

The Alton Gas Project

The fight to save the Shubenacadie River and countering a flawed project approval process

TIMELINE AND DOCUMENTATION



Researched and produced by:

Dale Andrew Poulette & Rachael Greenland-Smith

With special thanks to Doug Neil

INTRO

The following are documents that prove our points stated above. They run in a chronological manner with descriptions. We have filed for over 20 different Freedom of Information requests from Nova Scotia Environment, Nova Scotia Justice Department, Nova Scotia Department of Lands and Forest, Department of Oceans and Fisheries (DFO), and Environment and Climate Change Canada. Currently we are still waiting on several requests for information. We have filed to the Information of Canada Commissioner to investigate as they are overdue. Our main purpose of this write up is to fix the issues that contributed to putting the Shubenacadie River in harm's way and to protect Mi'kmaq Treaty Rights. We believe we can all work together to protect the land, water and living creatures.

It took a great deal of work to get these documents and prepare this report. Names have been redacted by the authors of this report.

Comments on Proposed Alton Natural Gas Storage Project Draft EA Document May 2007

Comment No.	Originator	Question/Statement	Response
NSEL-PL-01		<p>We are in the final stages of completing a background study of the Shubenacadie Waterway to consider its potential as a nomination candidate for the Canadian Heritage Rivers System (CHRS). There has been strong public and stakeholder support for this process, and we have worked with municipalities, local and regional stakeholders, researchers, landowners, and Mi'kmaq rights holders through the background research project.</p> <p>As we are still in the very early stages of considering nomination for the waterway, I can not say what affect the project might have with respect to heritage river considerations. Since the CHRS process is largely stakeholder driven, I expect that if we proceed towards nomination of the waterway, the natural gas storage project could receive considerable discussion by stakeholders during the CHRS process. In general, I anticipate that some people might see this type of project as being inconsistent with heritage river designation. While CHRS nomination/designation does not provide and regulatory authority, designation of candidate rivers requires the filing of a management plan that articulates how nominated river values will be maintained. Also, any adverse impacts of the project on natural, cultural, or recreational features (values) of the waterway would need to be taken into consideration during the nomination process.</p> <p>Since our department is fully engaged in a public discussion on the merits of the Shubenacadie Waterway for heritage river nomination, I think it would be prudent to ensure that the proponent is aware of the CHRS process, is considering the potential impacts of the project on the heritage values identified in the CHRS background study, and has addressed these considerations and the broader public interest in having the waterway considered for CHRS status.</p>	Comment noted
NSDNR-HG-01		<p>We are satisfied that short-term effects on terrestrial species posed by the proposed development of the site are relatively minimal. Development will result in the loss of some sites with 3 species (yellow listed General Status) of relatively rare plants that were previously unknown prior to inventories undertaken by the consultants. Other adjacent locations for each of these rare plants are known within the boundaries of the affected lands that may facilitate persistence, and 'rescue effects' such that plants will have potential for expanding populations in post-development time. The proponent should be required, as they indicate in the Draft EA Document, to clean up any brine escapement and saltzined areas that may adversely affect plants or other wild species during the development phase, both on or off the site.</p>	Comment noted
NSDNR-HG-02		<p>Of greater concern is the issue of brine discharge into the Shubenacadie River given the relatively inland positioning of the proposed development. In particular, impacts on invertebrates and the trophic dynamics of the Shubenacadie system, are in our opinion, not adequately assessed in the Document. Of particular note, we suggest impacts of heightened salinity in the event of a system dysfunction and brine discharge on "key stone" food species like <i>Corophium volutator</i> need more detailed data and discussion in light of potential impacts. Such impacts could affect endangered river fish of Fundy Basin, Striped Bass, migratory birds, fishes and species of commercial interest. We wish to bring the above noted issues to the attention of NSDEL, as they pertain in particular, to species-at-risk listed under SARA, but defer comment to potential levels of impacts to other Provincial and Federal Departments with relevant expertise.</p>	Section 6.1.5.1 under Fish and Fish Habitat (Section 6.1) discusses potential impacts of diluted brine discharge on <i>Corophium volutator</i> in addition to other benthic invertebrates and primary producers found in the Estuary and mudflats. In regards to the potential impacts on <i>C. volutator</i> , experimental results from McLusky (1970), who examined the salinity tolerances and behavioural responses to variable salinities of <i>C. volutator</i> , are summarized and used to infer the risk that diluted brine discharge poses to this "keystone" species and higher trophic level organisms that depend directly or indirectly on the <i>C. volutator</i> population in the Estuary.
NSDNR-HG-03		<p>These comments are provided to assist the proponent in the preparation and improvement of the document, and not as criticism of it, or comment on the undertaking itself.</p>	Comment noted.
EC-SZ-01		<p>There are no specific Fisheries Act regulations governing effluent discharges that would be associated with the Project. It is however, the responsibility of the Proponent to ensure that activities are managed so as to prevent the release of substances deleterious to fish. Section 36(2) of the Fisheries Act prohibits the deposit of deleterious substances into waters frequented by fish.</p>	Comment noted.

May 2007

Appendix H Disposition Table with Draft EA Comments (Above)

This is the early stages of the assessment process where government science officials review design concepts of the project. This document is used by government to address specific concerns by various levels of government and departments. It is set up in a table format to address concerns and gives the proponent, in this case Alton Gas, a chance to respond or note comment. This means Alton Gas has confirmed they understand each comment. This appendix shows comments by the Environmental Assessment Section at Environment Canada. In total Environment Canada makes 56

comments. Note Environment Canada made the most comments of concern in this document. Comment number EC-SZ-01 reads:

"There are no specific Fisheries Act regulations governing effluent discharge that would be associated with the Project. It is however, the responsibility of the Proponent to ensure that activities are managed so as to prevent the release of a substance deleterious to Section 36(3) of the Fisheries Act which prohibits the deposit of deleterious substances into water frequented by fish"

Proponent section reads:

"Comment noted"

Here is documentation that Alton Gas and Nova Scotia Environment and Environment Canada understand that Environment Canada is the regulator for section 36(3) of the Fisheries Act. Alton Gas noted the comment confirming they too understand. In February of 2019 the notice of intent released by Environment Canada explains the same issue. This proves all regulators and Alton Gas understood the need to work with ECCC to comply with 36(3) of the Fisheries Act. These comments are the reason why the condition 2.1(b) requiring ECCC oversight was put in the Environmental Assessment and was so important to comply with.

This document was obtained on August 26 2019, A-2018-02532 "All science reports held by Environment Canada regarding Alton Gas"

July 6 2007

The Proponent (Alton Gas) filed an EA Registration Document with NSEL (Nova Scotia Environment and Labor) in relation to the project.

Source: This information was gathered from freedom of information request to DFO (A-2019-00332) "Revised Request (July 15, 2019): All briefing notes pertaining to Alton Gas"

July 20 2007

DFO provided comments on the EA Registration Document to NSEL and followed up with more detailed comments on July 26 2007.

Source: This information was gathered from freedom of information request to DFO (A-2019-00332) "Revised Request (July 15, 2019): All briefing notes pertaining to Alton Gas"



Office of the Minister _____

[Original Dated: July 31, 2007]

[Redacted] Project Manager
Alton Natural Gas Storage LP
PO Box 36052
Halifax, NS
B3J 3S9

Dear [Redacted]

Re: Environmental Assessment - Alton Underground Natural Gas Storage Facility

The environmental assessment of the proposed Alton Underground Natural Gas Storage Facility, has been completed.

This letter is to advise that, pursuant to Section 13 (1)(a) of the *Environmental Assessment Regulations*, I have determined the registration information is insufficient to allow me to make a decision, and that I require additional information.

Fisheries and Oceans Canada (DFO) and other interested stakeholders, raised concerns that the report failed to provide adequate information to support the prediction that effects to fish and fish habitat, which includes a species at risk (Inner Bay of Fundy Atlantic Salmon), are insignificant. Concerns include the effects of the withdrawal of water from the Shubenacadie River into both the water intake and the pre-mixing pond; the brine being discharged into the Shubenacadie River; and the discharge of sediments into the Shubenacadie River. DFO has determined that, based on the information provided to date, there is uncertainty in regards to the potential for certain works or undertakings associated with this project to contravene provisions of the Habitat Protection Provisions of the *Fisheries Act*, and the *Species at Risk Act*.

- Alton Natural Gas LP. shall provide additional information to demonstrate that the prediction that project related effects to fish and fish habitat from the development, operation, and maintenance of the Alton Underground Natural Gas Storage Facility are insignificant. This information shall be prepared in consultation with Fisheries and Oceans Canada.

Concerns have also been raised regarding potential impacts of the project on First Nations. Additional information is required to demonstrate how First Nation concerns would be considered in the development and operation of the undertaking. Specifically this should include:

- Details of discussions with First Nations regarding potential environmental effects of the project, and issues identified through these discussions. Plans for addressing identified First Nations' concerns including procedures to deal with project-related issues that may arise, and ensuring issues are recorded and resolved in a timely manner.

Please note, other issues were raised during the review process and the comments are attached for your information.

The requested additional information shall be submitted by Alton Natural Gas LP. at your convenience, as an addendum to the original registration information. Pursuant to Section 13(1) of the *Environmental Assessment Regulations* decision options available to me are: additional information is required; approval with conditions; focus report is required; environmental assessment report required; or, rejection. Upon submission of the information I will have 25 days to make my decision.

Alton Natural Gas LP. shall not commence the undertaking or any part thereof until the undertaking has been approved under Part IV of the *Environment Act*.

Yours truly,

[Original Signed By]

[Redacted Signature]

cc mailed to: Landis Energy Corporation
Suite 2320, 444-5th Avenue SW
Calgary, AB
T2P 2T8

July 31 2007

Letter from: Minister of Nova Scotia Environment (Page 4)

The letter explains there is insufficient information in relation to both fish and fish habitat and First Nations concerns. The project is denied and supplementary information is needed to make a decision to move forward. This is important because the project fails due to all the very valid concerns raised above in the Draft EA Comments document. Eventually the project moves forward with a conditional approval which includes condition 2.1(b) stating Environment and Climate Change Canada must have oversight as noted by several concerns in the EA Draft Comments.

Source: This document was obtained from the Nova Scotia Environment website.

August 8 2007

A meeting was held between the Proponent, their principal consultant, DFO and NSEL to discuss the process for moving forward with the provincial EA and also major concerns in relation to the project.

This is problematic as one of the most important regulators, Environment Canada is not present.

Source: This information was gathered from freedom of information request to DFO:
(A-2019-00332)

“Revised Request (July 15, 2019): All briefing notes pertaining to Alton Gas”

September 19 2007

An all-day working meeting was held to discuss fish and fish habitat concerns in relation to the proposed project. Meeting participants included the Proponent, their consultants and NSEL and 6 representatives from DFO.

Again the most important regulator Environment Canada was not present.

Source: This information was gathered from freedom of information request to DFO:
(A-2019-00332) “Revised Request (July 15, 2019): All briefing notes pertaining to Alton Gas”



Office of the Minister

Original Dated December 18, 2007

[REDACTED] Project Manager
Alton Natural Gas Storage LP
PO Box 36052
Halifax, NS
B3J 3S9

Dear [REDACTED]

Re: Environmental Assessment - Alton Underground Natural Gas Storage Project

The environmental assessment of the proposed Alton Underground Natural Gas Storage Facility, has been completed.

This is to advise that I have approved the above project in accordance with Section 13(1)(b) of the *Environmental Assessment Regulations*, pursuant to Part IV of the *Environment Act*. I am satisfied following a review of the information provided by Alton Natural Gas Storage LP, and through the government and public consultation as part of the environmental assessment, that any adverse effects or significant environmental effects of the undertaking can be adequately mitigated through compliance with the attached terms and conditions.

This letter, in conjunction with the attached terms and conditions, constitutes my approval. This approval is subject to any other approvals required by statute or regulation, including but not limited to, approval under Part V of the Nova Scotia *Environment Act* (Approvals and Certificates section).

