessment of the appropriateness of the proposed treatment technology. The complete characterization must adequately represent ETF influent for all ~~various~~ operating conditions that may exist at the mill from time to time (e.g., seasonality, flow rates, changes in sources of fibre or production, start-up and shut-down cycles, accidents, process disruptions, spills, malfunctions, unplanned shut-downs and start-ups, etc.). Characterization of influent may require a combination of literature, analysis of data from comparable mill(s), and/or modelling associated with proposed in-mill processes. All analysis and discussion must identify laboratory reportable detection limits;
- Influent and effluent characterization must identify all components and characteristics, including contaminants of potential concern and persistent organic pollutants using a detailed quantitative approach to estimate discharge concentrations and loads from the treatment sources (e.g., literature review, background water quality, and similar facility effluent data). Must include, at a minimum, AOX, total nitrogen, total phosphorus, colour, chemical oxygen demand (COD), biological oxygen demand (BOD_5), total suspended

solids (TSS), dissolved oxygen (DO), pH, temperature (at discharge and at specific process point stages), total dissolved solids (TDS), mercury, dioxins and furans (all applicable congeners), PAHs, PCCD/F, resin compounds, chlorophenolic compounds, non-chlorinated phenolic compounds, ~~and~~ chlorinated VOCs, microplastics, and all persistent organic pollutants (POPs);

- Using the anticipated raw wastewater characterization, evaluate all contaminants of potential concern (COPCs) with respect to the effluent discharge quality following treatment using the proposed technology. Provide results of all expected COPCs influent and effluent concentration ranges. Include chemical oxygen demand (COD) fractionation (soluble and total) concentrations in the assessment;
- To better assess toxicity of mixtures of toxic chemicals, transcript profiling must be carried out on several representative marine species to assess global gene expression changes in response to effluent exposure:
- Comparison of the effluent characterization results from the above assessment with appropriate regulations and/or guidelines, including, but not limited to, the draft Pulp and Paper Effluent Regulations (PPER) daily and monthly average limits, the *Pulp and Paper Mill Effluent Chlorinated Dioxins and Furans Regulations* and all applicable standards. The ETF treatment process shall also be designed to account for contaminants of concern and persistent organic pollutants, and their effect on the environment as determined by a receiving water study;
- Evaluate anticipated effluent flow rate (maximum daily monthly, annually and over the project's lifespan), through modelling or assessment of other data sources, to support treatment capacity of flow of effluent per day;
- Evaluation of sludge and ash management options, inclusive of agronomic beneficial reuse and disposal, including the rationale for the preferred option. If the preferred option uses the biomass boiler, provide a secondary disposal option; and
- Provide details of the ETF commissioning process and impact of commissioning phase on performance of proposed treatment technology.
- Provide details of all operational conditions which have the potential to compromise the intended and effective functioning of any component of the proposed 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 proper system function is fully restored.

Land-Based Sections of Pipeline Route

- Plans for intrusive geotechnical surveys to support proposed pipeline construction methods
- The geotechnical survey plan must include collection of standard hydrogeological information on borehole, monitoring well and test pit records including:
    - estimated water levels
    - soil types, description, and depths
    - bedrock geology description of rock type, rock quality fracturing, and depths
    - monitoring well construction details (when applicable);
- Functional design drawings of anticipated land-based pipeline alignment
- Risk assessment of the land-based pipeline design, including:
    - Evaluation of the probability of a leak, spill or release, based on a literature review of comparable designs and installations, and considering future construction/maintenance activities that may be required or undertaken ~~others~~ on the site and within the pipeline corridor (e.g., installation of underground and/or overhead utilities or municipal services);
    - Identification of all points along the pipeline route that are ~~most~~ susceptible to failure;
    - Details of a secondary containment system (e.g., double-walled pipeline) and/or other protective engineered measures and proposed locations, based on the risk assessment;
    - Evaluation of potential mobilization into soils, groundwater, surface water and marine areas of chemicals of concern and persistent organic pollutants associated with excavation, construction and operation of pipeline; and
    - Leak detection technologies for the entire land-based pipeline, considering the private supply wells. Provide details on the sensitivity of detection technologies, staff training plans, maintenance and inspection frequencies, methodologies and response protocols for the full lifespan 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

- Conduct ~~Plans for~~ intrusive geotechnical survey and include report with EA Report; use results to support optimal proposed marine pipeline construction methods;
- Detailed assessment of interaction between the effluent discharge plume and the seabed and benthic environment;
- Identification of all points along the pipeline route that are susceptible to failure, including the segment of the pipeline that transitions from land-based to marine conditions;
- Leak detection technologies for the entire marine-based pipeline. Provide details on the sensitivity of detection technologies, staff training plans, maintenance and inspection frequencies, methodologies and response protocols, including during periods of ice coverage; 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 refuges, 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;
- Identification of equipment staging areas and lighting requirements during night-time construction activities;
- 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 identify the location, quantity and chemistry of any dredge materials that are expected to require land-based disposal;
- 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 leachate collection and 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.

Describe the quantities, types, condition of the raw materials that will be used to supply the mill, make pulp, and to be burned as fuel and for electrical generation. Describe the source lands on which these raw materials will be obtained, and the detailed methodology for obtaining these materials.

Describe and provide detailed predictions of daily quantities, including maximum and minimum quantities, of bleached kraft pulp that the mill will produce and market.

Describe maximum daily water withdrawals and usage, and maximum daily and annual effluent discharge.

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.

If the project as proposed is not a designated project, or has not been designated by the Minister of Environment and Climate Change Canada under the *Impact Assessment Act* (IAA), a clear description of any components of the project occurring on Federal Lands is required, before Federal Authorities can determine their Section 82 IAA obligations. 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 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 NPNS. 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 the use of alternative and new technologies, including those that would not require effluent treatment and discharge, 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 on the basis of their relative profitability for the proponent.

Should alternatives to the project include alternate water sources not identified in the EARD, then all influent and effluent characterization must also be conducted for this alternative scenario, accurately and adequately reflecting the alternative source water and its physical, chemical, and biological conditions. This alternative source water scenario and its potential for different water characterization should be carried through to all applicable modeling, baseline,

compliance, and environmental effects monitoring activities and programs.

7.0 OTHER METHODS FOR CARRYING OUT THE PROJECT

Discuss other methods for meeting the need for the project, including but not limited to, in mill processes and technologies and treatment technologies, including alternatives that use no chlorine and produce chlorine-free products. This section shall also discuss alternate locations for the project and its components, including rationale for siting of project components exterior to the mill required to support the project (e.g., access roads, spill basin, pipeline, diffuser location, etc.). If alternative pipeline routes and discharge sites are proposed, each such route and site will be discussed and evaluated.

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 "project area" (also referred to as the "study area" or the area within the "s~~S~~tudy boundaries" ~~or project area~~shall include ~~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;
- At a minimum, the project area is to include terrestrial areas encompassing and in proximity to, the mill site, the pipeline route, all terrestrial areas that could be impacted by an effluent leak or spill from the pipeline, all sections of the marine pipeline route and the near and far field marine areas as set out in NPNS's previous receiving water study models;
- For greater certainty, the project area shall include, *inter alia*, any areas and ecosystems that may come into contact with the mill's air emissions, effluent and suspended solids, leachate, and mobilized contaminants at any quantity or concentration. The marine portions of the project area shall include, at a minimum, the West River, Middle River and East River tributaries and estuaries, 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, as well as all shoreline lands adjacent to these marine areas.

- Valued Ecosystem Components (VECs) within the study ~~boundaries~~ area and the methodology used to identify the VECs. The methodology used for VEC identification shall include input from members of the public (in accordance with section 15.1), government departments and agencies, other experts, and other interested parties, as well as direct engagement with the Mi'kmaq of Nova Scotia;
- In some cases, such as the impacts of the project on forests of Nova Scotia, the VEC may fall outside the geographical study area, but shall still be considered in respect of project impacts.
- 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.

Commented [Similar to the comment above, it is unclear as to what is meant by the phrase "environmental protection objectives" or what direction is being provided to NPNS as to what would be an appropriate environmental protection objective in any particular circumstance

The EA Report is to be prepared using an accepted and proven EA methodology and ~~a~~ qualified persons with appropriate expertise 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 complete list of literature and sources used in the preparation of the EA Report, and include hyperlinks to all such materials.

The following sections outline specific concerns and requirements related to the existing environment, adverse effects and environmental effects assessment, including cumulative effects, 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.

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. NPNS'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 comments received during the previous *Replacement Effluent Treatment Facility* 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 all efforts to obtain available baseline data/information that has not been obtained, ~~which~~ why missing data is not available or where existing data cannot accurately represent environmental conditions in the project area. The EA Report shall provide justification for failing to make reasonable efforts to obtain relevant available data. 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 evaluate the ~~include~~ reliability, suitability, calculations of margins of error, and uncertainty in respect of all data used.

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.

Subject to the express requirements of these Terms of Reference, NPNS is encouraged to consult with relevant government departments when determining the need for updated baseline (field and desktop) information, and the 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 and bathymetric 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. A description of potential errors and/or changes in marine bathymetric datasets associated with geomorphic evolution should be provided particularly if datasets are outdated by more than 10 years.

9.1.2 Geology

Include a description of bedrock geology, surficial geology and soils. The results of the geotechnical survey and on-site contaminant study referenced in Section 3 of the Terms of Reference shall~~ould~~ 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.

Include a description of all on-site contaminants and leachate sources and the accumulation of contaminants in bedrock, soils, groundwater and surface waters. The description shall include the full chemical characterization, delineation, concentrations, extent, migration pathways and off-site impacts of all contaminants and leachate from all sources. The description shall reference and summarize all historical records, studies and investigations in respect of contaminants and leachate sources, concentrations and migration pathways on the mill site and leaving the mill site. Further investigations, studies and monitoring shall be completed as required to enable a comprehensive description of on-site contamination and migration pathways. The EA Report shall also consider the potential for mobilization of existing and future contaminants and contaminant migration on-site and off-site into groundwater, surface water, soils and the marine environment.

The marine component of the project should also include a discussion pertaining to ~~surficial~~ sediment characteristics and mobility under present and future environmental conditions. Future conditions should be evaluated with core samples indicating potential changes to sediment characterization over time in both accreting and eroding environments. This section should also identify any mineral resources that may be impacted by the project.

Provide an ice scour and grounding baseline study. The ice scour and grounding survey should capture conditions of ice formation, ice cover, ice pressure, and ice movement generally, as well as those which may occur immediately following spring break up. Results will need to be accounted for in the final pipeline and outfall design and associated impact assessment elements. The study shall also include and assess all existing data (from all relevant sources) on sea ice in the study area and provide baseline data over the past decade to enable a comprehensive review

and to form the basis for predicted change over time due to annual variations and climate change.

9.2 Aquatic Environment

Include a description of groundwater, surface water, marine water and wetland resources 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 uses 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 project.

9.2.2 Surface Water

Provide a general hydrologic, hydraulic and water quality description of all surface water resources in the study area, including upstream and downstream to all project components. Past annual hydrographs of all inflowing streams impacting the study area should be analyzed along with modeled future hydrographs. Existing uses, approved water withdrawals, and users of the watercourses shall be identified, including use by the Mi'kmaq of Nova Scotia. Provide a map of all watercourses located on the subject property. Provide detailed sampling results from all baseline groundwater and surface water quality monitoring networks, inclusive of the Mill Monitoring Network and the Industrial Landfill Monitoring Network. Account for the full list of potential contaminants of concern in the freshwater and marine systems within the project footprint.

9.2.3 Marine Water

Provide baseline studies that characterize environmental conditions representative of the full study area (e.g., multiple locations) for all four seasons and accounting for yearly variations, including but not limited to: climate, water quantity (e.g., current profiles, water column stratification, wave height, tide levels), ice and ice cover (including depth, extent, movement, shoreline accumulation and duration) and water quality (e.g., temperature, salinity, nutrient levels, chemical and physical water quality).

These studies shall include characterization of both normal and extreme and/or atypical environmental conditions (e.g., extreme high or low tides, water levels, localized and overall currents, flow, water and air temperature, wave heights, wind, storms, ice).

Develop calibrated and validated existing conditions scenarios for the computer models to be used for the receiving water study and the marine water effects assessment (see Section 10). Comprehensive, relevant and reliable ~~B~~baseline climate and marine water quantity and quality data ~~should~~ shall be used for model setup, calibration and validation. Evaluate the adequacy of seasonal variation and the lengths of the datasets used in model setup and/or calibration/validation. A summary of model confidence in adequately representing the existing marine water environment in all seasons is to be included. Model selection, scenarios and setup must be discussed with Environment and Climate Change Canada.

9.2.4 Wetlands

Identify the location, size and class(es) of any wetland (including eel grass beds) and/or wetland complexes within the predicted zone of influence including wetland delineations (US Army Corps of Engineering Wetland methodology) and conduct a wetland evaluation. Evaluation of the wetlands shall include wetland functional assessment (WESP-AC model), wildlife habitat potential (including rare and endangered species), wetland/species specific uses, groundwater recharge potential and importance of groundwater in maintaining wetland function, role of the wetland in surface water regulation (e.g., 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 significant hydrologic functions or benefits;
- Provide high support functions to wildlife; and
- Have high social or cultural importance.

The wetland evaluation shall include assessment of adjacent wetland areas and the 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. Any wetlands potentially impacted by project activities must also be evaluated for potential impacts to fish and fish habitat.

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

Assess each wetland for potential to support fish and fish habitat directly and indirectly and the potential to impact downstream fish and fish habitat. Assessment must include multi season fish collection methods, such as electrofishing, as well as water quality data relevant to fish (pH, salinity profiles, total suspended solids, and dissolved oxygen).

9.3 Atmospheric Resources

Atmospheric resources will include baseline data, gathered over all seasons and through yearly fluctuations, regarding ambient air quality, temperature, wind speeds and direction, extreme weather, seasonal variability, the acoustic environment, greenhouse gas emissions, and impacts on climate. Baseline data will be obtained, from multiple sites in the study area which are representative of the conditions specific to key locations and overall.

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. Specific climate conditions to consider include projected changes in temperature, precipitation, storm events, sea level rise, and oceanography including changes in marine waters. 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 all aspects of the project, including plans to mitigate those emissions in both the design and operation.

Specifically, identify the activities associated directly with the construction and operation of the proposed project which will be sources of greenhouse gases and provide the greenhouse gas monitoring approach for the stages of the project.

Use accepted quantification techniques to estimate the quantity of greenhouse gases to be emitted during the construction of the project and what the expected annual greenhouse gas emissions would be during operation. Consult the Nova Scotia Quantification Reporting and Verification Standard for support on emission factors and methods of quantification.

Determine the overall impact of the greenhouse gas emissions from the project on the annual emissions profile of the province. Impacts of project operations shall also include sources and emissions of greenhouse gases caused by spraying and harvesting forests to supply the mill with raw materials. Carbon storage impacts of the project shall also be assessed over the lifetime of the project.

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. Include scenarios for ambient air quality data for current conditions (e.g., without mill in operation) and one reflecting historical data from when the mill was in operation.

Provide a description of existing ambient air quality conditions for the study area, for any potential contaminants of concern which must include nitrogen dioxide (NO_2), sulphur dioxide (SO_2), carbon monoxide (CO), ozone (O_3), 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), speciated VOCs, semivolatile VOCs, metals, polycyclic aromatic hydrocarbons (PAHs), dioxins and furans, aldehydes and ammonia concentrations. The report must include ambient and peak concentrations for contaminants of concern. Provide a description of existing odour conditions based on the measurement of odourous species and existing activities in the study area.

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 (e.g., hospitals, schools, day care facilities, long-term care facilities) and/or locations (e.g., locations of sensitive species, locations where country foods are collected).

Baseline data will be obtained, from multiple sites in the study area which are representative of the conditions specific to key locations and overall. Data shall be obtained over all seasons and through yearly fluctuations, regarding ambient air quality, temperature, wind speeds and direction, extreme weather, seasonal variability, the acoustic environment, greenhouse gas emissions, and impacts on climate. Baseline data will be obtained, from multiple sites in the study area which are representative of the conditions specific to key locations and overall. Selection of data collection locations shall be justified in the EA Report.

9.3.3 Ambient Noise and Light 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.

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 Wildlife, Wildlife Habitat and Species-at-Risk

Identify flora, fauna, and habitat types that will be intersected by all components of the project. Appropriate desktop surveys and field surveys discussed with Nova Scotia Natural Resources and Renewables (NRR) Energy– Wildlife Division and Environment Canada and Climate Change (ECCC), 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 species of fauna (including lichens, and invertebrate species), sensitive fauna, fauna species-at-risk, migratory birds and other bird species subject to statutory protections, and potential habitat for fauna species-at-risk in the study area, and within all forested areas (identified with precision by the proponent) in Nova Scotia from which the proponent proposes to supply the mill with raw material. Current information shall be obtained from field studies and baseline information obtained by the proponent, and from NSNRR – Wildlife Division; the Atlantic Canada Conservation Data Center (ACCDC); ECCC; Nova Scotia Communities, Culture, Heritage and Tourism (CCHT); the latest Committee on the Status of Endangered Wildlife in Canada (COSEWIC) list; the Atlas of Breeding Birds of the Maritime Provinces; citizen science sources such as iNaturalist and eBird; 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 NSNRR – Wildlife Division and Canadian Wildlife Service;
- Measures taken to minimize the impacts of the project construction and operation on flora species. Include any landscaping plans for preservation of existing vegetation and remediation of areas (including the temporary facilities, laydown areas, and access roads);
- A clear description of all survey methodology (including, where appropriate, the type of survey, dates, timing windows, weather conditions, and qualifications of personnel involved in survey work) and results;
- Identification of any existing or planned wildlife management areas, ecological reserves or wilderness areas as well as managed wetlands, significant wildlife habitat, and federal critical habitat and provincial core habitat for species at risk; and

- When surveys are necessary to supplement the available data and adequately describe the use of affected ~~the~~ areas 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, occur or breed in or near the study area or forested area subject to harvesting to supply the mill.
- Surveys of the forests that will be the source of raw materials for the mill when it begins operation and over the lifespan of the project. The information is to include age, species, condition, density, carbon storage capacity and general health of each forested area.

9.4.2 Freshwater Aquatic and Marine Environment

Any baseline studies should be undertaken during appropriate spatial and temporal scales and identify and delineate sensitive or important habitats that may be impacted from the installation of the pipeline.

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

- Description of sediment quality based on core samples throughout the potential receiving water environment, including any reference data against which it may be compared. Justify the locations used for sediment data collection.
- 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 all fish species, including but not limited to 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 ~~should~~ shall be included. Describe, delineate and identify key habitat features, such as spawning, rearing, nursery, feeding, migration and overwintering areas, as they occur within the project area. If the proponent seeks to identify a project zone of influence (on fish and fish habitat) which is smaller than the project area, the criteria and factors used for determining this ~~Also describe the criteria utilized for determining the~~ zone of influence will be clearly identified and evaluated~~;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 on key representative species 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 in multiple locations. The locations of samples must be clearly identified and justified.
- Baseline study of algal blooms and cysts in the immediate area of the proposed discharge site, and over the study area.

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, seafood processing and seafood buying operations, and harvesting (e.g., marine plants, shellfish) in the study area. Describe the commercial and recreational species, caught, grown or harvested, and their economic, subsistence and cultural importance. Identify fishing, aquaculture and harvesting locations, the amount caught, and methods used. Describe all uses of marine waters for activities associated with fishing and fish processing.

Identify and describe forests and forestry activities in the study area and/or in areas where forestry activity will be undertaken to obtain the wood required to supply the mill during its operating phase.

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 also 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. Long term effects of the project on marine fisheries, including socio-economic impacts must be considered. Socio-economic conditions shall be described in detail for the period from January 2010 to the present, and shall include a comparative analysis of conditions before and after the mill ceased operating in 2020.

9.7 Existing and Planned Land Uses

Describe the patterns of current and planned land use and settlement in the study area including residential, commercial, 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, Tourism and Heritage (CCTH). 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

The EA process does not propose or identify specific effluent and emission limits. It is up to the proponent, based on a full identification and evaluation of the potential impacts of the project, the capacity of the environment to handle these impacts, and any mitigations that would reduce them, to determine the overall impact of the project and recommend specific limits that a particular receiving environment can support. If, through the EA review, proposed emission limits are identified and evaluated, and it is clearly established that all such limits will actually be achieved through the use of the proposed processes and technology, and that those limits will not cause any significant environmental or adverse effects, the emission limits may be acceptable, but subject to the project meeting all other requirements and demonstrating full compliance with these Terms of Reference. ~~If, through the EA review, proposed emission limits are identified to address the potential impacts of a project without causing significant environmental or adverse effects, the project can receive an EA approval.~~ Specific limits (i.e., pertaining to effluent and emissions) are established through subsequent authorizations (i.e., industrial approval) once this planning phase and the environmental review is complete.

Describe the effects, including cumulative effects, of the project on the environment during all phases of the project (e.g., site preparation, construction, commissioning, operation, maintenance, and decommissioning), including any environmental change on health, socio-economic conditions, archaeology, reserve lands and the current use of land for traditional purposes by the Mi'kmaq of Nova Scotia. The effects assessment shall also consider impacts of the environment (including weather and climate) on the project, including a discussion of how potential climate change will impact all components of the project.

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 emissions, including those that are caused by, or happen during, extreme weather events, that may occur during all phases of the project and assess the discrete and cumulative 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) and/or potential adverse impacts on Aboriginal and Treaty rights;
- Prevention, mitigation and contingency measures to mitigate potential project impacts, including but not limited to discharges or escapes of untreated emissions;
- 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, including incidents involving wildlife (e.g., migratory birds, species at risk, etc.);
- Description and quantification of releases that could occur under ~~both~~ normal conditions, atypical conditions, and ~~a~~ 'worst-case scenarios';
- Description of 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 project activities under normal conditions, and in case of spills, accidents and malfunctions over the project lifespan; and
- The effects assessment shall also consider impacts of the environment (including weather and climate) on the project, including a discussion of how potential climate change will impact all components of the project.

Section 9.0 includes details regarding the requirements for use of models in representing existing environmental conditions. Those requirements in conjunction with consultation with relevant government departments also apply to models used to support effects assessment activities (Section 10.0). In addition, modelling of various scenarios should be conducted, representing multiple operating and/or discharge conditions, including all potential ice conditions, and worst case scenarios. Furthermore, NPNS shall refer to any additional comments received from relevant government departments during preparation of the EA, and on this Terms of Reference prepared by ECC and relevant Federal departments.

