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BY EMAIL & FAX

October 20, 2014

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Re: Bill 6 – Hydraulic Fracturing Amendments of the Petroleum Resources Act

Dear Members of the Legislative Assembly:

I write to you as a concerned Nova Scotian, a member of Steering Committee of Nova Scotia Fracking Resources & Action Coalition ("NOFRAC") and as a lawyer with 40 years of experience. I write to address two areas of concern. First, the limited scope of the Bill. Second, the limited scope of the factors the Minister is required to consider if the Minister wants to review the ban imposed by the Bill in the future.

Scope of the Bill

The scope of the Bill is at odds with the precautionary principle as reflected in the Environment Act, the platform of the Liberal Party in the last provincial election, the scope of work that the current government contracted for with Cape Breton University ("Wheeler Contract"), and the final report of the panel assembled by Dr. Wheeler pursuant to the Wheeler Contract, entitled Report of the Nova Scotia Independent Review Panel on Hydraulic Fracturing ("Report").

The Bill would merely prohibit "high volume" hydraulic fracturing in "shale", leaving significant parts of the Province in harms way of hydraulic fracturing in other geological formations and in any hydraulic fracturing that was not "high volume" as defined in regulations. A definition for which the Bill provides only the most general guideposts, leaving the then current Minister with too much discretion when the regulations are adopted or modified.

By limiting the Bill's ban to "high volume" "shale" hydraulic fracturing, the Bill is a significant departure from prior statements made by the Liberal Party, the scope of the practice to be examined under Wheeler Contract and the Report the Government sought and accepted.

In Premier McNeil's September 10, 2013 email to Yuill Herbert, then opposition leader McNeil stated:

> The Liberal Caucus introduced a bill which would have put a complete moratorium on fracking until and unless an independent study and review showed the process could be safe in the Nova Scotia geological context.

Similarly, in the Liberal Party's formal description of its election platform on hydraulic fracturing, the Liberal Party responded to NOFRAC as follows:

> The Nova Scotia Liberal Party believes a moratorium should continue to be imposed on the practice of hydraulic fracturing to access hydrocarbons, until such a time as the practice is properly investigated and a complete and independent scientific review is completed. It was only recently that the NDP government committed to an independent review, after Liberals have been calling for this for years and introduced legislation on this matter. ***
>
> Until we can definitively determine that fracking will not harm our resources, our environment, or the general public in any way, the extraction procedure should be prohibited.

The contract signed by Minister Younger with Cape Breton University dated August 28, 2013 described the scope of the Wheeler Panel's work in Schedule "A", Section 1.1 as:

> The Contractor will work as a consensus builder, engaging the public and technical experts as part of an external review process on hydraulic fracturing in Nova Scotia. The scope of the \independent, external review will include examining the environmental, health and socio-economic impacts of hydraulic fracturing.
>
> The external review is expanding upon work initiated by the Province through its internal review of hydraulic fracturing activity. The Contractor will include in their scope of work the areas covered as part of the internal review, these include:
>
> - ***
> - Use of and effects on surface water; examining surface water acquisition for hydraulic fracturing operations, including the quantity of water required and potential sources.
> - Impacts on land (e.g. potential soil contamination) which may result from hydraulic fracturing.
> - Management of additives in hydraulic fracturing fluids, including disclosure, examination of the additives used in hydraulic fracturing and their impacts.
> - Waste management, including surface ponds of produced waters; assessing the current and available waste management technologies for treating and disposing of water used

> in hydraulic fracturing, including recycling and reinjection of hydraulic fracturing fluids***

Minister Younger's November 21, 2013 announcement regarding the Wheeler Panel included the following statements (http://www.blog.andrewyounger.ca):

> The review is being led by David Wheeler, president of Cape Breton University. After he has chosen an expert panel, including experts in the areas of science, health and aboriginal knowledge, Mr. Wheeler will conduct public consultations on the environmental, socio-economic and health impacts of hydraulic fracturing in Nova Scotia.

