

Sydney Tar Ponds and Coke Ovens Remediation Project



Joint Review Panel Recommendations and Implementation Synopsis

June 2011

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Background

On May 12, 2004, the Minister of Public Works and Government Services Canada and the Premier of Nova Scotia signed a Memorandum of Understanding committing both governments to the remediation of the Sydney Tar Ponds and Coke Ovens sites (Project), located in Sydney, Nova Scotia. On May 2, 2005, a joint Canada/Nova Scotia environmental assessment process was initiated by the respective Ministers of the Environment, pursuant to the requirements of both the Canadian Environmental Assessment Act (CEAA) and the Nova Scotia Environment Act. The Panel, the public, governments and stakeholders subsequently completed a review of an environmental impact statement during the winter of 2005/2006. Public hearings were held on the Project's potential impacts on the environment beginning April 29, 2006, and concluding on May 18, 2006. On July 12, 2006, the Panel released a report to governments containing 55 recommendations, all pertaining to the primary goal of remediating the Sydney Tar Ponds and Coke Ovens sites in an environmentally responsible fashion. On January 23, 2007, the Nova Scotia Minister of the Environment issued an Environmental Assessment Approval for the Project, providing the proponent with a number of required terms and conditions. On January 28, 2007, the Government of Canada (GoC) and the Province of Nova Scotia (NS) formally responded to the Panel's 55 recommendations, agreeing with virtually all of the Panel recommendations and committing to ensure their implementation by the Sydney Tar Ponds Agency (STPA), as appropriate.

As the administrator of federal funds in relation to the Project, Public Works and Government Services Canada is the sole Responsible Authority as defined by the Canadian Environmental Assessment Act. The Nova Scotia Department of Transportation Infrastructure and Renewal administers Project financial commitments on behalf of the Province. Provincial environmental management of the project is carried out by the Nova Scotia Department of the Environment (NSE). In this regard, NSE is responsible for administering all Project permits and approvals pursuant to Part V of the Environment Act, for ensuring compliance with the terms and conditions provided by these approvals, and for promoting and ensuring compliance with the Nova Scotia Environment Act.

In accordance with the Joint Review Panel recommendations, an Environmental Management Committee (EMC) was formed to coordinate technical and scientific advice on the part of federal and provincial government departments for the duration of the remediation Project. The EMC is responsible for reviewing technical reports and plans pertaining to environmental management of the Project submitted by the STPA and providing feedback to ensure that related environmental protection measures and strategies are implemented. In providing feedback to the STPA, members of the EMC draw on their respective departmental areas of scientific or technical expertise or mandated areas of responsibility. The EMC also provides advice on environmental issues to the Sydney Tar Ponds Agency and to the federal/provincial Project Management Committee (PMC) - responsible for administering the cost share agreement in respect of the Project. The committee is co-chaired by Public Works and Government Services Canada and Nova Scotia Transportation and Infrastructure Renewal (NSTIR) as the government partners.

The EMC is a non-regulatory body. It provides a forum for federal and provincial members to procure and analyze information that is crucial to the successful management of environmental aspects of the Project. The GoC members of the EMC are Public Works and Government Services Canada (co-chair), Environment Canada (EC), Transport Canada (TC), Fisheries and Oceans Canada (DFO), Health Canada (HC), and Natural Resources Canada (NRCan). Provincial representation is provided by Nova Scotia Lands (NSL) (co-chair), Nova Scotia Environment (NSE)*, Nova Scotia Health Promotion and Protection (NSHPP), and the Cape Breton District Health Authority (CBDHA). The Independent Engineer (IE) for the Project and the Sydney Tar Ponds Agency also serve on the committee in an ex-officio capacity. Terms of Reference for the Environmental Management Committee may be found in the Project File as posted on the Canadian Environmental Assessment Registry.

Introduction

This document outlines those Panel recommendations for which the EMC may be expected to provide advice and guidance to the PMC and/or the STPA. It was created to provide an overview of work that has taken place, or will take place, to fulfill governments' commitments in the joint response document.

The document contains the following information:

- Panel recommendations, as offered by the Panel in its July 2006 report;
- GoC and NS responses to those recommendations;
- Implementation initiatives requiring action on the part of the EMC; and,

- Status of related project activity associated with the implementation of the Panel recommendations.

This document is not intended to be a project scheduling or project-management tool. Rather, its purpose is to inform interested parties with respect to panel recommendation implementation strategies and their status.

*Readers should note that after the publication of the Joint Panel report, Nova Scotia Environment and Labour (NSEL) changed its name to Nova Scotia Environment (NSE). This means that in the original wording of the recommendations, and the Government Partners' responses to these recommendations, reference will be made to NSEL. In the sections describing implementation strategies and the status of recommendations however, the department is referred to as NSE.

Recommendation 1: Provincial Project Approval

Recommendation: The Panel recommends that the Nova Scotia Minister of Environment and Labour approve the undertaking subject to conditions, which address the recommendations in (the Panel's) report.

GoC Response: This recommendation applies to the Province of Nova Scotia.

NS Response: In NSE's Environmental Assessment Approval, the Minister of Environment approved the project subject to terms and conditions.

Implementation Strategies: Environmental Assessment Approval was issued to the Proponent on January 2007 by the provincial Minister of the Environment, providing Terms and Conditions of Approval to be followed by the STPA throughout the life of the Project.

Status: Completed, January 28, 2007.

Recommendation 2: Mitigation of Environmental Impacts

Recommendation: The Panel recommends that the GoC and the GNS ensure that mitigation measures proposed by the Sydney Tar Ponds Agency as an integral part of the Project are implemented.

GoC Response: The GoC agrees with the recommendation. In order to be satisfied that mitigation ultimately adopted for the Project is duly implemented, the GoC will seek specialist knowledge through the establishment of a single window federal/provincial EMC. The EMC will provide expert advice to Governments on Project related environmental management initiatives. Pursuant to the Act, the EMC will also assist the GoC in developing a follow-up program, to verify the accuracy of the environmental assessment and to determine the effectiveness of mitigation.

NS Response: Environmental Assessment Approval COA 1.3: The Proponent must implement all mitigation and commitments in the Environmental Impact Statement, unless approved otherwise by Nova Scotia Environment & Labour.

Implementation Strategies: Establishment of the federal/provincial EMC to advise the STPA and the PMC concerning required mitigation and environmental management strategies. A Project Environmental Management Plan (EMP); a Project Environmental Protection Plan (PEPP); and activity-specific Environmental Protection Plans (EPPs) were developed at an early stage of planning to address Project requirements.

Status: The EMC was established in late fall 2006, and monthly meetings began and have been ongoing as of December 14, 2006. These will continue throughout the life of the Project.

The Project EMP and EPP have been finalized and approved by the PMC. Element-specific EPPs have been developed for all Project elements, and have been finalized. All EPPs include mitigation monitoring plans.

An independent environmental consultant has been retained for the Project, and is responsible for all environmental effects monitoring, excluding air, which is being monitored by a company specializing in air monitoring. Public and government reporting protocols have been defined in the EMP and PEPP.

