

**OFF-SITE MIGRATION OF CONTAMINATION IN BRITISH
COLUMBIA: REVIEW AND RECOMENDATIONS**

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Ministry of Environment, British Columbia

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LIST OF ACRONYMS

ADR	Alternative Dispute Resolution
AENV	Alberta Environment
AIP	Agreement in Principal
AP	Approved Professional
APAR	Affected Property Assessment Report
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
COC	Certificate of Compliance
CPU	Certificate of Property Use
CSR	Contaminated Sites Regulations
CTLs	Contaminant Target Levels
DEQ	Department of Environmental Quality
DSI	Detailed Site Investigation
EAB	Environmental Appeal Board
EMA	Environmental Management Act
EPA	Environmental Protection Agency
ER	Emergency Response
ESA	Environmental Site Assessment
FTE	Full Time Employee
GVRD	Greater Vancouver Regional District
IEC	Immediate Environmental Concern
IOP	Innocent Owner/Operator
LUST	leaking UST
Mass DEP	Massachusetts Department of Environmental Protection
MDDEP	Ministère du Développement durable, de l'Environnement et des Parcs
MNA	Monitored Natural Attenuation
MOE	Ministry of Environment
MSD	Municipal Setting Designation
MWLAP	Ministry of Water, Land, and Air Protection
NAPL	Non Aqueous Phase Liquid
NOM	Notice of Migration
OSA	Offsite Sales Agreement
PE	Poly Ethylene
PB	Poly Butylene

PRP	Potential Responsible Party
PSI	Preliminary Site Investigation
PVC	Poly Vinyl Chloride
QA	Quantity Assurance
RA	Risk Assessment
RCRA	Resource Conservation and Recovery Act
RQ	Reportable Quantity
RP	Responsible Party
SAB	Science Advisory Board
SLRA	Screening Level Risk Assessment
TCEQ	Texas Commission on Environmental Quantity
TRRP	Texas Risk Reduction Program
TWC	Texas Water Code
UBCM	Union of BC Municipalities
USEPA	United States Environmental Protection Agency
VAP	Voluntary Action Plan
VCP	Voluntary Clean up Program

1.

INTRODUCTION

1.1 Purpose of this Study

The Ministry of Environment (MOE) is considering how to enhance its capabilities to address potential and actual offsite migration of substances in soil, water, air and sediment within its jurisdiction. The MOE's initiative covers all aspects of off-site migration issues, including:

- the liability scheme governing contaminated sites;
- notification requirements;
- the MOE's regulatory approach used to apply the legislative scheme;
- the MOE's administrative constraints; and
- standards defining contamination and acceptable investigation remediation.

The MOE's current off-site migration initiative is part of a larger effort to update British Columbia's contaminated sites legislation and policy. A key source for this update is the 2003 report and recommendations prepared by the Minister's Advisory Panel on Contaminated Sites¹. Key recommendations now being implemented include more reliance on approved professionals and higher priority to the risk-based approach. The Panel report, however, included less analysis and guidance respecting off-site issues. The Ministry nonetheless recognizes stakeholder concerns over off-site migration. This study is intended to identify these concerns and recommend possible changes to the existing off-site regime.

A principal concern of the MOE is the migration of substances into roadways and utility corridors. Local governments and users of utility corridors (e.g., natural gas and telecommunications companies) are concerned that contaminants migrating from off-site sources cause significant damage. In response, the Ministry wishes to review scientific and technical guidance and legal standards and regulatory approaches for the protection of underground utilities and roadways developed or used by other jurisdictions.

Of the various elements which comprise the off-site regime, two are fundamental and require particular attention: the off-site notifications under sections 57 and 60.1 of EMA and Protocol 6 adopted by the director under section 42 of the *Environmental Management Act* (EMA). These two measures were enacted in 2002 and 2004 respectively, and the MOE

¹ "Final Report of the Minister's Advisory Panel on Contaminated Sites", Vancouver, January 2003.

now wishes to review the effectiveness of these and other elements of the off-site regime.