If you have any questions regarding the approval of this project, please contact the Manager, Environmental Assessment Branch, Ms. Lorrie Roberts via email ROBERTLA@gov.ns.ca

Sincerely yours,

Original Signed By

[REDACTED]

Encl.

December 18 2007

Nova Scotia Environmental Assessment Approval (Above)

This is an important document because it outlines the terms and conditions of the approval. It is the law under the provincial Environmental Act to meet these conditions as they are the safeguards. These terms and conditions must be met as DFO and Environment Canada apply the laws when it comes to fish and fish habitat. Nova Scotia Environment knows this to be the case which is why they added Condition 2.1 requiring DFO and Condition 2.1(b) requiring Environment Canada approval. These two conditions are extremely important as DFO and Environment and Climate Change Canada administer and enforce the Fisheries Act which are laws in Canada to protect fish and fish habitat. If the conditions are not satisfied it puts the project on a non compliant path. Today we see no evidence that condition 2.1(b) was satisfied. We asked for documents to satisfy 2.1(b) from NSE. NSE did not have any ECCC clearance

documents. The February 2019 notice of intent, issued by ECCC states clearly the brine release is considered a release of a deleterious substance, the same issue that was discussed by ECCC in the EA Draft Comments in 2007.

Source: This document was obtained on the Nova Scotia Environment website.

Environmental Assessment Approval

Approval Date: *Original Dated December 18, 2007*

Alton Natural Gas Storage Project

Alton Natural Gas Storage LP, Proponent
Colchester County, Nova Scotia

Alton Natural Gas Storage (the "Undertaking"), proposed by Alton Natural Gas Storage LP (the "Proponent"), in Colchester County, Nova Scotia is approved pursuant to Section 13(1)(b) of the *Environmental Assessment Regulations*. This Approval is subject to the following conditions and obtaining all other necessary approvals, permits or authorizations required by municipal, provincial and federal acts, regulations, by-laws, guidelines, policies or standards before commencing work on the Undertaking. It is the responsibility of the Proponent to ensure that all such approvals, permits or authorizations are obtained before commencing work on the Undertaking.

This Environmental Assessment Approval is based upon the review of the conceptual design, environmental baseline information, impact predictions, and mitigation presented in the Registration Information.

Terms and Conditions for Environmental Assessment Approval

1.0 General Approval

- 1.1 The Environmental Assessment Approval for the project is limited to the project as described in the registration document. Any proposal by the Proponent for expansion, modification or relocation of any aspect of the project from that proposed in the registration document must be submitted to the Environmental Assessment Branch for review and may require an environmental assessment.
- 1.2 The Proponent must, within two years of the date of issuance of this approval, commence work on the undertaking unless granted a written extension by the Minister.
- 1.3 The Proponent must not transfer, sell, lease, assign or otherwise dispose of this approval without the written consent of the Minister. The sale of a controlling interest of a business or a transfer of an approval from a parent company to a subsidiary or an affiliate is deemed to be a transfer requiring consent.
- 1.4 The Proponent must implement all mitigation and commitments in the Registration Document, unless approved otherwise by Nova Scotia Environment & Labour (NSEL).

2.0 Fish & Fish Habitat

2.1 The proponent, as part of the application for Part V Approval under the Environment Act, must provide for review the following monitoring programs and plans developed in consultation with the Department of Fisheries & Oceans (DFO). Based on the results of the monitoring programs, the proponent must make necessary modifications to mitigation plans and/or operations to prevent continues unacceptable environmental effects to the satisfaction of NSEL and DFO.

a) An Effects Monitoring Plan including parameters such as frequency and duration. The plan must evaluate potential impacts of sedimentation, salinity and flow alterations on aquatic organisms and include an impact prediction.

b) A program to monitor discharge salinity levels into the estuary to ensure no negative impacts to fish species result. This program should be developed in consultation with Environment Canada (EC).

c) A plan to gather baseline information on water temperature and the presence of Atlantic salmon, Striped bass and Atlantic sturgeon eggs and larvae during one spawning season prior to the commencement of solution mining.

d) A long term monitoring program for Atlantic salmon, Striped bass and Atlantic sturgeon eggs and larvae. This plan must identify operational responses to unexpected impacts to populations.

e) An ongoing monitoring program of fish screens or passive water intakes to determine if impingement is occurring.

2.2 The proponent must maintain a minimum of 30 meter vegetated buffer between all watercourses and wetlands.

3.0 Archaeological & Heritage Resources

3.1 The proponent must develop a procedure so that any issues or concerns raised by potentially affected First Nation and Aboriginal communities, particularly related to environmental effects, can be directed to the Proponent and resolved in a timely manner. This procedure must include contact information, documentation and a resolution process.

3.2 The proponent must develop and implement an Archaeological Contingency Plan that includes:

a) Procedures for immediate work stoppage and conservation of resources, should archaeological resources be discovered.

b) Details of worker awareness training to be delivered to employees, which will address archaeological resources and relevant procedures.

December 18 2007

Nova Scotia Environmental Assessment Approval Conditions (Above)

Appendicized conditions of approval, referenced in Ministerial letter (Page 6).

September 26, 2014

Alton Gas submits their application for their industrial approval along with attachments.

October 11 2014

Site Photos (Left and below)

Photos taken by citizens along the Shubenacadie River. This is Alton Gas's river construction site. They have completed the digging of the channel and most of the construction before the industrial approval. They did not break the dyke allowing the river to flow through however, most of the construction was completed before the industrial approval.



October 15 2014

Email from: Environmental Engineer Environmental Protection Operations Directorate - Atlantic Environmental Stewardship Branch Environment Canada (Right)

To: Nova Scotia Environment

"I met with (blank) and (blank) this morning at their request, in order for them to review their proposed estuary monitoring plan.

They reviewed the brine discharge component of the project and the monitoring plan, with an emphasis on maintaining salinity levels below a specific level and with discussion regarding engineering controls on the system over all. I did not see any issues of concern from EC perspective.

We discussed EC mandate to administer section 36(3) of the fisheries act and I indicated that our office of enforcement are likely to conduct a site visit(s)."

Where you see "(blank)" it means it was blocked from us by freedom of information department.

October 21 2014

Email is then forwarded internally at NSE

" for the Alton File ... I think this should satisfy the Env Canada condition under 2.1"

We asked NSE specifically for clearance documents from Environment Canada pertaining to condition 2.1(b). The request came back with no clearance documents from Environment Canada. These emails were all that were held by NSE. This email is not clearance from Environment Canada although NSE tried to justify that it was. We asked twice through freedom of information to obtain documents that demonstrated that Environment Canada understood the project and gave clearance as per the condition 2.1(b) set out in the environmental assessment. These emails were the only document NSE has. In fact we filed for a second freedom of information request just to make sure there were no other documents. Below the email you can see the two Freedom of Information requests we asked for. Nowhere in this email does it give a description of the project and state in a formal document EC gave clearance. This is not acceptable to pass off as formal clearance. There was no clearance granted from EC that would clear 2.1(b) and that was confirmed February 2019 via the Notice of Intent published by Environment Canada, it is clear that ECCC states the brine release is against federal laws in the fisheries act 36(3).

Source: This document was obtained through freedom of information request 2018-07942-ENV to Nova Scotia Environment asking:

"Pertaining to the Nova Scotia Ministers December 18, 2007 terms and conditions of the NS environmental assessment 2.1(b), which states " a program to monitor discharge salinity levels into the estuary to insure no negative impacts to fish species result. The program should be developed in consultation with Environment Canada." Please provide any documentation prepared by Environment Canada

that confirms Alton Gas was granted clearance by Environment Canada for their discharge plan and then submitted to NS Environment to comply with condition 2.1(b)."

[REDACTED]

From: [REDACTED]
Sent: October 21, 2014 4:41 PM
To: [REDACTED]
Cc: [REDACTED]
Subject: FW: Alton Natural Gas Storage Project - Estuary Monitoring Plan

For the Alton file .. I think this should satisfy the Env Canada condition under 2.1

From: [REDACTED]
Sent: October 21, 2014 3:32 PM
To: [REDACTED]
Subject: FW: Alton Natural Gas Storage Project - Estuary Monitoring Plan

From: [REDACTED]
Sent: Wednesday, October 15, 2014 4:58 PM
To: [REDACTED]
Cc: [REDACTED]
Subject: Alton Natural Gas Storage Project - Estuary Monitoring Plan

I met with [REDACTED] and [REDACTED] this morning at their request, in order for them to review their proposed estuary monitoring plan.

They reviewed the brine discharge component of the project and the monitoring plan, with an emphasis on maintaining salinity levels below a specific level and with discussion regarding engineering controls on the system overall. I did not see any issues of concern from EC's perspective. We discussed EC's mandate to administer Section 36(3) of the Fisheries Act and I indicated that our Office of Enforcement are likely to conduct a site visit(s).

If you would like to discuss this further, please feel free to give me a call.

[REDACTED]
[REDACTED]
Environmental Protection Operations Directorate - Atlantic Environmental Stewardship Branch
Environment Canada

[REDACTED]
Government of Canada
Website: www.ec.gc.ca

[REDACTED]
Direction générale de l'intendance environnementale
Environnement Canada

From: [REDACTED]
Sent: [REDACTED]
To: November 20, 2014 4:21 PM
Cc: [REDACTED]
Subject: RE: Alton Gas Estuary Monitoring Plan

Looks correct to me

From: [REDACTED]
Sent: Thursday, November 20, 2014 4:02 PM
To: [REDACTED]
Cc: [REDACTED]
Subject: Alton Gas Estuary Monitoring Plan

This email is to confirm our discussions of November 6th regarding the DFO approved Estuary Monitoring Plan for this project.

The monitoring plan was submitted in response to Section 2.1 of the EA Approval.

Estuary Monitoring Plan
"River wide monitoring" – DFO and Env. Cda. Responsibility/Jurisdiction

"Constructed site monitoring"
- Fish monitoring - DFO and Env. Cda. Responsibility/Jurisdiction
- Water salinity and temperature monitoring – NSE jurisdiction within the man-made mixing channel

Baseline Data Collection and Effects Monitoring Related to Fish and Fish Habitat
Salinity, temperature, and TSS levels within the mixing channel - NSE will include in approval to operate however will rely on support from DFO and Env. Cda. w.r.t follow-up based on levels reported.

Monitoring for fish, eggs, and larve - DFO and Env. Cda. Responsibility/Jurisdiction

Please feel free to comment or suggest changes if you feel this does not reflect our discussions.

November 20 2014

Email from NSE staff to NSE staff (Above)

Subject: Alton Gas Estuary Monitoring Plan

"Constructed site monitoring"

- fish monitoring - DFO and Env. Ca. Responsibility/Jurisdiction

- water salinity and temperature monitoring - NSE jurisdiction within the man-made mixing channel"

This document again proves that NSE understood the importance of federal government oversight and the need to comply with condition 2.1 and 2.1(b).

Source: This was obtained through court documents.

December 3 2014

Email from NSE staff to Solicitor, Legal Services Division Nova Scotia Department of Justice (Below and Page 14)

This document shows NSE staff reaching out to NS Department of Justice looking for information on jurisdiction. It demonstrates again the importance and confirmation that ECCC has jurisdiction. Hence the need to comply with the condition 2.1(b) requiring Environment Canada oversight and proper clearance. We also see in the EA draft documents from 2007 that NSE understood ECCC had concerns.

