

3 Environment: Management of Contaminated Sites

Summary

The risks associated with contaminated sites in Nova Scotia are not being adequately managed to protect the public interest. The Department needs to improve its monitoring of contaminated sites to ensure risks to third parties, human health and the environment are being appropriately addressed. The existence of contaminated sites which are not cleaned up may also negatively impact the competitiveness of our economy.

The Department is aware of known and possible contaminated sites where the landowner or responsible person was not required to assess and address applicable risks to the public and the environment. Management indicated that there are also sites where risks have been assessed to be unacceptable which have not been cleaned up or a risk assessment has not been completed because the person responsible does not have the funds to pay. We are concerned that there may be sites in the province for which unacceptable risks have not been properly mitigated.

Timely monitoring of sites is required to help ensure cleanups are completed and risks are addressed appropriately. For those sites where the cleanup is in progress and being monitored by the Department, there is no process in place to ensure sites with higher risks are given priority. We identified sites where we believe monitoring activities did not take place in a timely manner. We also found weaknesses in the systems established to ensure qualified site professionals are performing the cleanup and we found inspectors are not verifying the accuracy of important information reported by these professionals.

Overall we found the inspectors are conducting inspections for complaints and notifications of possible contaminated sites in an appropriate and timely manner.

Although we identified instances in which Departmental policies and procedures were not being complied with or needed improvements, we are encouraged by new operational initiatives and an information system which should address some of the weaknesses noted in this report.

3 Environment: Management of Contaminated Sites

Background

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- 3.1 Soil, water and air can become contaminated as a result of a chemical spill or release. A contaminated site is a site with concentrations of chemicals that exceed acceptable standards for the particular land use and that has caused, is causing, or may cause, an adverse effect. According to the Environment Act, an adverse effect means "*an effect that impairs or damages the environment including an adverse effect respecting the health of humans or the reasonable enjoyment of life or property.*"
- 3.2 Contaminated sites can negatively affect human health, the natural environment and the competitiveness of our economy. Under the Environment Act, the Department of Environment has a responsibility "*to support and promote the protection, enhancement and prudent use of the environment*" of Nova Scotia. Within the Department, the Environmental Science and Program Management Division (ESPM) is responsible for coordinating a contaminated sites program including the development and implementation of plans, standards, guidelines, policies and regulations related to the program. They also provide technical assistance to inspectors of the Environmental Monitoring and Compliance Division (EMC) of the Department. EMC is responsible for the delivery of the program in the field. The main responsibilities of EMC staff are to conduct inspections for compliance and respond to complaints and notifications received regarding potential contamination to ensure responsible parties comply with provincial legislation, standards and policies.
- 3.3 According to legislation, remediate means "*to clean up land which is impacted by the release of a contaminant to a level required by the Minister.*" For purposes of this Chapter, we will use cleanup when referring to the remediation of a site.
- 3.4 For operational purposes, the province is divided into four regions. A network of regional and district offices provides environmental compliance coverage to all areas of the province. The EMC Division employs approximately 70 inspectors with 31 of those inspectors having responsibility for the contaminated sites program along with responsibilities under other Department programs. Inspectors are supported by EMC and ESPM resource staff such as engineers and compliance and inspection coordinators.

3.5 In 2008-09, actual expenditures for the EMC Division were \$11.4 million. For 2009-10, the budget for EMC was \$12.0 million from a total departmental budget of \$44.3 million. Management indicated \$19.5 million of the total departmental budget related to grant funding leaving \$24.8 million available for operations.

3.6 Section 4(2)(m) of the Environmental Goals and Sustainable Prosperity Act of 2007 commits the Province to develop regulatory tools to “*stimulate redevelopment of contaminated land and contribute to economic development while protecting the environment*” by the year 2010. Management has indicated they have taken actions to achieve this goal.

Audit Objectives and Scope

3.7 In the winter of 2010 we completed a performance audit of the Department of Environment’s management of its contaminated sites program. The audit was conducted in accordance with Section 8 of the Auditor General Act and auditing standards established by the Canadian Institute of Chartered Accountants.

3.8 The purpose of our audit was to determine if the risks associated with contaminated sites in Nova Scotia are being managed adequately to protect the public interest.