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 effects of the project on the geophysical environment and the significance of these effects. This must include but not be limited to:

- Potential effects of geophysical impact related activities (e.g., blasting, bedrock removal, excavation and disposal) along the full pipeline route, referencing sediment sampling and the results of geotechnical investigations; and
- Ice scour and grounding effects considering proposed pipeline burial depths.

- Consideration of any disposal or re-use of soils and/or sediments activities required for construction of the effluent pipeline.

10.2 Aquatic Environment

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

- Changes in groundwater and surface water quality and quantity as a result of effluent discharges from the project site, considering ecosystem integrity and changes in hydrology to areas immediately adjacent to the project area;
- 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 area;
- Confirmation of the water source to be relied on for desired withdrawal volumes, including a summary of any agreements that are in place for this water and a description of how it will be conveyed from the source to the site;
- Where wetland avoidance is not possible or where project activities occur immediately adjacent to wetlands, identify, and discuss how project activities will directly or indirectly impact wetland size, composition and functions.
- Appropriate guidelines including but not limited to the Canadian Council for Ministers of the Environment (CCME) Water Quality Guidelines for the protection of Aquatic Life and background water quality results shall be used in evaluating the significance of the predicted impacts on water quality and ensure the protection of relevant water uses (aquatic life, recreational use, agricultural use, and drinking water supply). Consideration should be inclusive of temperature effects.
- 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.
- Compliance with all applicable legislation and regulatory standards must be discussed and clearly evaluated and demonstrated, including compliance with the *Fisheries Act*, and the *Canadian Environmental Protection Act, 1999*, and regulations made thereunder, including but not limited to the *Pulp and Paper Effluent Regulations* and 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.

10.2.1 Groundwater

In conducting the effects assessment on groundwater, the EA Report must identify and evaluate potential risks and impacts to groundwater, potable and non-potable, ~~resources~~ associated with the project.

10.2.2 Surface Water

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

- Potential effects to ecosystem integrity, surface water quality and quantity on fish and fish habitat;
- Potential effects to community water supplies (protected and unprotected), and industrial/commercial, recreational and agricultural users; and
- Potential impacts to surface waters related to accidents or malfunctions (e.g., pipeline leaks/breaks).

10.2.3 Marine

Conduct a Receiving Water Study (RWS) designed to achieve the following objectives:

1) provide input to the engineering design of the effluent treatment facility, effluent treatment process requirements, and siting of the effluent treatment outlet (pipeline and diffuser), and
2) provide information on effluent dispersion, and long-term accumulation, of both dissolved and particulate matter, which will be applied in the human health and ecological risk assessment and environmental assessment of the project.

The study must clearly identify the scenarios included for consideration and justify the exclusion of reasonable alternative scenarios ~~(e.g., the number of ports on the effluent diffuser, and the geographic extent of the modeling)~~ based on quantitative evidence derived from measurements in the study area (e.g. time series of top-bottom temperature indicate minimal effect of temperature stratification). The study must consider the following:

1) The three-dimensional, tidal nature of the Pictou and Caribou Harbours, ~~its~~ their tributaries (the West River, Middle River and East River of Pictou), and the presence of the Harvey A. Veniot Pictou Causeway.~~, as well as~~

2) The potential for interaction with waste effluents from other industrial and municipal sources, including contaminants accumulated in Boat Harbour that may be discharged to Pictou Harbour.

3) The impact of waves and storm surge on both near- and far-field dilution.

4) The impact of sea ice on the study area, including on the currents locally affecting the effluent dispersion and the reduction in tidal strength by the large-scale ice field in the Northumberland Strait.

The receiving water model used to evaluate the impact of the physical processes on the far-field dilution must be three-dimensional to account for potential adverse effects of temperature and salinity stratification. Use of a two-dimensional model must be justified with metrics based on in-situ observations clearly indicating minimal effects of stratification.

In conducting the effects assessment on the marine ~~resources~~ecosystem and environment, the EA Report must identify and evaluate:

- Potential short-term and long-term effects on the receiving water environment based on a receiving water study that assesses fate, ~~and~~ transport, and breakdown over time of all COPCs and POPs for a range of scenarios reflective of conditions possible in the study area. It must also account for conditions associated with seasonal changes and extreme weather events. This study shall be based on the results of the effluent characterization and other relevant studies, such as the Human Health and Ecological Risk Assessment (HHERA). Input datasets (e.g., water level and wave height ~~data~~, sea ice and ice cover, wind, bathymetry, water column stratification, currents, freshwater inputs, temperature, salinity and data regarding all other dynamics) to support model setup and results of the assessment are to be provided as digital submissions, including, but not limited to, discharge plume dimensions and dilution ratios;

- The adequacy of the receiving water study model in representing the receiving water environment, including:

    1) Validation with industry-standard statistical procedures such as goodness of fit and skill score when compared to in-situ observations to show that the model accurately captures quantities varying in time and throughout the water column such as currents, temperature, and salinity, and other quantities varying in time including water level, wave heights, and sea ice cover. Justification must be given for the appropriateness and accuracy of existing datasets used for model validation if field deployments are not conducted to obtain additional validation data.

2) The validation should be conducted to demonstrate model fidelity in reproducing tidal, fortnightly, and seasonal variability and storm-driven and strong river inflow events and other relevant scenarios.

3) Demonstration of the relevance and suitability of the outputs (parameters / data) from any one given model as inputs to any other given model (e.g., CORMIX (near-field) and Delft3D (Hydrodynamic / far- field).

4) A summary of model confidence in adequate representation of plume dispersion and multi-year effluent discharge transportation of COPCs and accretion/build-up within the receiving water environment~~is to be included~~.

~~- for the calibration and validation periods using Goodness of Fit and other appropriate industry standard statistical procedures including the adequacy of the seasonal variation and lengths of datasets used in model setup and calibration/validation for all scenarios simulated.~~

- How the initial mixing and dispersal of the near-field plume are accounted for in model simulations of the far-field extent and effluent concentration~~;~~. The parameters and assumptions employed for the near-field model must be justified based on quantitative evidence derived from in-situ observations (such as top-bottom density differences indicative of the effects of stratification on near-field mixing);

- The receiving water study shall be used in design of the proposed ETF treatment process, facility, pipeline and diffuser to mitigate negative environmental effects that may be caused by COPCs and POPs in the effluent. The design of the ETF (and associated components) in combination with the receiving water study will be evaluated to ensure that ~~they are inclusive of~~:

    1) the effluent entering the ETF treatment process has been fully characterized, including all COPCs and POPs

    2) environmental quality guidelines for the COPCs and POPs are determined based on the effluent characterization.

    3) the near field dilution zone is modelled to determine application factors of dilution.

    4) ~~Using the model results, discuss~~ relevant effluent targets calculated for the effluent discharge based on achieving appropriate environmental quality for the receiving water body.

- Nitrates and ferric oxides, and other substances, associated with pulp and paper effluent can cause negative impacts on the receiving marine sediment environment. Therefore, identify and justify mitigation measures to eliminate or reduce these impacts at the point of discharge and within the dilution zone.

- Whether colour is expected to be visible at the water surface above the diffuser site, based on the results of the receiving water study. Evaluate, including influence of in-water reactions (e.g., potential stratification of the water column) and any associated impacts on marine sediments and marine life;
- Potential effects of the build-up of COPCs and POPs (e.g., marine and shoreline accumulation), including the estimated dilution potential at various distances from the diffusers based on calibrated model results and effluent accumulation in regions with longer residence times (e.g. Caribou, Pictou and Boat Harbours), as appropriate;
- Potential impacts of sediment transport within near-field and far-field areas using calibrated and validated sediment transport modelling, accounting for various transport~~ation~~ scenarios that may be possible, both of the minerogenic and organic suspended material including the potential for flocculation and its impact on settling. The modelling shall consider comprehensive 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 including potential bioaccumulation/biomagnification;
- Potential risk of impacts to the marine environment, including shore-based seafood processors and commercial fisheries operations, resulting from leaks from marine based sections of pipeline; and
- Develop an environmental effects monitoring program.
- 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 the potential impacts to wetlands/wetland complexes associated with the project. The assessment shall include, but is not limited to, a description of the impacts to wetland size and/or function based on likely activities required to support project activities. The assessment shall describe predicted impacts to wetland characteristics and functions provided by the wetland/wetland complex and should be based on the results of existing and/or any required supplemental field surveys and description of general construction activities required. The effects assessment must specifically address:

- Potential direct and indirect impacts to wetlands and explanation of how project development will adhere to the Nova Scotia Wetland Conservation Policy;
- Where wetland avoidance is not possible, discuss wetland-specific construction activities including trenching, trench dewatering, surface water diversions and/or maintenance of hydrologic connection of wetland complexes; and
- Impacts to priority wildlife and wildlife habitat as a result of wetland-specific construction activities.

10.3 Atmospheric Resources

10.3.1 Climate

For all project phases, (construction, operation and decommissioning), estimate the GHG emissions and provide an inventory of GHG emissions from all project components, including but not limited to GHG emissions from all forest harvesting that will supply the mill over its lifepsan. 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 of 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.

10.3.2 Air Quality

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

Describe the sources, types and estimated quantities of air emissions from the project for all potential air contaminants of concern for all project phases (construction, operation and decommissioning) 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, nitrogen oxides (expressed as nitrogen dioxide (NO_2)), SO_2, TSP, $PM_{2.5}$, PM_{10}, TRS, speciated VOCs, semivolatile VOCs, PAHs, dioxins and furans, ammonia, aldehydes, odour, and metals.

Provide a full statistical analysis for the ambient air quality monitoring data obtained at the Pictou monitoring station and at all monitoring stations within the study area, for the mill's pre-hibernation and hibernation ~~and post-hibernation~~ periods.

Describe how the proposed project emissions compare to the pre-hibernation and hibernation emissions ~~, the impacts on air quality when operational,~~ and the associated predicted changes in air quality. Evaluate the degree to which data obtained at the Pictou monitoring station represents, or does not represent, actual conditions at representative sites in the Town of Pictou and surrounding area.

The effects on air quality of future projects and activities in proximity to the project that may interact in a cumulative fashion with the project emissions should be assessed. Cumulative effects of past and present projects or activities are to be captured with the inclusion of baseline concentration data in air quality predictions.

In addition, the EA Report must also include, but not be limited to the following items:

- Consideration of the effects of fumigation and coastal interaction through the use of a dispersion model that appropriately simulates these effects;
- Modelling of both the project construction and operation phases based on the scenario for each in which the highest concentration of an air contaminant occurs at ground level. The conditions that correspond to the maximum air contaminant concentration at ground level may occur when the facility is at the maximum construction/production level or running at a lower construction/production level or when the process is in transition. The report shall include a description of the construction and operating conditions that result in the maximum ground level concentrations of an air contaminant for each phase;
- The contaminants of interest to be included in the dispersion modelling assessment should align with (but not limited to) those defined in ~~Section 10.3~~this section as requiring emission estimates. If a ~~species~~contaminant is deemed insignificant and screened from modelling, justification and description of such a determination and the screening process must be provided;
- Identification of individual emission rates as measured or estimated and include the reference and justification for the values used;
- Comparison of the maximum predicted ground level concentrations, including baseline concentrations, of all contaminants of concern with relevant ambient air quality standards. NPNS shall use recognized standards, where applicable, including those used by Federal or other Provincial jurisdictions, but shall evaluate and model all contaminants of concern in relation to all potential effects. The *Environmental Goals and Climate Change Reduction Act* requires that the ambient air quality standards be updated by 2025. Should new standards be adopted, you may be

Commented [The reference to "species" did not seem to fit in this bullet or section - was "contaminant" actually meant here?

required to meet the new standards;

- Modelled ~~C~~contaminant deposition rates and concentrations in aquatic and land environments over the zone of influence of the project;
- Risk assessment and mitigation plan for contaminants that demonstrate a predicted exceedance of a relevant ambient air quality standard;
- Inclusion of isopleth mapping and frequency analysis for all contaminants predicted to exceed relevant ambient air quality standards; and
- Identification of sensitive receptors on all isopleth mapping. Sensitive receptors include (but are not limited to) hospitals, schools, day-care facilities, senior's housing facilities and long-term care facilities.
- 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 and take into account all weather conditions, including extreme weather, and daily and seasonal variability, including changing temperature, wind direction and speed and humidity.

10.3.3 Ambient Noise and Light

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

The EA Report must discuss the potential impacts of predicted increases in noise levels during all phases of the project. For noise, receptors include an adjacent dwelling including, but not limited to, a building or structure that contains one or more dwellings, educational facility, daycare/nursery, place of worship, hospital, seniors' residence and could also include a vacant lot where appropriate zoning or permits to build such dwellings have been approved, and aquatic, marine and terrestrial habitats. Should new guidance be adopted before an industrial approval is issued, you may be required to meet the new guidance.

Where screening indicates that there is cause for concern, noise emissions should be modelled using a recognized computer model, to ascertain impacts. NPNS must:

- identify all receptors within 2 km, including sensitive receptors (i.e., schools, campgrounds, care homes, etc.);
- use existing (background) noise levels and the expected levels of all potential noise sources associated with the construction and operation of the project, including traffic movements, to determine cumulative impacts;
- consider cumulative impacts with the addition of proposed activities; and
- discuss the predicted effects (with rationale), if any, the increased noise levels will have on wildlife and receptors near the project.

All results and assumptions should be included in the EA report.

The EA Report must discuss the potential impacts of predicted increases in light levels during all phases of the project.

10.4 Wildlife, Wildlife Habitat and Species at Risk

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, federal critical habitat and provincial core habitat 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 and effects to migratory birds (e.g., waterfowl and water birds) attracted to project components (e.g., spill basin, open ETF components, etc.). The effects assessment shall further consider the effects on flora and fauna, including forests, trees, species at risk, migratory birds, and other protected species, and their respective habitats, due to spraying and harvesting forested lands by or for the proponent to obtain raw materials to supply and operate the mill.

In conjunction with the Receiving Water Study and siting of the marine project components, provide additional information on impacts to of effluent discharge on the Double-crested cormorant (*Phalacrocoras auratus*) colony located along the east side of Highway 106 Causeway.

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 species at risk or of concern and significant habitats. This section must include activities that may affect avifauna in the aquatic environments. Consider potential effects to marine species from blasting, dredging and other marine construction, leachate and contaminant run-off from terrestrial construction, as well as vessel traffic and project operation.

To support the assessment of potential impact of biomagnification on migratory birds such as shorebirds, include marine benthic invertebrates (e.g., polychaete worms, mussel spat, small clams) in the bioaccumulation/biomagnification assessment of the discharge plume.

Include an assessment of COPCs and POPs in the baseline fish and shellfish populations and potential effects due to expected discharge quality. Undertake a model-based evaluation of the chronic

effects of thermal cooling water discharge on fish and fish habitat in the receiving water. Include a summary of the potential effects on freshwater and marine species known to be important to the Mi'kmaq of Nova Scotia.

10.5 Agriculture, Fisheries and Aquaculture 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, seafood buying and processing facilities, aquaculture or other marine harvesting species, including contamination of species consumed by people as a result of increased erosion, sedimentation and from leachate and 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.

Assess the potential effects 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 receiving water study. Include appropriate invertebrates and lower trophic level test organisms and assess the potential for bioaccumulation for all test animals. The selection of information sources, representative marine species and assessment methodology must first be agreed upon by relevant government departments.

The EA Report must include a discussion on the potential effects on any forestry resources within the project area and in all areas from which wood products will be obtained to supply the mill for pulp production and power generation.

10.6 Human Health

Provide the completed Human Health and Ecological Risk Assessment (HHERA) 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 terrestrial country foods (plants, berries, game animals, 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 HHERA must consider baseline data and represent all 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 and POPs in marine organism tissues where possible. The HHERA 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 HHERA 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 all relevant COPCs and POPs and exposure pathways for both terrestrial and aquatic related inputs in the HHERA problem formulation.

Screen COPCs in project effluent discharge, leachate and other emissions according to guidance from Health Canada. Contaminant data used must be current and comprehensive, and must also take into account existing and historical contamination at the site. Incorporate findings from the receiving water study. Discuss the potential for interactive effects from similarly acting chemicals and for chemical compounds which may result from degradation or break down over time of other compounds. 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), including over the full projected project lifespan.

Describe the effect of the proposed project on present and future commercial, residential, institutional, recreational and resource land and marine 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 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 and lost during all phases of the project.

Provide an accounting of the costs to the Province of Nova Scotia, and to the people of Nova Scotia, and other levels of government, of the subsidies provided to the mill over the history of its operations. Provide an accounting of the costs incurred by the Province, the people of Nova Scotia and other levels of government arising from mill operations, including the remediation of Boat Harbour and the risks and cost to the Province and people of Nova Scotia of the proponent's litigation against the Province, the proponent's failure or refusal to repay loans made by the Province to the proponent, and an assessment of the potential of future similar costs. Provide commitments and supporting evidence that the proponent is solvent, and has the ability and intention to fund the proposed project and its employee pension plans. Provide commitments and proof that the proponent can and will fund all potential costs associated with clean up of Pictou Harbour and adjacent areas in the event of an effluent spill, mercury contamination or

other catastrophic event arising from the mill's operations, including proposed or future operations associated with the project.

10.8 Existing and Planned Land and Marine 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 and marine 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~~ NPNS must consult with Nova Scotia Department of Communities, Culture, Heritage and Tourism (CCHT) 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 potential adverse impacts to Aboriginal and Treaty rights; and 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 all measures that will be put in place to ensure timely identification and correction of

adverse effects that may arise during all project stages.

Describe and evaluate the effectiveness of each measure and the degree to which each measure can mitigate any effect as set out above.

Describe proposed compensation that will be provided when environmental damage is caused by the project, including damage that 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.

Describe and evaluate measures that will be put into place to prevent mobilization of, fully contain and remove all on-site contamination. Assess risks and impacts, over time, due to the presence of mercury and other contamination on the mill site. If contaminated soils are to be disturbed, discuss and evaluate methods to eliminate ~~minimize~~ 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 Aquatic Environment

11.2.1 Groundwater Quality and Quantity

Describe measures to avoid, minimize or otherwise mitigate effects 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 (see Section 14.0).

Describe measures to be employed in the event of accidental contamination or dewatering of any water supply wells (municipal and private) 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 measures to avoid, minimize or otherwise mitigate effects on surface waters ~~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

Describe measures to avoid, minimize or otherwise mitigate effects to marine waters ~~resources~~.

Discuss all mitigation measures planned to prevent the release of hazardous substances into marine waters and the effectiveness of each such measure.

Discuss commitments to provide contingency and remediation/compensation plans for any impact to marine waters ~~resources~~, including decrease of water quality or quantity and impacts to those who may be impacted including commercial fishers and fisheries, ~~-~~shore-based buyers, ~~and~~ processing operations, recreational users and facilities, owners and users of properties at or near the shore, and First Nations communities which may rely on~~f~~ marine or freshwater.

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

11.3.1 Climate

Provide a plan for the mitigation of ~~unnecessary~~ greenhouse gas emissions during construction, for ~~and potential methods for~~ the reduction of greenhouse gas emissions during operation, and for the reduction of greenhouse gas emissions arising from forest harvesting activities, including clearcutting, variable retention harvesting in forested areas that will be exploited to supply the mill.

11.3.2 Air Quality

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

Specifically, describe all measures taken at all stages of mill processes to minimize generation of potentially hazardous air emissions, and describe measures that will be taken to control emissions including, but not limited to, CO, nitrogen oxides expressed as NO_2 SO_2, TSP, $PM_{2.5}$, PM_{10}, TRS, speciated VOCs, semivolatile VOCs, PAHs, dioxins and furans, ammonia, aldehydes, odour, metals, and diesel particulate matter (DPM), if applicable. At a minimum, ~~T~~the best available control technology economically achievable should be implemented on major emission sources and justification of the selected method(s) should be provided.

After mitigation measures have been selected, the following steps should be taken:

- The model shall be rerun, incorporating the mitigation options to address any predicted exceedances of relevant ambient air quality standards to evaluate and demonstrate whether any ~~no~~ predicted exceedances remain despite the mitigations used~~.~~ Justification must be provided for the selection of the proposed mitigation method(s);
- Predictions regarding exceedances of relevant ambient air quality standards shall be reviewed and analysed in connection with historical operations and past exceedances that occurred while the mill was in operation prior to spring 2020; and
- An implementation schedule for potential mitigation options must be provided.

All modelled scenarios must demonstrate compliance with the new ambient air quality standards and associated policy.

11.3.3 Ambient Noise and Light

The EA report must contain a description of all measures that will be taken to mitigate any potential increase in noise levels during construction and operation. Where elevated noise levels are identified, the model must be re-run, with mitigation, to demonstrate compliance. This must include:

- a description of the extent to which these noise emissions can be reduced and contained

to minimize effects upon the wider locality and receptors, including potential future development; and

- a discussion of the methods to be used to mitigate noise levels throughout the life of the development should noise modelling be inaccurate or noise levels be greater than 40 dBA.

The EA report should illustrate the mitigation options that were considered and a justification for the selected choice(s) must be provided. The report must also include a discussion of the methods to be used to monitor noise levels throughout the life of the development.

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

11.4 Wildlife, Wildlife Habitat and Species at Risk

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, including supplying wood to the mill obtained by harvesting forested areas of Nova Scotia, 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 (e.g., *Endangered Species Act, Species at Risk Act,* and *Migratory Birds Convention Act* and regulations) should also be provided.

Describe measures to address invasive species management and prevention of the spread of invasives both on and off site.

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

The EA Report must also include, but not be limited to the following additional items:

- Mitigation plan developed in consultation with NSLAF and ECCC 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:
    - Mitigations to address encounters for the following species which were observed

during field programs: Barn swallow (Hirundo rustica, SARA Threatened, NSESA Endangered), Eastern wood-pewee (Contopus virens, SARA Special Concern, NSESA Vulnerable), and Common nighthawk (Chordeiles minor, SARA Threatened, NSESA Threatened);

- Further surveys to gather missing information about other species which may be impacted by construction, operation and forestry activities for all affected sites;
- Mitigations to address potential impacts to coastal waterfowl and their habitat as it relates to effluent discharge, with a focus on Barrow's goldeneye (Bucephala islandica, SARA Special Concern, NSESA Not listed);
- Measures to prevent the accidental creation of habitat which could become ecological sinks, such as for turtle species or Common nighthawk;
- Measures to deter migratory birds from coming into contact with harmful substances;
- Mitigations, including a ban on sourcing wood harvested during nesting/breeding season or without appropriate measures, harvest block fauna surveys conducted by qualified persons, and creation of appropriate and effective buffer zones around nests, nesting areas and the dens and habitats of terrestrial species;
- Mitigations to address accidental spill or effluent discharge on wildlife and wildlife habitat, including a plan for remediation in the event of such an occurrence;
- General wildlife mitigations relating to dust, noise, and light pollution.
- Measures should birds be found stranded on-site (e.g., Leach's Storm Petrel) due to light attraction and/or strong winds blowing birds inland from the coast or ocean.
- Training of personnel on wildlife identification and appropriate measures to take in the event of wildlife encounters;
- Communication and reporting plan for wildlife issues, with attention to species at risk.