1.2 Organization of this Study

This study is presented in five sections. Section 1 discusses the study objectives, the study methodology, and the Project team. Section 2 describes the existing off-site regime. Section 3 identifies the concerns expressed by stakeholders, as well as other issues identified by the Project Team. Section 4 compares the BC off-site regime with those found in 12 other jurisdictions in Canada and the United States. Section 5 evaluates various options that could be used to address the identified concerns and presents the Team's recommendations.

1.3 Methodology

The following methodology was adopted in undertaking the study.

1. Project Initiation Meeting	A project initiation meeting was held between key Ministry personnel and members of Franz Environmental Inc. and Braul Environmental Law (the "Project Team") in Vancouver on January 23, 2006. This meeting served to clarify any issues in the Request for Proposal and proposal, and to obtain additional information from the Ministry.
2. Summary and Review of Current Off-Site Migration Provisions	The Project Team reviewed and summarized current provisions under EMA including site registry notations in sect. 43 of EMA; notifications under section 57 of CSR; notifications required under section 60.1 of CSR; legal instruments under "Protocol 6. Eligibility of Applications for Review by Approved Professionals", July 2004.
3. Summary and Review of Violations and Penalties	The Project Team undertook a search and review of the Ministry databases and other information sources on violations and penalties, in combination with interviews with MOE staff. This provided a reference for assessing the available tools to address offsite contamination. The Project Team also reviewed a selection of legal decisions from amongst a number of published Orders, Allocation Panel Opinions and Environmental Appeal Board Decisions in the past ten years to identify if and how the existing tools have been used in the process.

4. Analyze and Discuss Adequacy of Tools (of 2. and 3. above)	<p>Based on the findings of the previous two tasks, the Project Team identified issues of particular concern to the MOE and stakeholders.</p> <p>This research included consultations with stakeholder representatives and review of recent reports and studies (e.g., Minister’s Advisory Panel on Contaminated Sites, discussion papers)</p>
5. Discussion of Enforcement of Tools and Consequences of Non-compliance	<p>This review identified particular legal issues associated with the various off-site regulatory tools.</p>
6. Survey Utility Companies and Agencies in BC	<p>Through a combination of informal contacts with key individuals within the utility companies and municipal organizations, and a survey sent to these organizations (see Appendix A), the Project Team obtained information on the frequency of suspected and known contamination occurrences in utility corridors, the nature and degree of the impacts and their costs, infrastructure measures used and proposed, and opinions on the protective standards used and proposed.</p> <p>The Project Team consulted with these and other parties, including the following ‘utility’ corridor representatives: i) “Contaminated Utility Corridors” group, comprising TELUS, BC Hydro, Terasen Gas, City of Vancouver, City of Burnaby, City of Richmond, City of Coquitlam and City of Surrey; ii) the City of Vancouver, iii) City of Burnaby, iv) the Greater Vancouver Regional District, v) the Capital Regional District, vi) Telus vii) Terasen Gas, viii) BC Hydro, ix) the City of Seattle and x) the City of Saanich.</p> <p>The Project Team relied on a questionnaire (see Appendix A), based on the specific questions in the RFP to solicit key information from the utilities.</p>
7. Analysis of Other Jurisdictions	<p>The Project Team developed and distributed a questionnaire was developed and issued to 19 jurisdictions, including several municipalities in BC and Washington State. The questions addressed the legal, regulatory, policy, administrative and scientific and technical physical standards provisions to address offsite migration of contamination (see Appendix B).</p>
8. Identification of Options	<p>Once information was received from the tasks described above, options for enhancing British Columbia’s approach to addressing off-site migration were evaluated. The options pertained to:</p> <ul style="list-style-type: none"> • Identification • Triggers for notification • Notification content • Notification recipients

