

Sydney Tar Ponds and Coke Ovens Sites Remediation Project

Third Annual Report to the Minister, Nova Scotia Environment

Submitted by;

The Remediation Monitoring Oversight Board

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Executive Summary

The Sydney Tar Ponds and Coke Ovens Sites Remediation Project continues to maintain a high profile, receiving a great deal of public and media attention. This being said the focus of this attention has changed, as much of the project planning is in place and a number of the project elements have been completed, including the solidification and stabilization of the south pond, or are well underway.

Over the past three years, the Remediation Monitoring Oversight Board has been active in developing an understanding of the project and, in particular, evaluating the role and activities of NSE as the primary regulator for the Tar Pond and Coke Oven Remediation Project. This, our third RMOB report, focuses on NSE's activities and is provided for the consideration of Minister Sterling Belliveau.

In this report we have identified four key findings:

- Based on the information reviewed during the past year it is the opinion of the RMOB that NSE has appropriate staff in place and has developed Part V approvals appropriate to ensure the project proceeds in an environmentally responsible manner.
- We feel that NSE is adequately monitoring the various project components and when required initiates appropriate enforcement actions.
- We feel that the NSE approach to the odour issue has been both justifiable and reasonable based on the number of complaints received from the public and is also in keeping with the recommendations from the Panel Report.
- It is the opinion of the RMOB that a number of lessons were learned last season which should result in improvements in the solidification methodology.

1. Background / Introduction

The Sydney Tar Pond and Coke Ovens Remediation Project is a very large scale project with a budget of \$400 million dollars and a proposed completion date of 2014. It is our understanding that the project is on schedule and within budget.

The project continues to maintain a high profile receiving a great deal of public and media attention. This being said the focus of this attention has changed, as much of the project planning is in place and a number of the project elements have been completed or are well underway, including the solidification and stabilization of the south pond.

As identified in our Terms of Reference the RMOB continues to monitor the project to ensure that the remediation is being appropriately regulated by Nova Scotia Environment, is proceeding within regulatory guidelines, permits and approvals, and that public input is taken into account.

This is the third report we have prepared for the Minister's consideration and we trust it provides an overview and scope of our oversight activities and findings.

Since our last report we have:

- met with senior NSE staff in Halifax to review our 2010 report,
- convened two meetings with various project staff in Sydney (November 19-20, 2010 and April 13-14, 2011),
- conducted interviews with NSE staff and project partners from PWGSC, STPA, the Independent Engineer and Environment Canada,
- participated in an Environmental Management Committee meeting,
- conducted two site tours,
- reviewed regulatory issues including enforcement actions and NSE response to potential violations, complaints and concerns, and
- reviewed a number of project documents and press articles posted by PWGSC and the local media.

We continue to make ourselves available to receive comments from the public however to date have had only limited feedback other than a few

calls from the local media. We have also participated in a conference call with Patricia Fitzpatrick from the University of Winnipeg who was interested in the RMOB concept and its potential use by the *Mackenzie Valley Environmental Impact Review Board* (MVEIRB).

2. Findings

a) NSE as Regulator

Based on our evaluation we feel that NSE continues to be committed to this project. As you are aware there has been a shift in the demands on staff from that of reviewing plans and preparing approvals to one of monitoring on-site activities and addressing any problems which may arise. It is our understanding that NSE has now finished reviewing and approving all of the required Part V applications for the various project components. A couple of amendments have been made to these approvals over the past year as the need has arisen.

We continue to be impressed with the level of oversight of the project by NSE, the Independent Engineer, AECOM and other partners. We feel that this project likely receives more monitoring and oversight than any other project in Canada. A summary of the extent of the monitoring activities is provided in Appendix B of our 2010 report.

We were pleased to note that NSE has strengthened its air monitoring capacity by retaining a contractor with an extensive background in this field. In addition, it is our understanding that staffing actions are underway to fill a vacant inspector's position. We continue to feel that NSE has appropriate staff in place to monitor the ongoing progress of the project.

Based on our discussions we have noted that the interaction between NSE and the main project partners have improved substantially since our 2009 report. Currently the various working arrangements and interactions appear to be constructive and efficient keeping in mind that NSE's primary role is that of regulator.

It is the opinion of the RMOB's that NSE has appropriate staff in place and has developed Part V approvals appropriate to ensure the project proceeds in an environmentally responsible manner.

b) Compliance Monitoring

As mentioned, NSE staff closely monitors the project activities for compliance with their Part V approvals, regulations and guidelines. As a part of the monitoring program an average of four on-site inspections are carried out each week and staff closely monitors any complaints from the public.

Several compliance and enforcement actions which have been initiated by NSE staff in the past year or so include:

- A Directive Letter was issued to the Sydney Tar Ponds Agency in December 2009 regarding the real time Air Monitoring Program,
- An Environmental Warning Report was issued in March of 2010 to the TP6A contractors relating to the discharge of water from the site,
- A Directive Letter was issued in June of 2010 to STPA with instructions to provide a plan for additional odour control measures at the work site, an enhanced air monitoring program in the surrounding community, and attendance at weekly meetings to review the controls for planned activities,
- NSE received a complaint in September 2010 concerning wastewater collected from the Material Handling Facility and how it was managed by a local contractor. The complaint is currently being investigated by NSE Eastern Regional Office staff.
- NSE received 50 complaint calls from the public relating to the remediation work between October 31, 2009 and March 31, 2011 and an additional nine complaints have been received since April 1, 2011. All but one of these complaints related to odour while the other related to dust.
- Six non-compliance deficiencies have been documented by NSE Inspectors in Field Inspection Reports while on site during the remediation project. No deficiencies have been noted since April 1, 2011. In each case, the deficiency was immediately corrected upon notification and the corrective actions were verified by the NSE

Inspector.