11.4.2 Freshwater Aquatic and Marine Environment

Discuss measures to avoid, minimize or otherwise mitigate effects 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.

Where impacts to fish habitat cannot be avoided or mitigated, explain why the project should still be

allowed to proceed. Discuss alternatives to the project that will not damage fish habitat. ~~d~~Discuss compensation measures to ensure impacts are offset. In the case of fish habitat, offsetting measures are related to a physical activity as outlined in the Fish and Fish Habitat Protection Policy Statement, August 2019. If offsetting is proposed ~~planned to be applied to the project~~ as a mitigation measure, NPNS must provide a preliminary offsetting plan, developed in consultation with relevant government departments and must justify why no other options exist.

Based on the results of the evaluation of effluent temperature effects on fish, include appropriate mitigation measures. 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 and marine habitats as a result of accidental events.

11.5 Agriculture, Aquaculture 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, 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 and Marine Area Uses

Describe the measures planned to minimize the potential impacts of the project on existing and planned land and marine area 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. When assessing significance of human health effects, significance criteria should be applied to specific human health effect being predicted in addition to the environmental conditions causing the effect. 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

1) 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 conditions arising due to malfunctions, system changes or disruptions.
2) All COPCs, POPs, including leachate, run-off, escaping substances and fugitive emissions, that may now exist, or will accumulate or persist, on the Abercrombie Point site, and/or migrate within or be emitted from the Abercrombie Point site;
3) the residual effects and environmental effects (including but not limited to human health) of such COPCs, POPs, leachate, run-off, escaping substances and fugitive emissions, and the ongoing cumulative effects of such discharge or emission 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. Provide commitment to making compliance and monitoring information available to the public in a timely and effective manner.

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 identifying and 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.

Describe plans and procedures to ensure adequate pipeline cover depth and/or protection measures for ice scour and grounding effects.

Describe plans, if applicable, for monitoring contaminated soils and/or sediments that may be disturbed or require management for all phases of the project.

Develop a sediment sampling program to confirm predicted effects of the discharge plume in support of the Environmental Effects Monitoring program.

14.2 Water Resources

Submit a groundwater quality and level monitoring plan for all phases of the project, including the mill location and the location of monitoring wells, monitoring sampling frequency and monitoring parameters.

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

Discuss any surface water monitoring plans for all 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.

Submit detailed information regarding the installation of the marine section of the pipeline, as follows:

- Detailed benthic habitat information in the pipeline route
- Mitigation measures associated with each potential installation method
- Information at the pre-construction (baseline), and post-construction monitoring phases of the project, as well as during construction (e.g., information on turbidity monitoring, and how it will be conducted (divers, ROV, sampling program, etc.)

Submit a wetland specific post-construction monitoring plan. The plan must consider collection of pre-construction baseline condition and identify post- construction wetland performance indicators to address impacts. The plan must detail proposed methodologies that will be used to complete the monitoring program and must detail the proposed frequency of data collection, location of proposed monitoring points and indicate how wetland integrity will be monitored for wetland areas extending beyond the project footprint and present adaptive management options to address post- construction management, including repairs and/or maintenance, vegetation management, drainage and land contour management. The plan should also propose compensation measures required to address loss of wetland habitat and function.

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 must include a complete selection of species, contaminants of concern, and study and reference sampling locations; these elements should remain consistent over time. It should

include testing for mercury, methyl mercury, dioxins and furans. Monitoring locations for marine biota should be established in near-field, mid-field, and far-field locations. It shall discuss and provide supporting documentation, if applicable, the adequacy of sampling density for the pipeline length and proposed discharge area. All environmental effects monitoring reports should provide full georeferenced and contaminant data, and they should, ideally, use consistent if not identical analytical techniques.

The program should also demonstrate that fish and shellfish are not affected in size, abundance, or sub-lethally. The program should 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 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~~ elevated levels of air contaminants ~~are elevated.~~may occur and will set out steps to address and eliminate any such exceedances in a timely and effective manner.

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.

14.4 Human Health

Provide suitable monitoring measures over the study area to confirm impact predictions. ~~Where monitoring is~~ The proposed monitoring measures shall ~~,~~ include a plan for reporting/communicating ~~reporting~~ exceedances of relevant guidelines/thresholds, and shall 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 must include monitoring for 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.

15.0 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 posted of the ECC website (https://www.novascotia.ca/nse/ea/) on December 21, 2021 and the Pictou Advocate and Royal Gazette on December 22, 2021. Additional publications inviting opportunities to comment of the Draft Terms of Reference will published in the New Glasgow News as well as on-line via the Pictou Advocate and New Glasgow News and Facebook. Information pertaining to this EA will be available on this site.

The Class II 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 (when available). Consultation is most valuable if initiated as early as possible before final decisions are made. Consultation is most effective when there is transparency throughout the process based on open lines of communication and the provision of timely, accurate, clear and objective information by NPNS. Sharing information with the Mi'kmaq of Nova Scotia and the general public throughout the process, before and after the EA Report is submitted, is very important to ensure adequate time for interested parties to review the information and for these parties to share feedback with NPNS and identify their concerns.

15.1 Public Consultation

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

Describe all steps taken by NPNS to identify the concerns of the public about the adverse effects or environmental effects of the project. It shall provide a summary of all concerns expressed by the public and all steps taken by NPNS 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.

All public information and consultation sessions conducted by NPNS shall be held only after

appropriate and timely notice is given to the public and only after sufficient information and time is provided in advance to enable the public to understand and respond to the issues raised. Consultations undertaken by NPNS will be led by senior company personnel and not by the liaison committee that has been used in the past. Company personnel, and persons who have relevant knowledge and expertise will be available during consultation sessions, and will be informed, able and prepared to answer questions from participants. Information provided to the public will be complete, accurate and timely. All comments received from the public during the sessions will be given genuine and serious consideration.

15.2 Consultation with the Mi'kmaq of Nova Scotia

The proponent is expected to demonstrate efforts to engage and report on results related to such engagement with potential affected Mi'kmaq of Nova Scotia starting as early as possible in the project planning in order to assist the Crown in fulfilling the Crown's constitutional obligation to consult with potentially impacted Mi'kmaq of Nova Scotia groups on potential impacts to potential or established Aboriginal or Treaty rights. The Proponent is encouraged to refer to and follow the Nova Scotia Office of L'nu Affairs' *Proponent's Guide: The Role of Proponents in Crown Consultation with the Mi'kmaq of Nova Scotia* (2011). For the group expected to be most affected by the project, Pictou Landing First Nation (PLFN), the proponent is expected to strive towards developing a productive and constructive relationship based on on-going dialogue in order to support information gathering and the effects and impact assessment.

For Mi'kmaq of Nova Scotia groups that may also be affected by the project, but to a lesser degree, the proponent will, at a minimum, ensure these groups are notified about key steps in the EA Report development process and of opportunities to provide comments on key EA documents and/or information to be provided regarding their community. These groups include:

- Groups represented by the Kwilmu'kw Maw-klusuagn Negotiations Office:
    - Acadia First Nation
    - Annapolis Valley First Nation
    - Bear River First Nation
    - Eskasoni First Nation
    - Glooscap First Nation
    - Membertou First Nation
    - Paq'tnkek First Nation
    - Potlotek First Nation
    - Wadmatcook First Nation
    - We'kowma'q First Nation

- Millbrook First Nation
- Sipekne'katik First Nation

The Crown reserves the right to alter the list of groups that the proponent will engage as additional information is gathered during the EA.

The proponent must seek to directly engage and describe and report on the results of such engagement, with potentially affected Mi'kmaq of Nova Scotia groups to establish an engagement approach. The proponent will ~~make reasonable efforts to~~ integrate Mi'kmaq of Nova Scotia knowledge into the assessment of environmental effects.

In parallel to NPNS 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).

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.

TAB B

NPNS APA

Schedule 3.1(bb)(iv)

Hazardous Substances

As disclosed in the InteGreyted International Phase I Environmental Site Assessments and Environmental, Health and Safety Compliance Evaluations for the Pictou Mill and the Pictou Fixed-Base Operations and Woodlands (April 2004), which have been provided to the Purchaser, mercury and other Hazardous Substances related to the operations at Canso Chemicals Limited, as such have been deposited on or have migrated to the Owned Real Property, and Hazardous Substances in effluent from the Pictou Pulp Mill discharged into the Boat Harbour Effluent Treatment System may have been, in the past, stored, disposed of or treated in material non-compliance with Environmental Laws..

TAB C

DILLON
CONSULTING

January 26, 2000

CANSO CHEMICALS LIMITED
P.O. Box 484
New Glasgow, Nova Scotia
B2H 5E5

ATTENTION:

Canso Chemicals Site Decommissioning Final Report

We are pleased to present six copies of our final report documenting decommissioning activities at the Canso Chemicals Limited site. The report also documents the results of an ecological and human health risk assessment relative to an area with residual mercury that did not meet the 1993 remedial action plan cleanup objectives. A Certificate of Compliance for the facility has been prepared, under the Nova Scotia Contaminated Sites Management Program, and is included with this report. App-F

It has been a pleasure to work with you on this project. If we can be of further assistance, please contact the undersigned at your convenience.

Yours truly,

cc:
Pioneer Chemicals Limited
Our File: 99-5519-0501

2701
Dutch Village Road
Suite 700
Halifax
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Canada
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Telephone
(902) 453-1115
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Dillon Consulting
Limited

1.0 INTRODUCTION

1.1 Purpose

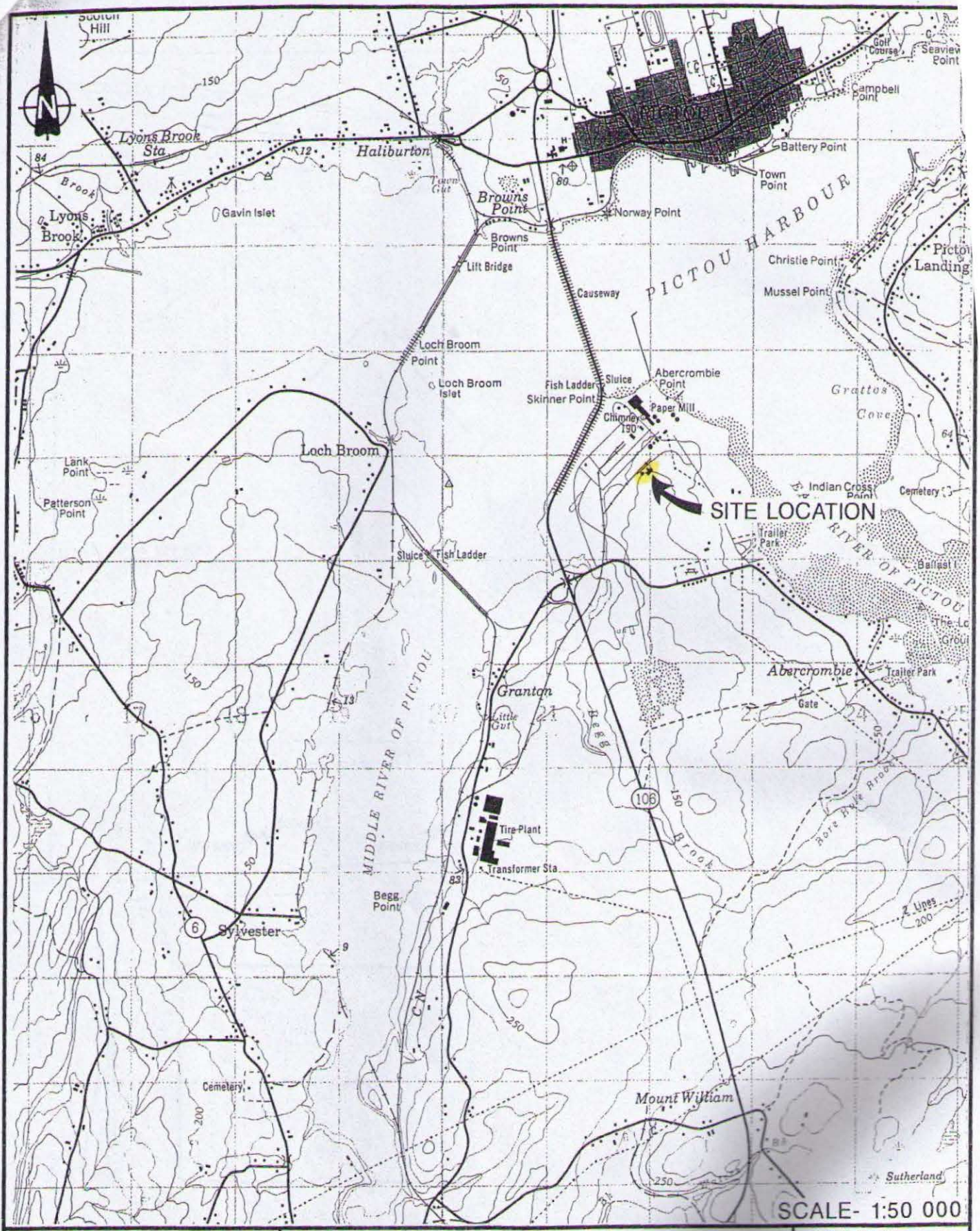
The purpose of this report is to document remedial activities carried out at Canso Chemicals Limited, located at Abercrombie Point (refer to Figure 1-1). Canso Chemicals Limited is a former chloro-alkali plant, which used mercury in its process to generate chlorine and caustic soda for the pulp and paper industry. Upon ceasing operations at the plant in 1992, a program was put in place to decommission the site, including remediation of environmental contaminants. Included in this report is a description of demolition activities relating to the process building (housing the cell room and brine basement) in 1999 (refer to Figure 1-2).

This report provides an overview of site remedial activities surrounding the processing and chlorate buildings, documents confirmatory sampling completed to demonstrate adherence to generic remedial objectives, and proposes site specific remedial objectives for a limited area of the site, based on an assessment of risk to human health and the environment. Recommendations are made for the long term monitoring of the site.

1.2 Background

Canso Chemicals Limited was formed in 1968. A chloro-alkali plant was commissioned in 1970 at Abercrombie Point to produce bleaching chemicals used in the production of pulp and paper (i.e., liquid chlorine and liquid caustic soda). In 1971 a chlorate plant (producing liquid sodium chlorate) was constructed on the site and was operated until 1981.

In 1992, the chloro-alkali plant was shut down. The site is currently used as a caustic soda shipping and receiving facility.



DILLON CONSULTING	TITLE **SITE LOCATION**	PROJECT No. **98-5519**
DATE **JAN. 2000**	PROJECT **CANSO CHEMICALS SITE DECOMMISSIONING**	FIGURE No. **1-1**

G:\CAD\985519\FIG1-1 20000109.0845

The products made at Canso Chemicals Limited were the result of the electrolysis of a brine solution over mercury electrolytic cells. The primary contaminant of concern on the site is mercury. During 1973-1975, a series of equipment failures in the cell room resulted in high mercury consumption and mercury was lost to the floor (Canso Chemicals Limited, 1993). After that time a comprehensive mercury inventory was maintained, and mercury losses were more tightly controlled (pers. comm. D. Currie). Mercury was also found in process by-products (e.g., brine sludge), which were managed on-site.

Canso Chemicals Limited submitted a site remedial action plan to Nova Scotia Department of the Environment on June 21, 1993 (Canso Chemicals Limited, 1993). This plan outlined an approach to manage site contaminants, including mercury. The plan established an objective of meeting Canadian Council of Ministers of the Environment (CCME) industrial land use guidelines for soil.

1.3 Regulatory Context

The 1993 remedial action plan (RAP) committed to meeting CCME industrial land use guidelines for soil. The Interim Canadian Environmental Quality Criteria for Contaminated Sites (CCME, 1991) established a remedial objective of 10 mg/kg mercury in soil for commercial/industrial sites. The Recommended Canadian Soil Quality Guidelines (CCME, 1997) adopt 30 mg/kg as the soil quality guideline for mercury at industrial sites, superseding the 1991 guideline.

The Nova Scotia Department of the Environment have established guidelines for management of contaminated sites (NSDOE, 1996). These guidelines outline two approaches to contaminated site management. Tier I requires the owner to remediate the site to guideline concentrations appropriate for the future use of the property. Tier II identifies potential risk by comparing detected concentrations of contaminants with site specific criteria. Site specific criteria are determined by calculating potential adverse effects associated with exposure to contaminants at the concentrations detected on site.

The 1993 RAP adopted a Tier I approach, committing to cleanup the site to CCME industrial land use guidelines. Until June 1999, remedial activities were completed in accordance with the RAP. During final phases of demolition of the cell room/brine basement structure (in the process building), elemental mercury was found in an area that could not be excavated in the context of current site conditions. To address this area of concern, an assessment of risks to human health and the environment was completed to establish site specific remedial objectives. This report presents the findings of the assessment of these risks.

As an result of the decommissioning activities and the implementation of remedial actions, a Certificate of Compliance has been prepared, under the Nova Scotia Contaminated Sites Management Program, and is included with this report.

2.0 APPROACH AND METHODOLOGY

Site assessment and remedial activities have been ongoing at Canso Chemicals since cessation of chlorine/caustic production in 1992. An overview of these activities is presented in Section 3 of this report. Work completed between 1992 and 1997 has focussed on recovery of mercury and disposal of mercury contaminated materials without demolition of site buildings. Work completed in 1998/1999 has addressed demolition of the process (including cell room and brine basement) and chlorate buildings, and disposal of mercury contaminated materials previously not acceptable due to presence of the building structures. Site materials contaminated with mercury have been disposed in an on-site secure landfill. Section 4 documents groundwater sampling completed by Canso Chemicals Limited as part of its ongoing monitoring program, as well as additional investigations completed specifically for this assessment.

Remedial activities have been implemented to meet the objectives of the 1993 RAP. In June 1999, elemental mercury was identified in the bedrock beneath the area of the former cell room/brine basement. This material could not be excavated in the context of current site conditions (i.e., potential impact on remaining site buildings and potential for increasing the areal extent and depth of mercury impact due to mercury's physical properties). Section 5 of this report presents findings of ecological and human health risk assessments pertaining to the area of the site that has not been remediated to the generic RAP objectives. These risk assessments evaluate potential impacts associated with assumed levels of contaminants. Section 6 presents recommendations for long term monitoring at the site to evaluate the risk assessment assumptions over time.

site rainfall runoff. Mercury was not detected at depths greater than 0.5 metres, but in all cases, the ditches were excavated to a depth of 0.6 metres or more.

By 1996 decommissioning of the facility was essentially complete and the site stabilized for use as an industrial storage space. Little, if any, further remedial work was undertaken until 1998 when the process buildings were removed.

3.2 Remedial Activities 1998-1999

Remedial activities undertaken at Canso Chemicals during 1998 and 1999 have focussed on demolition of site process buildings (the process building and the chlorate building), excavation of remaining mercury contaminated soil (facilitated by removal of building footings) and disposal of mercury contaminated materials in the on-site secure landfill.

The requirements for demolition activities are outlined in the engineering drawings and specifications for the site (Porter Dillon Limited, 1998). Demolition was completed in two phases: building structures were demolished during the fall of 1998. Mercury contaminated debris was stockpiled for disposal in the secure landfill. Other materials were set aside for use as backfill, or disposed off-site. During the spring/early summer of 1999, building foundations and footings were removed and stockpiled for disposal in the on-site landfill. Mercury contaminated soil in the vicinity of the building foundations and footings, which was previously inaccessible, was also excavated for on-site disposal.

Excavation of the mercury contaminated soil was completed to meet the requirements of the 1993 RAP. The RAP objectives were achieved at all locations within the demolition excavation, with the exception of an area in the vicinity of the cell room/brine basement interface. Figure 3-1 presents locations of confirmatory soil sampling undertaken by Porter Dillon upon completion of excavation activities. These samples supplement sampling undertaken by both

5.0 ASSESSMENT OF RISK

5.1 Ecological Risk Assessment

5.1.1 Approach & Methodology

As described in Section 3, elemental mercury has migrated into the bedrock below the former cell room. Due to the practical limitations of excavation, the remedial program was unable to remove mercury below a depth of eight metres. The remaining mercury is located in bedrock, approximately five metres below the water table, and hence there is potential for it to dissolve into groundwater and migrate towards Pictou Harbour.

An ecological risk assessment was carried out to determine whether the mercury remaining in the ground below the former cell room could pose a risk to ecological receptors in the harbour. The assessment was carried out based on procedures described in CCME's Framework for Ecological Risk Assessment at Contaminated Sites (CCME, 1994). The assessment used a preliminary quantitative approach that involved contaminant fate and transport modelling to estimate the potential mercury concentration in the harbour water and sediment. The concentration estimates were compared to CCME Freshwater Aquatic Life Guidelines and Sediment Quality Guidelines for Aquatic Life to determine whether ecological receptors could be at risk.

The ecological risk assessment involved four main components as follows:

- **Receptor Characterization** - evaluation of potential contaminant receptors
- **Exposure Assessment** - evaluation of exposure pathways and exposure concentrations

- **Hazard Assessment** - evaluation of hazards and their possible effects on receptors

- **Risk Characterization** - evaluation of risk based upon the above three inputs

In addition to the above components, a uncertainty analysis was carried out to evaluate the effect of assumptions used in the risk assessment.

5.1.2 Receptor Characterization

A receptor is an ecosystem component that may be adversely affected by a contaminant. Receptors may include biological (e.g., aquatic life) or abiotic (e.g., water quality, sediment quality).

Groundwater flow data presented in Section 4 indicates that the horizontal direction of groundwater flow in the shallow and deep bedrock aquifer is northwest, towards the confluence of the Middle River and West River of Pictou in Pictou Harbour. The data indicate that the vertical direction of groundwater flow at the site is downwards.