All upstream Project activities are sampled and inspected once every four hours during all work on site. Results of upstream monitoring are compared with real-time and periodic monitoring for physical and chemical water quality parameters at the downstream Project fence line. Water and sediment quality is further monitored at eleven sampling stations located in Sydney Harbour, in addition to biodiversity and invertebrate tissue chemistry. All results are reviewed in an integrated fashion, and are subject to short, medium and long-term reporting requirements. Real-time and averaged air monitoring for VOCs, PM10 and PM2.5 is carried out during and after work activities, and community monitoring for a full parameter suite is conducted outside the fence line in the community. Groundwater chemistry is monitored year-round. Oversight pertaining to the maintenance of physical mitigation is rigorous and continuous as described by the element-specific and Project environmental protection plans.

Collectively, these various environmental management and environmental protection initiatives comprise the fundamental elements of the GoC Follow Up program, as defined by the Canadian Environmental Assessment Act. Further information on the Follow Up program may be found on the Canadian Environmental Assessment Registry.

Recommendation 3: Incineration Removed

Recommendation: The Panel recommends that EC, with the assistance of HC, provide advice to PWGSC to ensure the Project is in full compliance with the Toxic Substances Management Policy. The federal departments should ensure that an analysis of risks, costs and benefits is completed of the North Pond Polychlorinated Biphenyl (PCB) removal alternative. That analysis should give appropriate consideration to social issues. The results of the analysis should determine if the PCBs in the North Pond hot spot are to be removed or if minimizing PCB exposure and the site's potential risks are to be addressed by way of the Full Containment, No Incineration project alternative. The Panel recommends that PWGSC and NSEL require STPA to conduct the same analysis of South Pond PCBs.

GoC Response: The GoC agrees with this recommendation and will ensure that the Project is consistent with the guidance provided by the Toxic Substances Management Policy.

NS Response: Incineration was prohibited by the Minister of the Environment pursuant to Environmental Assessment COA 3.1: "The Proponent shall not conduct hazardous waste incineration as a component of the Undertaking".

Implementation Strategies: Pursuant to this recommendation, the GoC commissioned a comparative analysis of risks, costs and benefits for the Project and the Alternative (i.e. no incineration). The study considered nine analysis categories: Health, Environment, Regulatory and Permitting, Psycho-social, Community Acceptance, Local Economic Benefits, Political Issues, Project Implementation Schedule Control and Project Costs.

Study results show that the relative risks associated with the Project are higher than those for the Alternative for most of nine analytical categories. Most of these findings can be traced to the incineration component of the Project, which introduces a higher level of complexity to the remediation process, as well as issues related to the potential emission of toxic substances from the incineration operation.

In accordance with the results of the Risk Benefit Assessment, and on the understanding that the NS was in accord, the GoC supported the refinement and implementation of the general remediation strategy identified as "The Alternative" for purposes of the environmental assessment. In reaching this position, the GoC notes that the Panel agreed with the Proponent that this approach should be considered a technically and economically feasible means of carrying out the Project, and concluded that it could be implemented without significant adverse environmental effects.

Status: Completed in 2007. Incineration removed from the Project.

Recommendation 4: Air Modeling Requirements

Recommendation: The Panel recommends that NSEL and PWGSC require STPA to calculate the total expected ambient air concentrations due to the combination of all Project-related emission sources and the existing pollutant levels in the local air shed. The results of this analysis may affect the ecological and human health risk assessments. NSEL and PWGSC should require STPA to re-evaluate the risk assessments and incorporate the results into the Project design and applications for regulatory approvals, as appropriate.

GoC Response: The GoC agrees with the recommendation and STPA will be required to review all predicted Project-related air emissions, and combine with the current ambient baseline conditions, to determine a total predicted air quality for the air shed. STPA will also be required to use this information to re-evaluate the analysis conducted in the Environmental Impact Assessment (EIS), including the cumulative effects, as part of the detailed design process.

NS Response: Environmental Assessment COA 7.1: Prior to commencing remediation work, the Proponent shall calculate total anticipated ambient air concentrations from all project components in combination with existing concentrations in the local air shed. The calculations must be provided to NSEL and other agencies as directed by NSEL. Based on the calculations, the Proponent shall re-evaluate the risk assessments and develop mitigative measures to address any identified variances.

Implementation Strategies: The STPA provides the EMC with a Terms of Reference (TOR) and resulting report. The EMC is to provide expert scientific and technical expert advice on related initiatives throughout the life of the Project.

Status: A comparative analysis protocol has been agreed to by all parties. For all Project elements, a review is conducted to determine the need for additional air modeling and evaluation beyond that carried out in the Project EIS, and is contingent upon design alterations. Subject to approval by NSE, all required air modeling for the Project has been successfully completed.

Recommendation 5: Solidification and Air Emissions

Recommendation: The Panel recommends that NSE and PWGSC require STPA, as part of a pilot in situ study of the solidification/stabilization process (Recommendation 13), to evaluate the potential for air-borne emissions and implement appropriate mitigation measures and integrate these measures within the Project design.

GoC Response: The GoC agrees with the recommendation. The potential for air borne emissions from in situ solidification/stabilization will be evaluated as part of a pilot study (see response to Recommendation 13), and appropriate mitigation measures will be integrated within the Project design.

NS Response: Agree pursuant to provincial Conditions of Approval #s 4.2, 4.4 and 4.6.

Implementation Strategies: The Pilot Study work plans and monitoring protocols were submitted and approved prior to the pilot studies being completed in the fall of 2008. A rigorous air emission monitoring plan was implemented as part of the work, and evaluation results were evaluated by the STPA, NSE, the IE and the EMC.

Status: Bench Scale and Pilot Study work has been completed for the north and south Tar Ponds. A report detailing results for compressive strength, leachate, permeability, and air emissions was published and can be found on the Sydney Tar Ponds web site at <http://www.tarpondscleanup.ca>. All results were considered in the final solidification/stabilization (S/S) design component. Real-time VOCs, dust and community air quality are being monitored throughout the life of the Project.

Recommendation 6: Air Monitoring and Follow-Up

Recommendation: The Panel recommends that NSEL and PWGSC require STPA (with the appropriate involvement of EC, HC, 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:

- Incorporating the results of the proposed evaluation of the existing monitoring network, including an evaluation of the causes of and responses to recent air quality incidents at the Tar Ponds and Coke Ovens sites;
- 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;
- Monitoring of the PM2.5 and PM10 fractions of particulates;
- PCB monitoring near Tar Ponds excavations;
- Reporting real-time air quality exceedances at the perimeter of the sites or off-site to the Medical Officer of Health; and,
- Periodically reporting back to the NSEL and PWGSC on the accuracy of the air quality predictions and the effectiveness of any measures taken to mitigate adverse air quality effects.

GoC Response: The GoC agrees with this recommendation. The STPA will be required to design a detailed air-monitoring plan for the construction activities as part of the overall Project monitoring program that gives consideration to the points outlined in the recommendation. The Responsible Authorities (RAs) will also ensure the development of a follow up program, in keeping with their responsibilities as defined by the Act, for the Project which includes verification of predicted impacts on air quality and mitigation efficacy. Air quality monitoring results will be factored into follow-up program protocols and procedures in an integrated fashion.

