

Submission on behalf of the Sierra Club of Canada to the Joint Review Panel on the Sydney Tar Ponds and Coke Ovens Sites Remediation Projects

May 13, 2006

Members of the Panel,

On behalf of the Sierra Club of Canada, Cape Breton Group, Atlantic Canada Chapter, and national organization, I would like to thank you for this opportunity to present our concerns.

On February 16, 2006, having read the entire Environmental Impact Statement and shared it with expert advisors, we sent our list of deficiencies the Panel. We submitted that:

“One of the worst examples we have ever reviewed of an EIS padded with unnecessary detail on the irrelevant with scant attention to the essential is this document. Why was it necessary to describe in detail the number of kilometers of road in CBRM, the organization of the police department, or to conduct a survey of ambient noise, including recording the number of barking dogs in New Waterford, in a report aimed at reviewing the environmental and health impacts of the clean-up of the country’s more serious toxic waste site in the midst of a populated area?

“That level of detail is absent from more germane questions. The EIS does not specify what kind of incinerator is being proposed (the EIS provides superficial descriptions of six different technologies at section 3.0, Volume 2)). The EIS fails to specify the location of the incinerator (section 4.0, Volume 2, Victoria Junction or Phelan Mines?). The EIS leaves the details of the single largest element of the plan, the stabilization and solidification, completely vague – by concrete or other medium, stirred or poured (at sections 6.3.5.1 of Volume 1, p.6-42-43 and sections 1.1.4, p.1-2and 5.4.1, p. 5-13, Volume 3)? The implications of stirring hundreds of thousands of tonnes of sludge, contaminated with toxic chemicals capable of volatilizing and migrating off site, are large for human health. The failure to do more than suggest in vague terms the approach to be pursued is astonishing.”

The hearing thus far has reinforced our anger that at this stage in the process, critical questions are routinely deflected with the response that in “this pre-design phase” no firm answers exist. Moreover, even the levels of performance to be required are still under discussion. The permissible levels of air contaminants, the acceptable levels of water contamination and the residual levels of toxic metals, PCBs and PAHs in the coke ovens and tar ponds are not yet determined. The whole STPA approach to presentation of the project for review has a Lewis Carroll quality. “We will abide by all requirements and we will set the requirements low enough to ensure we can abide by them.”

The community will never again have the opportunity presented by a full panel review to obtain clear answers. Nevertheless, what answers there are confirm that this “burn and bury” plan must be rejected.

Over the rest of today and on Monday evening, Sierra Club of Canada will bring forward expert evidence as to the total unsuitability of this site for stabilization and solidification, as well as demonstrate the unreliability and potential health and environmental impacts due to mobile incineration. Sierra Club of Canada will also bring forward extensive evidence as to the unacceptable levels of contamination remaining in the community, following even a completely successful execution of this project. I refer to the contamination of backyards, basements and soil throughout the area that was the receptor for the staggering quantities of particulate from the steel plant.

I first became involved in this issue when I was Senior Policy Advisor to the Federal Minister of Environment. In 1986, I assisted in the preparation of the Cabinet Memorandum to obtain funds for the clean up of the Sydney Tar Ponds. I recall being shocked to read the draft prepared by the department explaining that the Sydney Tar Ponds were Canada’s largest toxic waste site. I had lived in Cape Breton for years without knowing that. A \$34.3 million federal provincial agreement was reached. The

promotional brochure declared “Thanks to a historic 1986 federal-provincial agreement, Sydney, Nova Scotia will be rid of this environmental blight by the mid 1990s.”

I will not recap the whole tragic saga of failed clean-up attempts, both in the interests of time and because this process relates to the current proposal and not to past mistakes. Nevertheless, the historical context of this project is important, so I would like to provide to the Panel copies of the book I co-authored with Maude Barlow on the issue in 2000.

In this overview presentation, I will concentrate on two issues relating to public policy: the adequacy of community consultation and the dangers of reliance on risk assessment.

The Adequacy of Community Consultation:

It is no exaggeration to say that effective and meaningful public participation is the cornerstone of the Canadian Environmental Assessment Act. That commitment to public participation is reflected in the Guidelines for this review.

At section 5.2.2 of the Guidelines, the proponent is required to “demonstrate how the concerns of residents, Aboriginal people, local government and other stakeholders who are likely to be affected by the Project have been identified and addressed. The EIS will describe objectives, methods and results achieved in these discussions.”