There are no water supply wells located down-gradient of the former cell room where the source of mercury is located. The only down-gradient property between the mercury source and the harbour is the Kimberly-Clark paper mill which uses the Middle River of Pictou for process water and bottled water for drinking (pers. comm., Penny MacLeod). Therefore, the receptor of mercury-impacted groundwater is expected to be Pictou Harbour, and the plume is expected to eventually discharge to the harbour approximately 700 m northwest of the former cell room. Both water quality and sediment quality could be affected since dissolved mercury may adsorb to sediments as it discharges through bottom sediments into the harbour.

Aquatic plant life observed by Porter Dillon in July 1999 indicate the harbour can be considered an estuary to marine habitat in the area where the plume may discharge. An electrical conductivity (EC) measurement of the harbour water in this area (EC = 30,000 μS/cm) indicated that the water is in the estuary to marine range (EC = 800 to 55,000 as/cm).

There is also a small pond located adjacent to the harbour in the area where the plume could discharge. The pond is physically separated from the harbour by a causeway, but is hydraulically connected to the harbour by two culverts. Although the pond is a potential receptor of mercury impacted groundwater, is it likely that deep groundwater originating from the Canso Chemical site will bypass the pond and discharge to the harbour further from the shoreline. Shallow groundwater in the vicinity of the pond is more likely to discharge to the pond.

5.1.3 Exposure Assessment

Exposure assessment is the estimation of the exposure resulting from the presence of contaminants in air, soil/sediment or water. It often involves contaminant fate and transport modelling to assess the exposure associated with indirect pathways in which contaminants must travel some distance before they reach a receptor.

The data in Section 4 indicate that mercury-impacted groundwater is present down-gradient of the former cell room but the plume has not reached the northern property boundary, located approximately 100 m from the former cell room. Because the impacted groundwater is located at depth, and is not currently discharging to an ecological habitat, there are currently no complete exposure pathways for ecological receptors. However, there is potential for mercury-impacted groundwater to migrate and discharge to Pictou Harbour in the future.

A two-dimensional contaminant fate and transport model was used to predict mercury concentrations that could discharge to the harbour in the future. The

model assumes a constant uniform groundwater flow and accounts for the following contaminant transport features:

- advection (i.e., transport at the speed of groundwater);
- longitudinal and transverse dispersion (i.e., plume spreading), and
- retardation (slowing down of mercury migration due to sorption to aquifer material).

For modelling purposes, the source of mercury contamination below the former Cell Room was approximated as a rectangular mass measuring 18 m wide and 10 m deep. Although the width of the mercury-impacted zone has been measured during the remedial program, the vertical extent is uncertain. The maximum concentration of dissolved mercury in groundwater at the source was assumed to be 60 μg/L. Literature values for the solubility of mercury are in the range of 25 μg/L to 60 μg/L (Environmental Canada, 1984) and the maximum concentration measured in groundwater at the site is 45 μg/L (see Section 4). The mercury source in the bedrock was modelled as a long-term, continuous source that remains at a constant concentration of 60 μg/L (i.e., there is no source decay). Further details about the assumptions and input parameters used in the model are presented in Section 5.1.6 and Appendix E.

The potential concentration of mercury in the harbour was predicted by dividing the maximum predicted mercury concentration in groundwater discharging to the harbour by a dilution factor. The dilution factor was estimated by assuming complete mixing between the plume and the harbour. The flow rate in the harbour available for diluting the plume was estimated from reported flow rates for the Pictou Harbour, East River and Middle River of Pictou. A review of the watershed areas for the East, Middle and West Rivers of Pictou was also carried out. Further details about the assumptions and input parameters used for predicting potential mercury concentrations in harbour water are presented in Section 5.1.6 and Appendix E.

Table 5-1 Summary of Modelling Results	
Parameter	**Predicted Value**
Time for leading edge of Hg plume to reach the harbour (based on a leading edge plume concentration of 0.1 μg/L)	200 years
Maximum Hg concentration in groundwater discharging to harbour (prior to dilution in harbour)	6.3 μg/L
Hg concentration in harbour water (after dilution in harbour)	0.0001 μg/L
Total amount of Hg discharging to harbour	28 grams/year
Hg concentration in harbour sediment	0.0001 mg/kg

5.1.4 Hazard Assessment

A hazard assessment determines the existence of a hazard by investigating the relationship between a contaminant and the receptors exposed to the contaminant.

The fate and transport modelling in Section 5.1.3 indicated that there is potential for mercury to migrate from the site and discharge to the harbour. This may cause aquatic life to be exposed to elevated mercury concentrations in the harbour water and sediment. The main concern regarding elemental mercury in the environment is bacterial conversion to methyl mercury, which is highly toxic to aquatic life, and mercury's ability to bio-accumulate in the food chain. Aquatic organisms may accumulate mercury either directly from water or through the food web. The biological half-life for mercury in fish is approximately two years. Because of rapid uptake and slow cleansing rates, bio-accumulation factors for aquatic organisms are high (approximately 10,000) (CCME, 1987). Table 5-2 presents CCME ecological guidelines for mercury in soil and sediment.

5.1.6 *Uncertainty Analysis*

Risk characterization involves a number of assumptions. In particular, the models used to estimate exposure concentrations in the harbour use a number of simplifying assumptions to facilitate contaminant transport calculations.

A qualitative uncertainty analysis was carried out to assess the degree of uncertainty associated with the modelling assumptions and whether or not the uncertainty was acceptable. The uncertainty analysis evaluated the applicability of the major modelling assumptions and the confidence in key model input parameters. An assessment of whether the assumption could lead to an over-estimate or under-estimate of risk was also carried out.

The results presented in Table 5-4 indicate that exposure concentrations and risks are generally expected to be over-estimated. This is considered acceptable because it is protective of the environment. Some assumptions involving the amount of plume dilution in the harbour may lead to an under-estimation of risk. This is not considered to be an immediate concern because of the length of time estimated for the plume to reach the harbour (200 years) and the very low levels that are predicted to result in the harbour (i.e., three orders of magnitude below guidelines). However, as a precaution, it is recommended that a monitoring program be put in place to confirm the modelling predictions.

5.1.7 *Summary of Ecological Risk Assessment Findings*

The risk assessment indicated that there is potential for mercury-impacted groundwater at the site to migrate and discharge to Pictou Harbour and this could cause ecological receptors to be exposed to elevated mercury concentrations in harbour water and sediment. However, due to slow rate of mercury migration, groundwater plume dispersion, and dilution in the harbour, the mercury is expected to pose negligible risk to ecological receptors.

McKiggan Hebert
LAWYERS

January 31, 2022 File No. 8463-056

Via email: EA@novascotia.ca

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

Dear Sir/Madam,

Re: Northern Pulp Nova Scotia Corporation – Draft Terms of Reference for the Preparation of an Environmental Assessment Report – Pictou Landing First Nation Comments

Pictou Landing First Nation ("PLFN") makes the following comments on the proposed draft terms of refence ("TOR") for an environmental assessment report in respect of a project Northern Pulp Nova Scotia Corporation ("Northern Pulp") registered on December 7, 2021 for environmental approval under the ***Environment Act***, 1994-95, c. 1. Northern Pulp seeks to restart production at its kraft pulp mill at Abercrombie Point, Nova Scotia (the "Mill") which has been shuttered since January 31, 2020 following the closure of the pulp effluent treatment facility at Boat Harbour (the "Boat Harbour Treatment Facility"). The current project is comprised of the construction of a new effluent treatment facility, discharge pipeline and in-plant changes to the Mill (the "Restart Project") as detailed in the environmental assessment registration document (the "EARD") filed by Northern Pulp with Nova Scotia Department of Environment and Climate Change ("NSECC").

Pictou Landing First Nation submits these comments on its own behalf and on behalf of the Mi'kmaq communities represented by the Kwilmu'kw Maw-klusuagn Negotiations Office ("KMKNO") namely, Acadia First Nation, Annapolis Valley First Nation, Bear River First Nation, Eskasoni First Nation, Glooscap First Nation, Membertou First Nation, Paq'tnkek First Nation, Potlotek First Nation, Wadmatcook First Nation We'kowma'q First Nation (the "KMKNO Communities").

Environmental Assessment and s. 35 Consultation

By letter dated December 7, 2021, NSECC initiated a formal consultation with PLFN and the Assembly of Nova Scotia Mi'kmaq Chiefs pursuant to the Crown's duty to consult under s. 35 of the ***Constitution Act, 1982*** in respect of the pending decision of the Minster of Environment whether to grant approval for the NP Restart Project pursuant to the ***Environment Act***. In the letter NSECC advised that: "*During the EA approval process, the Province will rely upon the*

process set out in the Environment Act and Regulations to fulfil the Crown's duty to consult the Mi'kmaq for this approval."

This language suggests that the proposed consultation will be carried out entirely within the environmental assessment process. While PLFN has some concerns with this approach, which it will address separately with NSECC, for present purposes, PLFN acknowledges that these submissions form part of the consultation record.

Current Context

For most members of Pictou Landing First Nation, the past two years has been the only period in their lifetime that they have witnessed clean air over their Reserve and clean waters of the Northumberland Strait adjacent their community. The Mill had been operating for over five decades without their lawful consent, spewing various contaminants into the air and discharging many more in wastewater that made its way to the Boat Harbour Treatment Facility adjacent the Reserve and not the Northumberland Strait. There was a dramatic improvement when Northern Pulp stopped pulp production at the Mill just before January 31, 2020. There was a collective sigh of relief, like a great burden had been lifted from their shoulders: whatever the adverse health impacts from past exposures to contaminants from the Mill may be, they were at least assured that things would not be compounded by the effect of additional pollutants.

The past two years has also brought a measure of peace to the Pictou Landing First Nation. From the first days and weeks after the Mill opened in 1967 and millions of gallons of toxic wastewater began pouring into Boat Harbour on a daily basis, killing all life in the estuary, the community has fought for environmental justice and for the right to live in a healthy environment on their ancestral lands. The community spent an inordinate proportion of its scarce financial and human resources in this pursuit. The Mill became a symbol of racial injustice, and environmental racism in particular, writ large.

Suddenly, on January 31, 2020, the legislated closure date of the Boat Harbour Treatment Facility under the ***Boat Harbour Act*****,** S.N.S. 2015, c. 4, the impossible happened – the battle was over. After decades of government promises, the Boat Harbour Treatment Facility had closed. PLFN had won. While Northern Pulp sought legal redress and PLFN sought intervenor status in the court proceedings Northern Pulp commenced, those skirmishes eventually fizzled out and Northern Pulp retreated. For the first time in 53 years closing the Boat Harbour Treatment Facility did not consume the energy of entire community. While another crisis did, the Covid19 pandemic, the community has been otherwise enjoying relative peace.

Aboriginal Title, Aboriginal Rights and Treaty Rights

PLFN is, of course, a Mi'kmaq community. It currently occupies about 700 acres of the Reserve lands at Pictou Landing. These lands are a tiny part of the traditional territory of PLFN. However, to date not a single piece of land in Nova Scotia has been recognized by the federal or provincial governments or determined by a court of competent jurisdiction to be Aboriginal title lands. The

closest thing to a recognition of Aboriginal title was the finding by the former Nova Scotia Provincial Court Chief Judge Patrick Curran in ***R v Marshall***, 2001 NSPC 2 at 143, where he wrote: "the Mi'kmaq of the 18th century on mainland Nova Scotia *probably had aboriginal title to lands around their local communities*, but not to the cutting sites".

During the 18th century the historical record is clear that the ancestors of Pictou Landing First Nation lived generally in the area around Boat Harbour, referred to as "A'se'k" in Mi'kmaq. Indeed, maps made in the middle of the century show burial grounds as far south as Indian Cross Point, where ironically, the pipeline leading from the Mill to Boat Harbour would eventually be built.

There seems little doubt that PLFN has a strong Aboriginal title claim to an area greater than its current 700 Reserve lands, which has neither been defined nor recognized, but may well include Abercrombie Point where the Mill is located.

Turning from Aboriginal title to Aboriginal and Treaty Rights, Pictou Landing First Nation is a fishing community. It operates in several commercial fisheries pursuant to licences from the Department of Fisheries and Oceans Canada ("DFO"). In addition, it engages in a food, social and ceremonial fishery as well as a moderate livelihood commercial fishery pursuant to its Treaty Rights under the ***Treaty of Peace and Friendship*** of 1760 as affirmed in ***R. v. Marshall***, [1999] 3 S.C.R. 456. The moderate livelihood fishery is referred to by the PLFN as the "Netukulimk" fishery and is carried out in many areas including within Pictou Harbour between the Harvey A. Veniot Pictou Causeway and the East River.

"Netukulimk" is described on the website of the Unama'ki Institute of Natural Resource as follows: "Netukulimk is the use of the natural bounty provided by the Creator for the self-support and well-being of the individual and the community. Netukulimk is achieving adequate standards of community nutrition and economic well-being without jeopardizing the integrity, diversity, or productivity of our environment."

The PLFN Netukulimk as it is currently operated follows a set of principles adopted by PLFN Chief and Council. Individual fishers fish pursuant to Netukulimk fishery licences issued by Chief and Council. Most importantly, the Netukulimk is operated as of right and is not exercised pursuant to the authority of, or licences issued by, DFO.

PLFN Valued Ecosystem Components

When Northern Pulp registered its former project for a new effluent treatment facility, PLFN raised concerns about the potential impacts of that project on its Aboriginal and Treaty rights, including its right to live on reserve and claimed Aboriginal title lands free from environmental contamination. The concerns raised by PLFN with respect to Northern Pulp's former project are a matter of public record in the earlier environmental assessment process and also form part of the formal consultation record relating to the earlier proposed project.

Of particular concern were potential impacts of the discharged effluent on the waters of the Northumberland Strait, where PLFN carries out fishing activities, and the impact of air contaminants emitted from the Mill which, if the new effluent treatment facility had been approved, would have continued for decades to come.

The social, cultural and economic impact of the project on PLFN and its members is also of concern.

Status Quo and Cumulative Impacts

The current "status quo" is that the Mill is not operating. The proposed changes, if Northern Pulp implements them, would result in the Mill becoming operational once again. The proper baseline against which to compare the impacts of the proposed project is the current status quo, and not the status quo that existed more than two years ago, prior to January 31, 2020 when the Mill was operating.

In ***Nova Scotia (Aboriginal Affairs) v. Pictou Landing First Nation***, 2019 NSCA 75, the Nova Scotia Court of Appeal dismissed a Crown appeal from the decision of the Nova Scotia Supreme Court on a judicial review, thereby requiring the Crown to consult with PLFN prior to making any decision on providing funding to Northern Pulp to build the former proposed effluent treatment facility. The Province had argued, that the Court could only consider whether the proposed project would have any new adverse impacts on the rights of PLFN and could not take into account the adverse impacts that had been ongoing since 1967. PLFN argued that a decision to fund the new treatment facility amounted to a decision to allow the Mill to operate and for it to discharge contaminants into the water and air for decades to come and these impacts must be taken into account. The Court of Appeal agreed with PLFN:

> [161] **Continuing breach or novel impact:** Northern Pulp submits that the chronology back to the 1960s, set out in 's second Affidavit, is "historical impact" that is not to be addressed by current consultation. Northern Pulp says effluent *or emissions* after January 30, 2020 would be merely a "continuing breach" without a "novel adverse impact" from the current proposal, as discussed in ***Carrier Sekani***, para. 49 and ***Chippewas of the Thames***, paras. 41-42.
>
> [162] I respectfully disagree. The 2015 ***Boat Harbour Act*** means that, as of January 30, 2020, the effluent and emissions "must cease" unless there is a New ETF and a new Industrial Approval. *That was the new legal baseline as of 2015*. It was a partial accommodation by the Crown to PLFN. As discussed, the Funding Agreements of 2016 and 2017 constitute Crown conduct that potentially impacts whether there will be a New ETF and new Industrial Approval for the period after January 30, 2020. *The adverse impact would be caused by the contaminants discharged after January 30, 2020. Given the new legal baseline of a partial accommodation, this is a novel impact. [emphasis added]*

PLFN will make more detailed submissions on the scope of the consultation in this matter in response to the December 7, 2021 letter from NSECC referred to above. For present purposes, PLFN points out that, to the extent that the scope of the current environmental assessment is limited to comparing the proposed operation of the Mill to the status quo before January 31, 2020 when the Mill was operational, or to considering less than the full impact of the entire Mill operations on valued ecosystem components, and not just proposed project pieces in isolation, the scope of the consultation on this project will be broader than the scope of this environmental assessment.

It would make sense that the scope of consultation under s. 35 and the scope of the current environmental assessment be explicitly aligned, and we suggest that the scope be clarified in the draft TOR this regard.

PLFN Comments on Language of the Draft TOR

Pictou Landing First Nation is grateful to EXP Consulting which has reviewed the draft TOR and provided input to PLFN to inform these comments.

Comment 1:

1.3 Proposed Project, p. 10

PLFN: Please recite that the Mill is currently not operating and has not been operating for 2 years since the former treatment facility at Boat Harbour was closed as required by the ***Boat Harbour Act***, as an accommodation to Pictou Landing First Nation pursuant to the Crown's duty to consult and accommodate PLFN in light of the historical injustices occasioned by the construction and operation of the treatment facility next to the PLFN community without its informed consent.

Please recite that if implemented, the project will mean the reopening of the Mill and its continued operation for several decades. The exact predicted/planned economic life of the Mill should be included in Northern Pulp's environmental assessment report.

Comment 2:

2.0 Preparation and Presentation of the EA Report, p. 12

In preparing the EA Report, as applicable, NPNS may refer to comments from the above-noted parties during the EA review of the previous Replacement Effluent Treatment Facility project, for both the EARD and the Focus Report previously submitted by NPNS, to identify and include the supplementary information required to provide a comprehensive and complete assessment of the potential effects of the project.

PLFN: Please add: "<u>However, where earlier comments directly or by implication conflict with any comments on the current project, both comments must be included</u>."

Comment 3:

3.0 Project Description, p. 13

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

- *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.*

PLFN: Please add: "In addition, describe the commissioning, operation, maintenance and decommissioning of the existing mill as a whole in sufficient detail to allow the reader to understand how the mill, as modified by the proposed project, the effluent treatment facility and the pipeline and diffuser operating as a whole will have an impact on the environment and the valued ecological components."

Comment 4:

3.3 Project Design and Components, p. 14

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: all planned changes to mill infrastructure and in-mill improvements, the ETF, land and marine based sections of effluent pipeline and the diffuser. All associated infrastructure and components must be detailed. In cases where existing equipment are proposed to be re-purposed, converted or modified to support the proposed project, provide detailed assessments and engineering re-design plans to address the suitability for the proposed purpose, condition of equipment and life expectancy, including the effect of gases and chemicals proposed to be collected on mill equipment and infrastructure. 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.

PLFN: Replace with: "Describe the current mill. 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: all planned changes to mill infrastructure and in-mill improvements, the ETF, land and marine based sections of effluent pipeline and the diffuser. All associated existing infrastructure and components must be detailed. In cases where existing equipment are proposed to be re-purposed, converted or modified to support the proposed project, provide detailed assessments and engineering re-design plans to address the suitability for the proposed purpose, condition of equipment and life expectancy, including the

effect of gases and chemicals proposed to be collected on mill equipment and infrastructure. Provide detailed assessment of the mill life expectancy of the mill as a whole, assuming the project is carried out, including identifying any limiting factors such as existing equipment not directly implicated in the project. 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.

Comment 5:

3.3 Project Design and Components, p. 15

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

PLFN: Add:

Changes to the Existing Mill Infrastructure and Processes since mill closure in January 2020

Identify all changes to the existing mill infrastructure structure, including but not limited to any runoff or storm water controls, that have or will change the operation of the mill upon startup.

Comment 6:

3.3 Project Design and Components, p. 15

"A waste dangerous goods management plan to accommodate for worst case scenario within design of the proposed ETF, including releases of black liquor, major equipment malfunctions, etc. 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 ECC. Additional details relating to disposal of waste goods and construction materials may be required."

PLFN: Please include a requirement for Northern Pulp to provide a full and complete waste dangerous goods management plan for its entire mill operations with its EA report. Please make it clear that referencing existing EMS and SOPs is insufficient. If existing or proposed EMS or SOPs are referenced it is expected that their contents will be included in or with the EA Report. Please also include a requirement to address specifically mercury contamination on the mill site as a whole.

Comment 7:

3.3 Project Design and Components, p. 18

"Leak detection technologies for the entire marine-based pipeline. Provide details on the sensitivity of detection technologies, staff training plans, maintenance and inspection

frequencies, methodologies and response protocols, including during periods of ice coverage; and"

PLFN: In previous reports submitted by Northern Pulp to NSECC in respect of the former project, elements of the leak detection system were not specified and instead Northern Pulp deferred the design to the construction contractor which would be selected at a later stage. It should be made clear that this would not be acceptable in the EA Report for the current project. The TOR, at minimum, should reference the need for a preliminary design since it is impossible to provide a fair assessment of the potential impacts of the pipeline, if key details pertaining to construction and leak detection are omitted.

Comment 8:

3.3 Project Design and Components, p. 19

"Storage areas for fuels, explosives and dangerous goods"

PLFN: Please add: "<u>including all fuel dispensing locations for all phases and elements including marine work.</u>"

Comment 9:

3.6 Decommissioning and Reclamation, p. 19

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.

PLFN: Replace the word "project" with "<u>mill</u>" since a substantial component of the project will be integrated with the mill as a whole and the mill will continue to operate for some period during its economic viability. In assessing the and weighing any perceived benefits of the project, the eventual decommissioning of the mill as a whole must be taken into account.

Comment 10:

3.5 Operation, p. 19

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:

PLFN: Replace with: <u>Describe the operation of the mill and all project components and supporting infrastructure to all components. The description of the operation shall include but not be limited to the following*:*</u>

***Comment 11**:*

Section 8.0 Assessment Methodology, p. 21

PLFN: Please add: "The assessment methodology must include best practices for analyzing (a) the cumulative effects that are likely to result from the operation of the mill in combination with other physical activities that have been or will be carried out and (b) the intersection of sex and gender with other cultural and identity factors."

PLFN is particularly interested how the project in all phases, including operation of the mill following project completion, will impact on Mi'kmaq youth, women and gender minorities.

Comment 12:

9.0 EXISTING ENVIRONMENT, p. 21

Provide a baseline description of the environment in the vicinity of the project and all other areas that could be impacted by the project.

PLFN: Add: "and the continued operation of the mill as a whole, once it is restarted."

***Comment 13**:*

9.0 EXISTING ENVIRONMENT, p. 22

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.