NS Response: Required as Environmental Assessment Condition of Approval #5.15.

Implementation Strategies: Air monitoring and related follow up program elements to be submitted to the EMC and NSE upon availability.

Status: An Air Monitoring Plan (AMP) comprises part of the approved EPP for the Project. Monitoring targets dust, VOCs and PM2.5, both inside and outside the Project fence line. Response protocols include early warning and public notification elements. PM2.5 and PM10 comprise part of the current air monitoring protocol, and will continue for the life of the Project. Real-time air quality exceedance notification protocols have also been incorporated into the AMP. Notification procedures to CBDHA and the Medical Officer of Health are included. All air quality monitoring results are reported back to the EMC and NSE for peer review on a monthly (operational) basis, and immediately respecting exceedances or anomalies.

A follow up program has been developed by PWGSC and is posted on the Canadian Environmental Assessment Registry. A public communications plan has been adopted by the STPA.

Recommendation 7: Ground and Surface Water Protection

Recommendation: The Panel recommends that, prior to providing funds or issuing approvals to proceed with solidification/stabilization, NSEL and PWGSC require STPA to:

- Incorporate hydro-geological modeling results into the final design of the groundwater and surface water control measures and the monitoring network;
- Assess potential hydrostatic mounding that may be generated when groundwater flow encounters cut-off walls and address the impact of mounding, if required; and,
- Define and model the flow pattern of both groundwater intrusion from the Coke Oven site and infiltration of seawater from the harbour to identify the amount of water that could collect under the monolith, including seasonal changes.

GoC Response: The GoC agrees with the recommendation. STPA will be required to undertake additional hydro-geological modeling, the results of which will be reviewed and incorporated into the final design of the Project. The results of this analysis will be used to provide refinement of the final project design.

NS Response: Required under Environmental Assessment Condition of Approval # 7.2.

Implementation Strategies: The STPA developed hydro-geological modeling study protocols and submitted these to NSE and the EMC for review. Study protocols address the potential for hydrostatic mounding and further address groundwater intrusion from the Coke Ovens site and salt-water infiltration from the harbour.

Status: Hydrogeological modeling and an evaluation of hydrostatic mounding and potential groundwater and seawater intrusion into the site has been completed. Results have been incorporated into the groundwater effects monitoring plan, contained in the PEPP, as well as into project design as appropriate.

Recommendation 8: Groundwater Monitoring Program

Recommendation: The Panel recommends that, prior to providing funds or issuing approvals to proceed with the Project, NSEL and PWGSC require STPA to develop a detailed groundwater-monitoring program for the various Project areas, including the intermediate and deeper bedrock zones. The program should demonstrate:

- How the distribution and location of the water sampling wells would:
 - (1) Detect the amount of water that would penetrate to the contaminated material through the cap and as a result of the modified groundwater flow regime, and
 - (2) Identify potential underground flows of contamination from the Coke Ovens site.
- How the flow of leachate from the municipal landfill site would be monitored and mitigated.

GoC Response: The GoC agrees with the recommendation. A detailed groundwater-monitoring program for all project elements potentially impacting groundwater resources will be developed. This will include detailed rationale for the employment and expected efficacy of monitoring wells in relation to the detection of the penetration of contaminated groundwater through the cap from all sources. Engaging the Cape Breton Regional Municipality (CBRM) to determine its future plans for the monitoring and mitigation of leachate flows from the CBRM landfill site, however, is a provincial responsibility, and the GoC defers to its provincial partners to address this issue.

NS Response: Required under Environmental Assessment Conditions of Approval #5.1.6.

Implementation Strategies: The STPA designed a groundwater monitoring program as part of the PEPP. This was reviewed by the EMC and approved by NSE.

Status: A groundwater monitoring program is included in the EMC reviewed/ NSE approved PEPP, and is actively being implemented. Issues pertaining to deep leachate emanating from the Municipal Ash Industrial Disposal (MAID) landfill site have been evaluated, and the need for passive mitigation is being evaluated.

Recommendation 9: Cap Design

Recommendation: The Panel recommends that, prior to providing funds or issuing approvals to proceed with solidification / stabilization, NSEL and PWGSC require STPA to:

- Develop scientific and engineering criteria to design the Tar Ponds cap, including thickness and hydraulic conductivity criteria for the various layers; and,
- Describe how the final design and implementation of both Tar Ponds and Coke Ovens site caps would respond to potential problems such as exposure to repeated freeze / thaw cycles, non-aqueous phase layer (NAPL) migration, generation and migration of gas under the capping layer, erosion, and fissures.

GoC Response: The GoC agrees with the recommendation. The GoC in consultation with the Province of Nova Scotia will ensure that the issues identified in the recommendation form an integral part of the final design of the Project.

NS Response: Required under Environmental Assessment Condition of Approval # 6.1.1.

Implementation Strategies: Related investigations are being carried out by the STPA as part of the final project design phase specific to cap characteristics and requirements. The EMC and NSE will review the final project design specific to cap characteristics and requirements to ensure Panel recommendations have been incorporated.

Status: The Tar Ponds Surface Cap contract has been awarded, and work is underway in the South Pond.

Recommendation 10: Cap Monitoring Program

Recommendation: The Panel recommends that, prior to providing funds or issuing approvals to proceed with solidification / stabilization, NSEL and PWGSC require STPA to develop a cap-monitoring program with an aim to:

- Ensure that the physical integrity of the caps at the Tar Ponds and Coke Ovens sites can be effectively managed;
- Assess the integrity of the monolith structure within saline conditions; and,
- Assess the permeability of the monolith cap under freeze / thaw conditions.

GoC Response: The GoC agrees with the recommendation. The GoC, in consultation with the Province of Nova Scotia, will ensure that a cap-monitoring program is developed and implemented to address the issues noted in the recommendation. This will form part of the overall Project monitoring program and will comprise a portion of the federal follow-up program.

NS Response: Required under Environmental Assessment Condition of Approval # 5.1.7.

Implementation Strategies: The STPA will be required to design a cap-monitoring program and submit to the EMC and NSE prior to implementation of cap construction, as part of an activity-specific EPP. Additional requirements are provided by the project EMP.

Status: A cap-monitoring program has been submitted as part of the approved PEPP. Final cap monitoring protocols are contingent upon final cap design and adopted future land use features.

Recommendation 11: Solidification/Stabilization Criteria

Recommendation: The Panel recommends that, prior to providing funds or issuing approvals to proceed with solidification / stabilization, NSEL and PWGSC require STPA to:

- Develop criteria for the solidification/stabilization process to be used for treating the North Tar Pond sediment, South Tar Pond sediment, incinerator bottom ash, Tar Cell materials and Coke Ovens Brook sediments;
- As part of criteria development establish site-specific leachate criteria for polycyclic aromatic hydrocarbons (PAH's) and PCBs and data quality objectives to demonstrate that remedial activities would not significantly increase contaminant mobility; and,
- Provide the results of the above to EC and NSEL for review and comment.