December 5 2014

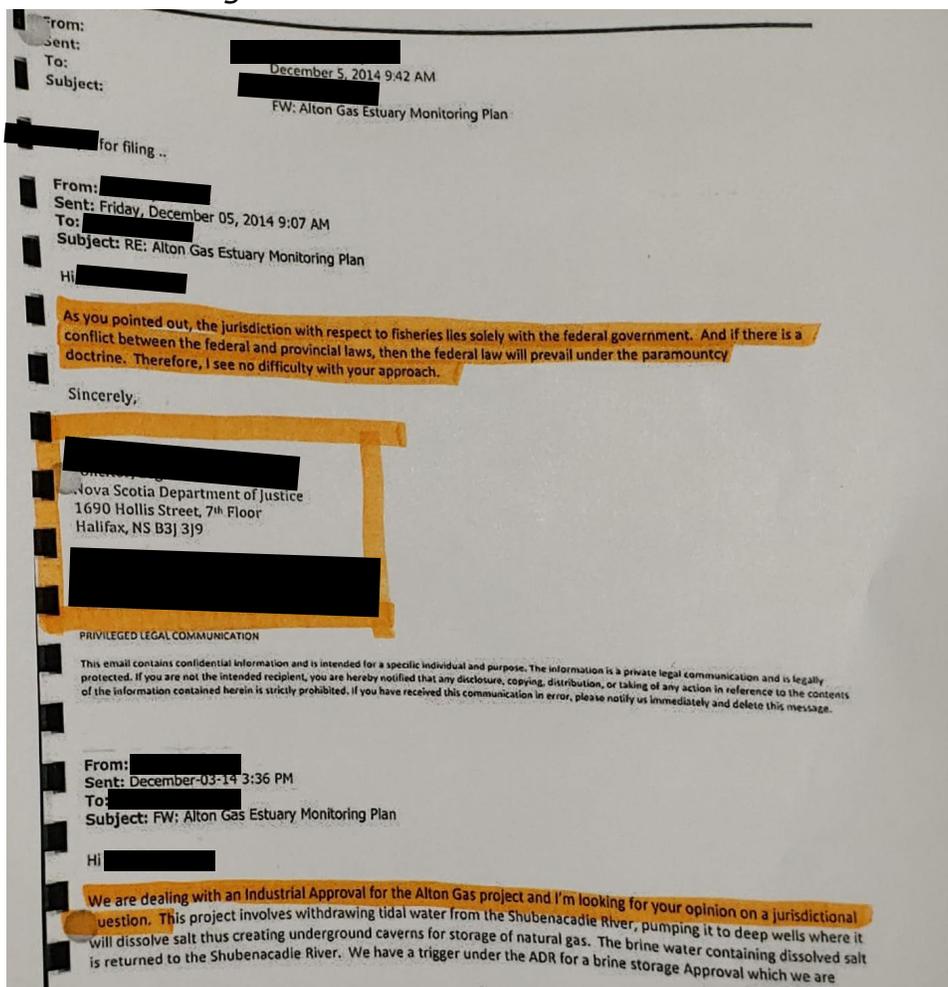
Returning Email from Solicitor, Legal Services Division Nova Scotia Department of Justice (Below and Page 14)

" the jurisdiction with respect to fisheries lies solely with the federal government. And if there is a conflict between the federal and provincial laws, then the federal law will prevail under the paramountcy doctrine. Therefore, I see no difficulty with your approach."

December 5 2014

Email from NSE staff forwarded to NSE staff (Below and Page 14)

"*****... for filing..."



working through now. The project involves constructing a mixing channel beside the river which is connected to the river for withdrawing water and returning brine.

Alton Gas has a monitoring plan that covers salinity levels and fish in the mixing channel and other monitoring of salinity and fish in the river. DFO has agreed to the monitoring plan. With the river being tidal NSE doesn't have jurisdiction in the river, nor do we have responsibility for fish in the mixing channel. We have discussed it with our Compliance Coordinator and he agrees that our jurisdiction is with respect to salinity and it stops where the mixing channel enters the river. With that being said we wouldn't have any legal right to require monitoring outside the mixing channel. The Alton Gas monitoring plan requires a quarterly report summarizing the monitoring results in both the mixing channel and the river. We intend to review the report with respect to the salinity monitoring in the mixing channel and forward it to DFO and Env Canada to review the other reporting information. I want to make sure you concur with our approach.

Please contact me if you need to discuss.

Thanks

From: [REDACTED]
 Sent: Thursday, November 20, 2014 4:21 PM
 To: [REDACTED]
 Cc: [REDACTED]
 Subject: RE: Alton Gas Estuary Monitoring Plan

Looks correct to me

From: [REDACTED]
 Sent: Thursday, November 20, 2014 4:02 PM
 To: [REDACTED]
 Cc: [REDACTED]
 Subject: Alton Gas Estuary Monitoring Plan

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Estuary Monitoring Plan
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Baseline Data Collection and Effects Monitoring Related to Fish and Fish Habitat
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Monitoring for fish, eggs, and larvae - DFO and Env. Cda. Responsibility/Jurisdiction

January 2016

Industrial approval was granted by Minister of Nova Scotia Environment (Pages 15, 16 & 17)

Here is the Industrial Approval allowing the company to begin operations. All terms and conditions should be completed. This includes condition 2.1 and 2.1(b). There should be no doubt that all safety aspects are checked off and both DFO and ECCC state the design plan is safe and complies with federal Fisheries Act laws. This all needed to be completed before this Industrial Approval. Industrial approvals contain reference documents which give assurance to the project. Nowhere in the reference documents do you see anything

from ECCC. Given the jurisdiction and need for ECCC oversight and condition 2.1(b) it is questionable as to why there is not an ECCC document giving clearance. The reference documents should have had an ECCC document to ensure the plan was compliant.

JAN 20 2016

Our File Number: 92100-30-TRU-2008-061384-A03

WSP Canada Inc.
c/o [REDACTED]
1 Spectacle Lake Drive
Dartmouth, NS
B3B 1X7

Dear [REDACTED]

**RE: Approval to Operate - Brine Storage Pond
Approval No. 2008-061384-A03
PID # 20076386**

Enclosed please find Approval # 2008-061384-A03 issued to Alton Natural Gas Storage LP. to operate the Brine Storage Pond and associated works at Fort Ellis, Colchester County, Nova Scotia. Please ensure the original approval is forwarded to the approval holder.

Strict adherence to the attached terms and conditions is imperative in order to validate this approval.

Despite the issuance of this Approval, the Approval Holder is still responsible for obtaining any other authorization which may be required to carry out the activity, including those which may be necessary under provincial, federal or municipal law.

Should you have any questions, please contact David Blair, Northern Region, Truro Office at (902) 893-5880.

Yours truly,

[REDACTED]

cc [REDACTED] Alton Gas

Eimas #: 2008-061384-A03

APPROVAL

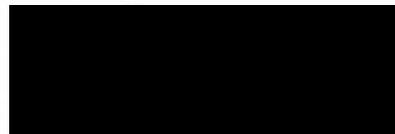
Province of Nova Scotia
Environment Act, S.N.S. 1994-95, c.1

APPROVAL HOLDER: Alton Natural Gas Storage LP.
SITE PID: 20076386
APPROVAL NO: 2008-061384-A03
EXPIRY DATE: January 20, 2026

Pursuant to Part V of the *Environment Act*, S.N.S. 1994-95, c.1 as amended from time to time, approval is granted to the Approval Holder subject to the Terms and Conditions attached to and forming part of this Approval, for the following activity:

Operation of a Brine Storage Pond, and associated works, at or near Fort Ellis, Colchester County in the Province of Nova Scotia.

Administrator



Effective Date

January 20, 2016

TERMS AND CONDITIONS OF APPROVAL**Nova Scotia Environment**

Approval Holder: Alton Natural Gas Storage LP.
Project: Brine Storage Pond Operation
Site: Fort Ellis, Colchester County
PID # 20076386

Approval No: 2008-061384-A03

File No: 92100-30-TRU-2008-061384-A03

Map Series: 11E/03

Grid Reference: E469700 N5001050

Reference Documents:

- Application dated September 26, 2014 and attachments.
- Environmental Management Plan - Operation of Brine Storage Pond and Associated Facilities, Alton Natural Gas Storage LP., dated October 6, 2014, as prepared by WSP Canada Inc.
- Alton Natural Gas Storage Estuarial Environmental Monitoring & Toxicity Testing, dated December 9, 2015.
- Letter dated August 1, 2014 from Mark McLean of Fisheries and Oceans Canada to David Birkett of Alton Natural Gas Storage LP. regarding their review of the Estuary Monitoring Plan.
- Alton Natural Gas Storage River Site Monitoring Plan During Cavern Development, dated December 10, 2015.
- Exposure Pathway Assessment Framework for Aquatic and Non-aquatic Species in Relation to the Alton Gas Natural Gas Storage Cavern Development at the River Site, dated December 9, 2015.
- Environmental Assessment Approval - Alton Natural Gas Storage Project, as dated December 18, 2007.
- Email correspondence from Bob Rutherford to Brad Skinner regarding standard water analysis and total metals sampling parameters and attachments dated December 8, 2015.
- Email correspondence from Tim Church to Michael Cox and Jennifer Copage regarding a contingency plan for a brine pond breach and attachment dated December 11, 2015.

February 17 2016

Appeal # 5 is filed on Industrial Approval

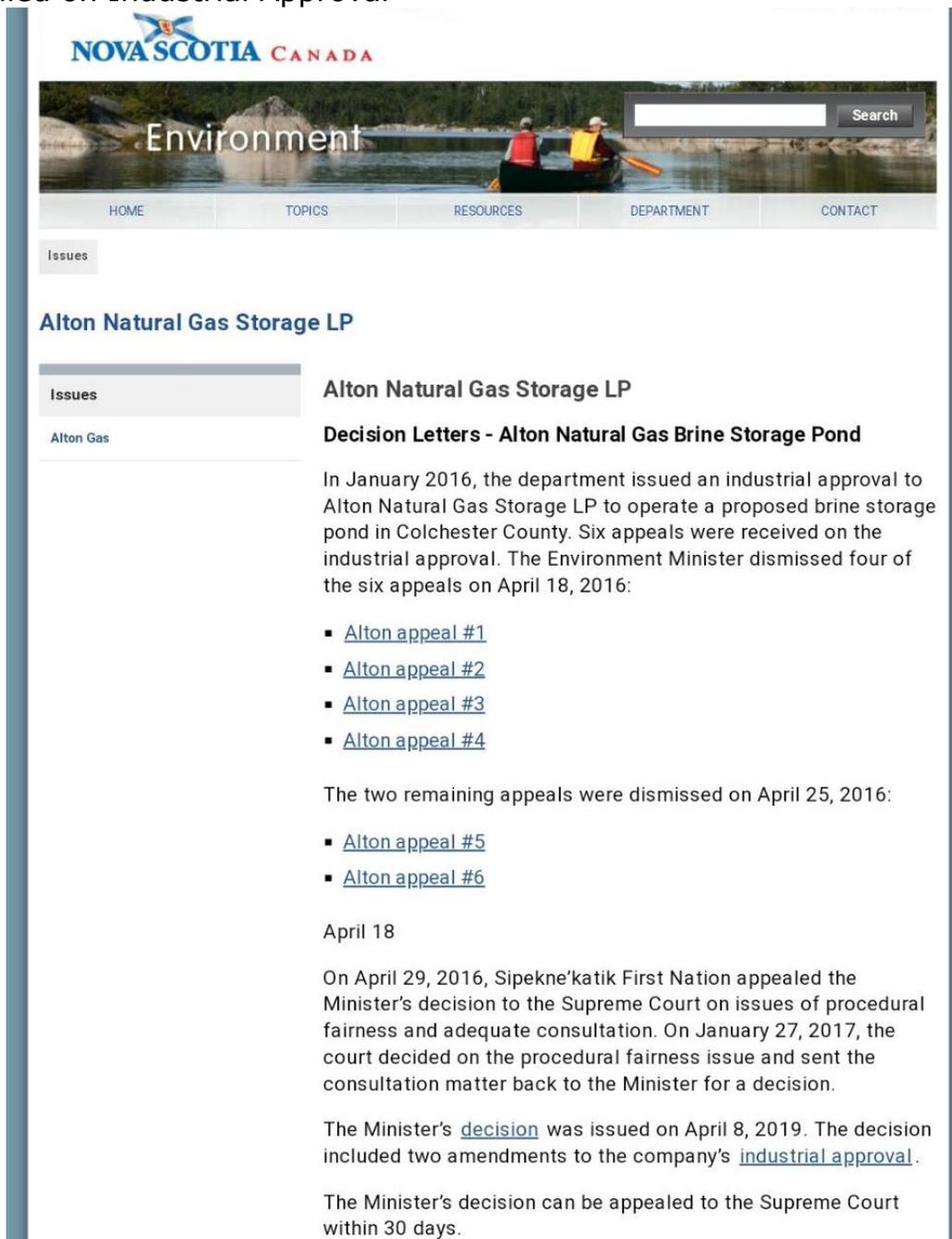
Appeals start to be submitted on the industrial approval. The appeal process is in place to allow citizens and groups to bring forward concerns that have not been met and take action to stop projects. The level of community concern and opposition to this project is immense. It is prevalent in the media.