In the Report's Executive Summary at Page 2:

> We summarize current energy policy in Nova Scotia, and we describe the current state of the art on environmental, health, and social risks of unconventional gas and oil development using hydraulic fracturing and associated techniques, drawing on the Council of Canadian Academies (2014) report: *Environmental Impacts of Shale Gas Extraction in Canada.*

In the Report's Executive Summary at Page 4:

> Consequently, we advocate a precautionary approach and make the following top level recommendations:
>
> • Based on the analysis described in this report a significant period of learning and dialogue is now required at both provincial and community levels, and thus hydraulic fracturing for the purpose of unconventional gas and oil development should not proceed at the present time in Nova Scotia.
> ***

The Bill should be amended to provide the ban the Government promised to enact and that carries out the conclusion of the Wheeler Panel in the Report, namely a legislative ban of all hydraulic fracturing for hydrocarbons, sometimes referred to as unconventional oil and gas development.

If there is one thing that Wheeler has announced in public, that he and the public agree upon, it is that there is not enough evidence for anyone to conclude that hydraulic fracturing can safely proceed in Nova Scotia at this time or in the near term.

It has been evident for quite some time that only a small percentage of the public favors hydraulic fracturing and that percentage is declining as the evidence of its toxic consequences and costs passed onto the public become better understood. It's time for Provincial government to adhere to the precautionary principle and follow through on its platform, the forbearance recommended by the Wheeler Panel in the Report, and adopt a legislated ban of all hydraulic fracturing, not merely "high volume" hydraulic fracturing in "shale" as the Minister or cabinet that happens to be in office at that particular time thinks the practice should be defined.

Factors the Minister is to Consider if the Minister Decides to Review the Ban

My experience includes 6-1/2 years as a lawyer in the New York State Attorney General's office, in administrative, civil and criminal enforcement, followed by a stint of administrative enforcement with the New York Stock Exchange, Inc. With enforcement budgets, staffing, and expertise far exceeding anything that most other State and Provincial enforcement agencies in North America might be able to raise, we could still do little more than selectively enforce the law, using prosecutorial discretion to identify the cases and actors that warranted the use of the limited budgets, staff and expertise of our enforcement agencies and the trial courts and other forums that determined the ultimate outcomes of contested litigation and administrative proceedings. In my subsequent years of practice, as a lawyer, property owner and as a volunteer, I've encountered an altogether too common inability and often unwillingness on the part of various levels of government to enforce the law, and when enforcement is pursued the results are too often nothing more than a slap on the wrist and an incidental cost of doing business.

There are inherent limits on the effectiveness of regulations, including without limitation intended, the inability of regulatory bodies to ensure full or even substantial compliance with any regulatory program, including by way of example only, regulatory bodies inability to monitor, investigate and enforce regulations, for a variety of reasons including by way of example only: (i) staff not adequately trained; (ii) administrators without adequate background; (iii) political and industry influences in regulations and regulatory decision making; (iv) inadequate funding; (v) the sheer numbers of personnel and incidents that need to be scrutinized and investigated contrasted with relatively scant investigation and enforcement staff; (vi) judicial attitudes towards enforcement of non-violent civil and criminal offenses; and(vii) the inadequacy of available judicial and administrative remedies. Even the best regulatory enforcement agencies, do little more than enforce regulations against a select few for the purposes of trying to address the worst situations presented, the most persistent violators or to establish important precedents; and enter into consensual agreements or orders for remedial action that involves significant compromises to achieve settlements without the investment of staff and other resources required for enforcement actions in court or even before an administrative tribunal.

As a commercial real estate lawyer, over the last few decades, I have come across many sites with contamination in excess of legal limits. More often than not, the contamination was caused by elements of the oil and gas industry. In almost all instances, the only physical means of reducing the levels of contaminants was aeration or vaporization and naturally occurring breakdown. Levels of ground water contamination in excess of legally permissible limits continued for years in most instances. Underground plumes of contaminants frequently migrated considerable distances. Almost all of the contamination was ignored, until buyers and lenders of the contaminated property obtained environmental site assessments of the contaminated sites that were performed by qualified environmental consultants.