PLFN*:* Insert underlined words as follows: "For the EA Report, the spatial boundaries must include the project footprint and relevant receiving environments for air emissions from mill operations, runoff water and effluent such as airsheds and watersheds. Temporal boundaries must address applicable guidelines, standards and regulatory requirements and include project construction, operation (including mill operation), decommissioning of the mill and post-decommissioning.

Comment 14:

Section 9.2.1 Groundwater, p. 23

"Provide a description of the regional and local hydrogeology of the study area. A discussion of groundwater uses 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 project."

Section 9.2.2 Surface Water, p. 23

"Provide a map of all watercourses located on the subject property. Provide detailed sampling results from all baseline groundwater and surface water quality monitoring networks, inclusive of the Mill Monitoring Network and the Industrial Landfill Monitoring Network. Account for the full list of potential contaminants of concern in the freshwater and marine systems within the project footprint."

While existing monitoring data from the Mill Monitoring Network and the Industrial Landfill Monitoring Network is to be included in the assessment of watercourses, the same should be utilized in the hydrogeological study referenced in Section 9.2.1.

***Comment 15**:*

9.2.3 Marine Water, p. 23

Provide baseline studies that characterize environmental conditions representative of the full study area (e.g., multiple locations) for all four seasons and accounting for yearly variations, including but not limited to: climate, water quantity (e.g., current profiles, water column stratification, wave height, tide levels), and water quality (e.g., temperature, salinity, chemical and physical water quality).

PLFN: Please add: <u>The study area shall include Boat Harbour and shall be based on current conditions and conditions anticipated after remediation as outlined in the Environmental Impact Statement prepared by Nova Scotia Lands Inc. dated November 17, 2020.</u>

Comment 16:

9.3.2 Air Quality, p. 25

For the study area, provide a review of baseline ambient air quality and meteorological data, including annual and seasonal climatic conditions for the region. Include scenarios for ambient air quality data for current conditions (e.g., without mill in operation) and one reflecting historical data from when the mill was in operation.

PLFN: Remove: <u>and one reflecting historical data from when the mill was in operation</u>. The only relevant baseline is the current baseline. Analyzing baseline air emissions when the mill previously in operation prior to January 31, 2020, would only serve to introduce data that was collected during a period when the mill had a continuous adverse environmental impact on PLFN which was imposed upon PLFN without its consent and which remained unabated for over five decades. The only proper baseline is the current baseline.

***Comment 17**:*

9.3.3 Ambient Noise and Light Levels, p. 26

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.

PLFN: Please add underlined wording: "Describe existing ambient light levels at the mill site, 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 during all phases including during operation of the mill." Delete repeated 3rd paragraph: "*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."*

***Comment 18**:*

Section 9.4.2 Freshwater Aquatic and Marine Environment, 27

"Any baseline studies should be undertaken during appropriate spatial and temporal scales and identify and delineate sensitive or important habitats that may be impacted from the installation of the pipeline."

PLFN: Please clearly outline the spatial and temporal scales that are expected by NSECC. If left undefined, the minimum level of assessment may not be undertaken. Specifically, if all four seasons are expected to be monitored and assessed then this should be clearly set out.

***Comment 19**:*

9.5 Agriculture, Aquaculture and Forestry Resources, p. 28

Describe all commercial, recreational and Aboriginal fisheries (including food social ceremonial (FSC) as well as commercial), aquaculture, seafood processing and seafood buying operations, and harvesting (e.g., marine plants, shellfish) in the study area

PLFN: Insert the underlined wording as follows: "Describe all commercial, recreational and Aboriginal fisheries (including food social ceremonial (FSC), moderate livelihood and Netukulimk commercial, as well as other commercial), aquaculture, seafood processing and seafood buying operations, and harvesting (e.g., marine plants, shellfish) in the study area"

As noted above the PLFN Netukulimk fishery is regulated by PLFN.

***Comment 20**:*

9.6 Socio-Economic Conditions, p. 28

Describe the current socio-economic conditions of the study area, including population demographics and economic conditions (including Aboriginal Peoples).

PLFN: Please add: "Include a detailed analysis of the impact of the operation of the mill and of the former Boat Harbour Treatment Facility on PLFN since 1967 so that cumulative effects can be considered. Provide description of methodology."

Comment 21:

10.0 ADVERSE EFFECTS AND ENVIRONMENTAL EFFECTS ASSESSMENT, p. 29

Describe the effects of the project on the environment during all phases of the project (e.g., site preparation, construction, commissioning, operation, maintenance, and decommissioning), including any environmental change on health, socio-economic conditions, archaeology, reserve lands and the current use of land for traditional purposes by the Mi'kmaq of Nova Scotia. The effects assessment shall also consider impacts of the environment (including weather and climate) on the project, including a discussion of how potential climate change will impact all components of the project.

PLFN: Add underlined words: Describe the effects of the project on the environment during all phases of the project (e.g., site preparation, construction, commissioning, operation including mill operation, maintenance, and decommissioning, including mill decommissioning), including any environmental change on health, socio-economic conditions, archaeology, reserve lands and the current use of land for traditional purposes by the Mi'kmaq of Nova Scotia. The effects assessment shall also consider impacts of the environment (including weather and climate) on the project, including a discussion of how potential climate change will impact all components of the project.

Comment 22:

10.2.3 Marine, p. 32

The study must clearly identify the scenarios included for consideration and justify the exclusion of reasonable alternative scenarios (e.g., the number of ports on the effluent diffuser, and the geographic extent of the modeling). The study must consider the tidal nature of the Pictou Harbour, its tributaries (the West River, Middle River and East River of Pictou), the presence of the Harvey A. Veniot Pictou Causeway, as well as potential for interaction with waste effluents from other industrial and municipal sources.

PLFN: Please add: "The study must identify any impacts on Boat Harbour in its current state and its proposed remediated."

Comment 23:

10.3.2 Air Quality, p. 35

Describe the sources, types and estimated quantities of air emissions from the project for all potential air contaminants of concern for all project phases (construction, operation and decommissioning) under routine conditions and in the case of malfunctions and accidental events on a seasonal and annual basis.

PLFN: Please add words underlined as follows: "Describe the sources, types and estimated quantities of air emissions from the project for all potential air contaminants of concern for all project phases (construction, operation and decommissioning, including operation decommissioning of the mill) under routine conditions and in the case of malfunctions and accidental events on a seasonal and annual basis.

Comment 24:

10.3.2 Air Quality, p. 35

Provide a full statistical analysis for the ambient air quality monitoring data obtained at the Pictou monitoring station for the mill pre- and post-hibernation periods. Describe how the proposed project emissions compare to the pre-hibernation emissions and the associated predicted changes in air quality.

PLFN: Remove the words with ~~strike-through~~ and insert underlined words as follows: Provide a full statistical analysis for the ambient air quality monitoring data obtained at the Pictou monitoring station and the monitoring station maintained by Nova Scotia Lands within the PLFN community, for the period from January 31, 2020 to current ~~mill pre- and post-hibernation periods~~. Describe how the proposed project emissions and emissions from a restarted mill compare to ~~the pre-hibernation~~ emissions during that period and the associated predicted changes in air quality.

For the reasons outlined elsewhere above, the relevant baseline air data is only available during the last two-year period, since the mill ceased pulp production. That is the only period currently free from the adverse impacts of previous environmental racism.

Comment 25:

10.7 Socio-Economic Conditions, p. 40

PLFN: Please add: Include an analysis of the cumulative effects of past operation of the mill and related infrastructure, including the Boat Harbour Treatment Facility and include an analysis of the intersection of sex and gender with other cultural and identity factors.

11.0 PROPOSED MITIGATION, p. 40

Describe all measures that have, or will be, taken to avoid or mitigate negative impacts, and maximize the positive environmental effects of the project

PLFN: Please add: "<u>, including of the operation of the restarted mill</u>."

Comment 26:

11.3.2 Air Quality, p. 42

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

PLFN: Please add the underlined words: "Describe measures to avoid, minimize or otherwise mitigate effects on biological receptors during all phases of the project<u>, including the operation of the restarted mill</u> (vegetation, fish, wildlife, country foods and human health)."

Comment 27:

13.0 EVALUATION OF THE ADVANTAGES AND DISADVANTAGES TO THE ENVIRONMENT, p. 46

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.

PLFN: Please add underlined words: "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, <u>including operation and decommissioning of the mill</u>. The evaluation of the disadvantages shall include an examination and justification of each disadvantage.

Comment 28:

Section 15.1 Public Consultation, p. 49

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

PLFN: Please add: "<u>For the purpose of the EA Report consultation with or activities involving the Environmental Liaison Committee (ELC) will not be considered consultation with the general public and if consultation with or activities involving the ELC is referred in the EA Report it must be distinguished clearly from consultation with the general public</u>."

Comment 29:

General Comment re Industrial Approval Process

PLFN: In various of the above comments, PLFN has suggested that the TOR be clear that the environmental assessment of the project will take into account the impacts of the operation of a restarted mill operation compared to the current status quo. It is insufficient to leave operational issues concerning the mill as a whole to later stages of the project, i.e. the industrial approval stage following environmental approval.

If other issues arise, PLFN will be in touch accordingly.

Yours very truly,

Per:

FRIENDS OF A NEW NORTHERN PULP

January 31, 2022

Environmental Assessment Branch
Nova Scotia Department of Environment and Climate Change
P.O. Box 442, Halifax, NS
B3J 2P8

Via email; EA@novascotia.ca

To whom it may concern;

We are writing to you today to provide comments on the draft Terms of Reference for the Class II Environmental Assessment for the Northern Pulp Mill Transformation project.

The Friends of a New Northern Pulp are an advocacy organization formed by a steering committee of forestry-related companies and other individuals and organizations who have been affected by the closure of Northern Pulp. Our organization has been advocating for a fair and clear Environmental Assessment process to review the transformative plan Paper Excellence has proposed to create one of the cleanest mills in North America at Abercrombie Point.

We are the 36,000 Nova Scotians who own small and large woodlots. We are more than 10,000 owners and workers of forestry businesses in the province. We are the supporters of the forestry sector who supply them with goods and services. More info about us can be found at www.friendsofnewnp.ca

We want to stress to the Department that the Friends of a New Northern Pulp are very supportive of sustainable and ecological forestry practices including the full implementation of the Lahey Report in crown forests. Our members care deeply about the health of our forests. As the Lahey Report recommends, having a market for lower grade fiber is a key requirement of ecological forestry. The existence of a centrally located pulp mill is the best market for lower grade pulp and sawmill residuals. Northern Pulp was a high-value market for lower grade pulp and sawmills residuals accepting a lot of volume and paying a fair price. Every forestry interest in Nova Scotia was positively impacted when Northern Pulp was operating. Conversely, every forestry interest has been negatively impacted by its closure.

Because of its importance to the future of forestry in Nova Scotia, we have reviewed the draft Terms of Reference for the Northern Pulp Environmental Assessment. Many of our Friends have made submissions to your organization pleading for a fair, clear process led by an expert and independent panel. We wholeheartedly support those requests.

Let us summarize our position clearly.

FRIENDS OF A NEW NORTHERN PULP

No timeline slippage

- We believe it is important to subject Northern Pulp's Plan to a rigorous assessment in the timelines that have been prescribed. We are very concerned about the proposed timeline slipping. The best protection against having the timelines slip is too have clear rules and timelines set. The draft terms of reference define a timeline for the Class II assessment which is good. The risk is that without clear rules set at the beginning there will be temptation and opportunity to add requirements and studies and to adjust the process going forward in response to new demands by activists. The Department must not be able to change the rules or move the goal posts during the process.

Clear Standards Upfront

- We feel it is vital the environmental standards for Northern Pulp to follow are set at the beginning and are not changed during the process. It makes sense to us that Canada's national standards for air and treated pulp and paper effluent be used as the guiding standards for this project. Designing a new mill without knowing the standards it must meet does not make any sense. Without clear requirements and rules the opportunity exists for the rules to change and the process to be extended. This is not in anyone's best interests.

Expert and Independent Panel Early

- In our view, the NS Dept of Environment and Climate Change does not have the expertise or independence to conduct the Northern Pulp EA process objectively. They have stated publicly that they don't have the expertise to set the standards for the project so how can they argue they have the expertise to lead and properly assess the project? The Class II process contemplates a central role for an expert panel. We feel an expert panel must be formed right away and its members must be independent of the Department. The panel should include members with both environmental and pulp and paper regulatory expertise. It is our view that if Northern Pulp's plans are not approved by an expert and independent panel it should not proceed. Conversely, if it is assessed to be an environmentally responsible project, it should proceed.

As Friends of a New Northern Pulp and as long-time Nova Scotia forestry sector participants, you may wonder why we are asking for such clarity and independence from the Department of Environment and Climate Change.

Our sector simply does not believe the NS Department of Environment and Climate Change can be fair and reasonable when it comes to evaluating this project. The last process was flawed and vague and resulted in the closure of the mill. The process was susceptible to activist and political influence and the result has been devastating for the forestry sector. Since then, nothing has happened in the NS Department of Environment and Climate Change to give any comfort to the market-based forestry sector that it can be impartial and fair. In fact, it is a widely held view in our sector the Department has grown more distant from our natural resources and those who take care of them and depend on them for their livelihoods.

FRIENDS OF A NEW NORTHERN PULP

Why they ask, is it so hard to have a thorough and fair process based on science and national standards?

We urge the Department to change the draft terms of reference to achieve a fair and objective process to assess the Northern Pulp plan.

Thank you,

Friends of a New Northern Pulp Steering Committee

Ecology Action Centre

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Comments from Ecology Action Centre on

Draft Terms of Reference for the Preparation of an Environmental Assessment Report

Mill Transformation and Effluent Treatment Facility Project Proposed by Northern Pulp Nova Scotia Corporation

Submitted to Nova Scotia Environment and Climate Change,
January 31, 2022

Overview

The Ecology Action Centre ("EAC") provides the following recommendations for improving the terms of reference ("TOR") for the environmental assessment ("EA") of the Mill Transformation and Effluent Treatment Facility Project which the proponent, Northern Pulp Nova Scotia Corporation ("Northern Pulp" or "the corporation"), has proposed. The draft TOR are more comprehensive and rigorous than those written for the EA of Northern Pulp's proposed Replacement Effluent Treatment Facility Project in 2019 and require more accountability from the proponent. We agree with Nova Scotia Environment and Climate Change ("NSECC") and the widely accepted principle in environmental assessment that the purpose of an EA is to assess the impact of a proposed project on a particular environment and not to presuppose or establish thresholds or targets prior to the assessment.

There are a number of gaps or ambiguities in the draft TOR that the EAC would like to see addressed in the final TOR. Our main concern is that there is a lack of clarity around the spatial and temporal boundaries of the proposed project. The pulp mill facilities at Abercrombie Point have not been in full operation since early 2020. The proposed Mill Transformation and Effluent Treatment Facility Project will result in the operation of an industrial facility that will have major impacts on the air, water and forests of Nova Scotia as well as on Nova Scotia's climate targets. Since the formerly operating mill ceased operating, neighbouring communities—including Pictou Landing First Nation—have been able to enjoy cleaner and fresher air, and new environmental, community health, and socio-economic status quo have been established. The decision whether or not to approve new pulp mill operations at Abercrombie Point has major implications for the protected Indigenous rights of Pictou Landing First Nation and all Mi'kmaq in Nova Scotia; moreover, all Nova Scotians stand to be affected by the impacts that an operating mill will have on the province's forested ecosystems and the communities they support. For example, our understanding is that an operating pulp mill at Abercrombie Point will require over one million tonnes of wood fibre per year. This demand for wood will have a major impact on the forests of Nova Scotia, on the species that inhabit those forests—including species at risk—and on the role our forests play in sequestering carbon. It is not clear that the draft TOR require assessment of these activities and impacts.

In the EAC's view, the TOR for the proposed Mill Transformation and Effluent Treatment Facility Project must clearly require assessment of the full scope of impacts of a new operational mill at Abercrombie Point. The question is not whether a currently operating pulp mill will be allowed to continue its operations: the question is whether Nova Scotia will move from a new status quo of having no pulp mill operating at Abercrombie Point to having a new mill operating there.

As an additional point, we also note that although Northern Pulp is proposing new and "transformed" pulp mill operations at Abercrombie Point, much of the existing infrastructure on the site is very old, and not all of it is slated for changes or upgrades under the proposed Mill Transformation and Effluent Treatment Facility Project. Assessing the full scope of impacts of new pulp mill operations at Abercrombie Point must therefore also involve assessment of existing infrastructure's capacity to function in the long term where no changes or upgrades are proposed.

As the Government of Nova Scotia reviews these comments and establishes the final TOR for the proposed project, we strongly encourage the Government to adhere to best practices in EA and to resist pressure from the proponent or related groups, whether in the form of paid advertising, a flood of similar

submissions or a lawsuit,[1] to weaken the terms of reference for the assessment. The health and prosperity of Pictou County, Pictou Landing First Nation, and Nova Scotia depend on it.

We have organized our comments so that they are linked to the relevant sections of the draft TOR. At the end of this document, we have also provided a table listing our recommendations by section.

Comments on the Executive Summary

Comment 1
The EAC disagrees with and is concerned by the following description of an EA, which appears on page 2 of the draft TOR document:

> An Environmental Assessment is a planning tool that allows development to occur while protecting the environment.[2]

Nova Scotia's *Environment Act* defines "environmental assessment" as "a process by which the environmental effects of an undertaking are predicted and evaluated and a subsequent decision is made on the acceptability of the undertaking".[3] The purpose of an EA is not to allow proposed development to occur, as the above-quoted passage from the draft TOR suggests: its purpose is to inform a decision as to whether proposed development should be allowed to occur.

> **Recommendation 1**: The TOR should reflect the legislated definition of "environmental assessment" and should not imply that the proposed undertaking will ultimately be allowed.

Comment 2
The EAC agrees with and supports the following statement on page 2 of the draft TOR document.

> The EA process does not propose or identify specific effluent and emission limits. It is up to the proponent, based on a full identification and evaluation of the potential impacts of the project, the capacity of the environment to handle these impacts, and any mitigations that would reduce them, to determine the overall impact of the project and recommend specific limits that a particular receiving environment can support.

Nova Scotia's *Environment Act* defines "environmental assessment" as "a process by which the environmental effects of an undertaking are predicted and evaluated and a subsequent decision is made on the acceptability of the undertaking".

The purpose of an EA is to assess if a particular project can be carried out in an acceptable manner in a particular location. Setting allowable limits before reviewing the science, considering local and Indigenous knowledge, engaging with experts and hearing from the public would undermine the value

[1] Northern Pulp has filed a lawsuit seeking 450 million in damages against the Government of Nova Scotia and by extension the citizens of Nova Scotia. See Aaron Beswick, "Northern Pulp sues Nova Scotia for $450 million" *Saltwire* (16 December 2021), online: <https://www.saltwire.com/atlantic-canada/news/northern-pulp-sues-nova-scotia-for-450-million-100671646/>.
[2] This description also appears verbatim in the Introductions section of the draft TOR, on page 8 of the draft TOR document.
[3] *Environment Act*, SNS 1994-95, c 1 (as amended) at subsection (3)s.

and purpose of an EA. The appropriate time to set limits is at the conclusion of this process and/or when approvals are issued. To do so at the beginning would be to put the cart before the horse. It is important to remember and uphold the principles and goals listed in the purpose section of Nova Scotia's *Environment Act*, including the precautionary principle and the principle of pollution prevention.

The EAC also wishes to note that the passage quoted above from page 2 of the draft TOR concludes by stating:

> If, through the EA review, proposed emission limits are identified to address the potential impacts of a project without causing significant environmental or adverse effects, the project can receive an EA approval. Specific limits (i.e., pertaining to effluent and emissions) are established through subsequent authorizations (i.e., industrial approval) once this planning phase and the environmental review is complete.

The EAC is concerned by the suggestion that specific limits may only be established through subsequent authorizations. EA approvals are typically issued under terms and conditions that set parameters for the construction, operation and decommissioning of proposed undertakings that have been assessed and approved.

Although the EAC agrees with and supports the view that Nova Scotia's EA process requires the proponent to demonstrate that their proposed project can be carried out safely by identifying prospective impacts and assessing the receiving environment's capacity to handle those impacts, we are concerned by the suggestion that specific limits may not be included as conditions of an EA approval if an approval is granted.

> **Recommendation 2**: The TOR should recognize that specific limits may be included as conditions of an environmental assessment approval if an approval is granted.

Comment 3: Subsection 1.3 (Proposed Project) and Section 3.0 (Project Description)
The descriptions of the proposed project that appear in subsection 1.3 and section 3.0 of the draft TOR suggest that the EA may focus on the impacts of specific changes to the pre-existing infrastructure at Abercrombie Point (see pages 9-10 and 13).

In the EAC's view, the EA of the proposed Mill Transformation and Effluent Treatment Facility Project cannot focus solely on the impacts of specific changes to the pre-existing infrastructure at Abercrombie Point. It is inappropriate and contrary to the purpose of Nova Scotia's EA regime to frame this Class II EA as an assessment of proposed modifications to an existing mill.

It is noteworthy that the Replacement Effluent Treatment Facility Project that the proponent proposed when the mill was operational was deemed to require a Class I EA, whereas the project currently proposed was deemed to require a Class II EA. Public statements by former Minister of Environment and Climate Change Keith Irving indicate that the decision to require a Class II EA recognized the reality that the proposed "transformation" "would make the mill a substantially different facility than the one that

had operated there previously".[4] Notably, this recognition of the substantial differences envisioned by the proposed "transformation" is being echoed strategically as a public relations point by the Friends of a New Northern Pulp—a prominent new industry campaign promoting the "new pulp mill" that Northern Pulp has proposed.[5]

The EAC agrees with former Minister of Environment and Climate Change Keith Irving and the Friends of a New Northern Pulp that the Mill Transformation and Effluent Treatment Facility Project proposed by Northern Pulp is, in effect, a "new" mill. Not least for this reason, our view is that the EA of the proposed Mill Transformation and Effluent Treatment Facility Project must assess the entire scope of impacts that are relevant to the construction, operation and decommissioning of the proposed new mill facilities, including all potential impacts on the air, water, and forests of Nova Scotia, as well as all potential impacts on the Aboriginal and treaty rights of the Mi'kmaq of Nova Scotia and other Indigenous groups that may be affected.

As additional support for this position, we note that this EA is unlike any EA conducted for the formerly operating pulp mill at Abercrombie Point. Before its original construction in the late 1960s, the formerly operating mill received no EA as we use that term today, as no such process was in place at the time. Since then, EA of proposed changes to mill facilities (i.e., the abandoned assessment of the proposed Replacement Effluent Treatment Facility Project) assessed proposed changes to a mill that was currently in operation. This meant that the status quo contextualizing that assessment was that of an operating mill, with its then-current activities fully authorized under approvals such as Nova Scotia's Industrial Approval 2011-076657-A01.