3.9 The objectives of our audit were to determine if the Department of Environment:

- is adequately monitoring and enforcing compliance with applicable legislation, policies and guidelines related to its responsibilities for contaminated sites;
- has adequate processes to respond to complaints or notifications received concerning possible contaminated sites; and
- has adequate management information and processes to ensure it is effectively managing its responsibilities for contaminated sites.

3.10 Generally accepted criteria consistent with the objectives of this audit did not exist. Audit criteria were developed specifically for the engagement using both internal and external sources. Criteria were accepted as appropriate by senior management of the Department.

3.11 Our audit approach included interviews with ESPM and EMC Division management and staff; documentation of systems and processes; and examination of legislation, policies, guidelines and other documentation.

We also performed detailed testing of compliance with certain processes and procedures including complaints, monitoring, and enforcement. Compliance testing for monitoring and enforcement covered the period from April 2008 to January 2010. Compliance testing for complaints covered the period October 2009 to January 2010. We conducted audit work at the Department of Environment head office and the four regional offices.

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Significant Audit Observations

Monitoring and Enforcement

Conclusions and summary of observations

The Department is not adequately monitoring contaminated sites to ensure risks to third parties, human health and the environment are being adequately addressed to protect the public interest. The Department is aware of some known and possible contaminated sites where no action has been taken to assess and address possible risks to the public and the environment. There are also sites where risks have been assessed as unacceptable but the sites have not been cleaned up, or an assessment of risks has not been done, because the person responsible does not have the funds to pay, Public Prosecution Services will not prosecute, and the Department does not have the funds to have the work done. For those sites where cleanup is ongoing and the Department is monitoring, there is no process in place to ensure sites with higher risks are given priority after dealing with immediate threats. Additionally we identified sites for which monitoring activities did not take place in a timely manner. Inspectors rely on site professionals to assess and manage the cleanup of contaminated sites. However, we found weaknesses in the systems established to ensure qualified individuals are hired and we found there is no process in place for inspectors to identify and verify, on a sample basis, the accuracy of key information reported by site professionals on cleanup processes conducted and final results.

- 3.12 *Roles and responsibilities* – The Environment Act places responsibility for the cleanup of contaminated sites with the landowner or other persons responsible as defined in legislation. Generally the landowner or person responsible will hire a site professional or certified cleanup contractor to assess whether the land is contaminated and, where required, manage the cleanup. For purposes of this chapter we will refer to those who manage the cleanup as site professionals. Site professionals determine how the site will be cleaned up and the timing and frequency of any testing and monitoring that may be required.

- 3.13 EMC inspectors review and evaluate site professionals' reports of site assessments, cleanup plans and cleanup results to ensure compliance with provincial legislation, standards, policies and guidelines where applicable. Inspectors are responsible for taking necessary monitoring and follow-up actions, including enforcement actions in cases of noncompliance with legislation.
- 3.14 *Known or likely contaminated sites* – Department management indicated they are aware of known or likely contaminated sites owned by a municipality, the province, or other landowners or persons responsible. These are not sites for which the Department received complaints or were notified of a spill.
- 3.15 The Department has not required the municipality, the province, or other landowners or persons responsible to complete site assessments to determine whether there is an unacceptable risk to human health and the environment resulting from contamination which may exist at these locations. The Department does not track or otherwise monitor these sites. Any site which the Department knows is contaminated or believes is likely contaminated should be assessed and all necessary actions within its mandate taken to ensure any unacceptable risks which may exist are adequately addressed.

Recommendation 3.1

The Department of Environment should ensure sites which are known to be or likely to be contaminated are appropriately assessed and any unacceptable risks to human health and the environment are addressed by the responsible party.

- 3.16 *Lack of funds* – Costs associated with the cleanup of a contaminated site are the responsibility of the landowner or other persons responsible. According to management, in a case where the landowner does not have the money to clean up a site, EMC staff may take action to contain the contamination if required and may issue a ministerial order to clean up the site. However, management noted that Public Prosecution Services may not prosecute a landowner or other persons responsible if they do not have the ability to pay. This is outside the control of the Department. If this is the case, the site will not be cleaned up by the Department.
- 3.17 The Department indicated that as regulators they are not responsible, nor do they have the funding, to clean up sites where landowners or persons responsible cannot pay. The Department also noted that there are contaminated sites in the province where third party impacts have not been adequately addressed. As well, we identified a site during our testing where emergency cleanup activities were completed and a ministerial order was issued to assess remaining contamination risks. However Department staff informed us this assessment was not completed because Public Prosecution

Services did not prosecute to enforce the ministerial order. We are concerned that third party impacts and risks to human health and the environment with respect to these sites are not being adequately addressed.