Under Canadian bankruptcy law, polluters can be relieved of financial responsibility for the contamination they cause and be given a "fresh start," that may leave the public at large, the affected municipalities and the Province with the resulting expenses. This altogether too likely

scenario could lead the Province, municipalities and all taxpayers with significant future financial liabilities.

In Canada (Attorney General) v. MacQueen, 2013 NSCA 143 (CanLII), <http://canlii.ca/t/g246b>_the affected individuals owned land or lived near a steel works and claimed that the steel works contaminated their properties and created risks to their health from the contaminants generated by the steel works, that included lead and arsenic. Under the precedent and reasoning expressed by the Nova Scotia Court of Appeals in the Sydney Steel case:

- Polluters are effectively freed from liability to the public for contamination if the general nature of their activity (for example, manufacturing, refining or oil and gas extraction) is permitted by law, and the polluter is not negligent and does not create a nuisance (To prove negligence, a person filing suit must prove that the polluter knew or should have know that their conduct was reasonably likely to cause pollution, that the pollution caused was the kind of harm that should have been foreseen, that the polluter actually caused the contamination, and the contamination caused a loss to the person filing the suit and the cost of remedying the loss, with the person injured by the contamination required to take at their expense reasonable measures to lessen the extent of the loss from the date the contamination was discovered until the date the lawsuit is finally decided.) Under Canadian law, there is no res ipsa loquitur doctrine available, i.e. no doctrine that the thing (contamination) speaks for itself and its mere presence establishes negligence. If the polluters' business operations are authorized by law, the polluters are not responsible even if the injured person can prove the polluter caused the contamination of water and air, loss of property values, cancer, birth defects or other physical suffering. To prove a nuisance, a person must establish that the polluter significantly and unreasonably and interfered with the use of the injured person's real property.

- Each injured person or immediate family has to file their own suit, hire their own lawyers, expert witnesses and pay all of the associated costs Even though many residents of an area may be injured in the same general way, the Sydney Steel decision demonstrates the Court of Appeals will narrowly interpret the statutory rights of residents to join together in a class section lawsuit. Class actions are the only feasible way for almost any private citizen to seek redress in the courts in most contamination suits, as the costs of hiring lawyers and expert witnesses can be spread amongst a larger number of injured persons. The litigation often drags on for years as it did in the Sydney Steel case. Pursuing contamination claims on an individual basis is generally prohibitively expensive under a negligence or nuisance standard.

It is extremely difficult to prove the actual source of pollutants that cause contamination, There is no practical or practicable way for members of the public, municipalities or the Province to pay for or perform the extraordinary baseline and ongoing testing of their water and air, and the wholesale engagement of experts that would be required to determine if the water and air is "safe" or for the courts to establish claims against polluters for liability under a negligence standard, nuisance or even a strictly liability without fault standard.

And even when it is possible to prove the source of contamination, contamination by itself does not in Nova Scotia establishes legal liability for the resulting consequences.

There are other significant barriers for those hurt by pollution. For example:

- Suits must be filed within a limited time period or be forever barred even though the extent of the resulting injury and loss is not known until much later.

- Polluters can be very litigious running up very large legal fees for injured persons.

- Polluters are often successful in sealing the court files and settlement agreements that disclose the evidence and extent of the polluters' responsibility.

- The actors that actually make the mistakes that do constitute negligence, are often subsidiaries and independent contractors with very limited assets and net income. One of the many defenses the permit and lease holders employ to escape liability is that the negligence was that of a subsidiary or an independent contractor for which they have no legal responsibility.

- If an injured person is ultimately successful in court proceedings, the actual recovery of any award made by the Court is dependent upon the availability of assets that can be seized or sold with proceeds of sale sufficient to pay the award.

- Awards of all or substantially all of a prevailing party's attorneys fees are generally not available in Nova Scotia; and these are probably not the kinds of cases that most lawyers would be willing to take on, let alone on a "contingency fee" basis, i.e. no fee unless they win.