February 18 2016

Appeals #2, #3, #4, and # 6 filed on Industrial Approval

February 19 2016

Appeal #1 filed on Industrial Approval



The screenshot shows the Nova Scotia Environment website. The header includes the Nova Scotia Canada logo and a search bar. The main navigation menu has links for HOME, TOPICS, RESOURCES, DEPARTMENT, and CONTACT. The page title is "Alton Natural Gas Storage LP". The content area is titled "Decision Letters - Alton Natural Gas Brine Storage Pond" and contains the following text:

In January 2016, the department issued an industrial approval to Alton Natural Gas Storage LP to operate a proposed brine storage pond in Colchester County. Six appeals were received on the industrial approval. The Environment Minister dismissed four of the six appeals on April 18, 2016:

- [Alton appeal #1](#)
- [Alton appeal #2](#)
- [Alton appeal #3](#)
- [Alton appeal #4](#)

The two remaining appeals were dismissed on April 25, 2016:

- [Alton appeal #5](#)
- [Alton appeal #6](#)

April 18

On April 29, 2016, Sipekne'katik First Nation appealed the Minister's decision to the Supreme Court on issues of procedural fairness and adequate consultation. On January 27, 2017, the court decided on the procedural fairness issue and sent the consultation matter back to the Minister for a decision.

The Minister's [decision](#) was issued on April 8, 2019. The decision included two amendments to the company's [industrial approval](#).

The Minister's decision can be appealed to the Supreme Court within 30 days.

Notably, the crown land lease stipulates that the leasee (Alton Gas) must comply with all Federal, Provincial and municipal laws in order for the lease to be valid. Among labour laws and other statutes, the lease specifically mentions laws pertaining to fisheries and oceans.

"In respect of the Leasee's occupation and use of the Property, the Purpose, the Project, and any other of the Leasee's activities on or related to the Property, including, without limitation, those required under this Lease, the Leasee shall comply with all applicable:

- *Municipal, Provincial, and Federal statutes and domestic law (including common law), ordinances, rules, regulations, restrictions or by-laws, permits and approvals including, but not limited to, laws related to or respecting environmental protection, labour, occupational health and safety, fisheries and oceans and industrial standards"*

April 18 2016

Appeal # 1,2,3 and 4 DISMISSED by Nova Scotia Environment Minister

Today we know from the notice of intent that the concerns outlined in the appeals were valid. This process was a missed opportunity by NSE to reexamine the design plan by Alton Gas - instead they dismissed the appeals.

April 25, 2016

Appeal #5 and #6 DISMISSED by Margaret Miller

All of the appeals are now dismissed. It is a lot of work to put together appeals and today it is confirmed by ECCC the very real concerns were valid.

April 29 2016

Sipekne'katik First Nation appealed the Minister's Decision to the Supreme Court on issues of procedural fairness and adequate consultation.

April 2016

Memorandum to the Deputy Minister at ECCC. (Page 21 & 22)

It states Environment Canada (ECCC) conducts a site visit.

"following a public complaint, ECCC enforcement officers conducted a site visit in April 2016 to inspect the as-build facility prior to its operation. During the site visit, the officers identified that the man-made channel would be water frequented by fish and the Fisheries Act prohibition on the deposit of deleterious substances would apply where the concentrated brine is first deposited within the channel "

Here we see ECCC conducted a site visit and understood the channel was frequented by fish. This should have been made public as there were appeals on the Industrial Approval. ECCC should have already been aware fish could frequent the channel if 2.1(b) had been completed.

Source: This document was obtained through freedom of information request to ECCC asking for:

"Clarification 11/10/2018

A copy of the request for a directive prepared on December 8th, 2017, by Atlantic Region enforcement officer ***** or other staff and forwarded by his regional manager ***** for processing, for issuance of a directive to Alton Natural Gas Storage/AltaGas to notify that the planned design for the brine discharge into the channel river water, contravene federal regulations prohibiting any release of a deleterious substance into a body of water where fish frequent."

Document Released Under the Access to Information Act / Document divulgué en vertu de la Loi sur l'accès à l'information.

Environment and Climate Change Canada Environnement et Changement climatique Canada

DM-219863

MEMORANDUM TO DEPUTY MINISTER

RESPONSE TO AltaGas LTD. CONCERNING FISHERIES ACT COMPLIANCE
(For Decision)

TIMELINE
Your decision is requested by **September 18, 2017**, in order to respond to AltaGas in a timely manner.

PURPOSE
To request that you approve the response to AltaGas concerning their proposed approaches for compliance with the *Fisheries Act* with respect to the Alton Natural Gas Storage project.

SUMMARY

- AltaGas is proposing to develop underground salt caverns to store natural gas at a facility near Shubenacadie, Nova Scotia. The project proposes to use water from the nearby Shubenacadie River to carve out these caverns and then return the concentrated brine back to the river via a man-made bypass channel.
- The deposits of concentrated brine from the operation are subject to subsection 36(3) of the *Fisheries Act* which prohibits the deposit of any deleterious substances in water frequented by fish.
- The company wrote to the department in December 2016 and August 2017 and met with ECCC officials on August 8, 2017 to explore options that would allow them to operate while meeting their obligations under the *Fisheries Act*. During the meeting, ECCC officials committed to respond to the company in writing concerning the proposed approaches presented by the company.
- A proposed response to the company is attached for your approval.
- There has been significant media coverage associated with this project in Nova Scotia focused on concerned stakeholder groups, including fisherman's associations and local Indigenous Groups. The Mi'kmaq community is concerned this project will infringe on aboriginal treaty rights to fish the Shubenacadie River.

CONTEXT AND CURRENT STATUS
AltaGas Ltd. is proposing to develop underground salt caverns for the purpose of natural gas storage near Shubenacadie, Nova Scotia. The project proposes to use water from the nearby Shubenacadie River to carve out these caverns and then return the concentrated brine back to the river. This brine would be returned to the river via a man-made bypass channel so that the salt concentration where the channel rejoins the river would be the same as the background concentration in the river. Brining operations for cavern construction are expected to last four

000007

s.14(a)
s.20(1)(b)
s.21(1)(a)
s.21(1)(b)

Document Released Under the Access to Information Act / Document divulgué en vertu de la Loi sur l'accès à l'information.

years for the initial two caverns, with a potential additional 18-24 months if a third cavern is added. Under AltaGas Ltd.'s hydrocarbon storage-area lease with Nova Scotia, the company is not permitted to trade, sell or give away the salt from its brining operations.

The project underwent a provincial Environmental Assessment (EA) and in early 2016 received a provincial permit to allow the development of the salt caverns. The EA allows for development of up to 10-15 additional caverns dependent on market demand following the initial project. If constructed, these additional caverns could lead to long term brining operations for up to 30 years. ECCC was engaged during the EA process and highlighted the need for the discharges to comply with section 36(3) of the *Fisheries Act* which prohibits the deposit of deleterious substances into water frequented by fish. Under section 36 of the *Fisheries Act*, deposits of deleterious substances can only be authorized using ministerial or GIC regulations under the *Fisheries Act* itself or by regulations under another federal Act.

Following a public complaint, ECCC enforcement officers conducted a site visit in April 2016 to inspect the as-built facility prior to its operation. During the site visit, the officers identified that the man-made channel would be water frequented by fish and the *Fisheries Act* prohibition on the deposit of deleterious substances would apply where the concentrated brine is first deposited within the channel.

Six appeals of the provincial approval for the project were filed with the Nova Scotia Environment Minister and were subsequently dismissed in April 2016. The Sipekne'katik First Nation appealed the project's approval to the Supreme Court of Nova Scotia. The court did not grant a stay of the project however ruled that the Minister's decision was not procedurally fair. The court has required the Province to share previously undisclosed documents with the First Nation and has remitted the matter back to the Minister of Environment. The documents have been shared and the Minister is waiting for a response from the First Nation.

The company met with ECCC officials on August 8, 2017 to present a variety of options that could allow them to operate while meeting their obligations under the *Fisheries Act*. During the meeting, the company proposed the following

ECCC has committed to providing a response to AltaGas in follow-up to the August 8, 2017 meeting.

ANALYSIS/ASSESSMENT

The following provides a description and analysis of the approaches suggested by representatives from AltaGas:

May 16 2016

Email confirmation of deleterious effects of salinity on fish (Below)

From Supervisor, Toxicology Laboratory, Atlantic Laboratory for Environmental Testing Science and Technology Branch, Environment and Climate Canada

To enforcement Officer, Environment and Climate Change Canada, Moncton, NB

"for a short period of time any fish in the mixing zone may be exposed to elevated salinity at levels above those considered safe for marine and estuarine organisms. High salinity such as those expected in the brine are considered deleterious substance according to the Fisheries act."

Source: Freedom of information request

Document Released Under the Access to Information Act / Document divulgué en vertu de la Loi sur l'accès à l'information.

Environment and Climate Change Canada Environnement et Changement climatique Canada

To/ À	[Redacted] Environment and Climate Change Canada, Moncton, NB	Security-Class./Sécurité Protected B
		Our file/Notre référence T1953
From/ De:	[Redacted] Atlantic Laboratory for Environmental Testing Science & Technology Branch Environment and Climate Change Canada, Atlantic Region	Data File/Fichier de données
		May 16, 2016

SUBJECT: Review of information from Alton Natural Gas Storage project.

As requested, I am providing a review of the effects of high salinity on marine and estuarine organism possible if brine from the Alton Natural Gas Storage enters water frequented by fish. The documents reviewed were provided in an email from Enforcement Officer Allison Grant on April 13, 2016 and included: (A) diagram of the mixing channel (B) Alton Natural Gas Storage Estuarial Environmental Monitoring and Toxicity Testing December 9, 2015 (C) Exposure Pathway Assessment Framework for Aquatic and Non-aquatic Species in Relation to the Alton Natural Gas Storage Cavern Development at the River Site December 9, 2015 (D) Alton Natural Gas Estuary Monitoring Plan draft June 18, 2014 and (E) Fisheries and Oceans Scientific Review of the Environmental registration Document for the Proposed Alton Natural Gas storage Project August 2007.

Toxicity Tests:

A toxicity test is a laboratory test used to determine the harmful effects a material will have on a group of organisms under defined conditions. Live organisms (e.g.

Canada

The full email from ECC Toxicologist reads:

SUBJECT: Review of information from Alton Natural Gas Storage project

As requested, I am providing a review of the effects of high salinity on marine and estuarine organism possible if brine from the Alton Natural Gas Storage enters water frequented by fish. The documents reviewed were provided in an email from Enforcement Officer [REDACTED] on April 13, 2016 and included: (A) diagram of the mixing channel (B) Alton Natural Gas Storage Estuarial Environmental Monitoring and Toxicity Testing December 9, 2015 (C) Exposure Pathway Assessment Framework for Aquatic and Non-aquatic Species in Relation to the Alton Natural Gas Storage Cavern Development at the River Site December 9, 2015 (D) Alton Natural Gas Estuary Monitoring Plan draft June 18, 2014 and (E) Fisheries and Oceans Scientific Review of the Environmental registration Document for the Proposed Alton Natural Gas storage Project August 2007.

Toxicity Tests:

A toxicity test is a laboratory test used to determine the harmful effects a material will have on a group of organisms under defined conditions. Live organisms (e.g. plants and animals) are exposed to the sample under controlled conditions such as temperature and lighting and for a defined time. At the end of the test the animals are observed for the endpoint defined by the test which could be size, death or other effects.