Recommendation 3.2

The Department of Environment should report to Cabinet those contaminated sites where unacceptable risks have not been adequately addressed to ensure Cabinet has appropriate information for policy decisions.

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- 3.18 *Initial site assessments* – Potential contaminated sites typically come to the attention of EMC inspectors through complaints or notifications. Inspectors usually perform a site visit to determine if there is any direct and immediate threat to human health or the environment. Where an immediate threat exists, the risks associated with those sites must be dealt with immediately by the person responsible. For sites where there is no immediate threat but contamination is likely present, the person responsible will be notified that a site assessment or other activities are required and a contaminated site file is opened by EMC inspectors for monitoring purposes.
- 3.19 According to staff, in the six month period ending March 31, 2010, there were 39 contaminated site files opened for monitoring purposes throughout the province.
- 3.20 *EMC monitoring activities* – Site professionals, involved in the cleanup of a contaminated site and acting for landowners or other persons responsible, may be required to provide EMC with various reports including site assessments, cleanup plans and final cleanup reports. As part of EMC monitoring, inspectors follow up with the site professionals to ensure these reports are received. Once received, EMC inspectors review these reports and note any deficiencies or additional information which the site professionals need to address to support compliance. Monitoring may include ensuring required action has been taken as a result of enforcement activities.
- 3.21 *Defined timeframes* – There are no defined timeframes established for EMC monitoring activities, including follow-up to ensure reports are received and subsequent review of reports. The timeframes involved could vary depending on the risk levels of sites and the complexity of site conditions. Establishing timeframes would help management assess whether EMC monitoring activities are conducted in a timely manner. Management informed us that timeframes to follow up required reports have since been established.
- 3.22 *EMC follow-up of site professional reports* – To help ensure that cleanup is done in a timely manner and risks have been adequately addressed, it is

important that EMC staff actively monitor whether required information is received and deficiencies have been addressed. We examined 36 open files for contaminated sites and found four in which EMC monitoring activities to obtain required reports did not take place within a reasonable timeframe. The timeframe ranged from eight to 15 months.

Recommendation 3.3

The Department of Environment should implement timeframes to follow up receipt of site professional reports and ensure timeframes are being followed.

- 3.23 *Timelines for review of reports* – One of the key reports received from site professionals is the remediation report. This report describes how a site has been cleaned up and concludes whether it has been cleaned to provincial standards. As part of our testing of files we found instances in which remediation reports were not reviewed in a timely manner. We found two files for which the reports were reviewed approximately one year and 11 weeks after receipt. There was also one report which, at the time of our audit, had been received 6 weeks earlier and had not yet been reviewed. As well, we identified an environmental site assessment report which was reviewed approximately five months after receipt.
- 3.24 One of the four regions places all cleanup reports received in a queue to be reviewed when time permits. They remain in the queue until an inspector reviews the report for deficiencies. As of February 22, 2010, there were 32 reports in the queue. Of the 32 reports, eight had been received more than six months ago (the oldest was nine months), 22 had been received between one and six months ago, and the remaining two were in the queue for less than a month. We were unable to determine similar information for the other three regions as reports are not tracked in this manner. Staff at one other region indicated that the timely review of reports is an issue.
- 3.25 Until important information such as a remediation report is reviewed and accepted by an inspector, the Department has little knowledge about whether a site has been properly cleaned up and risks have been appropriately addressed.

Recommendation 3.4

The Department of Environment should ensure that site professional reports and other information are reviewed in a timely manner based on timeframes established.

- 3.26 *Prioritization* – EMC staff address immediate threats to human health and the environment from contaminated sites. However, a site may still need to be cleaned up to address remaining risks. EMC staff do not have a formal prioritization process to ensure higher-risk contaminated sites are the first



priority for monitoring by inspectors after dealing with immediate threats. Certain sites potentially pose a higher human health risk than others, such as spills which could potentially contaminate a nearby water supply. At present higher-risk sites are not specifically identified and more closely monitored. With limited resources available, it is important that EMC inspector activity is targeted to the sites which pose the highest risk.

