

## CRITICAL TOXINS PRESENT, BUT WILL NOT BE TESTED FOR

AIS has given assurances to Council of extensive testing of all hydraulic fracturing fluids before the company accepts them for treatment. But the evidence indicates that there was little or no testing of fluids that AIS brought from New Brunswick. Results of testing performed on the fluids in the Triangle Petroleum Kennetcook waste ponds have been secured and made publicly available through Freedom of Information. These analyses were made available to AIS, but are only for a very limited number of chemical compounds. AIS also received from Triangle the manifests for all the chemical compounds used in the hydraulic fracturing- but the amounts used are not given, and cannot be calculated.

Both AIS and the provincial regulator considered it acceptable to discharge these untreated, and essentially untested, hydraulic fracturing wastes directly into the Town of Windsor Sewage Treatment Plant. So it is commendable and prudent that the County of Colchester has undertaken to research and develop its own requirements of chemical analysis for potential discharges into its sewer system.

But the County has not adequately protected the health and welfare of its citizens, nor the environmental integrity of the rich estuaries of the Cobequid Bay it discharges into, and which directly effects many people such as myself who live on Cobequid Bay outside the County of Colchester.

The Approval for AIS to discharge into the Debert Sewage Treatment Plant includes requirements for testing at numerous critical waste processing stages for presence of the BTEX group of chemicals. **There are a number of more hazardous chemical compounds, none of which are included in the BTEX test group, which Triangle Petroleum reported to Nova Scotia Environment were used in the hydraulic fracturing fluids, but did not test for in analysis of the hydraulic fracturing wastes. [1]**

These chemical compounds listed as present in the hydraulic fracturing waste include, but are not limited to, Methanol, Isopropanol, Ethoxylated Alcohol, Trisodium Nitroacetate, Sodium Persulphate, Diethylene Glycol Monomethyl Ether, Acrylamide Copolymer, Fatty Acid Esters, Terpene, Alcohol, Alkyl Alkoxylate, Methylene Bis (Thiocyanate), and 2-(Thiocyanomethylthio) Benzothiazole.

Most of these compounds are documented to pose health risks, yet do not have a provincial or federal health guideline at this time. Over two-thirds of these compounds are rated as having moderate to high risks for human health. **The last two compounds are biocides to which the EPA gave their highest level warning: Toxicity Category 1. [2]**

The Department of Environment simply accepted Triangle's claims that the amounts of the compounds reported used were "minimal". [1] It has to be stressed that virtually all toxic additives to hydraulic fracturing fluids are present in what are typically presented by industry as, and sound to lay ears as, "minimal amounts".

Where hydraulic fracturing fluids are concerned, the County does not have the resources or the expertise to adequately protect the health and welfare of its citizens, nor other downstream communities, nor the integrity of the rich estuaries of the Cobequid Bay it discharges into, and which directly affects many people such as myself who live outside the County of Colchester.

It needs to be further noted that metals and a variety of other toxic compounds are typically brought to the surface with flowback waters- as well as the NORMs we know were brought up at the Kennetcook wells hydraulically fractured in 2009. The County has made no provision for determining which of these potential 'naturally occurring' toxins may be present in the waste fluids.

**Councillors should consider whether it is prudent to proceed without a complete analysis of chemical compounds present or likely to be present. The list of chemical compounds known to look for is currently dependent on the drilling company's diligence and willingness to be comprehensive in its search, and its disclosure. This is compelling reason that the County needs to secure competent and independent expert advice for comprehensive recommendations of testing protocols, the expense borne by the applicant for discharge.**

The chemical compounds used in high volume hydraulic fracturing vary enormously between companies and between individual projects according to local geologies, and evolving practice even in the same drilling locations. This is the time for the County to consider whether it will ever have access to adequate resources for prudently regulating hydraulic fracturing fluids discharged into its sewer system. The County has already incurred considerable costs that will never be recovered around this issue. In light of the provincial government's de facto abdication of regulation around the chemicals in fracking fluids, and the fact that companies operating in New Brunswick and Newfoundland look to AIS Debert as their only disposal option, where is this process headed?