Toxicity tests can be lethality tests where the endpoint is to determine if the animal is dead or alive or sub-lethal tests in which other harmful effects that don't kill the animal are evaluated. These sub-lethal endpoints can be effects such as: immobilization, reduced growth, development abnormalities, reproductive effects, or change in behaviour. These tests may be conducted as acute or chronic exposures. Acute exposures are short term and generally 96 hours or less; for these exposures the endpoint is often death or immobility. Chronic exposures are longer-term and look at sub-lethal endpoints. In addition, toxicity tests are either conducted as single concentration (only the full strength sample is tested) or multi-concentration tests (dilutions of the sample are tested).

For a multi-concentration test the results are given as an LC50 or an ECpp. An LC50 is defined as the median lethal concentration or the concentration of a substance that is estimated to result in death for 50 percent of the organisms. The number of dead from each concentration in a multi-concentration test is entered into a statistics program and the LC50 with its 95% confidence limits are calculated. The confidence limits are the statistically defined estimates of the potential range for the LC50. An ECpp is similar to an LC50 except it is for an effect that is other than death and the percentage is identified, for example an EC25 indicates a 25% change in effect compared to a clean control. The result is reported along with the time of the experiment and the confidence limits for the ECpp.

Toxicity testing has been a requirement of many regulations worldwide since the 1950s and in Canada they were incorporated into Fisheries Act regulations and guidelines since 1970s (Environment Canada, 1999). According to the Fisheries Act Pulp and Paper Effluent Regulations (SOR/92-269) an effluent is classified as acutely lethal if "the effluent at 100 percent concentration kills more than 50 percent of the rainbow trout subjected to it during a 96-hour period, when tested in accordance with the acute

lethality” testing must be conducted according to the standard Environment Canada procedure EPS 1/RM/13 second edition (Environment Canada 2000). Similar definitions for acute lethality of effluents are used in other Fisheries Act Regulations such as the Metal Mining Effluent Regulations and the Wastewater System Effluent Regulations, as well as, the regulation of many Canadian provincial and international regulatory bodies.

Water quality guidelines:

The Canadian Council of Ministers of the Environment (CCME) consists of federal, provincial and territorial ministers of the environment. This group establishes Canadian environmental quality guidelines (CEQG) for water; these guidelines are concentrations of a substance in water that should not have either short term, or long term, effects on the organisms that live in water. The guidelines are established based on the use of the water such as “protection of aquatic life”. To establish a guideline, a review is conducted of available literature information on the harmful effects of the substances on organisms including plants and animals and the fate of the chemical in the environment.

Some of the guidelines provide two different values one for short term exposure and one for long term exposure. In these cases, the short term exposure value would have been developed based on short term or acute toxicity information while the long term exposure guideline would have been developed on chronic or long term exposure toxicity information. The short-term guideline estimates severe effects of a transient situation such as a spill but does not account for long term or chronic effect so it is not a level that is protective or “safe” in the environment. A long-term guideline is provided as a concentration in the environment that is expected to be “safe” for the aquatic organisms. Above the guideline value it is uncertain if the water is safe. To determine if a value above the guideline is safe a comparison is made with known toxicity values or concentrations that are known to be harmful available from toxicity tests. These guidelines are made for individual chemicals and do not evaluate the potential harmful effects of low concentration of multiple hazardous chemicals together in the same sample.

Effects of High Salinity

Salinity is an indication of the levels of dissolved solids in the water. The world oceans generally have salinities ranging from 30 to 37 parts per thousand (ppt) (CCME 1999) coastal waters with freshwater input may have lower salinities. In tidal environments the salinity can vary from almost freshwater to close to full strength seawater and go through this range of salinities twice each day.

Freshwater organisms prefer water close to 0 salinity, marine organisms prefer water that is full strength seawater (around 30ppt) while estuarine or euryhaline organisms can survive in salinities from close to freshwater to full strength seawater.

Several toxicity tests have been conducted in our laboratory with various marine or estuarine species to determine the effect of high salinity on aquatic organisms. These tests were conducted following Environment Canada protocols. The results are summarized in Table 1. Acute lethality was observed at salinity values greater than 40 ppt for the fish threespine stickleback. For sea urchin early life stage tests only a narrow salinity range was acceptable and effects were observed at salinities of 32 ppt for embryo development and 35 ppt for the fertilization assay.

Table 2 provides a brief summary of literature data available for salinity tolerance for

some marine species. Much of the information available is for western North America species as they are studies conducted evaluating effects of desalination plants in California. Developmental effects on early life stages were observed at salinity as low as 36 ppt which is just slightly above normal salinity level for Pacific coast waters. Effects on survival were observed at salinities 45 ppt.

The Canadian Environmental Quality Guidelines (CEQG) for the protection of marine aquatic life states that human activity should not alter the natural level expected at that depth and time by more than 10%. (CCME, 1999).

Changes in salinity affect the specific gravity of seawater; this may then result in an effect of microorganisms that rely on the specific gravity of seawater to float. Salinity changes may cause problems with an organism's ability to osmoregulate. Osmoregulation is the ability of water to move in and out of a living cell and maintains the balance of fluids and electrolytes within an organism. If placed in high salinity seawater, many marine plants and invertebrates (osmotic conformers) respond by moving water out of cells resulting in dehydration. Other organism that can regulate osmosis, such as marine fish and mammals, respond to high salinity by taking on water which may result in over activity of kidneys. (CCME 1999, Danoun 2007). High salinity may result in effects on: survival, development, growth rates, behaviour and reproduction (CCME 1999, Lee 2007). Juvenile or larval species tend to be more sensitive than the adult life stage.

Changes in salinity may also alter the effect of other toxicants or stressors. The salinity affects physiochemical parameters such as solubility and bioavailability of certain chemicals, such as ammonia or metals (CCME 1999, Lee 2010). These studies and effects are based on durations ranging from 20 minutes to weeks; little information is available on the effects of short duration exposure of high salinity exposure.

Alton Natural Gas Storage Details:

The Alton natural Gas Storage project is situated on the bank of the Shubenacadie tidal river. The high salinity water will be diluted in a mixing zone parallel to the river. The brine is expected to have a maximum salinity of 240 ppt. It will be added to the mixing channel at a rate so that the salinity does not increase by more than 7 ppt above background at the time and the maximum does not exceed 28 ppt. Timing of release will be adjusted to ensure it does not coincide with striped bass spawning season. The intake into the channel passes through a gabian wall that reduces likelihood of fish or larvae entrance through the gabian.

Based on information provided to me in documentation and from Enforcement Officer [Withheld by report authors], the opening at both ends of the channel will not have structures to prevent entrance of various life stages of fish. This mixing channel, if opened without any restriction may be considered water frequented by fish. [THREE LINES REDACTED BY FREEDOM OF INFORMATION OFFICE]

For a short period of time any fish in this mixing zone may be exposed to elevated salinity at levels above those considered safe for marine and estuarine organisms. High salinity such as those expected in the brine are considered deleterious substances according to the Fisheries Act. [Signed, but withheld by report authors]

Emphasis added in ***bold italics.***

Table 1: Toxicity Tests of High salinity conducted at the Environment Canada ALET

Threespine stickleback (<i>Gasterosteus aculeatus</i>)	96 hours	(1) LC50 = 44.3 (41.4 – 47.2) ppt No significant mortality at 40 ppt (2) LC50 = 54.9 (53.3 – 56.5) ppt No significant mortality at 50 ppt (3) LC50 = 51.7 (48.5 – 54.1) ppt No significant mortality at 45 ppt
Sea urchin (<i>Lytechinus pictus</i>)	10 + 10 min.	Acceptable range 20-35 ppt
Sea urchin embryo development (<i>Lytechinus pictus</i>)	48 hours	Acceptable range 28-32 ppt

Table 2: Literature toxicity values for High salinity

Bay mussel larval development (<i>Mytilus galloprovincialis</i>)	48 hr	EC50 = 42.2 EC50 = 44.3	Phillips 2012
Sea urchin fertilization (<i>Strongylocentrotus purpuratus</i>)	40 min	EC50 = 44.4 EC50 = 44.0	Phillips 2012
Sea urchin embryo development (<i>Strongylocentrotus purpuratus</i>)	72 hr	EC50 = 37.9 EC50 = 38.4	Phillips 2012
Sand dollar fertilization (<i>Dendraster excentricus</i>)	40 min	EC50 = 41.2 EC50 = 39.5	Phillips 2012
Sand dollar embryo development (<i>Dendraster excentricus</i>)	72 hr	EC50 = 39.5 EC50 = 39.7	Phillips 2012
Red abalone (<i>Haliotis rufescens</i>) development	48 hr	EC50 = 36.4 EC50 = 37.1	Phillips 2012
Giant kelp germination and germ tube growth	48 hr	EC50 = 55.8 (germination)	Phillips 2012

<i>(Macrocystis pyrifera)</i>		EC50 = 55.2 (germination) EC25 = 48.3 (growth) EC25 = 46.3 (growth)	
Topsmelt survival and biomass (<i>Atherinops affinis</i>)	96 hr	LC50 = 60.4 (survival) LC50 = 63.4 (survival) EC25 = 57.3 (biomass) EC25 = 61.2 (biomass)	Phillips 2012
Mysid shrimp survival and growth (<i>Americamysis bahia</i>)	48 hr	LC50 = 48.0 (survival) LC50 = 47.7 (survival) EC25 = >50.2 (growth) EC25 = >49.2 (growth)	Phillips 2012
Velvet crab (<i>Necora puber</i>)	96 hr	Physiological changes haemolymph pH decreased and protein, glucose and lactate increased at 55 ppt major ions changes at 40 ppt	Al-Azhary 2008

Glossary:

Acute toxicity	An adverse effect caused within a short period of exposure of the test organisms (usually <96 hours)
CCME	Canadian Council of Ministers of the Environment
CEQG	Canadian Environmental Quality Guidelines
Chronic toxicity	An adverse effect caused within a long period of exposure of the test organisms, usually the test lasts for a significant portion of the life span
EC50	Median effective concentration, the concentration of material that is estimated to cause a harmful effect on 50% of the organisms
LC50	Median lethal concentration, the concentration of material that is estimated to kill 50% of the organisms
Ppt	Parts per thousand
Sub-lethal effect	An effect that is other than death e.g. growth, reproduction, etc.

July 13 2016

The Honourable Justice Michael J. Wood written decision on Stay Pending Appeal for Sipekne'katik vs Nova Scotia (Minister of Environment) and Alton Natural Gas Storage Lp (Below)

The primary issue on motion is whether irreparable harm can be established. The following documents show the judge used in his written ruling irraparable hard could not be established using the terms and conditions as justification that the project was safe and all regulators approved. Condition 2.1(b) was in his written ruling. Today we know through the notice of intent that the brine plan does not meet federal law - section 36(3). We know full strength brine is toxic to fish. This needs to be addressed because misinformation effected a supreme court decision.

SUPREME COURT OF NOVA SCOTIA

Citation: *Sipekne'katik v. Nova Scotia (Environment)*, 2016 NSSC 178

Date: 20160713

Docket: HFX450765

Registry: Halifax

Between:

Sipekne'katik

Appellant

v.

Nova Scotia (Minister of Environment) and
Alton Natural Gas Storage LP

Respondent

LIBRARY HEADING

Judge: The Honourable Justice Michael J. Wood

Heard: June 22, 2016, in Halifax, Nova Scotia

Written Decision: July 13, 2016

Subject: Civil Procedure – Stay Pending Appeal – C.P.R. 7.28
Aboriginal Law – Duty to Consult

Summary: Sipekne'katik is a First Nation appealing Minister's decision to issue Industrial Approval under *Environment Act* for natural gas storage facility. Appeal alleges breach of duty to consult and lack of procedural fairness. Appellant seeks stay pending appeal under C.P.R. 7.28.

Primary issue on motion is whether irreparable harm established or exceptional circumstances exist to justify stay. Sipekne'katik argued that because of alleged breach of duty to

consult any work that would potentially impact Shubenacadie River and fish habitat created irreparable harm. Project in question would result in diluted brine solution entering river.

Respondents said harm not established and allegations are based on speculation not evidence.

Issues: Should stay be granted pending appeal?

