



**Environment  
Office of the Minister**

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Our File number: 23000-30-125

APR 25 2016

Re: Notice of Appeal Form (February 22, 2016)

Approval No. 2008- 061384-A03 dated January 20th, 2016 to Alton Natural Gas Storage LP (the "Industrial Approval "or IAA03)

I am writing regarding your Notice of Appeal Form dated February 22, 2016, respecting Approval No. 2008- 061384-A03, dated January 20th, 2016, to Alton Natural Gas Storage LP.

After careful review of the "grounds for appeal", the information you submitted in support of your appeal, and the applicable statutory provisions, your appeal has been dismissed.

In dismissing the appeal, the reasons for my decision are provided as follows, with reference to the grounds documented in the Notice of Appeal Form:

In the case of Grounds 1 through 4, these grounds are considered background information as understood by the Appellant. Therefore, no comment or decision is being provided.

**5. This project poses a significant risk to the local watershed and could violate local residents' human right to water.**

The Department acknowledges the perceived risks associated with a project of this kind. However, it is respectfully noted that the appeal has not been supported by information to support the assertion that the risk associated with this project could violate local residents' human right to water.

Based on this, this ground cannot be supported.

6. **In July 2010, the United Nations General Assembly recognized the human rights to water and sanitation. As a result, there are now three obligations that governments must follow: the obligation to respect, protect and fulfill. Canada joined the international consensus and recognized the right to water at the United Nations Conference on Sustainable Development in 2012 stating, "Canada recognizes the human right of everyone to safe drinking water and basic sanitation as essential to the right to an adequate standard of living." Municipalities across the country continue to reaffirm this declaration with their own resolutions, however we are protected by this Universal Right from coast-to-coast.**

**a) Attached: Resolution adopted by the General Assembly on 28 July 2010, The human right to water and sanitation**

The purpose of the NS *Environment Act* is to support and promote the protection, enhancement and prudent use of the environment. Nova Scotia Environment (NSE), through its mandate, ensures the issuance of an approval pursuant to the *Act* considers the necessary preventative or mitigative measures to prevent an adverse effect, including concerns related to water.

*The Appellant has not* provided information to demonstrate that either the *Act*, or the Industrial Approval under appeal, have breached the General Assembly of July 2010 Resolution 64/292, for the right to safe and clean drinking water and sanitation. Consequently, this ground cannot be supported.

7. **The Obligation to Protect, whereby countries/governments are obliged to prevent third parties from interfering with the enjoyment of the human right (meaning , for instance, local communities should be protected from pollution and the inequitable extraction of water by corporations or governments).**
8. **The Obligation to Respect, whereby a government must refrain from any action or policy that interferes with the enjoyment of the human right.**
9. **Obligation to Fulfill, whereby the State is required to adopt any additional measures directed toward the realization of this human right.**

The source of the statements in grounds 7-9 is unknown and the General Assembly Resolution provided does not reference these obligations. Furthermore, no information has been provided to demonstrate that either the *Act* or the Industrial Approval have breached these obligations as referenced in the grounds.

Therefore, these grounds cannot be supported.

10. **In 2013, the 108th Annual Conference of the Union of Nova Scotia Municipalities passed Resolution 2C "FRACKING" (attached). This resolution affirmed the right to safe and clean drinking water. This resolution passed by the UNSM declares that "water and air are public trusts and as such require genuine public consultation and a process that enables communities to be a part of the decision making process." Though**

The purpose of the Industrial Approval is to permit the operation of a brine storage pond at Fort Ellis, Colchester County. The Industrial Approval allows a method of discharge so that the brine is diluted in a holding pond and mixing channel before being discharged into the estuary. The diluted brine will contain a salt content of 25 ppt or less, which is within the range of salinities that are normally experienced in the estuary.