### **WASTE DANGEROUS GOODS, AIS, AND THE PERSISTENT PROVINCIAL REGULATORY VACUUM**

Waste Dangerous Goods are classified, controlled and regulated in Nova Scotia according to the Transported Dangerous Goods Act of Canada and the Management of Waste Dangerous Goods Act of Nova Scotia. The Atlantic Industrial Services Debert facility is allowed to transport Waste Dangerous Goods to approved processing facilities, but its Industrial Approval from the Nova Scotia Department of Environment explicitly prohibits it from processing Waste Dangerous Goods, excepting some narrowly defined "oily wastes" that do not include hydraulic fracturing fluids.

Throughout Canada, the federal and provincial governments classify hydraulic fracturing fluid wastes as Waste Dangerous Goods. Both the Nova Scotia government and Atlantic Industrial Services demonstrated this when the company applied in 2008 for an expansion of its processes and capabilities that would allow it to process waste dangerous goods, including fluid hydraulic fracturing wastes. Special note was made in the extensive Environmental Assessment of the business opportunity then opening up in shale gas exploration using high volume hydraulic fracturing. The company requested a timely completion of the government's review of its environmental assessment so that it could begin construction in time to realize this opportunity. [3] [4]

The Minister of Environment approved the AIS proposal for the Debert facility in September 2009, but AIS chose not to implement the expansion. Instead, Nova Scotia Environment approved the discharge of untreated fracking wastes by AIS into the Town of Windsor Sewage Treatment Plant- a practice universally criticized even by the petroleum industry. [4]

Under increasing public and municipal scrutiny, the provincial government quietly stopped this practice in 2011 and allowed AIS to bring high volume hydraulic fracturing wastes to Debert from New Brunswick, followed by the wastes that had been stored in Kennetcook for 3 years.

When questioned about this change in policy over waste dangerous goods and high volume hydraulic fracturing wastes, Nova Scotia Environment simply and repeatedly claim that AIS has "always been approved to treat hydraulic fracturing wastes," and that hydraulic fracturing wastes are not waste dangerous goods. The latter claim is directly contradicted by the 2008 Environmental Assessment submitted by AIS, and by correspondence between Triangle Petroleum and the regulator about the hydraulic fracturing waste fluids. [5]

Given the regulatory track record of the Department of Environment, Counselors should question the wisdom of simply accepting its determinations. The County's liability for its decisions, as well as the health and welfare of residents, is at stake.

### **EXPOSURE TO "LOW LEVELS" OF NATURALLY OCCURRING RADIATION**

The Health Canada Guidelines on allowable exposures that have been used by the Department of Environment have not been updated for decades. There is considerable new research that calls into question whether accumulated dosages from multiple sources has been adequately accounted for.

Because widespread radioactive materials in shale beds is characteristic to the geology of Nova Scotia, it is incumbent on the provincial government to make a specific and dedicated study of the potential effects on human health as part of its Review of Hydraulic Fracturing.

At numerous times in the past several months Ministers have acknowledged that the province undertook fracking without adequate preparation. This is why we still have fracking wastes in open pits 5 years after the wastes were produced.

This is not a problem of the County's making, the County has neither the expertise nor resources to determine the acceptable level of NORMs for discharges into its sewer system, and the provincial government has given every reason to question the basis of its determinations of acceptable levels.

Why should Councilors take risks to relieve the province of problems its years long absence of due diligence has created? Let the provincial government seriously apply itself to the questions of risks and alternative solutions. Leave the responsibility where it belongs: with the companies who created and chose to handle the wastes, and the provincial government with the duty and responsibility for regulation. Councilors will then be doing all Nova Scotians a favour by pressuring the provincial government to develop a more robust Review of Hydraulic Fracturing.