Result: Stay refused. Appellant did not provide sufficient evidence of irreparable harm. Mitigation measures in place were designed to reduce or avoid adverse impact on river. Appeal hearing scheduled prior to anticipated start of brine operation. Reasonable to expect brining would occur for a relatively short period before appeal decided. Insufficient evidence of irreparable harm to ability to engage in meaningful consultation if stay not granted. No exceptional circumstances to justify stay in the absence of harm.

[9] On December 18, 2007, the Minister of Environment and Labour issued the Environmental Assessment Approval for the project. The terms and conditions included the following:

2.1 The proponent, as part of the application for Part V Approval under the *Environment Act*, must provide for review the following monitoring programs and plans developed in consultation with the Department of Fisheries & Oceans (DFO). Based on the results of the monitoring programs, the proponent must make necessary modifications to mitigation plans and/or operations to prevent continues unacceptable environmental effects to the satisfaction of NSEL and DFO (sic).

(a) An Effects Monitoring Plan including parameters such as frequency and duration. The plan must evaluate potential impacts of sedimentation, salinity and flow alterations on aquatic organisms and include an impact prediction.

(b) A program to monitor discharge salinity levels into the estuary to ensure no negative impacts to fish species result. This program should be developed in consultation with Environment Canada (EC).

(c) A plan to gather baseline information on water temperature and the presence of Atlantic salmon, Striped bass and Atlantic sturgeon eggs and larvae during one spawning season prior to the commencement of solution mining.

Condition 2.1.b from the Environmental Assessment approval.

January 27 2017

On April 29, 2016, Sipekne'katik First Nation appealed the Minister's decision to the Supreme Court on issues of procedural fairness and adequate consultation. On January 27, 2017, the court decided on the procedural fairness issue and sent the consultation matter back to the Minister for a decision.

August 8 2017

Memorandum to Deputy Minister (Below)

Alton Gas meets with ECCC officials on August 8, 2017 to explore options that would allow them to operate while meeting their obligations under the Fisheries Act. During the meeting ECCC officials committed to respond to the company in writing concerning the proposed approaches presented by the company. See page 1 (000007) of Memorandum To Deputy Minister

At this time it is clear ECCC understands the Alton Gas plan is in violation of section 36(3). In Fact the Deputy Minister which is the highest civil servant at ECCC is aware. At this time ECCC should have notified NSE immediately as Alton Gas had been granted an industrial approval. This information should have lead NSE to suspend the permits if made aware.

Environment and Climate Change Canada / Environnement et Changement climatique Canada

DM-219863

MEMORANDUM TO DEPUTY MINISTER

RESPONSE TO AltaGas LTD. CONCERNING FISHERIES ACT COMPLIANCE
(For Decision)

TIMELINE
Your decision is requested by **September 18, 2017**, in order to respond to AltaGas in a timely manner.

PURPOSE
To request that you approve the response to AltaGas concerning their proposed approaches for compliance with the *Fisheries Act* with respect to the Alton Natural Gas Storage project.

SUMMARY

- AltaGas is proposing to develop underground salt caverns to store natural gas at a facility near Shubenacadie, Nova Scotia. The project proposes to use water from the nearby Shubenacadie River to carve out these caverns and then return the concentrated brine back to the river via a man-made bypass channel.
- The deposits of concentrated brine from the operation are subject to subsection 36(3) of the *Fisheries Act* which prohibits the deposit of any deleterious substances in water frequented by fish.
- The company wrote to the department in December 2016 and August 2017 and met with ECCC officials on August 8, 2017 to explore options that would allow them to operate while meeting their obligations under the *Fisheries Act*. During the meeting, ECCC officials committed to respond to the company in writing concerning the proposed approaches presented by the company.
- A proposed response to the company is attached for your approval.
- There has been significant media coverage associated with this project in Nova Scotia focused on concerned stakeholder groups, including fisherman's associations and local Indigenous Groups. The Mi'kmaq community is concerned this project will infringe on aboriginal treaty rights to fish the Shubenacadie River.

CONTEXT AND CURRENT STATUS
AltaGas Ltd. is proposing to develop underground salt caverns for the purpose of natural gas storage near Shubenacadie, Nova Scotia. The project proposes to use water from the nearby Shubenacadie River to carve out these caverns and then return the concentrated brine back to the river. This brine would be returned to the river via a man-made bypass channel so that the salt concentration where the channel rejoins the river would be the same as the background concentration in the river. Brining operations for cavern construction are expected to last four

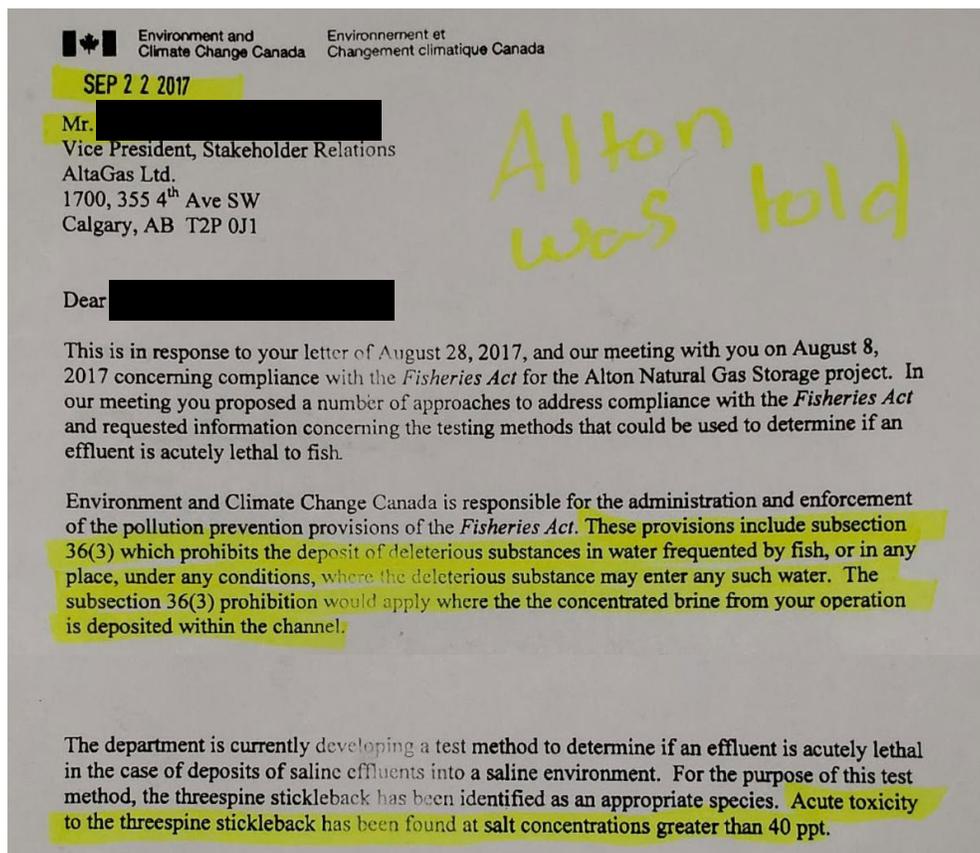
September 22 2017

Letter from Assistant Deputy Minister, Environmental Protection Branch to Alton Gas (Below)

"Environment and Climate Change Canada is responsible for the administration and enforcement of the pollution prevention of the Fisheries Act. These provisions include subsection 36(3) which prohibits the deposit of deleterious substances in water frequented by fish, or in any place, under any conditions where the deleterious substance may enter any such water. Subsection 36(3) prohibition would apply where the concentrated brine from the operation is deposited within the channel"

Here we see a document from ECCC to Alton Gas telling Alton Gas their project is not in compliance. This is September 22 2017. This fact is not confirmed to the public until ECCC publishes the notice of intent in February 2019. It also should have been discovered before the industrial approval was granted. ECCC should have contacted NSE and the permits should have been suspended. This information should have been made public and by not making it public it gives the appearance Alton Gas was given special treatment.

Source: This was obtained through freedom of information request to ECCC asking for: ""Clarification 11/10/2018: A copy of the request for a directive prepared on December 8th, 2017, by Atlantic Region enforcement officer ***** or other staff and forwarded by his regional manager ***** for processing, for issuance of a directive to Alton Natural Gas Storage/Altagas to notify that the planned design for the brine discharge into the channel river water, contravene federal regulations prohibiting any release of a deleterious substance into a body of water where fish frequent."



December 8 2017

Email from Enforcement officer NS District Environment Canada and Climate Change to Staff Environment and Climate Change Canada (Below)

"[Redacted] is suggesting we take pre-emptive measures to prevent the release of a deleterious substance such as an Inspectors Direction."

This is important because Alton Gas had a valid industrial approval stating they could begin work. If they had discharged brine they would be in direct violation of the Fisheries Act. Another reason why the permits from NSE need to be suspended.

Source: This document was obtained through Freedom of Information request to ECCC.

s.21(1)(b)

From: [Redacted]
Sent: February 26, 2018 9:53 AM
To: [Redacted]
Subject: FW: Enviroinfo: PIC-20171130-100608 POLL-NS-NC - Alton Natural Gas Storage Issue

Follow Up Flag: Follow up
Flag Status: Flagged

FYI,
[Redacted]

From: [Redacted]
Sent: December 8, 2017 11:27 AM
To: [Redacted]
Cc: [Redacted]
Subject: RE: Enviroinfo: PIC-20171130-100608 POLL-NS-NC - Alton Natural Gas Storage Issue

I spent a long time on the telephone with [Redacted] this morning there is no doubt that he is very knowledgeable about environmental issues and has grave concerns about the Alton Natural Gas project.

[Redacted] concerned that the channel in the river that the project will be using is actually water frequented by fish and not separate from the river.

[Redacted] he believes that the company will be delivering full strength brine to the diffuser at the channel. I explained that I would be sampling the brine at the point where it is sent to the diffuser not five feet away.

[Redacted] is suggesting that we take pre-emptive measures to prevent the release of a deleterious substance such as a Inspectors Direction.

In order to explore this Direction idea further I am suggesting that

Let me know what you think.

Thanks,

[Redacted]

Environmental Enforcement Directorate

Department of Environment and Climate Change / Département de l'Environnement et des Changements climatiques
Suite 212 Cabot House
500 Kings Road
Sydney, Nova Scotia B1S1B1

[Redacted]

August 1 2018

***Email from Rachael Greenland-Smith to Nova Scotia Environment Minister
(Below)***

“Question 2. Would the brine be considered a release of a deleterious substance into a body of water that fish frequent?”

After speaking with a citizen expert and going over the design plans that were publicly available it became apparent that 260ppt would be considered a deleterious substance. It also was clear that the free flowing channel where the brine would be discharged is fish habitat as wildlife is free to move through the channel as they please. In fact some fish will follow the shoreline which would guide them directly through the channel. We know through documents that the compliance points are at the ends of the channel. This means the only salinity measurements that government will see are at the ends of the channel not in the channel where 260ppt will be discharged. Keeping in mind fish and animals have free access to move through the channel, compliance points for measuring deleterious substance is at the last point of control according to ECCC. That means ECCC will determine if a substance is deleterious at the exact point it comes in contact with water frequented by fish.

From: rachael.greenland-smith [REDACTED]
Subject: Alton Gas Project questions
Date: August 1, 2018 at 4:22 PM
To: Minister, Env minister.environment@novascotia.ca

To: Honorable Margaret Miller Environment Minister

I am writing you to gain more information on the Alton Gas Storage project in Stewiacke. I have several questions I would like to have answers to. The following are the questions.

1. Will full strength brine be released into the Shubenacadie River if the project is to go ahead? In other words what process does the brine go through once it is removed from caverns and ends up in the River.
2. Would the brine be considered a release of a deleterious substance into a body of water that fish frequent?
3. What monitoring plan has been set in place for the trace minerals that will be in the brine and how will those be removed?
4. What permits are required by Alton Gas and have they received those permits?

I am also requesting to have a meeting to speak to the Minister about concerns and how we all can protect the Shubenacadie River and all the animals and plants that live in its ecosystem. As well to protect Treaty Rights on Unceded Mikmaq Territory. Please let me know a time the Minister would be available for a meeting.