GoC Response: The GoC agrees with the recommendation. The GoC, in consultation with the Province of Nova Scotia, will ensure that during the detailed design phase, testing is conducted as per the recommendation made by the Panel. Site-specific testing criteria will be established for the project, where appropriate, after analyzing the bench scale and pilot testing data. Results will be evaluated by both the GoC and NSEL. (Refer also to Response for Recommendation 13.)

NS Response: Required under Environmental Assessment Approval Conditions 4.1 and 4.4.

Implementation Strategies: Pilot test work on the north and south ponds has been completed. The evaluation report concerning these activities includes a discussion of S/S criteria related to leachate, air emissions, hydraulic conductivity and compressive strength. All S/S criteria were subject to approval by NSE, and acceptance by the EMC.

A plan was approved by NSE to treat Tar Cell materials using a pug mill located adjacent to the site. This work has been completed.

Coke Ovens Brook sediments will be removed pursuant to Coke Ovens Brook remediation plans and specifications. These materials will be solidified along with Tar Ponds sediments.

Note that incinerator bottom ash is no longer relevant due to the removal of the incinerator project component.

Status: S/S of the south Tar Pond began in the fall of 2009, and will continue through the 2010 construction season. Work will then move to the north Pond for S/S. Remediation of the Coke Ovens Brook continues, and sediments will be incorporated into the Tar Ponds for S/S. The work on the Tar Cell material is complete (see above).

Recommendation 12: Treatability Study

Recommendation: The Panel recommends that, prior to providing funds or issuing approvals to proceed with solidification/stabilization, NSEL and PWGSC require STPA to:

- Assess the heterogeneity of Tar Ponds sediments and Tar Cell materials for characteristics relevant to solidification/stabilization;
- Use the results of the above to conduct a laboratory solidification/stabilization treatability study on the South Tar Ponds sediment;
- Based on the laboratory results develop interim specifications on the solidification/stabilization treatment formula (additives and dosage rates) to be used for the North and South Tar Ponds and Tar Cell; and,
- Provide the results of the above to EC and NSEL for review and comment.

GoC Response: The GoC agrees with the recommendation. The GoC, in consultation with NSEL, will incorporate a treatability study into pilot test protocols as part of the implementation of Panel recommendation 13. All four of the recommendation 12 components will be addressed by the Pilot Scale study as provided for below.

NS Response: Required pursuant to Environmental Assessment Conditions of Approval # 4.1.

Implementation Strategies: A Bench Scale report was submitted for peer review through the EMC and NSE.

Status: The final report can be found on the STPA web site at <http://www.tarpondscleanup.ca>.

Recommendation 13: Solidification/Stabilization Pilot Scale Study

Recommendation: The Panel recommends that, prior to providing funds or issuing approvals to proceed with solidification/stabilization, NSEL and PWGSC require STPA to:

- Conduct a pilot in situ study on both ponds including site specific evaluations of the proposed solidification / stabilization process;
- The evaluation should include use of the treatment formula specifications developed above and use of at least one type of construction technique proposed for full-scale application;
- Conduct a sampling and testing program of the S/S products over time where samples of the in place product are collected and tested to determine compliance with the pre-established criteria; and,
- Provide the results of the above to EC and NSEL for review and comment.

GoC Response: The GoC agrees with the recommendation. The GoC, through the federal/provincial Project Management Committee (PMC) and in consultation with NSEL, will ensure that a pilot testing program will be conducted at each location (i.e., North Pond, South Pond and Tar Cell) by STPA. A full pilot testing program will be developed that also addresses Recommendations 11 and

12. This program will also include Quality Assurance and Quality Control (QA/QC) protocols. Results will be provided to EC and NSEL for review and comment.

NS Response: Pilot Scale Study required pursuant to Environmental Assessment Conditions of Approval # 4.2.

Implementation Strategies: The Pilot Scale work plan and the Pilot Scale report have been completed.

Status: The STPA has completed pilot test work on the north and south ponds. The evaluation report concerning these activities includes a discussion of S/S criteria related to leachate, air emissions, hydraulic conductivity and compressive strength. S/S criteria have been approved by NSE.

Recommendation 14: Wastewater Treatment

Recommendation: The Panel recommends that NSEL require STPA, when submitting information in support of approvals to discharge wastewaters to:

- Provide details of the wastewater treatment methods to be employed;
- Identify the contaminants to be treated and their related numerical discharge criteria; and,
- Provide information on how compliance with the requirements under Section 36 of the Fisheries Act would be demonstrated.

GoC Response: The GoC agrees in principle with the recommendation, noting that the majority of the recommendation pertains to NS. EC is responsible for the pollution prevention provisions of the Fisheries Act, and will work with NSEL to monitor environmental compliance in this regard, particularly as it applies to Section 36 of the Fisheries Act. Section 36 will be enforced in accordance with the Fisheries Act Habitat Protection and Pollution Prevention Provisions Compliance and Enforcement Policy.

NS Response: Required pursuant to Environmental Assessment Conditions of Approval #s 5.1.2 and 6.1.5.

Implementation Strategies: All Project component design activities featuring water treatment issues have been reflected in related design specifications and associated EPPs. The design specifications and EPPs have been vetted by the EMC and approved by NSE. Wastewater management requirements are also described generally in the PEPP, and specifically in project-element EPPs. All untreated construction water discharges must pass a 96hr LC50 bioassay prior to discharge.

Status: Discharge criteria and proposed wastewater management methodologies have been reviewed by NSE and the EMC, and subsequently approved by NSE. The wastewater treatment plant design has been finalized, as have the wastewater handling protocols. Commissioning of the facility is well underway.

Recommendation 15: Fish Migration

Recommendation: The Panel recommends that NSEL and PWGSC require STPA to consult with DFO in the design of the Project's constructed watercourses and in the design of a long-term aquatic biodiversity monitoring study of the Coke Ovens Brook and Wash Brook watersheds.

GoC Response: The GoC agrees with the recommendation. The STPA will be required to consult with DFO on the design of constructed watercourses and long-term aquatic biodiversity monitoring studies of the Coke Ovens Brook and Wash Brook watersheds.

NS Response: Consultation with DFO required under Environmental Assessment Condition of Approval 8.3.

Implementation Strategies: Watercourse design and biodiversity monitoring plans have been vetted by the EMC, which includes representation from DFO.

Status: An aquatic biodiversity study has been completed and provided to the EMC (including DFO), NSE and the STPA for review. Partial funding has been agreed upon to support related (follow up) studies by Cape Breton University (CBU).

Channel design plans accommodate fish passage and were developed in consultation with DFO. Habitat features have been designed and will be progressively incorporated into the Project during the implementation phase.

Fish rescue has been carried out at both pumping stations, and a report has been provided by the STPA and can be found on the STPA web site at <http://www.tarpondscleanup.ca>. Fish were also removed from the Coke Ovens Brook sediment removal project work area prior to work start up.

Recommendation 16: Land farming

Recommendation: The Panel recommends that, prior to providing funds or issuing approvals, STPA reevaluate the need to undertake land farming at the Coke Ovens site and provide the rationale for the decision to the Project's funding partners for approval.