The Appellant has not provided any information to demonstrate a comparison of the alleged risks of the project to fracking, or reasons to support the assertion that the UNSM resolution affirming the right to safe/clean drinking water has been compromised by the issuance of the Industrial Approval. In addition, the current listing of UNSM includes the Municipality of Colchester (site location), and there is no indication in the appeal that the County of Colchester has not approved this project.

To be clear, the UNSM resolution supports a moratorium on hydraulic fracturing and notes:

**"WHEREAS on September 23, 2011, the UN Human Rights Council passed Resolution A/HRC/ 18/L.1 affirming the human right to safe and clean drinking water and sanitation and as such contamination of drinking water by fracking fluids is a violation of this and other human rights";**

In the review of this appeal, the Department is not able to find any information that relates to the use of chemicals in the Alton Gas project that will require their address in the brine release as authorized in the Industrial Approval. In addition, the appeal does not relate the application of the UNSM resolution to the brine storage pond operation.

Therefore, ground 10 cannot be supported.

11. **These rights are put at risk by this project based on the entire application, of which this industrial approval is the first step.**

The reasons for not supporting this ground are addressed in the response provided for grounds 6 and 10.

12. **A groundwater survey (attached) conducted by the N.S. Department of Mines found that drinking water in the Brookfield area comes from the Horton Aquifer located just south of Truro, as well as surficial aquifers in the area. The report describes the surrounding area: "it should be borne in mind that these types of sediments may have a significant natural permeability while at the same time yield large volumes of water by a secondary permeability due to fractures, cracks, etc. It is suggested that this second type is the most promising in this area since the Horton sediments have been gently folded and cut by numerous small faults or fracture planes along which water may move."<sup>1</sup>**

The Appellant has not provided the relevance or application of this quote to the relationship with the dilution and release of brine solution into the Shubenacadie River estuary. In addition, it is not clear as to how this quote, if demonstrating a concern with an aquifer, can be applied to the operation of a brine pond release as provided in the Industrial Approval.

As a result, ground 12 cannot be supported.

13. **The 2011 Alton Natural Gas Storage application by Genivar Inc. discusses private water wells within a one-kilometer radius of the Alton storage zone. The application reads that private properties "may have a potable water well (some residences rely on tanker truck delivery of potable water)."<sup>2</sup> After consultation with several local residents it is clear that this understates the number of households in the area which rely on wells for their water. Although dry spells in summer months do require some households to supplement their well water with trucked in sources, others have found that upgrades to their wells have eliminated this need.**

The "application by Genivar" was not provided with the appeal submission. The application assessed by NSE resulting in the issuance of the Industrial Approval was submitted in September 2014, by WSP Canada Inc. Any other application relating to the brine storage pond or other phase of the Alton Gas project (not

administered by NSE) is not within the authority of the Department. For this reason, this ground cannot be supported.

14. **The official NS well registry shows dug and drilled wells existing on all sides of the projection Brentwood Rd. to the north, Forest Glen to the east, Hemlock Loop to the south, and Stevens Rd. to the west. There are residences directly across from the project with wells for domestic water that are not included in the application.**

*As is the case with ground 13, the "application" at this ground was not provided. If the application is as noted at the above ground, therefore not known to this review, an assessment of the number of domestic wells "across from the project" cannot be completed. In review however of the conditions of the Environmental Assessment Approval issued in 2007 by NSE, there is a requirement for a well survey plan of potentially at risk wells. The survey plan identified 18 residences in four residential areas. Samples and interviews were conducted at half of these sites with permission of the owners. The other residences did not respond to letters requesting permission to survey their wells. It should be noted that this survey is not associated with the Industrial Approval for the brine storage pond phase of the project.*

*Based on this information, this ground cannot be supported.*

15. **In a public meeting, Tim Church of Alton Gas stated that two of the four drilled test wells were compromised from groundwater. Local residents were not formally notified of the location of the wells drilled or groundwater which affected by the drilling of the holes.**

This ground is not related to the issuance of the Industrial Approval under appeal. On this basis, ground 15 cannot be supported.