Recommendation 3.5

The Department of Environment should develop a formal prioritization process to identify higher-risk contaminated sites. Inspector monitoring activities should ensure priority is given to higher-risk sites.

- 3.27 *Inspector site visits* – EMC inspectors do not typically perform site visits during the cleanup process to verify the accuracy of information reported by site professionals. EMC staff rely heavily on this information to assess whether the contaminated site has been appropriately cleaned up. Without a process which allows for the verification of certain information reported to the inspectors, there is a risk that inaccurate information is reported and a site which EMC thought was properly cleaned up may not be. We understand that verification of all information would not be practical but a process could be implemented, on a sample basis, which takes into account the level of risk associated with a particular site.

Recommendation 3.6

The Department of Environment should conduct periodic site visits on certain sites, taking into consideration the level of risk involved, to verify key information reported by site professionals.

- 3.28 *Site professionals* – Inspectors rely on site professionals throughout the contaminated sites cleanup process. Qualified site professionals are an important component of the Department's contaminated sites program. Under the Department's Domestic Fuel Oil Spill Policy, site professionals must apply to be on a list of registered individuals who are eligible to complete cleanup work. This list is available to landowners or persons responsible for choosing a site professional to manage necessary cleanup work for them on a site. To be eligible for the Department's site professional list, applicants must either have a bachelor's degree in an appropriate discipline, a minimum of five years practical experience in all phases of site cleanup, and adequate insurance coverage; or take a two-day course, pass an exam, and submit references demonstrating experience with site cleanup. There are different qualification requirements under the Guidelines for the Management of Contaminated Sites. Site professionals are required to be professional engineers or professional geoscientists.

- 3.29 The Department does not verify the professional credentials or the education and work experience requirements of site professionals involved in the cleanup of contaminated sites. There is a risk that unqualified individuals may be responsible for managing important cleanup work on contaminated sites. Individuals who are not qualified could potentially delay or fail in the proper cleanup of the site, which could negatively impact addressing related risks in a timely manner.

Recommendation 3.7

The Department of Environment should complete background checks to ensure site professionals have the education and work experience required under Departmental guidelines.

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- 3.30 *Site professionals reporting requirements* – There are no standard cleanup submission requirements or report format for site professionals. As a result, the work done and remediation reports submitted are different depending on the site professional. EMC management informed us this can negatively impact inspector effectiveness in processing such reports and increases the risk that important information may be missing and go undetected.
- 3.31 Related to these issues is the fact that there are no required timeframes for landowners or persons responsible for completing the various stages of cleanup. Management believes such regulation would help achieve timely cleanup of sites. Management informed us they are considering establishing timeframes for the various stages of cleanup through the revised regulations being developed. Management indicated that they are currently developing standardized cleanup and report structure requirements to update current guidelines. However, this project has been pending since 2006.

Recommendation 3.8

The Department of Environment should develop standardized cleanup submission requirements as well as standard report formats.

- 3.32 *Closed files* – Contaminated site files can be closed by inspectors once a site has been cleaned up to Department standards. We examined 19 closed files and found all files contained required reports supporting proper file closure.
- 3.33 *Enforcement* – Enforcing compliance with the Environment Act and regulations can involve non-punitive measures, such as persuasion and education, and punitive measures such as warnings, summary offense tickets, and ministerial orders. Inspectors determine and carry out enforcement activities, guided by the Department's compliance model and consultation with compliance and investigation coordinators or the district manager.

- 3.34 During file testing, we reviewed seven files which had a total of ten enforcement actions. We determined that enforcement actions taken were consistent with the Department's enforcement framework, with the exception of two actions in which we saw no evidence that the Compliance and Inspection Coordinator was consulted and neither he nor the district manager were informed prior to an enforcement action being taken.

Recommendation 3.9

The Department of Environment should ensure consultation with the Compliance and Inspection Coordinator and notification to the coordinator and district manager occurs prior to enforcement action being taken.

Complaints and Notifications

Conclusions and summary of observations

Overall the Department has an adequate process to respond to complaints and notifications of possible contaminated sites. We found the assessment and inspection of complaints and notifications is carried out in a timely and appropriate manner but improvements could be made in how complaints and notifications are tracked. We also found management does not review closed complaint files to ensure closure is supported although this is required by department procedures. Additionally there is no requirement that closed notification files be reviewed by management.