The status quo that existed when the proposed Replacement Effluent Treatment Facility Project triggered an EA does not exist today. The existing mill facilities at Abercrombie Point are no longer operational (excepting the minimal operations required to maintain the facilities' hibernation state). There is currently no Industrial Approval in place that authorizes the existing mill facilities to be operated for pulp production, and it has been roughly two years since the facilities were used for that purpose.

The effects of the *Boat Harbour Act* and the closure of the Boat Harbour Effluent Treatment Facility mean that the formerly operating mill at Abercrombie Point can never again produce pulp as it once did. If the proponent does not succeed in having new mill facilities approved, the formerly operating mill will remain defunct indefinitely. This means that the current EA process will in effect determine whether a pulp mill operates at Abercrombie Point. The question is not whether a currently operating pulp mill will be allowed to continue its operations: the question is whether Nova Scotia will move from a new status quo of having no pulp mill operating at Abercrombie Point to having a new mill operating there.

This reality has special implications for the assessment of the proposed project's impacts on the forests of Nova Scotia, including climate impacts (i.e., loss of carbon sequestration) and impacts on biodiversity and species at risk. For this reason, which we address in more depth in our comments below, we recommend that the TOR require assessment of the impacts that the proposed mill's operations would have on the forests of Nova Scotia.

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[4] Nova Scotia Environment and Climate Change, "Northern Pulp Effluent Treatment Plant Project to Undergo Class II Environmental Assessment" (15 July 2021), online: <https://novascotia.ca/news/release/?id=20210715009>.

[5] See Friends of a New Northern Pulp, "About Us" (undated), online: <https://friendsofnewnp.ca>.

Recommendation 3: The TOR should require assessment of the impacts that the proposed mill's operations would have on the forests of Nova Scotia. These impacts should include climate impacts (i.e., loss of carbon sequestration) and impacts on biodiversity and species at risk.

If new pulp mill operations at Abercrombie Point are approved, the resulting demand for wood will have major implications for Nova Scotia's forests and the wildlife that use them. The increased level of cutting will also have major implications for carbon sequestration and thus for Nova Scotia's climate targets.

The proponent repeatedly discusses the perceived benefits to the forestry industry of Nova Scotia of new mill operations at Abercrombie Point. The following passage is from page 2 of the Environmental Assessment Registration Document for the proposed Mill Transformation and Effluent Treatment Facility Project ("EARD"):

> NPNS will invest more than $350 million in the Mill Transformation Project, which is expected to provide 600 construction jobs for a period of two years. Significant longer-term benefits to Nova Scotia will include (Gardner Pinfold 2019):
>
> - 330 direct and 2,679 indirect jobs, and $128 million in annual worker income gained throughout the economy, or $1.28 billion over ten years;
> - 1,379 companies supporting mill operations, with 943 suppliers in Nova Scotia, and
> - $279 million annual operating spending, with most spent in Nova Scotia; that is, $2.79 billion in the next ten years.

The Proponent in the EARD goes so far as to suggest that new mill operations at Abercrombie Point will support the implementation of Professor William Lahey's recommendations in *An Independent Review of Forest Practices in Nova Scotia* ("the Lahey Report").[6] This is a completely unfounded assertion, but it is a clear indication that the proponent considers that the scope or project boundaries extend well beyond the construction footprint of the proposed upgrades to the effluent treatment system and the other changes that have been proposed.

For a pulp mill at Abercrombie Point to operate as it has been envisioned, wood will be sourced from across Nova Scotia. Northern Pulp has an annual wood supply allocation of roughly 200,000 tonnes from Crown land in Central and Southern Nova Scotia.[7] In the past, the annual wood consumption of the formerly operating mill was approximately 1.3 million tonnes, making it by far the largest consumer of wood fibre in Nova Scotia.[8] In the past, the formerly operating mill received some wood fibre from other provinces, but it sourced the vast majority of its supply from Nova Scotia's forests. Without a wood supply of this size or similar, there would be no mill and no jobs.

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[6] Northern Pulp Nova Scotia, "Mill Transformation Project: Class 11 Environmental Assessment Registration Project" (November 2021) at page x, online: <https://www.novascotia.ca/nse/ea/mill-transformation-and-effluent-treatment-facility/NPNS_MillTransformation_EARD_MainDocument_21-11-30.pdf>.

[7] See page 18 of this document: file:///C:/Users/action/Downloads/2020-20160-DLF_PublicPackage.pdf

[8] See Kristina Urquhart, "What's next for Northern Pulp? Transformation plan outlines significant upgrades", *Pulp & Paper Canada* (14 July 2021), online: <https://www.pulpandpapercanada.com/whats-next-for-northern-pulp-transformation-plan-outlines-significant-upgrades/>.

Northern Pulp also owns 420,000 acres of forested land in Nova Scotia.[9]

Numerous government reviews have documented the impacts of forestry and forestry practices on forest ecosystems and the wildlife and flora of Nova Scotia, most notably, Phase 2 of the Natural Resources Strategy and the Lahey Report.[10] Both found that our forests are in poor condition and very young.

The Government of Nova Scotia has designated over 60 species at risk in Nova Scotia. In status reports, recovery plans and/or information provided on the website of the Department of Natural Resources and Renewables, forest removal and forestry practices are listed as reasons for the decline in a significant proportion of these species.[11] Examples of species impacted by habitat loss and forestry practices include the mainland moose, American pine marten, olive-sided flycatcher, rusty blackbird, ram's-head lady slipper, boreal felt lichen and many more plants and animals. Of course, impacts on the forests of Nova Scotia will not only affect designated species at risk, but will have broad implications for wildlife species and provincial biodiversity. Failing to assess the impact that new pulp mill operations would have on biodiversity within the province would ignore one of the fundamental principles of Nova Scotia's *Environment Act* (and thus the provincial EA regime): namely, "the principle of ecological value, ensuring the maintenance and restoration of essential ecological processes and the preservation and prevention of loss of biological diversity" (emphasis added).[12]

Forest harvesting and cutting practices also have impacts on the watercourses of Nova Scotia both directly and indirectly. These changes can negatively impact aquatic species including recreationally important species like trout and salmon.

Forests also play an important role in fixing or sequestering carbon. The Lahey Report recognized this role and recommended that the Department of Natural Resources and Renewables develop a framework for Nova Scotian landowners to access carbon trading opportunities.[13] Approving new mill operations at Abercrombie Point and the associated harvesting of Nova Scotia's forests will have major implications for Nova Scotia's carbon budget.

Assessing the proposed Mill Transformation and Effluent Treatment Facility Project without assessing the impact that the proposed mill's operations would have on the forests of Nova Scotia would be like assessing a gold mine without assessing the impact of extracting the gold, or the impact of an offshore oil well without looking at drilling, or a hydroelectric dam without assessing the impact of the reservoir. Moreover, subsection 9.5 of the draft TOR currently requires the proponent to "[i]dentify and describe

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[9] See Nova Scotia Natural Resources and Renewables, "Neenah Land Purchase" (undated), online: <https://novascotia.ca/natr/land/neenah-2010/>.

[10] See Nova Scotia Natural Resources and Renewables, "Natural Resources Strategy – Supporting Documents" (undated), online: <https://novascotia.ca/natr/strategy/downloads.asp>; see also Government of Nova Scotia, "Ecological Forestry" (undated), online: <https://novascotia.ca/ecological-forestry/>.

[11] See Government of Nova Scotia, "Species at Risk – Recovery Update" (undated), online: <https://novascotia.ca/natr/wildlife/species-at-risk/>.

[12] *Environment Act*, SNS 1994-95, c 1 (as amended) at clause 2(b)(i).

[13] See for example William Lahey, *An Independent Review of Forest Practices in Nova Scotia (Executive Summary – Conclusions and Recommendations)* (August 2018) at page 43, Recommendation 116, online: <https://novascotia.ca/natr/forestry/forest_review/Lahey_FP_Review_Report_ExecSummary.pdf>.

forestry activities in the study area", and the EA can therefore be expected to address the proposed project's intersections with the commercial forestry industry. It would be an unbalanced approach and contrary to the purpose of Nova Scotia's EA regime to include intersections with the commercial forestry industry as part of this EA without also assessing the ecological impacts on the forests of Nova Scotia.

Additional Comments on Section 3.0

Comment 4: Subsection 3.1 (The Proponent)
The mill that operated formerly at Abercrombie Point began operating in 1967 and was purchased by Paper Excellence, the current owners, in 2008. While the proponent has included the word "transformation" in the proposed project's name and Friends of a New Northern Pulp on its website is calling the proposed project a "new mill",[14] and although the EAC agrees that the proposed project is, in effect, a new mill, we nevertheless want to emphasize that the proponent operated the former mill for more than ten years, and the EA should explicitly recognize and consider the performance record of the formerly operating mill and Northern Pulp's track record in operating it. Past failures to comply with environmental standards and conditions of approval are relevant to this EA, not least because they speak to the proponent's ability to mitigate adverse effects. Panel members should review and consider the company's past compliance with Nova Scotia's regulations and laws. Past performance is one indicator of future performance.

In this regard, the EA should also consider the environmental, social and governance("ESG") performance of Paper Excellence and the track record of similar facilities it owns elsewhere in the world.

> **Recommendation 4**: The TOR should explicitly recognize and consider the performance record of the formerly operating mill and Northern Pulp's track record in operating it.

In December 2021, Paper Excellence filed a statement of claim in Nova Scotia Supreme Court against the Nova Scotia Government, and by extension the citizens of Nova Scotia, for 450 million dollars for damages and costs the company alleges arise from the closure of the formerly operating mill. While we understand this dispute is outside the TOR for the EA, in no way should the Government of Nova Scotia be influenced or intimidated by this lawsuit as it finalizes the TOR and carries out the EA.

Comment 5: **Subsection 3.3 (Project Design and Components)**

The "Effluent Treatment Facility (ETF)" section of subsection 3.3 currently requires "[c]omparison of the effluent characterization results from the above assessment with appropriate regulations and/or guidelines, including, but not limited to, the draft Pulp and Paper Effluent Regulations (PPER) daily and monthly average limits".

During the EA of Northern Pulp's proposed Replacement Effluent Treatment Facility, the proponent used units of measure that were different from those used in the Pulp and Paper Effluent Regulations, which made it impossible for a lay person to compare the characterization of the proponent's proposed effluent with the federal regulatory standard. Additionally, while the Pulp and Paper Effluent Regulations used

[14] See Friends of a New Northern Pulp, "About Us" and "Why Support a Mill" (undated), online: <https://friendsofnewnp.ca/>.

weekly and monthly averages for nitrogen and phosphorus, the proponent used daily and monthly predicted averages. We note that the draft TOR currently refer only to daily and monthly average limits.

To ensure that members of the public following or participating in the EA process are able to understand the effluent characterizations provided by Northern Pulp and compare them to the standards set in the Pulp and Paper Effluent Regulations, the TOR should require the proponent to ensure that all effluent characterizations are directly comparable to those set out in the draft Pulp and Paper Effluent Regulations, having regard to units of measure as well as temporality (i.e., the use of daily, weekly, and/or monthly average limits).

> **Recommendation 5**: The TOR should require the proponent to ensure that all effluent characterizations are directly comparable to those set out in the draft Pulp and Paper Effluent Regulations, having regard to units of measure as well as temporality.

Additionally, it is important to note that although regulatory standards such as those set out in the draft Pulp and Paper Effluent Regulations provide helpful context, they do not necessarily enable adequate assessment of all substances that could have harmful environmental, human health, or socio-economic effects. For example, although the Pulp and Paper Effluent Regulations have been evolving slowly to capture more substances, they do not currently regulate several harmful substances that may be found in effluent, including AOX compounds, chloroform, cadmium, dioxins and furans, PAH, and phenols. The proponent and review panel must be fully cognizant of the proponent's responsibility to identify all relevant components of the proposed project's emissions and discharges and ensure that the effects of those components are assessed.

Comment 6: **Subsection 3.5 (Operation)**
In keeping with our comment above on subsection 1.3 and section 3.0 of the draft TOR (Proposed Project and Project Description), the EAC recommends that subsection 3.5 be amended to make it clear that the operation of the proposed mill itself, as a functioning whole, requires assessment. The current language of the draft TOR suggests that the only "project components" requiring assessment are the individual elements that have been proposed as specific changes to the pre-existing mill facilities.

> **Recommendation 6**: The TOR should make it clear that the operation of the proposed mill itself, as a functioning whole, requires assessment.

Comment 7: Section 4.0 (Regulatory Environment)
The TOR should explicitly recognize the proponent's obligation to seek input and expertise from federal departments, including Fisheries and Oceans Canada ("DFO"), Environment and Climate Change Canada ("ECCC") and Health Canada ("HC"). DFO's expertise in marine modelling and ECCC's expertise in atmospheric modelling would complement the expertise and resources available to NSSECC in reviewing the modeling done by the proponent.

> **Recommendation 7**: The TOR should explicitly recognize the proponent's obligation to seek input and expertise from federal departments.

Comment on Section 6.0: Description of Alternatives to the Project and Section 7.0: Other Methods for Carrying out the Project

Comment 8
The proponent has rejected the installation of a closed loop system and the production of totally chlorine free ("TCF") paper. The use of these technologies would reduce the proposed new mill's environmental impact. A closed loop system would greatly reduce the effluent discharged into Northumberland Strait and the use of a TCF process would reduce the discharge of chlorine compounds.

> **Recommendation 8**: The TOR should name TCF and a closed loop system as technologies that could be used in a new mill and require the proponent to consider them fully.

Comment 9: Section 8.0 (Assessment Methodology)
Section 8.0 of the draft TOR (Assessment Methodology) currently requires the proponent to identify, where appropriate, "environmental protection objectives (including those contained in applicable legislation or guidelines) associated with each VEC". The EAC recommends that the TOR make the proponent's obligations in this regard clearer as they relate to Nova Scotia's current GHG emissions reduction objectives. At minimum, the TOR should refer to the GHG emissions reduction targets set out in Nova Scotia's *Environmental Goals and Climate Change Reduction Act*.

> **Recommendation 9**: The TOR should clarify the proponent's obligation to identify relevant environmental protection objectives associated with climate change mitigation and, at minimum, should refer to the GHG emissions reduction targets set out in Nova Scotia's *Environmental Goals and Climate Change Reduction Act*.

Comments on Section 9.0 : Existing Environment

Comment 10
Section 9.0 of the draft TOR (Existing Environment) currently requires the proponent to "[p]rovide a baseline description of the environment in the vicinity of the project and <u>all other areas that could be impacted by the project</u>" (emphasis added). Despite this requirement, the current subsections within section 9.0 that identify the environmental components that the proponent must describe do not expressly include the forests of Nova Scotia as environmental components that must be assessed.

Subsection 9.4.1 (Terrestrial Environment) may be interpreted as requiring some discussion of the forests of Nova Scotia—in particular, their function as habitat for species at risk and/or their conservation status under federal or provincial legislation.

In keeping with our comments above on subsection 1.3 and section 3.0 of the draft TOR (Proposed Project and Project Description), the EAC recommends that section 9.0 be amended to include the forests of Nova Scotia as relevant areas that could be impacted by the project and therefore require assessment. Among other reasons for including impacts to forests explicitly, this inclusion will help to ensure that impacts to other relevant environmental components named in the draft TOR (e.g., "wetlands", "climate", "sensitive fauna" and "fauna species at risk", "flora species", conservation areas and "forestry resources") will be fully and meaningfully assessed.

Recommendation 10: Section 9.0 of the TOR should be amended to include the forests of Nova Scotia as relevant areas that could be impacted by the project and therefore require assessment.

Comment 11: Subsection 9.2.4 (Wetlands)
Currently, subsection 9.2.4 of the draft TOR, which addresses the identification of wetlands and wetland functions, fails to recognize a crucial wetland function and require its assessment: namely, the role that wetlands play in carbon sequestration.

The *Nova Scotia Wetland Conservation Policy* recognizes that "[s]toring and sequestering carbon from the atmosphere, potentially moderating climate effects" is one of the many "ecosystem services and functions performed by wetlands".[15] As we note below in our comments on subsection 9.3.1, Nova Scotia's *Guide to Considering Climate Change in Project Development in Nova Scotia* and corresponding *Guide to Considering Climate Change in Environmental Assessments in Nova Scotia* both encourage proponents to assess adverse impacts on carbon sequestering ecosystems resulting in the loss of "carbon sinks". A meaningful assessment of impacts to wetlands requires consideration of this crucial wetland function.

Recommendation 11: The TOR should identify the carbon sequestration function of wetlands as a wetland function that should be assessed.

Comment 12: Subsection 9.3.1 (Climate)
Subsection 9.3.1 of the draft TOR (Climate) currently requires the proponent to "include a summary of greenhouse gas emission projections for the project, including plans to mitigate those emissions in both the design and operation".

Although the draft TOR request that the proponent follow Nova Scotia's *Guide to Considering Climate Change in Project Development in Nova Scotia* (and imply that the corresponding *Guide to Considering Climate Change in Environmental Assessments in Nova Scotia* should also be followed), subsection 9.3.1 neglects to mention a crucial climate change consideration that both of those guidance documents address: adverse impacts on carbon sequestering ecosystems resulting in the loss of "carbon sinks".

As these guidance documents rightly recognize, assessing a proposed project's potential impacts on carbon sequestering ecosystems is a crucial part of assessing prospective climate impacts.
Notably, both documents use impacts to forests as an example of what can be missed if impacts on carbon sequestering ecosystems are not considered, stating: "carbon sinks such as forests may be lost if these are not considered in the design of a project".[16]

The TOR should not focus exclusively on GHGs emissions in subsection 9.3.1, as the draft TOR currently do, but should expressly require the proponent to address adverse impacts on carbon sequestering

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[15] Nova Scotia Environment, *Nova Scotia Wetland Conservation Policy* (September 2011) at page 4, online <https://novascotia.ca/nse/wetland/docs/Nova.Scotia.Wetland.Conservation.Policy.pdf>.
[16] See Nova Scotia Environment, *Guide to Considering Climate Change in Environmental Assessments in Nova Scotia* (February 2011) at page 1, online: <https://novascotia.ca/nse/ea/docs/EA.Climate.Change.Guide.pdf>; see also Nova Scotia Environment, *Guide to Considering Climate Change in Project Development in Nova Scotia* (February 2011) at page 4, online: <https://novascotia.ca/nse/ea/docs/Development.Climate.Change.Guide.pdf>.

ecosystems resulting in the loss of "carbon sinks". Among other things, the cumulative effects of the proposed project's GHG emissions (the assessment of which is required under section 10.0) cannot be assessed meaningfully if the project's impacts on carbon sequestration in the province are not considered as well.

> **Recommendation 12**: The TOR should expressly require the proponent to address adverse impacts on carbon sequestering ecosystems resulting in the loss of "carbon sinks".

Finally, subsection 9.3.1 of the draft TOR currently requires the proponent to "[d]etermine the overall impact of the greenhouse gas emissions from the project on the annual emissions profile of the province". In keeping with Recommendations 11 and 12 above, the EAC recommends that this statement be revised.

> **Recommendation 13**: The concluding statement in what is now subsection 9.3.1 of the draft TOR should be revised as follows:
>
> Determine how the project's greenhouse gas emissions and effects on carbon sinks will impact the annual emissions profile of the province, and assess the significance of those impacts, taking into account the greenhouse gas emissions reduction targets set out in Nova Scotia's *Environmental Goals and Climate Change Reduction Act*.

Comment 13: Subsection 9.3.2 (Air Quality)

The EAC agrees that a meaningful air quality assessment requires review of current baseline data (assessing current conditions with no mill in operation) as well as historical baseline data (assessing conditions from when the formerly operating mill was operational). These data will be needed to determine how new mill operations at Abercrombie Point would impact air quality improvements that have been gained since pulp mill production at the site ceased roughly two years ago.

Although this aspect of the EA will be relevant to all residents living in the vicinity of the proposed project site, it will be especially relevant to Pictou Landing First Nation, the Aboriginal and treaty rights of its members, and the protected Indigenous rights of all Mi'kmaq in Nova Scotia. The former pulp mill operations at Abercrombie Point are arguably Nova Scotia's most notorious example of environmental racism, and the adverse impacts the mill had on Pictou Landing First Nation are widely known. New mill operations at Abercrombie Point could reproduce adverse impacts to Pictou Landing First Nation community members' constitutionally protected and internationally recognized rights, and it should go without saying that such impacts must be fully assessed and understood so that they can be avoided.

Comment 14: Subsection 9.4 (Wildlife, Wildlife Habitat and Species-at-Risk)

Subsection 9.4 of the draft TOR requires the proponent to "[i]dentify flora, fauna, and habitat types that will be intersected by all components of the project". The EAC recommends that the language in this subsection be amended to specify that cumulative effects should be considered in addition to direct impacts. We recognize that section 10.0 of the draft TOR (Adverse Effects and Environmental Effects Assessment) requires descriptions of the cumulative effects of project activities; however, we believe it is important to signal the need for cumulative effects assessment as clearly as possible in the portions of the TOR that deal with the identification of valued environmental components and possible impacts on them.

> **Recommendation 14**: The TOR should be amended to specify that cumulative effects should be considered in addition to direct impacts when identifying "flora, fauna, and habitat types that will be intersected by all components of the project".

Comment 15: Subsection 9.6 (Socio-Economic Conditions)
Air quality can have a negative impact on human health, and it affects the ability of residents and visitors to enjoy and spend time outdoors. The TOR should explicitly require the proponent to assess the socio-economic effects of improved air quality following the closure of the formerly operating mill and evaluate how new mill operations would affect the new status quo. In particular, the proponent should assess how improved air quality has affected neighbouring communities—including impacts on property prices and businesses that rely on or benefit from improved air quality, such as restaurants and cafes, bed and breakfasts and hotels and the tourism sector in general—and should evaluate whether new mill operations would undo the socio-economic gains that have been made.

> **Recommendation 15**: The TOR should explicitly require the proponent to assess the socio-economic effects of improved air quality following the closure of the formerly operating mill and evaluate how new mill operations would affect the new status quo.

Comment 16: Section 9.7 (Existing and Planned Land Uses)
The TOR should explicitly reference past industrial uses located at Abercrombie Point in particular Canso Chemicals and any contaminated sites or soils associated with that company: in particular, sites and soils contaminated by mercury.[17]

> **Recommendation 16**: The TOR should explicitly reference the industrial legacy of Canso Chemicals and, in particular, should require that the effects of mercury contamination at the proposed project site be assessed.