16. **The application states that the shallow aquifers which these wells draw from would be isolated from wellbores, "by using proper techniques, including cemented steel casing ."<sup>3</sup> The application submitted by the Approval Holder lists six wells in the entire area. Without thorough survey and documentation of the surrounding area, it is not clear that all water sources will be protected from damage or loss. Should an incident occur with these wells, would there be protection for the wells not listed in the application?**

Section 67 of the *Environment Act* prohibits the release of a substance that causes or may cause an adverse effect. Substance, by definition, means any solid, liquid or gas, any sound, vibration, heat, radiation or another form of energy, or

combination of these things. In addition, the person responsible for the release has a statute obligation to take all reasonable measures to prevent, reduce and remedy the adverse effects of the substance.

Based on this, the incident as noted at this ground can be addressed, therefore this ground cannot be supported.

17. **With there being no project like this ever created before, we are forced to speculate on the risks. A similar process to how the consultants and government has made their recommendations and decisions thus far. Let it be assumed the cemented steel casings around the wellbores keep their integrity for the entire lifespan of the caverns, as well as a suitable remediation period. The surrounding water wells would still be threatened.**

This appeal involves the Industrial Approval for the operation of the brine storage pond and release of brine into the Shubenacadie River. This ground appears to refer to the gas storage caverns, which is not captured by the Industrial Approval.

The responsibility for the construction of the well cavern site falls under the Nova Scotia Utility and Review Board (UARB) and its certifying authority. In review of this ground, it has been determined that the UARB's Certifying Authority has filed its report and issued its approval to Alton Gas. In its report, the well design including casing and cementing details were certified to meet code requirements.

NSE does not have the authority to administer the authorization issued by the UARB. Based on the above, this ground cannot be supported.

18. **Should local wells be contaminated, they will be forced to truck water in. The industrial approval does not give adequate protection to the local residents. The approval only gives protection to local water supply should contamination happen from aggregate removal (outlined in 7a of the approval. There is no mention of the protection should wells be contaminated from the construction of the brine ponds, solution mining or pipeline construction between the caverns and river.**

The reasons for not supporting this ground are addressed in the response provided at ground 16.

19. **Should the follow stages of this application are allowed to proceed with pressurized natural gas storage, the threats to drinking water is increased. Seepage from pressure in the salt caverns used to store natural gas has caused irreparable harm to Seneca Lake. The risks that will be posed to the drinking water, buildings and human life from putting a project in a residential neighbourhood are beyond acceptable.**
- a) Attached: Seneca Lake Hydrology Report**
  - b) Attached: Quantitative Risk Assessment**

The appellant provides information relating to concerns associated with an existing and proposed underground storage of liquefied petroleum gas (LPG) in Seneca Lake, New York State, USA. Information on the similarities between the Seneca Lake Project and the Alton Gas project were not provided to show that the Alton Gas project may result in an adverse effect as experienced in the USA examples submitted to support this ground.

The proposed LPG storage facility discussed in the submission is actually a preexisting gallery created in 1964 by the mining of salt. The report concluded the salt impact on Lake Seneca is likely the result of LPG storage in the same formation in the mid-1960s. The technology at the time used liquid brine to displace LPG to and from the storage caverns. This brine solution displacement methodology exerted pressure on the salt formation and in the opinion of the report's author, is the cause of the release of concentrated chloride into Seneca Lake.

During the review of this appeal, no information could be found that demonstrates the intention of Alton Gas to use brine solution to transfer natural gas. It is recognized the Seneca Lake experience is a lesson learned and risks are present by the very nature of the industry. The information submitted in support of this ground does not represent the Alton Gas project.

The operation of the well cavern storage site for the Alton Gas project is required to be in accordance with CSA Z341, Storage of Hydrocarbons in Underground Formations.

Based on this, this ground cannot be supported.

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

Yours truly,

A handwritten signature in black ink, appearing to be 'M. Miller', written in a cursive style.

Margaret Miller  
Minister of Environment