- 3.35 According to staff, in the six-month period ending March 31, 2010, there were 128 complaints and notifications of potential contaminated sites received throughout the province.
- 3.36 *Timeliness and appropriateness of assessment* – In 28 of 29 complaint and notification files tested, inspections were carried out in a timely and appropriate manner. In one file, a complaint was received in July 2009 but, as of the time of our audit, there was no evidence in the file that the owner of the property where the contamination originated had been contacted.
- 3.37 *Management review of closed complaint and notification files* – If it is decided that a site is not contaminated and no further action is required, the complaint or notification file is closed. Otherwise, it is changed to an open contaminated site file to be monitored. Three regions follow a complaint tracking protocol which requires management review of all closed complaint files to ensure the decision to close the file is supported. However, there is no evidence of this review in the files. For these regions in which the complaint tracking protocol is followed, management in two districts indicated all closed files are not reviewed due to the volume. These

three regions also have no requirement for management to review closed notification files. The fourth region has been following a pilot departmental operating procedure. This procedure requires the district managers to review a sample of closed complaint and notification files. However, this review process has not been completed since January 2009. Management indicated that a new departmental procedure has now been approved which requires the review of a sample of closed complaint and notification files in all regions. Management review of closed complaint and notification files reduces the risk that closure may be premature and possible contaminated sites are not being appropriately addressed.

Recommendation 3.10

The Department of Environment should ensure closed complaint and notification files are reviewed by management as required. Evidence of review, including the date, should be documented in the file.

3.38 *Performance standards* – The Department does not have any documented standards that outline when an inspector should begin the inspection of a complaint or notification for those files which do not require an inspector's immediate attention. As well, there are no standards for the timing of the District Managers' review of closed files. Timely assessment of complaints and notifications and the review of closed files are important controls to ensure possible contaminated sites are properly assessed and managed.

Recommendation 3.11

The Department of Environment should implement time standards for the inspection of a complaint or notification by inspectors and for district manager review of closed files.

3.39 *Accuracy of information in the activity tracking system (ATS)* – ATS is a province-wide system used by management to monitor and track complaints and notifications. It enables management to see which inspector has been assigned to a file as well as the status, such as when a file was opened, actions taken and when it was closed.

3.40 We tested the accuracy of information in ATS for 10 complaint and notification files in two regions and found the following.

- In three cases the assessment completed by the inspector was documented in the paper file but not in ATS.
- In five files the date of the complaint or notification entered into ATS was between three and 18 days later than the actual date received by the Department.

- In one file ATS indicated the file was still open when it had actually been closed.
- In one file the assessment was not documented in ATS until 23 days after it was completed.

3.41 We realize the ATS system is new, having been implemented as of October 2009, and there is a learning curve involved, however, without accurate information in ATS complaints and notifications may not be assessed in a timely manner and important operational information needed by management may not be available.

Recommendation 3.12

All information related to a complaint and notification file should be accurately reflected in the activity tracking system.

Management Information

Conclusions and summary of observations

The Department has not, to date, had adequate management information and processes to ensure it is effectively managing its responsibilities for contaminated sites. However, action has been taken to make improvements. Prior to October 2009 and the implementation of a new province-wide activity tracking system, we found the systems used by the regions did not provide appropriate information to manage the program. However, we are encouraged by the implementation of the new activity tracking system which has the capability to provide more appropriate information. This new system is in the process of being fully operationalized. The Department does not have an established process to review contaminated site files on a regular basis to ensure inspectors in all regions are complying with operational and administrative responsibilities. Although management indicated they have a training program, based on interviews with staff, improvements to the program are required to ensure staff receive the training they need.