The proponent has boasted of the extensive public engagement, “more than a hundred thousand volunteer hours” that went into the Joint Action Group (JAG) process. . Sierra Club of Canada was one of the founding groups back in the summer of 1996 when the first “cover it with slag” proposal was rejected and the JAG established. SCC had criticisms of the JAG process. We ultimately withdrew over the withholding of data and the chair’s refusal to admit toxic soil sampling tests were in JAG’s possession. Nevertheless, the JAG process, after some 700 meetings and over 1700 workbooks filled out by community members, chose a suite of technologies that had scored well in the

bench scale technology testing. The least favoured option was incineration and solidification.

The proponent has never adequately explained why the result of those volunteer hours and extensive consultations was rejected.

This disregard of community concerns has been routine in governmental “management” of the Tar Ponds issue for decades.

The Sydney Tar Ponds Agency has, as this Panel has heard, made commitments to the community, only to violate them within months. The Agency made a verbal commitment to Grand Lake residents that only the highest standards would be applied to any mobile incinerator. It is now transparent that STPA wants to transfer the land from federal to provincial ownership to evade higher standards.

The Agency has botched clean up efforts of smaller elements of the larger plan, allowing naphthalene exceedances from the Domtar clean up while telling the community that the naphthalene odour was a figment of their imaginations. In fact, the Domtar tank clean-up failed to control emissions through a comedy of errors that included not noticing the charcoal filtration system was not functioning, not having a single charcoal filter on hand to replace the ones too full of contaminants to be functional, having air monitoring stations that malfunctioned, not having calibrated the air monitoring equipment and having a lab misread the results. The mistakes would be easier to forgive if the STPA had not ridiculed community members for their expressed concern and complaints of naphthalene odour.

In fact, this process has been first time I have seen community members treated respectfully.

One promise that STPA made was to ensure that when JAG wound down a new Community Liaison Committee would take its place. It was over a year later that the new

CLC was unveiled. It excluded Sierra Club of Canada. STPA described the CLC as “a group of people that represent a wide cross-section of the community of Sydney and who have an interest in participating in the planning and implementation of the Project.” It is perhaps unprecedented in the history of community consultation in Canada that the most consistent voice pressing for clean up and protection of the health of residents and the local environment would be excluded from the consultation process. It does not bode well for transparency in any future review of final design plans that the project’s most engaged “watchdog” group will not be allowed in the room.

Respectfully, the inadequate approach to community consultation of the STPA should be of concern to the panel. Your role is crucial. The recommendations to the governments must take into account that the proponent has not established any trust with many key stakeholders.

The Nature of Health Risk Assessment:

As evidence since April 29, 2005 and the Environmental Impact Statement has demonstrated, the question impact on human health is entirely reliant on the adequacy of health risk assessment.

Health Risk Assessment (HRA) is a relatively new approach in environmental management. Only in the last decade or so has HRA come to become a tool in decision making. As was forcefully pointed out by community resident Eric Brophy in his questioning on May 2, 2006, there is a significant difference between a risk assessment and a health assessment. The EIS called for a health assessment. None has been performed. As Mr. Brophy stressed, the ATSDR definitions make it clear that a health assessment is based on actually looking at the current state of health of the community, creating a baseline and specifically “address (ing) community health concerns.” A Health Risk Assessment does not.

Sierra Club of Canada submits that HRA is only a weak predictor of health outcomes. It seems, over many studies and communities, that the HRA hypothetical modeled “receptor” is always fine, when in the same population epidemiological studies find statistically significant increased risk of disease in real people. Had HRA been applied to banning lead in gasoline, lead would still be in gasoline. All the models used at the time demonstrated that lead levels in ambient air could not do harm to children. Only epidemiological studies establishing a drop in IQ over the whole population led to the banning of lead.

In the case of HRA in Sydney, the experience is not reassuring. For example, the 1998 CANTOX study, as to the potential health effects of the contamination found along Frederick Street, concluded that “No measurable health effects in local residents are predicted to result from long-term exposure to chemicals in the Frederick Street neighbourhood.” The provincial government decided to relocate residents on the grounds of compassion, despite the CANTOX advice. Three years later, a larger health risk assessment was undertaken over a larger area, described as North of Coke Ovens (or NOCO). Frederick Street was included. The analysis included more extensive soil sampling. Not only did the second risk assessment dramatically differ from the 1998 CANTOX HRA in determining there was a chronic health risk; it determined there was an acute health risk in one site on Frederick Street. Even though no one lived there any longer, the high levels of arsenic led to a recommendation for specific action on that site (JDAC, 2001). This was in the very same area earlier assessed by CANTOX and confidently reported, with an abundance of “conservative” assumptions built in to the modeling, that there were “no measurable health effects...predicted.”