Comments on Section 10.0: Adverse Effects and Environmental Effects Assessment

Comment 17: Subsection 10.2.4 (Wetlands)
In keeping with our comments above on subsection 9.2.4, we note that subsection 10.2.4 fails to account for carbon sequestration as a crucial wetland function and require assessment of the possible loss of "carbon sinks". We therefore reiterate Recommendation 11 (that the TOR should identify the carbon sequestration function of wetlands as a wetland function that should be assessed) and suggest that it be applied to amend subsection 10.2.4 as well as subsection 9.2.4.

Comment 18: Subsection 10.3.1 (Climate)
In keeping with our comments above on subsection 9.3.1, we note that subsection 10.3.1 provides minimal direction for a meaningful assessment of climate change considerations. We therefore reiterate Recommendation 12 (that the TOR should expressly require the proponent to address adverse impacts

[17] For further information on mercury contamination at the proposed project site, see Joan Baxter, "The curious case of Northern Pulp's neighbour Canso Chemicals, and why its owners keep it alive" (28 November 2019), online: <https://www.joanbaxter.ca/2019/11/28/the-curious-case-of-northern-pulps-neighbour-canso-chemicals-and-why-its-owners-keep-it-alive/#more-1276>.

on carbon sequestering ecosystems resulting in the loss of "carbon sinks") and suggest that it be applied to amend subsection 10.3.1 as well as subsection 9.3.1.

Additionally, Recommendation 13 (that the TOR should clarify the proponent's obligation to identify relevant environmental protection objectives associated with climate change mitigation and, at minimum, should refer to the GHG emissions reduction targets set out in Nova Scotia's *Environmental Goals and Climate Change Reduction Act*) is also relevant to the requirements established in subsection 10.3.1.

Comment 19: Subsection 10.3.2 (Air Quality)
In keeping with our comments above on subsection 9.3.2, we reiterate that a meaningful air quality assessment requires review of current baseline data (assessing current conditions with no mill in operation) as well as historical baseline data (assessing conditions from when the formerly operating mill was operational). These data will be needed to determine how new mill operations at Abercrombie Point would impact air quality improvements that have been gained since pulp mill production at the site ceased roughly two years ago. In particular, this will be necessary to ensure that adverse impacts to Pictou Landing First Nation community members' constitutionally protected and internationally recognized rights are fully assessed and understood so that they can be avoided.

Comment 20: Subsection 10.4 (Wildlife, Wildlife Habitat and Species-at-Risk)
In keeping with our comments above on subsection 9.4, the EAC believes it is important to emphasize the requirement to assess cumulative effects when identifying and assessing potential impacts on wildlife, wildlife habitat, and species at risk.

> **Recommendation 17**: The TOR requirements for the assessment of adverse effects to wildlife, wildlife habitat and species at risk should reiterate the requirement to conduct cumulative effects assessment.

Comment 21: Subsection 10.7 (Socio-Economic Conditions)
Under Nova Scotia's *Environment Act*, the "environmental effects" considered as part of an environmental assessment include effects on socio-economic conditions. Subsections 9.6 and 10.7 of the draft TOR identify some pertinent socio-economic conditions and establish requirements for their assessments, but the subsections do not provide clear guidance on how potential adverse effects on socio-economic conditions should be predicted or assessed.

As we have already noted, the EARD for the proposed Mill Transformation and Effluent Treatment Facility Project includes several claims about the beneficial socio-economic effects that the proposed project will cause. As is the case with most EAs, the proponent can be expected to make further claims along these lines and may provide economic analyses to substantiate them. Assessment of potential socio-economic benefits is a legitimate and important part of EA processes, but in order for such assessments to be accurate—and to be capable of informing wise and sustainable decision-making—they must consider potential socio-economic detriments as well.

An important socio-economic detriment that is often neglected in EAs, but that is increasingly relevant as Nova Scotians and the rest of the world confront the climate emergency, is the social cost of carbon.

Assessing the social cost of carbon involves assigning a dollar figure to each tonne of carbon that a proposed project is expected to produce. Although the Government of Canada has included social cost of carbon accounting in some regulatory decision-making, to our knowledge the practice has not yet been included in environmental or impact assessment processes at the federal level or in Nova Scotia. Although there are disputes about the various approaches that have been taken to arrive at dollar figures representing the social cost of carbon, at our current moment in time, it is critical to engage in some form of accounting for the costs of adding additional GHG emissions to the atmosphere, as well as the costs of removing carbon sequestering ecosystems, when the claimed socio-economic benefits of proposed projects are weighed against the environmental harms those projects may cause.

> **Recommendation 18**: The TOR should require "social cost of carbon assessment" as an element of the assessment of socio-economic effects.

Comment 22: Subsection 10.7 (Socio-Economic Conditions)
In keeping with our comments above on subsection 9.6, we note again that air quality can have a negative impact on human health and that it affects the ability of residents and visitors to enjoy and spend time outdoors. We reiterate our recommendation that the TOR explicitly require the proponent to assess the socio-economic effects of improved air quality following the closure of the formerly operating mill and evaluate how new mill operations would affect the new status quo.

Comment on Characterizations of Commercial and Aboriginal Fisheries throughout the Draft TOR
The EAC notes that the draft TOR are not wholly consistent in their references to commercial fisheries and Aboriginal fisheries: in some locations, the phrase "Aboriginal fisheries" is said to refer to Food, Social, and Ceremonial fisheries; in other locations, "Aboriginal fisheries" is said to include commercial Mi'kmaq fisheries as well. As the Government of Nova Scotia has a constitutional obligation to ensure that the Mi'kmaq of Nova Scotia are fully and meaningfully consulted on all matters affecting their protected Indigenous rights, the TOR should be drafted in a way that enables the proponent and the review panel to be fully aware of—and understand—the full spectrum of Aboriginal rights, treaty rights, and internationally-recognized Indigenous rights that are at stake. Using clear and consistent terminology is one way to prevent confusion.

Additionally, the EAC is aware that Pictou Landing First Nation operates a Netukulimk fishery in Pictou Harbour. Clearly, the proponent's proposed use of Pictou Harbour as the receiving water for treated effluent has implications for the Netukulimk fishery. In our view, the TOR should explicitly recognize the existence of the Netukulimk fishery and require that potential impacts to the fishery be assessed.

> **Recommendation 19**: To ensure that the proponent and the review panel are fully aware of—and understand—the full spectrum of Aboriginal rights, treaty rights, and internationally-recognized Indigenous rights that are at stake, the TOR should use clear and consistent terminology when describing Indigenous rights and interests that are at issue in this EA.

> **Recommendation 20**: The TOR should explicitly recognize the existence of the Netukulimk fishery and require that potential impacts to the fishery be assessed.

Table 1: Summary of Recommendations

Draft TOR Section(s)	EAC Recommendation
Executive Summary	Recommendation 1: The TOR should reflect the legislated definition of "environmental assessment" and should not imply that the proposed undertaking will ultimately be allowed.
	Recommendation 2: The TOR should recognize that specific limits may be included as conditions of an environmental assessment approval if an approval is granted.
1.3 and 3.0	Recommendation 3: The TOR should require assessment of the impacts that the proposed mill's operations would have on the forests of Nova Scotia. These impacts should include climate impacts (i.e., loss of carbon sequestration) and impacts on biodiversity and species at risk.
3.1	Recommendation 4: The TOR should explicitly recognize and consider the performance record of the formerly operating mill and Northern Pulp's track record in operating it.
3.3	Recommendation 5: The TOR should require the proponent to ensure that all effluent characterizations are directly comparable to those set out in the draft Pulp and Paper Effluent Regulations, having regard to units of measure as well as temporality.
3.5	Recommendation 6: The TOR should make it clear that the operation of the proposed mill itself, as a functioning whole, requires assessment.
4.0	Recommendation 7: The TOR should explicitly recognize the proponent's obligation to seek input and expertise from federal departments.
6.0	Recommendation 8: The TOR should name TCF and a closed loop system as technologies that could be used in a new mill and require the proponent to consider them fully.
8.0	Recommendation 9: The TOR should clarify the proponent's obligation to identify relevant environmental protection objectives associated with climate change mitigation and, at minimum, should refer to the GHG emissions reduction targets set out in Nova Scotia's *Environmental Goals and Climate Change Reduction Act*.
9.0	Recommendation 10: Section 9.0 of the TOR should be amended to include the forests of Nova Scotia as relevant areas that could be impacted by the project and therefore require assessment.
9.2.4	Recommendation 11: The TOR should identify the carbon sequestration function of wetlands as a wetland function that should be assessed.
9.3.1	Recommendation 12: The TOR should expressly require the proponent to address adverse impacts on carbon sequestering ecosystems resulting in the loss of "carbon sinks".
	Recommendation 13: The concluding statement in what is now subsection 9.3.1 of the draft TOR should be revised as follows: Determine how the project's greenhouse gas emissions and effects on carbon sinks will impact the annual emissions profile of the province, and assess the significance of those impacts, taking into account the greenhouse gas emissions reduction targets set out in Nova Scotia's *Environmental Goals and Climate Change Reduction Act*.
9.4	Recommendation 14: The TOR should be amended to specify that cumulative effects should be considered in addition to direct impacts when identifying "flora, fauna, and habitat types that will be intersected by all components of the project".
9.6	Recommendation 15: The TOR should explicitly require the proponent to assess the socio-economic effects of improved air quality following the closure of the formerly operating mill and evaluate how new mill operations would affect the new status quo.
9.7	Recommendation 16: The TOR should explicitly reference the industrial legacy of Canso Chemicals and, in particular, should require that the effects of mercury contamination at the proposed project site be assessed.
10.4	Recommendation 17: The TOR requirements for the assessment of adverse effects to wildlife, wildlife habitat and species at risk should reiterate the requirement to conduct cumulative effects assessment.

10.7	Recommendation 18: The TOR should require "social cost of carbon assessment" as an element of the assessment of socio-economic effects.
Characterization of Commercial and Aboriginal Fisheries throughout the Draft TOR	Recommendation 19: To ensure that the proponent and the review panel are fully aware of—and understand—the full spectrum of Aboriginal rights, treaty rights, and internationally-recognized Indigenous rights that are at stake, the TOR should use clear and consistent terminology when describing Indigenous rights and interests that are at issue in this EA.
	Recommendation 20: The TOR should explicitly recognize the existence of the Netukulimk fishery and require that potential impacts to the fishery be assessed.

From: Roberts, Lorrie A
To: Higgins, Jeremy W
Subject: Fwd: Canadian Manufacturers & Exporters Response - Draft Terms of Reference consultation for Northern Pulp
Date: January 31, 2022 8:43:42 PM
Attachments: image001.png
image002.png
image003.png
image004.png
image005.png
CME Response to Terms of Reference for Northern Pulp.pdf

Sent from my iPhone

Begin forwarded message:

> **From:** "Faulkner, Brianna" <Brianna.Faulkner@novascotia.ca>
> **Date:** January 31, 2022 at 8:36:27 PM AST
> **To:** "Roberts, Lorrie A" <Lorrie.Roberts@novascotia.ca>
> **Subject: Fwd: Canadian Manufacturers & Exporters Response - Draft Terms of Reference consultation for Northern Pulp**
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> Forwarding just in case
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> Sent from my iPhone
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> > **From:** @cme-mec.ca>
> > **Date:** January 31, 2022 at 5:06:46 PM AST
> > **To:** "Minister, Env" <Minister.Environment@novascotia.ca>
> > **Cc:** "Faulkner, Brianna" <Brianna.Faulkner@novascotia.ca>, "Hollett, Jason" <Jason.Hollett@novascotia.ca>, "Fairclough, Andrea C" <Andrea.Fairclough@novascotia.ca>
> > **Subject: Canadian Manufacturers & Exporters Response - Draft Terms of Reference consultation for Northern Pulp**
> >
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> >
> > Good afternoon Minister Halman,

Find attached, Canadian Manufacturers & Exporters response to the draft Terms of Reference for Northern Pulp.

Please do not hesitate to contact me for any questions you may have.

Best Regards,

Canadian Manufacturers & Exporters

@cme-mec.ca

CANADIAN MANUFACTURERS & EXPORTERS

MANUFACTURIERS & EXPORTATEURS DU CANADA

Department of Environment and Climate Change
Barrington Tower
1894 Barrington Street, Suite 1800
P.O. Box 442
Halifax, NS
B3J 2P8

January 31, 2022

RE: **Canadian Manufacturers & Exporters Feedback letter on the draft Terms of Reference for the proposed transformation of Northern Pulp**

Dear Minister Halman,

On behalf of Canadian Manufacturers & Exporters and the more than 1700 Nova Scotia manufacturers in the province, I would like to take this opportunity to submit a feedback letter on the draft Terms of Reference for the proposed transformation of Northern Pulp.

The Government of Nova Scotia recently released Draft Terms of Reference for the proposed transformation of Northern Pulp. The importance of these Terms of Reference cannot be overstated, as they will set out the rules and expectations for Northern Pulp to complete their Environmental Assessment (EA) Report as part of the stringent Nova Scotia Class II EA process.

Our belief is that a well-defined Terms of Reference which incorporates scientifically based data and impartial oversight will provide Nova Scotians with more confidence in the EA process.

CME is excited with Northern Pulp's revised vision and strategies for an upgraded and innovative mill that addresses some key factor's CME has identified for the Canadian manufacturing sector to increase globally competitiveness and at the same time embrace environmental stewardship.

The Northern Pulp project addresses these key areas of focus.

Canada's need to increase innovation and technological adaptation in key sectors (considering sustainable practices and environmental performance)

- World class technology and innovation that will support sustainable practices and significantly reduce environmental concerns such as air emissions, wastewater and GHG over earlier generation pulp and paper operations
- Online environmental dashboard technology allowing transparency to the public
- Implementation of sustainable, ecological forestry practices in Nova Scotia as envisioned in the Lahey Report

Expand the manufacturing workforce through increased opportunities and good paying jobs

- The $350+ million transformation investment is expected to provide 600 construction jobs over a two-year period
- Significant longer-term benefits to the province of 330 direct and 2,679 indirect jobs
- Contribute $128 million in employment income, support 1,379 supplier companies including 943 in Nova Scotia (mostly rural NS) and generate $279 million annual spendings

CANADIAN MANUFACTURERS & EXPORTERS

MANUFACTURIERS & EXPORTATEURS DU CANADA

Our ask

We are writing to request your department supports in ensuring the Final Terms of Reference included key considerations that will ensure a science-based approach and data driven decisions and outcomes.

1) **Ensure guidelines for limits for air emission and treated effluent are clearly defined and included in the Final Terms of Reference**

   Canada already possesses some of the most stringent standards in the world for pulp and paper effluent and air emissions and guidelines for air emissions. The final Terms of Reference should designate the draft Pulp and Paper Effluent Regulations (PPER) and existing Canadian Ambient Air Quality Standards (CAAQS) as the guiding standards for the transformation of Northern Pulp, subject to the completion of required studies that confirm there are no adverse effects or significant environmental effects which cannot or will not be avoided or mitigated through the application of environmental control technology.

2) **EA process lead by independent administrator or panel**

   With many industrial projects coming under the scrutiny of various stakeholders, a neutral third-party panel or administrator in place from the outset to manage the process, review the EA submission, and make a recommendation to the Minister, would provide more confidence in the process. This independent panel comprised of industry experts, scientist, community representatives and first nation could help ensure all stakeholders ideas and concerns are known and addressed.

In closing, Canadian Manufacturers & Exporters strongly supports the process of drafting the Terms of Reference for the proposed transformation of Northern Pulp and we look forward to the next steps in the process.

If you have any questions regarding this support letter, please do not hesitate to contact me.

Best Regards,

Canadian Manufacturers & Exporters

@cme-mec.ca

Distribution:
Hon. Tim Halman, Minister of Environment and Climate Change
Deputy Minister Lora MacEachern, Minister of Environment and Climate Change
Assistant Deputy Minister Jason Hollett, Minister of Environment and Climate Change

From:
To: Environment Assessment Web Account
Cc:
Subject: Unifor Submission re.: Mill Transformation and Effluent Treatment Facility Project
Date: January 31, 2022 8:44:13 PM
Attachments: image001.png
Unifor submission re Draft TOR_Northern Pulp Class II EA_January 31 2022 .pdf

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To Whom is May Concern,

Please see that attached submission from Unifor on the Draft Terms of Reference regarding the Preparation of an Environmental Assessment Report for the Mill Transformation and Effluent Treatment Facility Project Proposed by Northern Pulp Nova Scotia Corporation.

Atlantic Regional Director

UNIFOR

T: 902-455-9327

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Secrétaire-trésorière national

Environmental Assessment Branch
Environment and Climate Change
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Halifax, NS, B3J 2P8
Email: EA@gov.ns.ca

SENT BY EMAIL

January 31, 2022

To Whom It May Concern,

Thank you for the opportunity to provide feedback on the Draft Terms of Reference regarding the Preparation of an Environmental Assessment Report for the Mill Transformation and Effluent Treatment Facility Project Proposed by Northern Pulp Nova Scotia Corporation.

Unifor proudly represents 12,000 workers in Nova Scotia – including 230 members who worked at Northern Pulp until its closure in January 2020 – and 23,000 forestry workers across Canada. We are Canada's largest union in the private sector with 315,000 members in every sector of the economy. Unifor regularly advocates for good jobs, sustainable development, and progressive change for a better future.

Our union has been actively engaged in this issue for several years, and we welcome the chance to share our comments on a project that will have such a profound impact on Nova Scotia's future. Prior to the closure of the Northern Pulp Mill, we submitted our comments regarding the Focus Report for the Northern Pulp Replacement Effluent Treatment Facility Project.

In that October 31, 2019 submission, we noted

> We firmly believe there can be a solution that supports good jobs, protects the environment and respects First Nations' rights. Our members, and their families, live and work in the communities around

> the mill and have the highest interest in building a truly sustainable future.

It is in this context of environmental, economic, and social sustainability that we provide comment on the Draft Terms of Reference (the DTOR).

Interdependence of environmental and socio-economic issues

In fact, the DTOR itself reflects the broad scope and wide range of factors that must be considered and evaluated by Northern Pulp Nova Scotia Corporation (NSPS) as the company prepares its Class II Environmental Assessment. In *Section 9 Existing Environment*, the DTOR lays out the various aspects of the existing environment that must be analyzed in the EA, including Socio-Economic Conditions (Sec. 9.6). This current assessment of the existing socio-economic environment is supposed to include, "details of employment rates and trends at the municipal and regional level," as well as, "local and regional economic development goals and objectives."

In *Section 10.0 Adverse Effects and Environmental Effects Assessment*, the DTOR asks NSPS to use the criteria laid out in Section 9 as the framework for the company to outline and assess the various adverse effects and environmental impacts that would arise from the proposed Mill Transformation and Effluent Treatment Facility Project. This should include, "potential impacts of the project on economic conditions, populations and employment," issues we will touch on in our comments below.

In addition, the DTOR directs, "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." Again, we are pleased to see the DTOR recognize that, as discussed in the *Nova Scotia Environment Act* itself, environmental and socio-economic issues are deeply inter-connected and interdependent.

As we observed in our October 2019 submission, the *Nova Scotia Environment Act* is an essential piece of legislation designed to protect our shared environment, and guide our economic development. The Act describes a set of fundamental principles for sustainable development that should guide its application, including

> The linkage between economic and environmental issues, recognizing that long-term economic prosperity depends upon sound environmental management and that effective environmental protection depends on a strong economy.

In terms of the long-term economic prosperity potentially generated by the modernized mill, the outcomes are resoundingly positive. According to Northern Pulp, the company's $350 million investment in the Mill Transformation is expected to provide 600 construction jobs for two years. Significant longer-term benefits to the Province of Nova Scotia would include 330 direct and 2,679 indirect jobs, contribute $128 million in employment income, support 1,379 supplier companies including 943 in Nova Scotia, and could generate $279 million in annual spending, most within Nova Scotia.

Pulp and paper mills are part of an interconnected forestry sector

Pulp and paper mills exist as part of a diversified but interconnected forestry sector, and a change to one part of that economic system will naturally have an impact on all other parts of the system. The temporary closure of the Northern Pulp mill had immediate impacts on the forestry sector in Nova Scotia, and beyond. The knock-on effects will continue to be felt throughout Nova Scotia and parts of Atlantic Canada, impacting workers, operators and communities up and down the forestry supply chain.

In other words, the decision regarding the modernized mill proposal isn't just about the employment and economic benefits detailed above: because of the highly integrated nature of the forestry sector, the fate of Northern Pulp's modernized mill proposal is also about the future of the overall forestry sector in Nova Scotia. Unifor respectfully recommends that the Draft Terms of Reference should more explicitly and clearly mention the role of the mill in Nova Scotia's forestry sector, and the importance of the forestry sector in general, as an important driver of the provincial economy.

In its *Indicator: Forest sector employment*, Natural Resources Canada emphasizes how industrial integration effects employment, observing,

> The forest sector is highly integrated, so jobs across all forest subsectors are interdependent. As a result, the closure of a mill or forest product manufacturing facility can have ripple effects throughout the supply chain — both upstream and downstream of the affected mill or facility.

Unifor is pleased to see the Draft Terms of Reference requires Northern Pulp to assess and analyze the current state of employment and economic development factors at the local and regional level, as well as the potential socio-economic impacts if the modernized mill proposal is approved. However, given the highly integrated nature of the forestry sector, and the central role of pulp and paper mills in that industrial

ecosystem, we respectfully suggest that the Environmental Assessment should also be required to provide assessment and analysis of socio-economic impacts if the proposal is *not* approved.

Job quality an important socio-economic factor

The forestry sector has a higher union density than the overall private sector, and around a third of all forestry sector workers in Canada belong to a union. This means that the jobs at the modernized mill, and other unionized forestry jobs throughout the supply chain, will deliver extra economic results through higher wages, job and retirement security, and good benefits – the kinds of jobs that support families and help communities prosper.

Accountability and transparency for effluent and emissions standards

The integrated nature of the forestry sector – at the local, regional and national level – also requires a more comprehensive and sector-wide approach regarding effluent and emissions standards. In its current form, the Draft Terms of Reference document does not provide guidelines or limits regarding air emissions and treated effluent, both critical components of the Environmental Assessment process.