GoC Response: The GoC agrees with the recommendation, and will require STPA to re-evaluate the need to undertake land farming on the Coke Ovens site.

NS Response: Land farming was removed from the Project under Environmental Assessment Condition of Approval # 3.3.

Implementation Strategies: Land farming has been removed from the Project by the provincial Minister of the Environment.

Status: Completed.

Recommendation 17: Water Quality Monitoring

Recommendation: The Panel recommends that PWGSC and NSEL require STPA to:

- Monitor the quality and discharge rate of both the ground water and the surface water to the marine environment during the entire construction phase of the and the Tar Ponds and Coke Ovens site remediation project; and,
- Establish a permanent water quality-monitoring program at the discharge of the channel to Sydney Harbour.

GoC Response: The GoC agrees with the recommendation. The STPA will be required to design and conduct a water-monitoring program for potentially contaminated groundwater and surface water attributable to the Project that may be discharged to Sydney Harbour.

NS Response: Required under Environmental Assessment Conditions of Approval 5.1.6 and 6.1.5.

Implementation Strategies: Surface water and groundwater monitoring plans were submitted by the STPA to the EMC and NSE as part of the PEPP. The plans have been approved by NSE.

Status: The approved monitoring plans have been implemented. A permanent water quality monitoring station at Battery Point is operational.

Recommendation 18: Ecological Risk Assessment

Recommendation: The Panel recommends that PWGSC require STPA to undertake a quantitative assessment of the risk of remedial activities to marine receptors within the South Arm of Sydney Harbour. The risk assessment should incorporate changes in the flux of contaminants from the Tar Ponds during and following completion of the Project.

GoC Response: The GoC agrees with the recommendation and will ensure that a quantitative assessment of risk of remedial activities to marine receptors be undertaken. Existing data will be considered in the conduct of this initiative.

NS Response: Provincial requirement pursuant to Conditions of Approval.

Implementation Strategies: The STPA was required to carry out an Ecological Risk Assessment prior to conducting work potentially affecting marine receptors. Results were reviewed by the EMC, NSE, and expert advice was provided through a third party consultant.

Status: Completed.

Recommendation 19: Long-Term Monitoring of Sydney Harbour

Recommendation: The Panel recommends that PWGSC, in consultation with NRCan, DFO, EC, and STPA, design a long-term monitoring program to document improvements in the environmental quality of Sydney Harbour. DFO should assume the lead for long-term monitoring.

GoC Response: The GoC agrees in principle with the recommendation. The GoC will ensure that STPA develops and implements a monitoring program that will focus on determining the impacts of the project on Sydney Harbour. The design and results of the monitoring program will be critically evaluated by the EMC in order to facilitate the addition of federal/provincial expert and specialist knowledge and advice. The GoC will also ensure that the results of the quantitative risk analysis (per Recommendation 18 above) are incorporated into the design of the monitoring program. DFO will provide expert advice in this regard.

NS Response: Federal requirement.

Implementation Strategies: A Marine Monitoring Program was developed by the STPA and reviewed by the EMC and NSE. Additional work requirements related to long-term monitoring will be identified as appropriate as construction phase monitoring results are analyzed.

Status: Partial requirements are included in the Marine Environmental Effects Monitoring Program (see above). Additional work requirements related to long-term monitoring will be identified as appropriate as construction phase monitoring results are analyzed.

Recommendations 20 through to 32 (inclusive)

Please note that because incineration has been removed from the Project, Recommendations 20 through to 32 (inclusive) no longer apply, and have been removed from this document.

Recommendation 33: Economic Benefits Strategy

Recommendation: The Panel recommends that STPA be required by NSEL and PWGSC to develop a comprehensive economic benefits strategy to ensure that economic benefits and employment accrue locally to the greatest extent possible. The strategy should include a monitoring and reporting program to track local business and labour participation in the Project. The strategy should also address ways in which the Project can help to develop local business capacity and labour market skills in order to have lasting effects after completion of the remediation.

GoC Response: The GoC notes that STPA has an Economic Benefits Strategy in place and that in any case the specific objectives and scope of this recommendation pertain to areas of provincial responsibility.

NS Response: NSL has required STPA to develop a local economic benefits strategy.

Implementation Strategies: Developed by the STPA in keeping with provincial policy.

Status: The STPA has had an Economic Benefits Strategy in place since September 2005. The monitoring of Local Economic Benefits for Project works is performed by the STPA on a daily basis. The STPA reports quarterly to the PMC, as well as an annual report that is published and can be found on the STPA web site at <http://www.tarpondscleanup.ca>.

Recommendation 34: Women's Employment Strategy

Recommendation: The Panel recommends that STPA carry out a gender analysis as part of their forthcoming labour capacity study, and work with local women's organizations, business organizations and education and training institutions to develop a women's employment strategy to promote and facilitate the participation of women in the non-traditional trades and technologies required by the Project. STPA should also monitor the participation of women throughout the life of the Project. This strategy and associated monitoring program should be integrated into the overall Economic Benefits Strategy and its reporting requirements.

GoC Response: The GoC agrees in principle with this recommendation, as the principles of equity and diversity are basic tenets of federal government employment policy, and notes that this recommendation pertains to an area of provincial responsibility.

NS Response: The Government of Nova Scotia stands by the principles of equity and diversity that are the basic foundations of provincial government employment policy. The STPA, in administering the day-to-day project activities including hiring, is required to do so in a manner consistent with the intent of this policy when making those decisions.

Implementation Strategies: A Resource Specialist has been appointed to lead in the implementation of an Employment Strategy for Women throughout the life of the Project. Extensive research and consultations have been completed to collect data pertaining to training and employment opportunities for women in Cape Breton in trades and technology fields.

Status: The implementation of the Recruitment Strategy to address Recommendation #34 is well underway with the successful launch of a number of initiatives and partnerships that are assisting in promoting training and employment opportunities for women in trades and technology in Cape Breton. Progress continues to unfold in a number of key areas. For example, Project funding to the Ann Terry Society continues to help build the capacity of the Ann Terry Women's Center in assisting women in CBRM in gaining employment and training in trades and technology. The center has also provided young women with summer internship employment opportunities and scholarships towards their tuition in trades and technology curriculum. Additionally, the Career Course for Young Girls has proven a major success, and the Project continues to provide support to the Techsploration program, which also provides young girls with options in careers in trades and technology. Techsploration has facilitated the assignment of the Resource Specialist (above) to participate on the Techsploration Advisory Committee. Implementation of Recommendation #34 is ongoing throughout the life of the Project.

Recommendation 35: African-N.S. Employment Strategy

Recommendation: The Panel recommends that STPA, in consultation with the Cape Breton Black Employment Partnership Committee, develop equity policies and training and outreach programs to promote and facilitate the training and employment of African Nova Scotian's on the remediation Project, and should monitor the results throughout the life of the Project. This strategy and associated monitoring program should be integrated into the overall Economic Benefits Strategy and its reporting requirements.