- When there are proceeds to pay the award, the fees of the lawyers and expert witnesses are paid from the proceeds collected, to the extent not awarded by the court and otherwise paid by the polluter.

Citizens in Nova Scotia do not have any right to seek any redress against polluters under the Environment Act. There is no standing for citizens under the Environment Act to bring claims for damages or injunctions against polluters, and there is no prospect of being able to compel the Province to enforce the Environment Act as the Act gives the Minister considerable discretion how to apply and enforce the Act. See: Environment Act Section 142.

Innocent victims of pollution in Nova Scotia deserve much better. Polluters and those that engage their services, should be liable to those injured even if the polluters were not at fault. Polluters should bear the burden of proving they did not cause contamination when contamination is identified. Those who wish to engage in the extraction of fossil fuels through a process that uses or releases hazardous substances should bear the entire risk that their activities injure the innocent.

And when the innocent are injured, the financial resources required to address their physical and financial injuries need to be readily available.

Bonds are most often cited as the appropriate financial asset to ensure that there will be at least some funds available if contamination occurs. There are some very serious problems inherent in bonds, which compromise getting appropriate security to cover potential harm. They include:

- Bonds are issued by surety companies. Surety companies limit their liability under the bonds to a maximum dollar figure or a specific action, such as completion of a building. There is no possible means of estimating the total cost, let alone in future dollars of trying to remediate contamination that occurs in the future, treat cancers and birth defects that arise in the future, provide alternative water sources they are required in the future, provide testing and monitoring required in the future, make repairs to well casings or pipes in the future, compensate for lost property values, and recover the costs and expenses of experts, laboratories and lawyers that are needed to pursue pollution claims to be paid by bond proceeds.

- The time line for discovery of the consequences of hydraulic fracturing may be 100 years or more. Bonds are written for limited periods of time. If the bonds are not called during their limited lifespans, they expire.

- Bonds are not cash. Sureties do fail financially and have the right to contest liability under bonds. Bonds are not cash or even letters of credit payable on demand. Bonds are issued to a named beneficiary. Ordinary citizens will likely have no recourse on the bonds. If the government calls a bond and the surety pays, will proceeds be available to compensate the public and reimburse government and if the answer is yes, will they be sufficient to cover all of this liability. If not, how will proceeds be divided amongst the competing Provincial and public claimants.

If the Province does go down the road of authorizing hydraulic fracturing, cash security needs to be deposited with the Province with the amount of the security determined on a well pad by well pad basis, taking into account a myriad of factors including hydrogeology, toxins introduced and released and extent and proximity of potential victims and the extent of their potential losses.

Many of these concerns and suggestions that are offered by the writer below were included in the Report issued by the Wheeler Panel.

In the Report at Pages 269-270:

> The panel notes that emerging best practices appear to be a requirement for an environmental assessment for each proposed well, as well as considering the well in terms of cumulative impact.

Cumulative impacts analyses should include not only the extent of other wells that have been, are and may in the future exist, but also exposures to contaminants over a lifetime, and the collective effect of all potential contaminants.

In the Report at Page 271:

> There have been a number of audits of regulatory enforcement agencies in recent years, which appear to document a general trend of some agencies not acting in response to identified and potential environmental violations.
> ***
> Enforcement requires an adequate budget. The experience in some U.S. states has been that already overburdened agencies are unable to effectively monitor with their existing staff and funding (Gerkin, 2013; Wiseman, 2012).
> ***
> Enforcement also requires expertise. This issue was raised by members of the public who questioned how Nova Scotia could secure the services of a sufficient number of independent topic experts to perform the required monitoring activities. Others pointed to the expertise that is required if sites become contaminated, or are contaminated and abandoned, and noted that, unlike the United States, we do not have an entity such as the U.S. Environmental Protection Agency that is resourced and charged with matters such as expertly addressing uncontrolled hazardous waste sites. 23 Effectiveness is also a matter of identifying appropriate sanctions for violations.