Forestry sector companies, including mill operators, as well as government regulators themselves tend to look to emissions and effluent standards in other jurisdictions, as a means of creating a sustainable and ever-improving environmental standard. In the absence of clear standards or guidelines in the Draft Terms of Reference, and without a pre-existing provincial standard to fall back on, the proposed project should be required to follow Canada's Pulp and Paper Effluent Regulations (PPER), already the national standard. Regarding air emissions, the Draft Terms of Reference should import the pre-existing regulations from another provincial jurisdiction, and set those as the standard.

The Draft Terms of Reference document should provide maximum fairness, accountability and transparency, setting clear expectations for the modernized mill proposal on behalf of the people of Nova Scotia. Providing clear guidelines or limits regarding air emissions and treated effluent is a critical part of that equation.

The need for independent, third-party oversight of the EA

On a more general level, Unifor has concerns about the oversight of the entire Environmental Assessment process for the modernized mill proposed by Northern Pulp.

In order to provide maximum fairness, accountability and transparency in the Environmental Assessment, Unifor respectfully recommends that Nova Scotia Environment appoint an independent, third-party administrator or panel to oversee and manage the application process, and provide final recommendations to the Minister. This administrator or panel should have experience in pulp production and environmental management.

Summary of Recommendations

Unifor is grateful to provide our feedback on NSE's Draft Terms of Reference. In closing, we respectfully provide the following summary of our recommendations. The Draft Terms of Reference should:

- Emphasize the interdependence of environmental and socio-economic issues, in keeping with the Nova Scotia Environment Act,
- More explicitly and clearly recognize the integrated and interdependent nature of the forestry sector,
- More explicitly and clearly assess the role of the mill in Nova Scotia's forestry sector, and the importance of the forestry sector in general, as an important driver of the provincial economy,
- Require the proponent to assess the potential socio-economic impacts of both the approval and non-approval of the modernized mill proposal,
- Recognize the importance of job quality as a socio-economic factor,
- Provide clear guidelines or limits regarding air emissions and treated effluent, based on Canada's Pulp and Paper Effluent Regulations (PPER) and the pre-existing standards for air emissions from another pre-designated provincial jurisdiction, and
- Establish an independent, third-party administrator or panel to oversee and manage the application process, and provide final recommendations to the Minister.

Sincerely,

Unifor Atlantic Regional Director

LM/lvcope343

From:
To: Environment Assessment Web Account
Subject: Comments on Draft Terms of Reference for Northern Pulp Mill Transformation and Effluent Treatment Facility Project
Date: January 31, 2022 9:08:35 PM
Attachments: East Coast Environmental Law_Submission on Draft Terms of Reference for Northern Pulp Proposed Mill Transformation Project.pdf

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Good evening,

Please find attached East Coast Environmental Law's comments on the draft Terms of Reference for Northern Pulp's proposed Mill Transformation and Effluent Treatment Facility Project.

Sincerely,

East Coast Environmental Law
6061 University Ave., PO Box 15000
Halifax, NS B3H 4R2
K'jipuktuk, Mi'kma'ki

East Coast Environmental Law Association
6061 University Ave., PO Box 15000
Halifax, NS B3H 4R2

Environmental Assessment Branch
Nova Scotia Environment and Climate Change
PO BOX 442
Halifax, NS B3J 2P8

SENT BY EMAIL
EA@gov.ns.ca

January 31, 2022

To Whom It May Concern,

Re: Comments on the Draft Terms of Reference for the Preparation of an Environmental Assessment Report: Mill Transformation and Effluent Treatment Facility Project Proposed by Northern Pulp Nova Scotia Corporation

East Coast Environmental Law submits the following comments on the draft Terms of Reference ("TOR") for the environmental assessment report to be prepared for the Mill Transformation and Effluent Treatment Facility Project that Northern Pulp Nova Scotia Corporation ("Northern Pulp" or "the proponent") has proposed.

We are aware that our colleagues at the Ecology Action Centre ("EAC") have submitted extensive comments on the draft TOR with twenty recommended amendments. This submission aims to highlight several of the law and policy points that the EAC has raised and to amplify shared concerns.

1.0 The Environmental Assessment of the Proposed Mill Transformation and Effluent Treatment Facility Project Should Assess the Full Scope of Effects and Impacts that Could Be Caused by New Pulp Mill Operations at Abercrombie Point

This Class II environmental assessment ("EA") is unlike any previous EA that has assessed pulp mill operations at Abercrombie Point. The pulp mill that began operations at the site in the late 1960s did not undergo an EA as we understand that term today, and the abandoned EA of the new replacement effluent treatment facility that Northern Pulp proposed in 2019 was a Class I EA assessing proposed changes to an operating mill. It has now been roughly two years since pulp mill operations were taking place at Abercrombie Point, and the proposed "transformation" of the existing pulp mill infrastructure represents a new beginning for Northern Pulp in more ways than one.

When former Minister of Environment and Climate Change Keith Irving determined that the proposed project should undergo a Class II EA, he stated publicly that the proposed "transformation" "would make the mill a substantially different facility than the one that had operated there previously".[1] Former Minister Irving's statement reflects the fundamental infrastructure changes that are required to enable new pulp mill operations at Abercrombie Point, and it recognizes accurately that the proposed project is neither a continuation of existing mill operations nor a renewal of historical operations. The proposed Mill Transformation and Effluent Treatment Facility Project is, in effect, a proposed new mill, and this EA must therefore consider the full scope of environmental effects that could be caused by new pulp mill operations at Abercrombie Point, along with the full scope of potential impacts on the Aboriginal and treaty rights of Pictou Landing First Nation and the protected rights of all Mi'kmaq in Nova Scotia.

In particular, we note with concern that the draft TOR do not expressly require that impacts on the forests of Nova Scotia be assessed as part of this EA. Pulp mills are fed by harvested forest materials—from a business perspective, it would be folly to establish a pulp mill where massive wood supply is not available, and, from an environmental stewardship perspective, it would be folly to approve pulp mill operations where their demand for wood would decimate local forests. Assessing Northern Pulp's proposed new pulp mill operations at Abercrombie Point without assessing their impacts on the forests of Nova Scotia would be like assessing a moose hunting lodge in mainland Nova Scotia without considering its inevitable impacts on endangered Mainland moose.

We strongly urge that the TOR be amended to expressly require assessment of the full scope of environmental effects that could be caused by new pulp mill operations at Abercrombie Point, along with the full scope of potential impacts on the Aboriginal and treaty rights of Pictou Landing First Nation and the protected rights of all Mi'kmaq in Nova Scotia. Failure to do so would be contrary to the principles and goals set out in Nova Scotia's *Environment Act*—including "the preservation and prevention of loss of biological diversity" and "the conservation and efficient use of resources"[2]—and would also be contrary to the constitutional imperative to consult meaningfully when protected Indigenous rights are at stake.

2.0 Requirements for Cumulative Effects Assessment Should Be Clearer in the Terms of Reference

The introductory portion of section 10.0 of the draft TOR ("Adverse Effects and Environmental Effects Assessment") currently requires the proponent to describe the cumulative effects of project activities, and cumulative effects are mentioned briefly in a handful of other locations throughout the document. In our view, the TOR would be strengthened if they were clearer about the proponent's and the review panel's responsibilities with respect to cumulative effects assessments.

In particular, it should be emphasized that the assessment of potential adverse impacts on Aboriginal and treaty rights must account for cumulative effects; additionally, the sections of the

[1] Nova Scotia Environment and Climate Change, "Northern Pulp Effluent Treatment Plant Project to Undergo Class II Environmental Assessment" (15 July 2021), online: <https://novascotia.ca/news/release/?id=20210715009>.
[2] See *Environment Act*, SNS 1994-95, c 1 at clause 2(b)(i) and subclause 2(b)(i)(A).

TOR that address the assessment of potential adverse impacts on designated species at risk and other vulnerable and protected wildlife and wilderness areas should state expressly that the assessment should not simply consider direct impacts to species but should take a cumulative effects approach.

3.0 Requirements for the Assessment of Climate Change Considerations Should Be Clearer in the Terms of Reference

Section 8.0 of the draft TOR (Assessment Methodology) currently requires the proponent to identify, where appropriate, "environmental protection objectives (including those contained in applicable legislation or guidelines) associated with each VEC". Nova Scotia's greenhouse gas ("GHG") emissions reduction targets—as established in the *Environmental Goals and Climate Change Reduction Act*—are environmental protection objectives that are relevant to this requirement, and the TOR should refer to them. Clearly referring to Nova Scotia's legislated GHG emissions reduction targets will help to ensure that the proposed project's GHG emissions and impacts on carbon sequestering ecosystems are assessed and understood properly within the context of Nova Scotia's decarbonization pathway to net zero.

We also note that, from a climate perspective, the draft TOR currently focus exclusively on the proposed project's GHG emissions and do not expressly require assessment of the carbon impacts of altering carbon sequestering ecosystems. Importantly, although Nova Scotia's *Guide to Considering Climate Change in Project Development in Nova Scotia* and corresponding *Guide to Considering Climate Change in Environmental Assessments in Nova Scotia* both encourage proponents to assess adverse impacts on carbon sequestering ecosystems that could cause the loss of "carbon sinks", the draft TOR omit this guidance entirely. This omission affects the draft TOR as a whole, and it is especially noticeable in sections that address environmental effects on ecosystems that provide important carbon sequestration services in Nova Scotia. In particular, the failure to identify carbon sequestration as a wetland function and require its assessment is noteworthy and should be corrected.

Finally, the assessment of beneficial and detrimental socio-economic changes that could be caused by this proposed project will not be complete if the social costs of carbon are not taken into account. Assessing the social cost of carbon means assigning a dollar figure to every tonne of carbon that the proposed project will emit, and it may also account for the associated costs of losing carbon sequestering ecosystems. As Nova Scotia prepares to retool its economy to meet, mitigate, and adapt to the climate emergency, we must incorporate social cost of carbon accounting into our environmental decision-making. Failure to do so will mean failure to properly identify and weigh the potential socio-economic benefits and detriments of industrial projects that are proposed.

4.0 Air Quality Assessments and Related Assessments of Socio-economic Changes and Impacts on Aboriginal and Treaty Rights Must Assess How New Pulp Mill Operations Could Affect the Current Baseline

In the roughly two years since the existing pulp mill facilities at Abercrombie Point were operational, residents living in the vicinity of the mill and tourists visiting the area have enjoyed improved air quality. We are aware that the draft TOR require review of current air quality

baseline data as well as historical air quality baseline data, and we wish to emphasize the importance of assessing how new pulp mill operations at Abercrombie Point could affect the current status quo and erase recent improvements that locals and visitors have enjoyed. This aspect of the EA will be especially important for the community members of Pictou Landing First Nation, whose protected Indigenous rights are at stake.

5.0 Characterizations of Commercial and Aboriginal Fisheries Should be Consistent throughout the Terms of Reference, and the Terms of Reference Should Recognize Pictou Landing First Nation's Netukulimk Fishery

The phrase "Aboriginal fisheries" is not used consistently throughout the draft TOR: at times it refers to Food, Social, and Ceremonial fisheries, and at times it refers to commercial Indigenous fisheries as well. The Government of Nova Scotia has a constitutional obligation to consult the Mi'kmaq of Nova Scotia meaningfully before determining whether or not to approve this proposed project, and meaningful consultation will be easier if the proponent and the review panel have clear guidance concerning the Indigenous rights and interests that are at stake.

Additionally, we are aware that Pictou Landing First Nation operates a Netukulimk fishery in Pictou Harbour. As the proponent has proposed to use the waters of Pictou Harbour as receiving waters for the discharge of treated effluent, meaningful consultation with Pictou Landing First Nation clearly requires that impacts on the Netukulimk fishery be assessed.

6.0 Conclusion

East Coast Environmental Law is encouraged to see that the draft TOR provide more guidance and set clearer expectations than the EA materials prepared for Northern Pulp's proposed replacement effluent treatment facility in 2019. It appears that some important lessons have been learned along the way and that the draft TOR are working preemptively to avoid the significant gaps in information provided by the proponent during the last EA process. At the same time, we agree that it would be inappropriate for the TOR to restrict the EA process at the outset by setting relevant effluent or emissions standards that the proponent will be required to meet. Within Nova Scotia's EA regime, it is the proponent's responsibility to demonstrate that their proposed project can be carried out without causing adverse effects or significant environmental effects. Each EA process is highly contextual and must be responsive to the unique environments where proposed projects would be sited, and relevant effluent and emissions standards and other terms and conditions should only be established once all relevant effects have been identified and considered fully.

We trust that our comments above will be taken into consideration.

Sincerely,

From:
To: Environment Assessment Web Account
Subject: Northern pulp environmental assessment
Date: January 31, 2022 9:12:40 PM
Attachments: EA Process Northern Pulp.pdf

** 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
Attached you will find our signed testament in regards to delivering Northern Pulp a fair environmental assessment.
Best Regards,
Main River Forestry LTD

As a resident of New Brunswick, I believe it is important the Environmental Assessment process for Northern Pulp Nova Scotia's Mill Transformation and Effluent Treatment Facility Project is fair and well-defined. Subject Northern Pulp's Plan to a rigorous assessment in the prescribed timelines. Don't change the rules during the process or move the goal posts. Nova Scotians need to have confidence in the process to trust the final decision.

The Terms of Reference should be revised to clearly define the limits Northern Pulp needs to meet, specifically regarding air emission and treated effluent. In absence of specific Nova Scotia standards, Canada's stringent national standards for pulp and paper effluent and air emissions quality should be the guiding standards for this project. The final Terms of Reference should designate existing Canadian standards as the minimum.

I also believe the process must be led by an independent panel with expertise in kraft pulp production and environmental management. This must be put in place as soon as possible to oversee this Environmental Assessment process. Premier Houston promised Nova Scotians this would be the case and I expect that it will be done. It is an important element to ensure Nova Scotians have confidence in the process and will trust the final decision.

The natural resource sectors are vital to our province. They provide jobs and keep our rural economies going. The proposed transformation of Northern Pulp appears to address my environmental concerns while providing an economic driver for our province. Please ensure a fair, grounded, and objective Environmental Assessment process is conducted.

NAME: Main River Forestry LTD ,

EMAIL ADDRESS: mrfl@nbnet.nb.ca

ADDRESS: 1205 Route 510 Main River NB E4T 2P5

WEBSITE: Friends of a New Northern Pulp Class II Environmental Assessment (EA) Process

Class II Environmental Assessment (EA) Process - Friends of a NEW Northern Pulp (friendsofnewnp.ca)

From:
To: Environment Assessment Web Account
Subject: Commentary on the Draft Terms of Reference for NP EA
Date: January 31, 2022 10:00:32 PM
Attachments: DOE_EA_Letter_Wagner.doc

WAGNER
FOREST NS, LTD.

Environmental Assessment Branch
Nova Scotia Environment and Climate Change
PO Box 442
Halifax, NS

January 31, 2022

I appreciate the opportunity to comment on the draft terms of reference for the preparation of the Northern Pulp Environmental Report.

Wagner manages 190,000 ha of timberland or six different clients across 11 Mainland Counties from Antigonish to Annapolis. We employ field staff, logging contractors, truckers, road builders and silviculture workers across the province. The loss of Northern Pulp has had an extremely negative impact on our operations across Nova Scotia with virtually no market for low grade softwood and hardwood pulp. All of our clients want their lands managed in an environmentally sustainable manner and five of our clients cite restoration of Acadian Forest as paramount in their management objectives. The loss of Northern Pulp has significantly altered our ability to do this.

After reading the draft EA I make the following comments:

1. On page 12 the "EA report shall be prepared taking into consideration comments from' six target audiences. We believe that the Environmental Assessment Process must take into account comments from the Forest Sector across all of Nova Scotia in addition to the 'six target audiences'. Thousands of wood lot owners, logging contractors, sawmills and their employees have been impacted by the loss of a Northern Pulp and they should be taken into account in this assessment.

2. In the " Independent Review of Forest Practices in Nova Scotia (2018)" Dr Lahey outlines the need for a market for low value pulpwood to be able to implement his recommendations to achieve ecologically based forest

management. It is vitally important to achieve forest management objectives that are now enshrined in law that the impact of the absence of a market for low grade products be considered.

3. I have attached a copy of a letter sent in May 2020, by Mr Houston to the Department of Environment, when he was Leader of the Opposition.. We support the Premiers request that DOE must establish a blue-ribbon panel of experts to assess whether the expected standard has been met.

4. We also believe that the Department of Environment must provide a a framework or standards during the process. The DOE has stated that it will become involved setting specific standards after the EA process is complete. There are two pulp mills in the Province and 88 others operating across the country. How can Northern Pulp be expected to hit the target when the goalposts have not been set?

Thank you for the opportunity,

Wagner Forest Nova Scotia Limited

Tim Houston, CPA
MLA Pictou East
Leader, PC Party of Nova Scotia

Hon. Gordon Wilson
Department of Environment
1894 Barrington Street, Suite 1800
Halifax, NS B3J 2A8

May 6, 2020

Dear Minister Wilson,

On March 27, Northern Pulp wrote to you asking that you convene an independent, expert panel to scrutinize any application it may make to your Department.

Nova Scotia can never sacrifice its environmental standards. At the same time, we must be honest with industry as to what those standards are.

I've read comments attributed to you that suggest you could take up to two years to decide what process would be used (internal staff or external experts) to review any Northern Pulp application. Can you confirm this was a fair summary of your statements? Is it the position of the Liberal government that it is appropriate to tell industry they must first submit their application and then, after a possible two-year lapse, government will then decide how the application will be reviewed?

That seems inherently unfair. It is the job of government to set the process and enforce the outcome. When the process is not clearly defined, there is a risk that the outcome will be questioned.

For that reason, the Department of Environment must establish a blue-ribbon panel of experts to assess whether the expected standard was met.

This is even more significant given the level of complexity of the subject-matter at issue and the history of the file. The next steps in the process must be transparent and provide comfort that the latest technology and advancements are used. For these reasons, I support Northern Pulp's request for an expert panel to assess their application.

Could you please confirm your position with respect to the expert panel and your reasons for determining why it is not appropriate, at this time, to convene an independent, expert panel to assess this application.

Yours truly,

Tim Houston
Leader, Progressive Conservative
Party of Nova Scotia

Suite 1001 - 1660 Hollis Street, Halifax, NS B3J 1V7
Tel: 902-424-2731 Toll Free: 1-800-363-1998
Tim.Houston@nspccaucus.ca

From:	Jim Ryan
To:	Environment Assessment Web Account
Subject:	Northern Pulp Terms of Reference
Date:	February 2, 2022 10:44:06 AM
Attachments:	Town of Pictou Submission Re-Northern Pulp Terms of Reference.pdf

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Good afternoon.
Attached you will find my submission/comments regarding the Northern Pulp Nova Scotia Environmental Assessment Terms of Reference.

Jim

Town of Pictou
Birthplace of New Scotland

James Ryan
Mayor of Town of Pictou

Telephone :
Home

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January 31, 2022

Environmental Assessment Branch
Nova Scotia Environment and Climate Change
PO Box 442
Halifax, NS B3J 2P8

Email: EA@novascotia.ca

Re:
Draft Terms of Reference for the Preparation of an Environmental Assessment Report
Mill Transformation and Effluent Treatment Facility Project
Proposed by Northern Pulp Nova Scotia Corporation

Due to the relative location of the Northern Pulp facility, the geophysical profile of the area and prevailing atmospheric conditions, the Town of Pictou and surrounding area has been subject to the sometimes suffocating odours and the potential health hazards associated with air emissions from the mill for fifty (50) plus years.

Because the plan to locate the proposed Effluent Treatment Facility (ETF) at Abercrombie Point is completely new to the NP process, there exists significant concern within the community regarding the plan to discharge treated effluent directly into Pictou Harbour and the potential for new, and potentially toxic, air emissions as a result of the burning of toxic sludge in the power boiler. Regardless of the number of 'layers' in a proposed treatment processes, measurable changes in the chemical composition of discharge will ultimately be produced in both environments.

Ultimately, I am supportive of the approach taken by Nova Scotia Environment and Climate Change in the development of the Draft Terms of Reference but provide the following points of emphasis and/or concern.

The following comments will serve to summarize my position on specific components in the draft Terms of Reference:

Areas of emphasis within the draft Terms of Reference:

- Expectations required of Northern Pulp should not be determined or measured using comparisons to other mills in Canada or around the world. All receiving environments for air and water dispersion have their own special characteristics to be considered. Standards must reflect the potential for negative effects on the very specific receiving air, marine and human environments.
- Specific regulatory standards (Minimums) should not be identified in the Terms of Reference. Minimum levels should never reflect the end goal in protecting environments. Expectations within the Terms of Reference must require that Northern Pulp propose a plan in which 'all that is possible' is in place to completely eliminate any risk of water and air contamination.

town of PICTOU Birthplace of New Scotland

- Economic Effects for residential and commercial property owners in the Town of Pictou and surrounding area must be considered. Specifically, the identification of potential negative effects from the mill on residential assessment, commercial growth and business development (Tourism, etc.) within the last 50 years should be studied thoroughly and submitted as part of an EA Report.
- Well defined Compliance and Effects Monitoring requirements as they apply to the Town of Pictou, Pictou Landing and the Pictou West areas must be in place. Dependence on NSECC air quality monitoring at or near populated areas (Town of Pictou) should not suffice. A rigorous real time testing regimen for detection and measurement of potential toxins in air emissions must be part of any plan. Expectations for timely reporting and correcting of incidents should be paramount in any plan.

Items of concern requiring further consideration:

- The composition of the Environmental Assessment Expert Panel must reflect a strong focus on each environmental component associated with this project. Expert representation from the fields of health (long and short term effects), inshore and offshore fisheries (commercial and recreational) should be priorities.
- Submission of any 'New' information by Northern Pulp for consideration by the EA Review Panel following the submission of the Environmental Assessment Report should be shared. (Page 12, paragraph 4) The public should then be granted a designated period for comment. In an effort to have all pertinent information submitted in a timely manner, the time required for public input in such cases should be added to the process timeline.
- All Studies and/or Reports on the suitability of Pictou Harbour as a receiving body of water for treated effluent, completed since 1960, should be required evidence for the expert panel to consider. At numerous times throughout the history of the Abercrombie Point mill, Pictou Harbour had been declared unsuitable as a receiving water for effluent due to naturally occurring effects. The latest as recently as 2017.
- The proponents definition of 'Normal Operations' should be outlined in great detail and Operational changes required during non-ideal conditions should be described clearly. Descriptions of redundancies in operational processes to protect against accidental acts of contamination should be required.

Thank you for your attention to these observations.
Submitted by:

Jim Ryan
Mayor of the Town of Pictou