GoC Response: The GoC agrees in principle with this recommendation, as the principles of equity and diversity are basic tenets of federal government employment policy and notes that this recommendation pertains to an area of provincial responsibility.

NS Response: The Government of Nova Scotia stands by the principles of equity and diversity that are the basic foundations of provincial government employment policy. The STPA, in administering the day-to-day project activities including hiring, is required to do so in a manner consistent with the intent of this policy when making those decisions

Implementation Strategies: A Resource Specialist was appointed to develop an Employment Strategy to address Recommendation #35 and to lead in its implementation.

Status: Implementation is underway and a number of initiatives have been successfully launched to fulfill commitments made in the Employment Strategy to address Recommendation #35. Through the Employment Equity Clause, there have been three African Nova Scotian's who have been employed on the Clean-up Site. The Project continues to support funding for bursaries for African Nova Scotian students enrolled at the Nova Scotia Community College, and the Economic Development Office continues community development and outreach into business building relationships and networks with potential employers on behalf of the community.

The Project has launched a number of programs and initiatives to advance economic development in the ANS community of Cape Breton. For example, the Project provides funding for the African Nova Scotian Employment Centre to allow for Professional Development Training for staff at the center. This funding is very important because it fills a gap in the Center's overall funding and allows staff to build upon their skills so that they can enhance their client service. The Resource Specialist continues to build rapport and work in collaboration with the ANSEC to ensure actions set out in the Employment Strategy are successfully achieved. This initiative is ongoing.

Recommendation 36: Transportation Management Plan

Recommendation: The Panel recommends that STPA be required by NSEL and PWGSC to develop a Transportation Management Plan before Project construction begins. STPA should consult with NSL and CBRM in preparing the Plan, which should address infrastructure impacts, transportation routes, timing, dust management, safety issues, contractor compliance, communications, monitoring and reporting. The Plan should include an easily accessible complaints mechanism and proposed mitigation alternatives. STPA should review the Plan with the Community Liaison Committee on a regular basis (no less than once a year).

GoC Response: The GoC agrees with the recommendation and will cooperate with the NSL in ensuring that a detailed Transportation Management Plan for the Project is developed and forms part of the Project EMP.

NS Response: Required under Environmental Assessment Conditions of Approval # 5.1.3.

Implementation Strategies: The STPA submitted a transportation management plan as part of the approved EMP.

Status: Completed and can be found on the STPA web site at <http://www.tarpondscleanup.ca>.

Recommendation 37: Ensuring Rail Safety

Recommendation: The Panel recommends that STPA be required by NSEL and PWGSC to file a Rail Safety report with NSL before Project approval is given. The report should document:

- The current capacity of the rail infrastructure between the Tar Ponds and incinerator sites to safely transport materials;
- Any improvements required; and,
- A spill contingency plan as an integral part of the Project's Environmental Management Plan.

GoC Response: The GoC agrees with the recommendation and will cooperate with the NSL in ensuring that an assessment of rail safety is carried out as part of the Transportation Management Plan referred to in the GoC Response to recommendation 36.

NS Response: Required under Environmental Assessment Conditions of Approval # 5.1.3.

Implementation Strategies: The STPA submitted a transportation management plan as part of the approved EMP.

Status: Assessment completed.

Recommendation 38: Use of Rail to Transport Construction Materials

Recommendation: The Panel recommends that wherever possible, STPA identify and employ additional opportunities to transport construction materials by rail to the Project sites to reduce transportation impacts.

GoC Response: The GoC agrees with the Panel's recommendation to reduce road transportation impacts. The STPA will be required to investigate the transportation of construction materials to the Project sites by rail and/or sea, wherever practical.

NS Response: Required under Environmental Assessment Conditions of Approval # 5.1.3.

Implementation Strategies: The STPA submitted a transportation management plan as part of the approved EMP.

Status: Assessment completed.

Recommendation 39: Future Use Plan

Recommendation: The Panel recommends that STPA, in collaboration with CBRM, develop a future use plan for the remediated Tar Ponds and Coke Ovens sites that addresses the requirements of the evolving Port to Port Corridor concept, the community's interest in active living open space opportunities, the issues and concerns of adjacent neighborhoods, the practical realities of the remediation process, and subsequent monitoring and maintenance. The plan should draw on examples of best practice in brown field redevelopment wherever possible, and identify the resources necessary for implementation.

GoC Response: The GoC agrees with the recommendation, and will work with NSL as it consults with CBRM and other stakeholders in order to develop future use plans for the sites, consistent with the terms of the Memorandum of Agreement (MOA).

NS Response: Directed to STPA, but affected by Environmental Assessment Condition of Approval # 8.1. The Proponent shall submit for review and approval of NSEL, a detailed Institutional Control Plan to be implemented for activities on the Tar Ponds and Coke Ovens sites to ensure the effectiveness of remediation and site management measures following construction on a permanent basis.

Implementation Strategies: PWGSC, NSE and the STPA have participated through the Port-to-Port and other initiatives.

Status: A final Port-to-Port report was provided to CBRM. A follow up study on future land use was completed. The final design for future land use is in progress.

Recommendation 40: Future Site Use and Design

Recommendation: The Panel recommends that STPA, in collaboration with CBRM and other stakeholders review the Project design with respect to maximizing the capacity of the two sites to support a variety of future uses, as identified through the future use planning process addressed in Recommendation 39. The Panel further recommends that STPA incorporate all feasible site enhancements, such as bearing capacity and cap design improvements, and conduits for future site services, which fall within the designated funding.

GoC Response: The GoC agrees in principle with the recommendation. NSL will be asked to continue discussions with CBRM in order to develop future use plans for the sites. Where appropriate, and in keeping with terms of the MOA, the design may be modified to accommodate potential future use.

NS Response: Required under Environmental Assessment Condition of Approval # 8.1.

Implementation Strategies: The EMC will examine related issues throughout the life of Project. The STPA will provide the EMC with related materials as appropriate.

Status: A future site use plan has been developed.

Recommendation 41: Aquatic Habitat Restoration

Recommendation: The Panel recommends that the STPA, in consultation with NSE, NSDNR, DFO and EC develop a detailed habitat restoration plan for the Tar Ponds area, drawing the disciplines of remediation engineering and landscape architecture. The goal of the restoration plan is to increase the area of reclaimed estuarine habitat, while still enabling the effective encapsulation of contaminated sediments.

GoC Response: The GoC agrees with the recommendation. The STPA will be required to consult with the appropriate provincial and federal agencies in the development of the associated restoration plans.

NS Response: Required under Environmental Assessment Approval of Condition 8.2.

Implementation Strategies: The EMC will focus on final design criteria related to Channel Construction and Water Management, Ecological Risk Assessment and Coke Ovens Brook remediation work to ensure that considerations identified by the Panel are explored and incorporated into final design.

Status: Maximizing the amount aquatic habitat that can be restored is an underlying principle in all project element design initiatives.

Recommendation 42: Tree Planting

Recommendation: The Panel recommends that STPA, in consultation with CBRM and other community stakeholders develop a native tree-planting plan for both sites, together with a strategy for early implementation. The species of trees and shrubs selected should be compatible with the type of managed terrestrial ecosystem required to ensure the integrity of the caps. The Panel also recommends that STPA consider creating a native tree species nursery on site to provide the necessary planting stock, which may otherwise be difficult to obtain.