## **CONCLUSION**

At the minimum, the issuance of the AIS Approval is not supported by information that the County has supplied to the Appellants; and the County needs to step back and subject the whole Approval process to further review.

Alternatively, we suggest that this Appeal, in combination with other Appeals, in themselves sustain and support a compelling need for the County to overturn this Approval for AIS to discharge into the sewer system.

Dated: April 10, 2013

Respectfully submitted,

Ken Summers, on behalf of the Ecology Action Centre

## NOTE

Ken Summers for Ecology Action Centre  
Appeal to Colchester Sewer By-Law Committee

[1] Communication to Nova Scotia Environment *Application for Approval, March 11, 2011* <http://nofrac.files.wordpress.com/2012/05/binder-h-p-177-272.pdf> [pages 180-185]

[2] US EPA *Reregistration Eligibility Decision FACTS Methylene bis(thiocyanate), August 1997* <http://www.epa.gov/oppsrrd1/REDs/factsheets/2415fact.pdf>; US EPA *Reregistration Eligibility Decision for 2-(Thiocyanomethylthio)- benzothiazole (TCMTB), August 2006* [http://www.epa.gov/oppsrrd1/REDs/tcmtb\\_red.pdf](http://www.epa.gov/oppsrrd1/REDs/tcmtb_red.pdf)

[3] *Environmental Assessment Registration Document (Class 1 Undertaking) Expansion of Waste Management Services Atlantic Industrial Services, Debert Facility November 28, 2008* <http://www.gov.ns.ca/nse/ea/ais.debert/ais.debert.Report.pdf>

There is not extensive text devoted specifically to proposed plans for processing fracking fluids. But no other specific Waste Dangerous Goods, and no other business opportunities, are itemized. See especially pages 14, 19, 21.

**Table C-1: Description of Waste Goods and Applicable TDG Classifications for Existing and Proposed Facility Operations** differentiates for the existing operation the restrictions of the Nova Scotia Environment Industrial Approval: “Wastewater which meets criteria as listed for a dangerous good under Transport Canada’s Transportation of Dangerous Goods Regulations or under Schedule B of the Dangerous Goods Management Regulations shall be considered a waste dangerous goods and shall not be

accepted for treatment at this facility.” The Table specifies for Expansion Part 1 the TDG Classification used across Canada for hydraulic fracturing fluids.

Page 28 of Appendix:

<http://www.gov.ns.ca/nse/ea/ais.debert/ais.debert.Appendix.pdf>

**Appendix G** is a **Water Modeling** comparison for the existing and proposed expanded facilities. The proposed expansion is modeled for “New Frac. Fluid Waste”. Page 99

The design specifications for the “new difused air biological treatment tank” and new enclosed tanks are emphasized throughout. The Minister approved the undertaking on this basis. AIS nevertheless built none of the proposed project, and is still not approved to process Waste Dangerous Goods. But the Department of Environment has allowed them to process fracking fluids anyway. See note [5].

[4] “No Fracking Problem: Nova Scotia Fracking Waste Broker Company Masquerades as Approved Processor. Provincial “regulator” provides cover. January 7, 2013  
<http://halifax.mediacoop.ca/story/no-fracking-problem-fracking-waste-broker-company/15458>

[5] “All of the Environment department’s Industrial Approvals for AIS Debert explicitly prohibit the company from processing what are classified as waste dangerous goods. Nova Scotia Environment spokesperson Lori Errington has said repeatedly that the department has determined that the fracking wastes from Kennetcook are not waste dangerous goods, and therefore AIS is in compliance. The NSE supervising engineer who wrote the 2008 to 2010 approvals for the Kennetcook fracking storage ponds always referred to the wastewater as waste dangerous goods, as does the consulting engineer for the driller, Triangle Petroleum. When the discrepancy was pointed out to spokesperson Errington, she queried the engineer, who

*backpedaled. "That is not what he meant to say," noted Errington.* February 12, 2013 Is There a Regulator in the House?

<http://halifax.mediacoop.ca/story/there-regulator-house/16247>