- Seventeen (17) exceedance reports were generated by the Contractor during the commissioning of the CO8 Water Treatment Facility. All exceedances were detected as a result of analyzing the discharge water against operational criteria for metals developed for this facility. A CO8 Commissioning Report will be prepared for the Department's review and approval.

It is our understanding that all of the compliance samples tested in the past year have satisfied the NSE criteria. This includes samples of the leachate, air (e.g. PIDs, GC, dust track, and ambient network samples), water toxicity (LC 50), and water analysis from CO treatment facility.

The exceptions would be that one influent bioassay failed NSE criteria and some compressive strength and permeability samples did not satisfy NSE criteria. This point will be addressed below.

It is the opinion of the RMOB's that NSE is adequately monitoring the various project components and when required initiates appropriate enforcement actions.

c) Odour Issue

During the 2010 construction period there was a considerable increase in the number of complaints from the public in relation to odour emanating from the Tar Ponds project. Of the complaints received from the public related to the project, 49 of 50 were related to odour. The cause of the odour was primarily due to the sediment exposure and reworking activities associated with the TP6B solidification and stabilization and was pronounced by weather conditions and high temperatures experienced at that time.

It should be noted that all of the air monitoring results satisfied the project criteria which were based on health and toxicology limits. While possibly not a health risk, the odour is a nuisance and therefore a perceived risk and an indicator which the community uses to determine the effectiveness of on-site control measures. This issue was frequently mentioned in our recent meetings and, in fact, we observed a strong odour when we toured the sight.

In response to the odour complaints and increased concern from the public a Directive Letter was issued from NSE to STPA on June 3, 2010 with instructions to provide a plan for additional odour control measures at the work site, to develop an enhanced air monitoring program in the surrounding community, and to attend weekly update meetings on controls for planned activities. STPA complied with the Directive, providing and implementing additional odour management measures. Due to odour issues throughout 2010, a “Lessons Learned” meeting focusing on odour management was hosted by PWGSC in January 2011. One outcome of the meeting was the requirement for the Agency to develop a revised Odour Management Plan which has now been completed and forwarded to NSE. This plan is currently under review.

Weekly odour management meetings were convened throughout the spring of 2010 and will continue throughout 2011. NSE also intends to closely monitor odours generated and complaints received as construction continues in 2011. NSE will continue to ensure that the STPA and its contractors apply appropriate and adequate remedial measures to minimize odours within the community.

In addition to the above, NSE is considering amending the Approvals for the project and adopting the Ontario Ministry of Environment (MOE) odour criteria/guideline (naphthalene) as a regulatory requirement. Having a concrete number for the air monitoring program will enhance NSE’s enforcement capabilities.

In Section 6.6.3 of the Joint Review Panel, Environmental Assessment Report it states that “The Panel also recognizes that adjacent residents may experience noise, odours and dust at various times during the remediation, and that the length of the construction phase could exacerbate the effect of this on the community if it is perceived as much more than a passing nuisance.” It should therefore come as no surprise that the surrounding community is experiencing odour concerns during this phase.

The Panel also had the following recommendation in relation to air quality monitoring:

“Recommendation #6

Remediation and the Air Monitoring and Follow-Up Program: The Panel recommends that NSEL and PWGSC require STPA (with the appropriate involvement of Environment Canada, Health Canada, the Medical Officer of Health, the Cape Breton District Health Authority, and the Project Community Liaison Committee) to design an Air Monitoring and Follow-up Program for the Project. The program should be based on technically sound principles and procedures with special consideration given to ...;

- Development of conservative, unambiguous and practical air quality monitoring criteria;
- Appropriate responses to exceedances of air quality monitoring criteria;
- The need for real-time data, early warning and early reporting of deteriorating air quality;
- The need for a public communication plan providing results and, if required, an indication of effects on public health...;

It is the opinion of RMOB that the NSE approach to the odour issue has been both justifiable and reasonable based on the number of complaints received from the public and is also in keeping with the recommendations from the Panel Report.

d) Solidification Process:

It is our understanding that approximately 1300 cells have been solidified in the south pond. It was also reported that approximately 11 percent of the first ninety cells did not satisfy the NSE stabilization criteria in the initial stages of this work, primarily due to the moisture content in the sediments. A detailed analysis of the mixing process was undertaken which focused on the method of sample collection, review of analytical methodologies, managing moisture content, etc. Based on this analysis Standard Operating Procedures were developed and the recipe was fine tuned. The resulting changes appear to have been successful.

An overall success rate of just over ninety seven percent was recently reported for the South Pond. It was also reported that all the cells which were reworked to satisfy the NSE criteria did so after the second mix.

It is the opinion of the RMOB that a number of lessons were learned last season which should result in improvements in the solidification methodology as work continues into the North Pond.