GoC Response: The GoC agrees in principle with the recommendation, and within the terms of the MOA will encourage the use of native trees where replanting is contemplated.

NS Response: Required under Environmental Assessment Condition of Approval # 8.1.

Implementation Strategies: The STPA will consider these issues in the design of the engineered cap and land use planning initiatives, and will submit related plans to the EMC for review and input upon availability.

Status: Integral part of cap design and future use initiatives.

Recommendation 43: Maintenance of Community Open Space

Recommendation: The Panel recommends that, in the event that STPA and CBRM do not identify viable alternative commercial or institutional uses for the remediated lands site that are acceptable to the community, STPA be required by NSEL and PWGSC to set aside a portion of the annual monitoring and maintenance budget to contribute funds over a 25-year period to cost-share the operation and maintenance of a trail and open space system on the remediated lands. This set aside would be part of STPA's responsibility to ensure the continued integrity and function of the encapsulation and drainage systems. If alternative land uses are pursued, the Panel recommends that sufficient land be set aside to provide an active transportation link between Whitney Pier and downtown Sydney, and that STPA ensure that remediation design (bearing capacity, cap design, soil cover etc) minimizes the cost of developing the facility.

GoC Response: The GoC agrees in principle with the recommendation. Within the terms of the MOA (2004), the GoC will ensure that the Panel's recommendation is considered as part of the final design of the Project.

NS Response: Within the terms of the MOA, NSL will work with CBRM to ensure that the Panel's recommendation is considered as part of the final design of the Project.

Implementation Strategies: Commission a future land use study which includes consideration of recommendation # 43 as part of its scope. This study is currently in progress as described above.

Status: Ongoing.

Recommendation 44: Perimeter Enhancement Strategy

Recommendation: The Panel recommends that STPA's final Project design be required by NSEL and PWGSC to include a perimeter enhancement strategy to mitigate any interactions between the Project and local residents at the perimeter of the site and to add value to adjacent residential areas through added amenity at the interface area (landscaping, community facilities etc.). In the process of developing the strategy, STPA should consult with residents of the adjacent neighbourhoods through the Community Liaison Committee.

GoC Response: The GoC agrees in principle with the recommendation. The current Project already contemplates the type of features envisioned in the Panel-recommended "Perimeter Enhancement Strategy". In keeping with this recommendation, further opportunities to enhance and protect the perimeter of the Project site will be examined as part of Project design.

NS Response: Required under Environmental Assessment Condition of Approval # 8.4.

Implementation Strategies: The STPA will incorporate this Panel recommendation into activity-specific design specifications. The EMC will review and provide input.

Status: Requirements detailed in the project EMP.

Recommendation 45: Property Value Protection Program

Recommendation: The Panel recommends that STPA, in consultation with CBRM, be required by NSEL and PWGSC to develop a property value protection program to be applied to properties in the immediate vicinity of the remediation sites and at most risk of being affected by noise, odour, dust or transportation.

GoC Response: The GoC agrees in principle with the recommendation, although it believes that mitigation will result in positive, not negative, effects on property values. In any case, the GoC will ensure that subsequent effects monitoring and follow-up will consider, as appropriate, any meaningful impacts on property values that might be attributed to project activities. The GoC will consult with the Province of Nova Scotia to ensure that related issues are thoroughly examined over the course of final Project design and implementation.

NS Response: Required under Environmental Assessment Condition of Approval # 8.5.

Implementation Strategies: The STPA will incorporate property value protection considerations into the project EMP.

Status: Protection of property forms an integral component of project design and environmental protection criteria, and will continue to do so throughout the life of the Project. Property value protection is considered by the project EMP, and a Property Value Protection plan has been produced by the Province of Nova Scotia.

Recommendation 46: Heritage Resources

Recommendation: The Panel recommends that when STPA develops the contingency plan related to archaeology and heritage resources to be included in the Environmental Management Plan, this information should be shared with parties with an interest or a potential role to play upon discovery of items of significance. These include First Nations representatives, government, academic, and community interests.

GoC Response: The GoC agrees with the recommendation. The STPA will be required to develop a contingency plan for Heritage Resources as part of the Project Environmental Management Plan.

NS Response: Required under Environmental Assessment Conditions of Approval # 9.1 and 9.2.

Implementation Strategies: This is an EMP requirement. The EMC will review and provide input.

Status: Completed and comprises part of the project EMP.

Recommendation 47: Federal-Provincial Regulatory Plan

Recommendation: The Panel recommends that before the Project construction begins, the federal and provincial governments prepare a coordinated regulatory plan for the Project and commit to it by signing a MOA. The regulatory plan should address the following issues:

- A formal collaborative process between the federal and provincial governments to (a) share expertise and (b) coordinate relevant regulatory processes;
- How the regulation of construction phase activities on both the federal and provincial portions of the sites would be coordinated;
- Regulations, guidelines, standards and criteria to be applied to activities, emissions and discharges;
- Compliance and effects monitoring;
- Proponent reporting requirements;
- Inspection and auditing procedures;
- Staff and other resources;
- Enforcement responsibilities and procedures;
- Process required to amend the regulatory plan;
- The requirement for an annual Regulators Report to the public; and,
- Opportunities for public review and feedback.

GoC Response: GoC agrees in principle with this recommendation and believes there is merit in federal environmental regulatory agencies working cooperatively with NSEL and other provincial regulatory bodies to develop a formal, comprehensive and coordinated federal-provincial effort in the enforcement of applicable regulations. As environmental effects monitoring is not a regulatory issue, the GoC will not include this item in a regulatory plan. Rather, environmental effects monitoring will be addressed through the implementation of actions in response to recommendations 2 and 54.

NS Response: NSE will develop a plan in cooperation with federal partners.

Implementation Strategies: NSE and PWGSC have developed a regulatory MOA.

Status: Completed.

Recommendation 48: Federal Expert Advice

Recommendation: The Panel recommends that PWGSC seek assistance from EC, HC, DFO, and NRCAN to ensure that mitigation measures and a follow-up program are implemented.

GoC Response: The GoC agrees with this recommendation. PWGSC, through the EMC, will seek expert advice from other federal departments over the course of mitigation and follow up program design and implementation. Refer to the response to Recommendations 2 and 54.

NS Response: Federal Requirement.

Implementation Strategies: The EMC has been established, and review protocols agreed to.

Status: Ongoing for the life of the Project using the EMC as the primary mechanism for providing expert advice.

Recommendation 49: Tying Funding to Technology Testing

Recommendation: The Panel recommends that the Project's funding partners implement a performance-based funding process that would see the dispersal of funds being tied to the:

- Successful testing of solidification/stabilization (Recommendations 12 and 13);
- Successful testing and operation of the incinerator; and,
- Successful implementation of mitigation measures.