In the Report at Page 272:

> If a company is legislatively responsible for the costs of all negative impacts, they will be more diligent about compliance. Such an outcome is more likely to occur where companies are required to post bonds, which must be framed to provide security that costs will be addressed even if a company goes bankrupt. ***While bonds act both as an incentive and reduce the likelihood of the public bearing financial burdens, the public also raised concerns about the efficacy of bonding. They pointed to three major deficiencies. First, that bonds are only valid for a certain period of time and harm may materialize long after a bond has expired. Second, that only government, and not citizens, are usually able to recover against a bond. Third, that bonds provide specific coverage, and costs are difficult to predict given knowledge gaps about long-term consequences and uncertainty about remediation costs.

In the Report at 274:

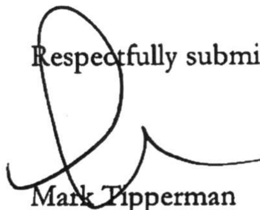
> …the social license to operate is thus a precondition and a continuing condition for hydraulic fracturing to occur in any given community. It is also how we interpret the proper application of a "precautionary approach," which implies (in this case) that the most important level at which risks and benefits must be adequately modelled and decisions understood is at the community/ecosystem level. We have styled this as the need for a "community permission to proceed."

Bill 6 should be amended to require that if the Minister wishes to review the ban on hydraulic fracturing, that the factors the Minister must take into account, include:

- Primary deference to the precautionary principle
- Existence of adequate peer reviewed independent studies of the short, intermediate and long term impacts of hydraulic fracturing
- Limitations in our knowledge of how to close down hydraulic fracturing sites and laterals in a manner that will preclude migration of contaminants, and the long-term implications
- Readily available, adequate and affordable in the Province: facilities, equipment, techniques, experts and funding for baseline environmental and assessments, and baseline and on-going long term monitoring of all potential environmental and health impacts, that take into account all cumulative effects
- Readily available, adequate and affordable in the Province: facilities, equipment, techniques, experts and personnel, that may be required to ensure the prompt removal of all pollutants that may be released into the environment, and otherwise restore adversely affected life and property.
- Existence of adequate and readily accessible methodology for projecting the ultimate costs of: (i) investigating releases of contaminants, (ii) determining the extent of contamination, (iii) remediating contamination, (iv) monitoring contamination and remediation, and (v) paying for the replacement water sources, cancers, birth defects, loss of property values, loss of income and other consequences of contamination.
- Legislative enactment of speedy, cost effective, affordable remedy for citizens, municipalities and the Province when damage or injury occurs or is likely to occur, that places the burden of proof and financial onus on polluters and those that engage them -- not citizens, imposes strict liability without fault for polluters and those that engage the polluters as contractors or otherwise, eliminates judicial barriers to class actions by Nova Scotians, and gives Nova Scotians the ability to assert claims that are based on violations of any law or regulation intended to be for the protection of the environment or health
- Existence of whistle blowing legislation that protects whistleblowers and requires polluters and those that engage them, to provide compensation for those in the industry to report violations of applicable law, regulation and any release or discharge of any contaminant that is not expressly authorized by law or regulation
- Requiring industry to provide secure liquid financial resources that will remain available to pay all reasonably foreseeable costs and losses citizens, municipalities and the Province may incur including investigation, litigation, remediation, restoration, repair and replacement costs – despite bankruptcy, disposition of assets or adverse changes in financial condition of industry, surety companies, insurance companies and individual polluters and those that engage them
- Adoption of readily available sanctions with significant deterrent effect, that the Province, municipalities and members of the public may obtain if contamination occurs, from the polluters and those who engage the polluters

- An effective means of ensuring that any community that might be affected by hydraulic fracturing, including First Nations have consented to the proposed hydraulic fracturing after after community members have been presented with all materials facts in the form of health and environmental assessments that are prepared with extensive public input, for each well and well pad but considering all cumulative impacts.

Respectfully submitted,



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cc: By email: Hons. Stephen McNeil, Andrew Younger, Randy Delorey, Keith Irving