Thank you for your time and I look forward to a response and a time to meet to work toward protecting the environment for all future generations. Thank you again,
Rachael Greenland-Smith
[REDACTED]

October 2 2018

Email from Nova Scotia Environment Executive Director – Inspection, compliance and Enforcement Division to Rachael Greenland-Smith (Below)

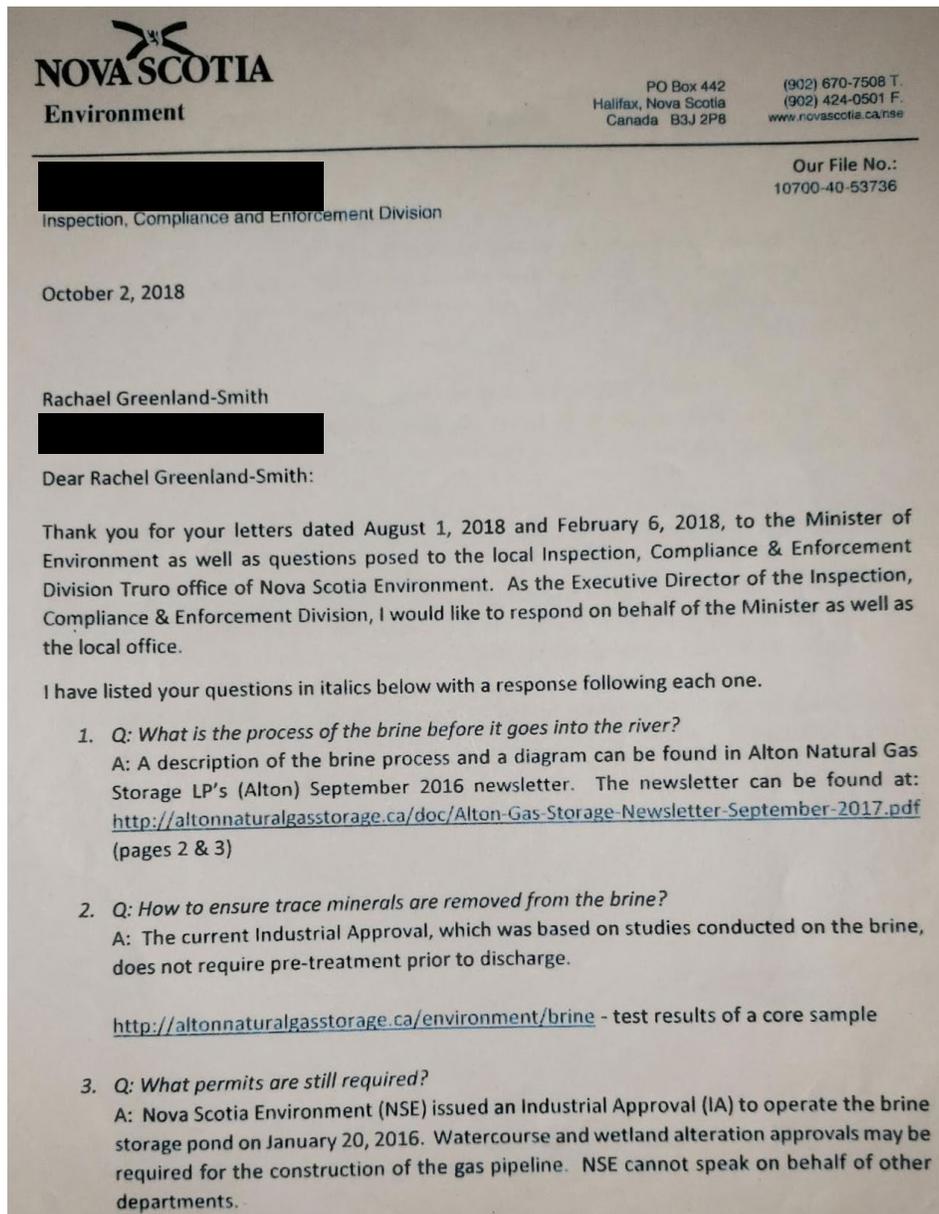
"Question 5

Q: Is the brine considered a deleterious substance with Environment Canada?

A: NSE cannot comment on whether the brine would be considered a deleterious substance by Environment Canada. Please contact Environment Canada for a response."

First off the original question did not include asking about Environment Canada. It asked does NSE consider the brine to be a release of a deleterious substance. Again NSE should have been able to answer this if condition 2.1(b) was completed. ECCC told Alton Gas the brine is a violation of the Fisheries Act in September 2017. This was gained through freedom of information documents which we received in 2019.

This email led us to reach out to ECCC and find the information ourselves.



4. Q: Request for a meeting with the minister and staff

A: At this time, the Minister is not available to meet with you. I would invite you to provide written questions to staff at the local office for clarification/response related to this project.

5. Q: Is brine considered a deleterious substance with Environment Canada?

A: NSE cannot comment on whether the brine would be considered a deleterious substance by Environment Canada. Please contact Environment Canada for a response.

6. Q: Have they applied for a permit to dredge the river?

A: No. NSE has not received an application to dredge the river.

7. Q: Did the Minister of Environment sign off on changes to the IA and when did that happen?

A: The IA issued January 2016 has not been amended. Alton has not submitted an application for an amendment to the IA issued on January 2016.

Please contact [REDACTED] Truro District office at [REDACTED] should you have additional questions.

October 3 2018

Email from Dale Andrew Poulette and Rachael Greenland-Smith to Minister of Nova Scotia Environment (Page 37)

We sent this email to inform the Minister of NSE that the brine release is a deleterious substance and section 36(3) would apply according to ECCC. Remember we asked NSE on August 1 2018 if the brine is considered a deleterious substance and they said no comment please ask ECCC. We felt we had to notify NSE as they may have not known as they did not answer our question. The main point is that NSE should have known the compliance issue as they granted an industrial approval and in the approval was the condition 2.1(b) requiring ECCC oversight.

From: rachael greenland-smith
[REDACTED]

Date: Wed, Oct 3, 2018, 10:21 PM

Subject: Alton gas

To: Minister, Env <minister.environment@novascotia.ca>

Dear: Minister of Nova Scotia Environment

It has come to our attention that the Alton Gas project is not in federal compliance. As per our email to your office we asked you if the brine Alton Gas plans to release would be considered a release of a deleterious substance into a body of water where fish frequent. Your responds was no comment and directed us to ask Environment Canada. We reached out to Environment Canada based on your advise and spoke with the Regional Manager at Atlantic Compliance Environment Canada. He informed us that the brine is a deleterious substance. He further informed us that the companies current plan to discharge the brine into the channel and river is in fact a release of deleterious substance and is not in compliance with federal regulations. He also advised us the company was made aware that the current design was not in compliance with federal regulations.

This makes the industrial approval that the province has issued also not in compliance with federal regulations.

Has the Minister been made aware of this compliance issue by Nova Scotia Environment staff?

Is it not the ministers normal protocol to suspend industrial approvals when it is brought to their attention that a project is not in compliance with federal or provincial regulations, until the company can demonstrate compliance with federal regulations?

I also note the Nova Scotia Environment assessment approved on December 18th 2007 was contingent on the ministerial decision's letter of terms and conditions. Specifically condition paragraph 2.1 (b) required Alton Gas to develop a monitoring plan on the salinity discharge by consulting with Environment Canada.

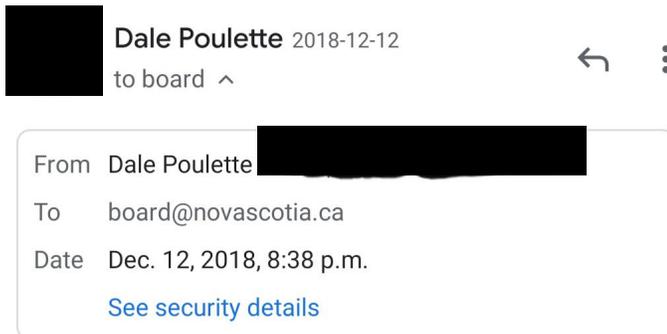
We look forward to your responds to the above questions.

Thank you for your time,

Rachael Greenland-Smith and Dale Poulette
[REDACTED]

December 12 2018

Here is evidence that we continuously tried to inform government and regulator including the UARB of the compliance issues.



Can you please confirm you received my submission ?

December 12 2018

Nova Scotia Utility and Review Board
3rd Floor, Summit Place
1601 Lower Water Street
Halifax, Nova Scotia B3J 3P6

Dear Members: Gurnham, Deveau, Almon, Clarke, Melanson, Murphy, McGrath, and Nicholson, of the Nova Scotia Utility and Review Board:

My name is Dale Andrew Poulette
I am a concerned Mikmaq Father and have dedicated a considerable part of my life to protecting future generations. To ensure they have the same opportunities to fish, hunt and enjoy the natural world as I did. The land is a huge part of my Mikmaq culture and for this reason I have knowledge and an understand of balance in nature. I see this project as a direct violation of the Treaty - both the caverns and brine discharge will negatively effect the land, Treaty Rights and human safety.

Water is one of the most important parts to healthy humans and nature. This project puts both ground water and river water at risk. To keep a healthy planet we must respect and protect water. I have seen Indigenous People across Turtle Island standing up for the water to protect everyone's future. This is a huge commitment that takes a toll. You as board members have the ability to also protect water and provide a safe future in the decision you make.

The caverns are proposed to go on a geological area that we know is uncertain. This puts ground water at risk for contamination and the potential for well failure. To this date two of the three caverns drilled have failed. This is a horrible track record and begs the question of alton gas's expertise and abilities. Underground water is a connected series of aquifers of one gets contaminated with gas it can migrate for kilometers. Putting caverns near fault lines is irresponsible and dangerous.

We all have a understanding that nature supports all living things and keeps humans healthy. In the case of this project we must use the precautionary principle which means do not move forward with a project that has a sunstantial amount of risks and cannot be proven safe. We need a clean sustainable future and natural gas is not in line with that future. At this point in time no one can argue that putting more fossil fuel infrastructure is safe for our future.

For this project to move forward there must be a plan for the removal of the salt brine. As the plan now stands it will be dumped into a Treaty fishing ground, a free flowing channel that SARA listed species frequent. Putting these fish in harm's way directly violates the ability to exercise my Treaty Rights as well for future generations.

I know that Environment Canada was not consulted on the brine discharge which was a term and condition in the environmental assessment. Specifically 2.1(b) in terms and conditions. If it had been checked off both Alton Gas and NS Environment would know that the brine is a release of a deleterious stubstance making it illegal to dump. This must be taken into consideration because if you are approving a project that the end result will knowingly violate my Treaty Rights the board has now become complicit in violating the Treaty and my Rights.

Sincerely,

Dale Andrew Poulette

February 28 2019

Final submission to the UARB Nova Scotia Utility and Review Board

March 11 2019

Final Approval Decision date for UARB Nova Scotia Utility and Review Board (Page 39)

NOVA SCOTIA UTILITY AND REVIEW BOARD

IN THE MATTER OF THE UNDERGROUND HYDROCARBONS STORAGE ACT

- and -

IN THE MATTER OF an application by **ALTON NATURAL GAS STORAGE LP** for Renewal of an Approval to Construct an **Underground Hydrocarbons Storage Facility** near Alton, Colchester County, Nova Scotia

2019 NSUARB 29 (CanLII)

BEFORE: Peter W. Gurnham, Q.C., Chair
Roberta J. Clarke, Q.C., Member
Richard J. Melanson, LL.B., Member

PARTIES: **ALTON NATURAL GAS STORAGE LP**
Robert G. Grant, Q.C.

PROVINCE OF NOVA SCOTIA
Sean Foreman, Q.C.

SIPEKNE’KATIK FIRST NATION
James Michael, LL.B.
Balraj K. Dosanjh, J.D.

BOARD COUNSEL: S. Bruce Outhouse, Q.C.