GoC Response: The GoC agrees in principle with the recommendation and recognizes the importance of the implementation of the necessary financial control mechanisms in respect of the Project. In this regard, financial, risk management and governance frameworks that meet federal Treasury Board standards have been developed and implemented, pursuant to the MOA. The GoC believes that these existing mechanisms are both appropriate and adequate.

NS Response: NSL, in cooperation with federal funding partners, has adopted a system of stringent performance-based financial controls for the project.

Implementation Strategies: Adherence to the Federal/Provincial 2004 MOA and project environmental management approvals.

Status: Financial, risk management and governance frameworks that meet federal Treasury Board standards have been developed and implemented, pursuant to the MOA.

Recommendation 50: Maintenance and Monitoring Act

Recommendation: The Panel recommends that, before the completion of the construction phase at the Tar Ponds and Coke Ovens sites, the GNS enact legislation to address the long-term management, maintenance, monitoring and reporting required to ensure that the containment and water control and treatment systems on the remediated sites are maintained and monitored for as long as the contaminants remaining on site present a potential risk to people or the environment. The Act should include provisions for reporting and accountability. The Act should specify under what conditions maintenance and monitoring can cease.

GoC Response: This recommendation pertains to an area of provincial responsibility.

NS Response: Intent will be met through required amendments to the *Activities Designation Regulations* which will allow for a long term approval including site maintenance, monitoring and reporting requirements. The need for a Remediation, Maintenance and Monitoring Act will be assessed as remediation nears completion.

Implementation Strategies: NSE will consider.

Status: Not Applicable.

Recommendation 51: Ownership of Remediated Lands

Recommendation: The Panel recommends that the capped portions of both the remediated Tar Ponds and Coke Ovens site remain in provincial or federal ownership until such time as the integrity of the cap is no longer a requirement as defined in Recommendation 10.

GoC Response: The GoC agrees with this recommendation. As detailed in the MOA, federal lands will be transferred to Nova Scotia by the end Project implementation or before. Related monitoring requirements will be implemented as part of the cost share agreement in relation to the Project for up to 25 years. Monitoring requirements beyond this period will be determined based upon interim monitoring results.

NS Response: NSL provincial response.

Implementation Strategies: Adherence to the Federal/Provincial MOA.

Status: Specified by the MOA, NS shall accept full ownership of the sites upon project completion.

Recommendation 52: Approval of Monitoring Program

Recommendation: The Panel recommends that approval for the Project be contingent on STPA preparing an adequate monitoring program that addresses all issues raised during the environmental assessment process and has been reviewed and approved by all key federal and provincial departments.

GoC Response: The GoC agrees with this recommendation. The STPA will be required to prepare a monitoring program which will be processed through the mechanisms outlined in the responses to Recommendations 2, 47 and 48 and 54.

NS Response: Required under Environmental Assessment Conditions of Approval #s 6.1.3 and 6.1.4.

Implementation Strategies: The STPA will submit a Project monitoring plan to the EMC and NSE for review/approval.

Status: The federal/provincial approved Project EPP defines all monitoring programs for the Project. An environmental consultant has been retained by the STPA. The consultant is responsible for conducting all Environmental Effects Monitoring for the Project, excluding air modeling, which is being conducted by a second environmental consultant specializing in air quality matters.

Recommendation 53: Monitoring Oversight Board

Recommendation: The Panel recommends that PWGSC and NSEL, before construction begins, appoint an independent three-member monitoring oversight board with a formal mandate tied in to the Federal-Provincial Regulatory Plan. The monitoring oversight board would act in a formal technical review capacity and to ensure the general public that the Project is proceeding within its approved guidelines. The board would meet as often as required and no less than twice a year, and would report to PWGSC and NSEL. All reports from the board would be made public. At the completion of the construction phase the role of the board would be reevaluated and would thereafter be tied into the mandate of the Tar Ponds and Coke Ovens Remediation Maintenance and Monitoring Act. The Panel believes that public access to monitoring information is crucial. Wherever possible real time monitoring should be employed with the results posted on the web. However, the Panel recognizes that sometimes real time monitoring may involve a trade-off with respect to accuracy or sensitivity. This information should also be provided to the public.

GoC Response: The GoC agrees in principle with this recommendation and believes that the objective concerning independent oversight will be adequately met through the activities of the EMC and the Independent Engineer as established pursuant to the MOA. The GoC also acknowledges the need and desire to inform members of the public and stakeholders of program results, as the Project proceeds, in an open and transparent process. The GoC will work with its provincial partner to ensure that this occurs.

NS Response: Minister of Environment and Labour will establish a Monitoring Oversight Board to monitor NSEL's regulatory management of the project.

Implementation Strategies: NS will establish an independent oversight monitoring board.

Status: An independent monitoring oversight board was established on January 1, 2008, and has since published two reports, both of which are available at www.gov.ns.ca/nse/.

Recommendation 54: Reporting Monitoring Results

Recommendation: The Panel recommends that STPA be required by PWGSC and NSEL to develop a Monitoring Results Reporting Protocol as part of the Monitoring Program, indicating what results would be reported, how, and when, and indicating the rationale for

each decision. While web posting is likely to play a central role, the Protocol should identify other methods of communication required to provide access to information as widely as possible. NSEL should periodically audit STPA's compliance with its own Reporting Protocol.

GoC Response: The GoC agrees with the recommendation. The STPA will be required to develop a Monitoring Results Reporting Protocol (MRRP) to communicate monitoring results to appropriate federal and provincial agencies, key stakeholders and the public. This MRRP will be incorporated in the environmental management plan.

NS Response: Required under Environmental Assessment Condition of Approval # 5.1.4.

Implementation Strategies: The STPA developed communications protocols for reporting monitoring results as part of their overall corporate communications strategy, the EMP and Provincial Condition of Approval (S.10.0).

Status: A public reporting protocol has been described in the project EMP, which has been accepted/approved by the Government Partners. The STPA has also developed a detailed public reporting protocol based upon EMP requirements. Reporting requirements/mechanisms are expected to be iterative as the Project proceeds. The EMP can be found on the STPA web site at <http://www.tarpondscleanup.ca>.

Recommendation 55: Community Liaison Committee

Recommendation: The Panel recommends that PWGSC and NSEL require STPA to maintain its Community Liaison Committee (CLC) and to modify the Committee's current terms of reference so that the appointment process is open and transparent, and that all key community interests are represented. The terms of reference should include a protocol to ensure that individual members will effectively relate to and report back to the people and organizations they represent, and should give the CLC a mandate to conduct its own community outreach activities during the Project. STPA should provide the CLC with sufficient resources to conduct its business and to report back to the community. The CLC should use an open forum such as a community meeting or open house at least once a year, and should also meet at least bi-annually with the Monitoring Oversight Board.

GoC Response: The GoC agrees in principle with this recommendation. As appropriate, the GoC will support NSL as it addresses response to the specific concerns outlined in this recommendation.

NS Response: Required under Environmental Assessment Condition of Approval #s10.1 and 10.2.

Implementation Strategies: The CLC has been established, and meetings facilitated by the STPA are being held on a monthly basis.

Status: Established for the life of the Project. A Terms of Reference for the CLC can be found on the STPA web site at <http://www.tarpondscleanup.ca>.