- 3.42 *Management communications* – Management indicated that regional managers communicate and meet regularly with district managers to obtain information on district issues, provide direction and outline priorities. District managers are responsible for the daily management of inspection staff and have regular discussions, communication and meetings with inspectors to keep up-to-date on work activities. District managers also communicate with Compliance and Inspection Coordinators and meet individually with inspectors to discuss enforcement activities.
- 3.43 *District tracking systems* – During our audit period up to October 2009, each of the four regions used spreadsheets or word processing software

- to track activity on contaminated site files. Across the four regions three different tracking systems were used. The tracking systems contain records on contaminated sites that are recently or currently being worked on by inspectors.
- 3.44 These tracking systems did not provide management with summarized reporting for management purposes such as identifying files opened or closed during the reporting period; files with enforcement action; files with no recent activity; and high priority files. These systems did not provide alerts of key dates such as expected due dates for reports from contractors or a more informative status of the file (e.g., received remediation plan, cleanup completed, awaiting remediation report, report received but not yet reviewed) to give an indication of inspector workload and backlogs.
- 3.45 *Activity tracking system (ATS)* – As discussed in paragraph 3.39, ATS is an activity tracking system implemented across all four regions as of October 2009. It is used for all program areas including contaminated sites. Having one system province-wide should promote consistency of information across the province. We have not tested the ATS data to determine if the information is complete or accurate other than for some complaint and notification testing (see paragraph 3.40). This new system is in the process of being fully operationalized. According to management the information available is continuously improving. New operational procedures have been approved which will help to ensure the potential benefits of ATS are achieved.
- 3.46 One of the key benefits of ATS is the ability of inspectors to enter due dates into the system for such things as when follow-up activities should be done or when reports are expected. The system will notify the inspector when a due date is reached. It will also notify the district manager if an inspector has not met a due date. This benefit will help inspectors complete timely monitoring activities and provide management with information as to whether there are issues with inspectors completing timely follow-up activities.
- 3.47 ATS has reporting capabilities that did not exist with the previous tracking systems. Although some reports are currently produced, management is still assessing their reporting needs. We suggest management complete their assessment of information needs so they can receive the full benefits of the activity tracking system.
- 3.48 *Management review* – Management is not required to routinely review contaminated site files opened or closed by inspectors. Inspectors use their professional judgment as to the monitoring activities they complete and the timing of those activities and to determine whether to close a file once they are satisfied cleanup has taken place.

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- 3.49 Although there is no policy requirement, all district managers indicated they have a process to review certain files to ensure proper policies and procedures are followed. However, there are inconsistencies among district managers regarding which files are reviewed. For example, some managers only review files of new staff while others only review closed files. The files tested during our audit did not include evidence of management review.
- 3.50 In Chapter 3 of the February 2008 Report of the Auditor General (paragraph 3.15), we discussed the Department's Quality Assurance Program. Its purpose is to determine the degree of compliance with operational and administrative responsibilities. At that time, the program was a pilot project which we recommended the Division implement across all its compliance programs as soon as possible. The Division is continuing with the program but the contaminated sites program has not yet been evaluated.
- 3.51 Management indicated that a new departmental procedure has now been approved which requires a quality assurance review of a sample of contaminated site files each year.

Recommendation 3.13

The Department of Environment should implement the quality assurance program for contaminated site files.

- 3.52 *Inspector training and development* – We assessed the inspector training processes in place related to the contaminated sites program. We determined training was largely ad hoc and inconsistent among inspection staff. Some inspectors interviewed felt the training they had received was not adequate. For example they identified the need to provide training on evaluating the risk level for a site and internal file management processes. A number of inspectors felt regular refresher courses would be beneficial.
- 3.53 From interviews with management and staff, mentoring was considered an important training tool for new staff working on contaminated site files given the inherent complexities of the files. During our testing, we identified one file which was monitored by a new inspector. The site was assessed and cleaned up under the Domestic Fuel Oil Spill Policy although it was not considered a domestic fuel oil spill. This resulted in a certified cleanup contractor being responsible for the remediation as opposed to the required site professional. In this case, according to management, the site was properly cleaned up to Departmental standards. If mentoring of new staff is not effective, there is a risk that they may not be receiving appropriate training and a contaminated site may not be cleaned up properly. During our fieldwork, management was finalizing a Development Accountability Model for inspection staff, which defines the development path for inspectors based on their needs. This model will link training

and development expectations to the performance cycle of inspection staff. Since we completed fieldwork, management indicated that the model was finalized and released for use but training had not been completed when this Chapter was written.

Recommendation 3.14

Management should closely supervise all new inspectors to ensure they are receiving appropriate training and sites assigned to them are properly monitored.

Recommendation 3.15

Training on the use of the Development Accountability Model should be completed as soon as possible.