Moreover, the JDAC HRA concluded residents were not exposed to an undue risk in their homes, but only if they practiced extreme habits of constant cleaning. No boots and shoes should be worn in the house. Pets should not be allowed to track in dirt and mud. Homes should be swept and dusted daily. Due to the public relations efforts of the proponents, all the public remembers is that the neighbourhoods are “safe.” The

assumptions made and recommended actions required to meet the risk assessment modelers requirements of cleanliness, are forgotten.

HRA is only capable of modeling what data exists bounded by a wide variety of assumptions. Ignoring a reality-based health assessment, creating baseline data, to create a real picture of community health, and relying instead on computer modeling of hypothetical receptors is inherently risky. It should be tested against real life health experience, baseline information and a precautionary approach.

The British Society for Ecological Medicine identified this flaw in risk assessment methodology in its report on “Health Effects of Waste Incinerators,” (December 2005). I would like to submit the whole report to the Panel and read this excerpt into the record:

“There are a host of problems with this type of assessment -- lack of accurate data on pollutants, lack of toxicological data on the majority of chemicals, the fact that an increasing proportion of people react to low levels of chemicals, the fact that in the real world pollutants come in mixtures and can have damaging synergistic effects, the fact that the foetus and breast-fed baby take in 50 times more pollutants than adults relative to their weight, and that there is virtually no toxicological data on the effect of these pollutants on either the foetus or the baby.

“Further problems are that many pollutants have no safe thresholds, so there can be no safe level. Indeed, some pollutants are more dangerous at low concentrations than high. In fact, it is impossible to assess risk when the toxic effects of 88-90% of the chemicals and pollutants are unknown, particularly in relationship to birth and developmental defects. *This type of assessment contains a value judgment about what is an acceptable level of risk....*

“Risk assessment usually involves ‘modelling’ -- which uses an estimation of exposure data, rather than actual exposure data, to assess the impacts of pollutants and their likely distribution. These reports are typically produced by the polluter. Unfortunately, modeling has a 30% confidence level. This means this technique has only a 30% chance of accurately predicting the ground concentrations of pollutants – in other words, less accurate than tossing a coin. Different models give different results....

“Modelling produces the illusion of a scientific knowledge and a certainty that is entirely unjustified as modeling itself is imprecise and it is based on substantial scientific uncertainty and limited scientific data....These risk assessments have almost always concluded that incinerators are safe which flies in the face of epidemiological data which shows the opposite.” (Drs. Thompson, Jeremy, and Honor Anthony, “The Health Effects

of Waste Incinerators,” 4th Report of the British Society for ecological Medicine, December 2005)

We urge the panel to instruct the proponent to complete the requirement for a health study and not allow the hypothetical risk model to replace the real life risk.

Conclusion:

This afternoon our experts will present evidence of the dangers of inadequate incineration, (Dr. Paul Connett and Dr. Neil Carman) as well as evidence of the levels of contamination in the community and the implications of that contamination for this “clean up.” Both have extensive experience and background in the risks to public health and the environment of toxic waste incineration. The health assessment evidence will be led by Dr. Tim Lambert, of the University of Calgary. On Monday night our expert, Dr. G. Fred Lee, will present evidence as to why the solidification and stabilization plan is completely inadequate for this site. Dr. Lee has a PhD in environmental engineering from Harvard and is a leading authority on stabilization and solidification.

Sierra Club of Canada continues to press for a speedy clean up. Advanced technologies exist to restore the area as a functioning watershed and estuary. Information presented by alternative technology companies contradicts the exaggerated cost estimates of the proponent. Evidence in this hearing is that the sole criterion by which alternative technologies were rejected was cost. The cost estimates of STPA have not been explained satisfactorily in this hearing. Considering the critical nature of the decision to pursue a combination of incineration, stabilization, solidification and bioremediation in preference to the technologies preferred by the community, it is unacceptable in the extreme that the sole criterion was a cost estimate, prepared in an arbitrary and highly non-transparent manner.

We urge the panel to ensure this joint review remedies the inadequacies of the STPA approach, by recommending that the adjacent neighbourhoods receive remediation, the health of neighbours is protected, in some cases by relocation, that the entire estuary receives remediation, including the sediments under the slag, and that the technology chosen function to remove and eliminate contamination. Any successful, economic future use of the site is enhanced when the area has been effectively remediated. On-going management of a toxic waste concrete mass in the middle of town is not a clean up, even if it performs to the highest expectations of the proponent.

As expert evidence will suggest, there are grave doubts that the proposed plan can function to specifications. As such, the threat to local health and the environment could continue for decades.