FINAL SUBMISSIONS: February 28, 2019

DECISION DATE: **March 11, 2019**

DECISION: **Approval to Construct renewed for a period ending September 1, 2023.**

February 2019

Notice of intent is released (Below)

The ECCC notice of intent was published on February 25 2019. This was the only document made public that demonstrates the compliance issue. Keeping in mind Alton Gas was formally told in 2017 that their design plan was not in compliance. Given the steady opposition and appeals and court hearings the public should have been made aware of this. It is unclear if NSE was aware before October 2 2018 when we told the Minister of NSE. Alton Gas had an obligation to tell NSE as soon as they were made aware. As soon as the notice of intent came out NSE should have suspended the permits. Again this all should have been cleared before the industrial approval was granted. NSE needs to suspend the permits and conduct a investigation and review as to how this happened.

We are confident ECCC will evaluate Alton Gas and see that they do not meet the criteria to become a regulated industry.

Government of Canada / Gouvernement du Canada

Home > Environment and natural resources > Pollution and waste management > Pollution sources and prevention > Managing pollution > Effluent regulations under the Fisheries Act

Proposed regulations for the Alton natural gas storage cavern development activities: notice of intent

Notice is hereby given that Environment and Climate Change Canada is initiating the development of proposed regulations made under section 36(5) of the *Fisheries Act* to govern the deposit of brine (a solution of salt in water) from natural gas storage cavern development activities at the Alton Natural Gas Storage Project site in Nova Scotia. The Alton Natural Gas Storage Project aims to reduce greenhouse gas emissions by expanding the use of natural gas in home heating and electricity generation in Nova Scotia. The project is also anticipated to stabilize the price of natural gas by buffering seasonal price fluctuations. The natural gas would be stored in underground caverns that are developed using water from the nearby Shubenacadie River to dissolve underground salt formations in order to carve out the caverns. The resulting brine would be returned to the river via an artificial bypass channel. The project is designed to ensure that the salt concentration where the channel rejoins the river would not exceed the highest naturally occurring salt concentrations in the river.

The objective of the regulations under consideration is to manage the risk of potential threats to fish, fish habitat and human health from fish consumption by establishing conditions on any brine releases to the Shubenacadie River resulting from cavern development activities.

The regulations under consideration would apply only to the substance and activity within the scope outlined above. Any other deposits would remain subject to the general prohibition in subsection 36(3) of the *Fisheries Act*, including any deposits made within the anticipated scope of the project before such time as the proposed regulation comes into force.

The proposed regulations are intended to be published in the *Canada Gazette*, Part I, in 2019. In addition, there will be a comment period following the *Canada Gazette* publication, during which interested parties will have an opportunity to make written comments specific to the proposed regulations.

April 8 2019

Letter from Minister of Nova Scotia Environment regarding consultation process with Sipekne'katik (Page 41-44)

The Minister of Nova Scotia Environment have determined that the consultation with Sipekne'katik have been sufficient in the circumstances of this matter but amendment to 1AA03 is necessary Two amendments to Alton Gas industrial approval were added.

"Despite the issuance of this Approval, the Approval Holder remains responsible for complying with or obtaining and other requirement or authorization that may be required to carry out the activity, including those which may be necessary under provincial, federal or municipal law"

The Province of Nova Scotia cannot argue consultation is adequate on a design plan that does not meet federal law - that is not acting in good faith and it also proves if Alton Gas had begun to brine they would have received fines for breaking the law. The February Notice of Intent provided by Environment and Climate Change Canada proves this. The permits need to be suspended and an investigation and inquiry is needed to understand how this happened.

Letter Begins//

April 8, 2019

[REDACTED]

201 - 1463 Park Street Halifax, NS B3J 3S9

Dear [REDACTED]:

Our File number :

10700-40 -54493

Re: Section 137 Appeal - Approval No. 2008- 061384 -A03 dated January 20 , 2016 to Alton Natural Gas Storage LP

Thank you for your written submissions on behalf of Sipekne'katik, which were received on July 17, 2017, in response to the Warner Report and the OAA material respecting Approval No. 2008- 061384- A03, dated January 20th, 2016 to Alton Natural Gas Storage LP or Alton Gas (referred to here as IAA03).

As you are aware, the period elapsed since receipt of your submission was due to several joint request to delay my decision to allow Alton Gas and Sipekne'katik opportunity to pursue a mutual benefits agreement .

Based on the Record, your submissions, including all of the documents contained in the compendium of documents, and the Book of Authorities you have provided, and taking into consideration such future or potential information concerning any adverse effect we may receive regarding IAA03, I have determined that the consultations with Sipekne'katik have been sufficient in the circumstances of this matter, but that an amendment to IAA03 is necessary in the circumstances of this appeal. The reasons for

my decision are as follows:

A. OAA Consultation Record

The documents before me identify the broad and meaningful extent of discussion and interaction between the Nova Scotia Office of Aboriginal Affairs (OAA) and Sipekne'katik regarding the establishment of financial support for consultation with Sipekne'katik for Approval IAA03 and for future projects. The record clearly demonstrates the interaction between OAA and Sipekne'katik to fund consultation.

With respect to the several technical meetings held with representatives of Sipekne'katik, I understand the purpose of these meetings was to encourage discussions between OAA and Sipekne'katik and to provide a better understanding of all relevant technical information concerning IAA03. These various meetings also permitted a free exchange of ideas and concerns Sipekne'katik or other parties might have had while issues relating to the Alton Natural Gas Storage project were being discussed. The Record discloses that a necessary and satisfactory consultation on the issues and concerns raised was achieved. The concerns raised during these consultations and meetings were used to formulate the terms and conditions imposed on IAA03, which terms and conditions were designed to mitigate those concerns that were raised with Alton Natural Gas Storage project, particularly with respect to the operations to be performed under IAA03.

During consultation, it is apparent that the primary concern put forward by Sipekne'katik during consultation was fish and fish habitat and the impact the project would have on fish and fish habitat.

The third-party review report by Conestoga Rovers & Associates (CRA) assessed the potential impacts the operations would have on these two components. The CRA report identified a number of information gaps and made recommendations as to how best to address those gaps. CRA's recommendations are reflected in the terms and conditions imposed on IAA03.

The Record discloses that the potential impact to the rights and claims raised by Sipekne'katik, including historic and fishing practices, was discussed throughout prior consultations held when the community was a member of the Assembly and then continuing throughout the direct consultation process engaged upon with Sipekne'katik solely, beginning in 2014 and continuing into 2016.

The Record further shows that the Province worked collaboratively with Sipekne'katik for many months because it wanted to make a decision that protected Mi'kmaq rights while allowing for responsible and sustainable development that was a benefit to all Nova Scotians. There was an independent third party review and a risk analysis with representatives of KMKNO, Dalhousie University, provincial and federal regulators which Sipekne'katik participated in as observers. During the risk analysis process, the Province worked with Sipekne'katik to reach consensus on permit requirements wherever possible. All the substantive issues raised during technical meetings were addressed in IAA03. The draft IAA03 and supporting documents were sent to Sipekne'katik on December 15, 2015.

The information and analysis done throughout the consultation process is captured by the correspondence between Sipekne'katik and the Province leading up to the issuance of IAA03. All of the potential outstanding environmental impacts which were identified by

Mi'kmaq through the robust consultation process were identified and avoided or mitigated through the terms and conditions of IAA03 and the proponent's monitoring plan.

The Record and the material submitted by Sipekne'katik reflects extended efforts by the Province to understand, explain and mitigate against the impacts the Alton Natural Gas Storage project, particularly IAA03, would have on fish, fish habitat and aboriginal rights. I conclude that the level of consultation was appropriate to the circumstances and to the aboriginal and treaty rights as asserted.

B. The Warner Report

Sipekne'katik submitted there was no meaningful consultation on the brine storage facility project at the heart of IAA03. Based on the Record and documents submitted by you, I conclude that the Province provided significant opportunities for Sipekne'katik to sufficiently understand the project, to identify potential adverse impacts to aboriginal rights, fish and fish habitat, and to fully participate in the approval process.

In your submissions, you refer to the Supreme Court's decision in Gitxaala, noting that public consultation is not a substitute for consultation. I conclude that consultation on aboriginal and treaty rights was substantial and was conducted separately from public consultation.

Sipekne'katik raised concerns during consultation that its domestic economy and cultural and social life would be impacted by IAA03. Sipekne'katik pointed out that the community uses and depends on the Shubenacadie river as a source of food and surrounding land for sustenance and spiritual practices, as well as for medicinal purposes, ceremonial, conservation and cultural knowledge purposes. Such use of the river and surrounding land by Sipekne'katik and its people was taken into account in the consultation and informed the development of IAA03.

Sipekne'katik submits that aboriginal title claims were not adequately addressed during consultation. The significance of Sipekne'katik's proximity to the project area and history as a Mi'kmaq community was taken into consideration by the Province, as the depth and length of the consultation process is reflective of the serious nature of both the aboriginal and treaty rights asserted, though not set out in detail by Sipekne'katik.

Sipekne'katik submits the Warner Report did not correctly or adequately address the Erika Perrier opinions and concerns regarding adult salmon. Further, it was submitted that the Conestoga Rovers & Associates (CRA) third party review report confirmed that the 7-year monitoring study did not examine or track adult salmon. The CRA report also addressed the potential for the disruption of fish spawning by the operation as proposed under IAA03.

A second report (also noted in the Erika Perrier affidavit) titled "Exposure Pathway Assessment Framework for Aquatic and Non-Aquatic Species in Relation to the Alton Gas Natural Gas Storage & Alton Natural Gas Storage Environmental Monitoring" (EPAF,} dated November 18, 2015, considers the life cycle of 19 species of fish and reviews the impact the operations under will have on fish species.

I find that both reports (CRA & EPAF) give due consideration to the potential adverse impact on fish species at various life stages at brine outflow and that both reports identify any potential adverse impact as either inconsequential in the circumstances or call for on-going monitoring to occur at the commencement of the brine release

and water intake to further assess the impacts, if any, and to establish an appropriate response to mitigate any adverse effect caused. Both of these reports resulted in the terms and conditions in IAA03 that followed.

With respect to Ground #2 raised by Sipekne'katik in its submissions, the technical concerns and questions raised by Sipekne'katik are similar to those concerns raised by other aggrieved persons.

The concerns and interests of Sipekne'katik and other aggrieved persons have been balanced with broader societal interests, including social and economic interests. The proposed project is an important one for Nova Scotians. It will support jobs and economic growth. It will provide lower cost energy during periods of high demand, help reduce greenhouse gas emissions, and provide opportunities for energy related projects including the reduction in use of other fossil fuels.

I conclude that the concerns of Sipekne'katik regarding potential harms were appropriately considered and find that they are sufficiently mitigated against by the terms and conditions imposed in IAA03.

I note I am authorized by s. 137(4) of the Environment Act to make any decision the administrator could have made. I am concerned that the terms and conditions applicable to IAA03 ought to be broadened to take into account the possibility that circumstances might arise during the life of IAA03 which might require considering the regulatory requirements of other agencies or authorities and how those requirements affect the operations under IAA03. For example, another governmental agency with regulatory authority over the project might issue directions or requirements which might impact the operation under IAA03. Therefore, to mitigate against any such adverse consequence, under my s. 137(4) authority, I hereby direct the administrator to immediately amend IAA03 to include as a term and condition the following:

Despite the issuance of this Approval, the Approval Holder remains responsible, for complying with or obtaining any other requirement or authorization that may be required to carry out the activity, including those which may be necessary under provincial, federal or municipal law.

This term and condition will capture any requirement to comply with another agency's regulatory provision. Any requirement to comply with another provision may result in amendment or change in the operating conditions of IAA03. Any such potential change to I AA03 may result in the need for further consultation with Sipekne'katik.

I have also added the following term and condition to ensure our established and valued relationship with the Mi'kmaq continues.

The Approval Holder shall develop a communication plan for the purposes of sharing information between the Approval Holder and Sipekne'katik on environmental issues that may require an amendment to this Approval. Alt on Gas shall contact Sipekne'katik to request their participation in the development of the communication plan, including mechanisms for Sipekne'katik to identify any questions or concerns about the communication plan or information that may be supplied to them in the future on environmental issues.

Pursuant to Section 138 of the Environment Act, you have thirty (30) days to appeal my decision to the Supreme Court.

Sincerely,



Minister of Environment

//End Letter)