3.54 Program objectives, outcome measures, inventory of sites – There are no defined objectives and related measurable outcomes in place for the contaminated sites program. Well-defined objectives help reduce the risk of confusion over what is expected of the program and clearly demonstrate the benefits of its existence. The Environment Act does identify a number of goals for the Department. Program objectives should be linked to those goals. Defined measurable outcomes help to demonstrate whether the program objectives are achieved. Related to this issue, there is no inventory of known contaminated sites in the province including information such as the stage of clean-up for each site and the level of risk involved. Such inventory information would help to demonstrate the value of the program and would help with the development and monitoring of outcome measures.

Recommendation 3.16

The Department of Environment should clearly define and communicate the objectives of the contaminated site program as well as establish outcome measures including reporting on program performance.

Recommendation 3.17

An inventory of known contaminated sites should be established and maintained for management purposes. This should include information on the stage of cleanup and risks involved for each site.

3.55 Law Reform Commission – Section 4(2)(m) of the Environmental Goals and Sustainable Prosperity Act of 2007 commits the Province to develop regulatory tools to “stimulate redevelopment of contaminated land and contribute to economic development while protecting the environment”, by the year 2010. To help meet this goal, in January 2008, the Attorney



General of Nova Scotia requested that the Law Reform Commission examine a number of issues pertaining to contaminated sites in Nova Scotia. The Commission's report was released in December 2009 and includes a number of recommendations for "*the improvement of the current legislative regime, to promote the cleanup of contaminated sites while at the same time protecting human health and the environment.*"

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- 3.56 The Department will be considering the recommendations made by the Law Reform Commission when contaminated site management regulations are drafted. The Department issued a discussion paper on May 7, 2010, for public comment, concerning ideas proposed for a contaminated sites regulatory program. Responses are to be received by July 6, 2010. The public responses will be considered when drafting regulations. The Department plans to have final regulations by the end of 2010. Management has indicated that some of the recommendations made in this Chapter may be addressed through the new regulations.

RESPONSE:
DEPARTMENT OF
ENVIRONMENT

Response: Department of Environment

Nova Scotia Environment recognizes that the report from the Office of the Auditor General refers to a very important issue. The department takes the issue very seriously and would like to thank the Auditor General for providing recommendations to improve the management of contaminated sites in Nova Scotia. We are pleased to provide this general response.

Our department has been working diligently to address the issues of contaminated sites in Nova Scotia. This is reflected in legislation that calls for new tools to be put in place by 2010, in stakeholder consultation and research over the past two years, and in the department's request for the Law Reform Commission to undertake research and provide recommendations in this area. The department recently issued a discussion paper to Nova Scotians to support the development of new regulatory tools as committed to in legislation.

The information management recommendations raised in the Auditor General's Report refer to similar recommendations made in 2008. The department is well along in addressing these items with the development of an Activity Tracking System which was implemented in the fall of 2009.

There is no indication from either the audit or from the department's experience that these deficiencies have resulted in unacceptable risks to public health or the environment. While the department agrees that improvements are needed, this work is underway.

Limited time precludes responding in depth to all the recommendations in time for publication of the report. The department will carefully consider them as part of our current review of contaminated site management.

The department has already implemented many changes that address recommendations 9 to 15. A new Activities Tracking System and a Quality Assurance/Quality Control program have been implemented, divisional operation procedures have been improved, and an inspectors training model has been developed. These changes are already improving the collection and management of information, and the way inspectors' carry out their day to day duties.

The department will consider recommendations 1 to 8 and 16 and 17 as it continues to develop regulatory management tool in accordance with the direction provided in the Environmental Goals and Sustainable Prosperity Act. Public consultation is currently underway, and the department will incorporate this feedback into development of an integrated package of regulatory and non-regulatory tools in late 2010.

**RESPONSE:
DEPARTMENT OF
ENVIRONMENT**

It is reassuring to note that the audit found that, overall, departmental inspectors are conducting inspections for complaints and notifications of possible contaminated sites in an appropriate and timely manner. The department also welcomes the support provided to our current initiatives such as the Activity Tracking System and Quality Assurance procedures.

Nova Scotia Environment appreciates the recommendations provided in the Auditor General's report. These findings will contribute to the development of an effective management framework for contaminated sites in Nova Scotia. There is widespread agreement that Nova Scotia needs a better system to manage contaminated sites, to ensure Nova Scotians and our environment are protected, and to encourage these lands to be cleaned up and returned to productive use.