	<ul style="list-style-type: none"> • Notification methods to parties involved • Public Notification through the Site Registry • Requirements to ensure remediation • Liability for remediation • Environmental quality standards for the protection of underground utilities • Physical standards for the protection of underground utilities • Penalties and enforcement for each of the above, where appropriate <p>Each option was compared and qualitatively evaluated by the Project Team generally using the following criteria provided by the MOE:</p> <ul style="list-style-type: none"> • minimize the use of government resources; • minimize cost to client; • maximize timeliness and efficiency of government administration; • minimize potential for litigation after tool is in place; • ensure that any public notification requirements are efficient; • ensure that any tracking requirements are timely and efficient; and, • have significant consequences for the client if requirements are not met.
9. Recommendation of Key Steps	<p>To present the study findings and preliminary options, the Project Team held a workshop/presentation with Ministry personnel in Victoria on March 27, 2006. This process ensured that final options and recommendations were not developed in a vacuum, i.e., without input from the MOE.</p> <p>Based on the research conducted, the options identification and evaluation process, and the presentation/workshop, recommendations were made for improving British Columbia's approach to addressing offsite migration of substances in the following areas:</p> <ul style="list-style-type: none"> • notifications, • utilities, • part-site approvals, and • liability.
10. Reporting	<p>The Project Team prepared draft and final reports which outlined the methodology of tasks discussed above, documented all interviews and surveys, presented the options identified along with how they were evaluated (with supporting rationale) and presented the recommendations for improving British Columbia's approach to addressing offsite migration of substances.</p>

1.4 Project Team

The Project Team consisted of senior personnel from both Franz Environmental Inc. and Braul Environmental Law. The Team members were as follows:

- Mr. Waldemar (Wally) Braul of Braul Environmental Law, who has practised environmental law for the past 18 years. Mr. Braul provided all legal and legislative review expertise for this project, helped develop options and recommendations, and co-authored this report.
- Ms. Elizabeth van Warmerdam is a senior hydrogeologist and the manager of Franz's Vancouver office with extensive project experience in contaminated sites in British Columbia. Ms. Van Warmerdam was the Project Manager for this project, supervised the questionnaire-based survey for the utilities and municipalities, helped develop options and recommendations, and co-authored this report.
- Mr. Christian A. Ludwig, M.Eng., P.Eng. is a Senior Consultant in Franz's Ottawa office. He has over 20 years experience in the environmental engineering field, including 12 years with a large Canadian transportation company's environmental services group. Mr. Ludwig supervised the survey of other jurisdictions, helped develop options and recommendations, and co-authored this report.
- Mr. Thomas Franz, President of Franz Environmental Inc., has over 16 years of experience as project manager and contaminant hydrogeologist in the assessment and remediation of contaminated groundwater, soils, surface water, and sediments. Mr. Franz provided input from the perspective of a Rostered Approved Professional.

2 THE EXISTING OFF-SITE MIGRATION REGIME

2.1 Summary of Key Elements

British Columbia's off-site migration regime is not prescribed in one single source. Rather, the regime draws from diverse sources, including legislation, Ministry policies and other guidance sources, and the common law.

In particular, the British Columbia's off-site regime includes the following elements:

1. **the site registry** – under EMA, the publicly accessible site registry includes a wide array of entries that, depending on the site, could indicate off-site migration;
2. **notifications of independent remediation** – EMA section 54 requirements respecting notifications of independent remediation could reflect whether off-site contamination is migrating from the subject site;
3. **off-site migration notifications** – these duties to notify are found in section 57 and 60.1 of the Contaminated Sites Regulation (CSR);
4. **off-site notification letters** – MOE standard form letters used by parties to effect CSR off-site migration notifications to affected property owners;
5. **expectations letters** – MOE standard form letters set out how it expects parties who give notifications of off-site migration to investigate and remediate the subject contamination;
6. **approved professional 'part-site' submissions** – Protocol 6 is a primary source of guidance for “approved professionals” when they prepare recommendations for regulatory approvals (and as such has guidance on if, and how MOE approvals will be issued for sites which are part of a larger migrating plume of contamination);
7. **release letters** – MOE “notices of no significant risk” are intended to release sites and parts of contaminated sites (i.e. properties located within a plume) for local government approvals;
8. **MOE approvals** – MOE “approvals in principle” (AIPs) and “certificates of compliance” (COCs) approve acceptable remediation plans and actual remediation for both on-site and off-site properties;
9. **orders** – investigation and remediation order powers under EMA can be used by MOE to compel investigation and remediation of off-site contamination; and
10. **civil actions** – civil actions are based on EMA's cost recovery cause of action and the common law. These causes of action enable victims of migrating contamination to remediate and then sue for recovery of remediation costs and other damages.

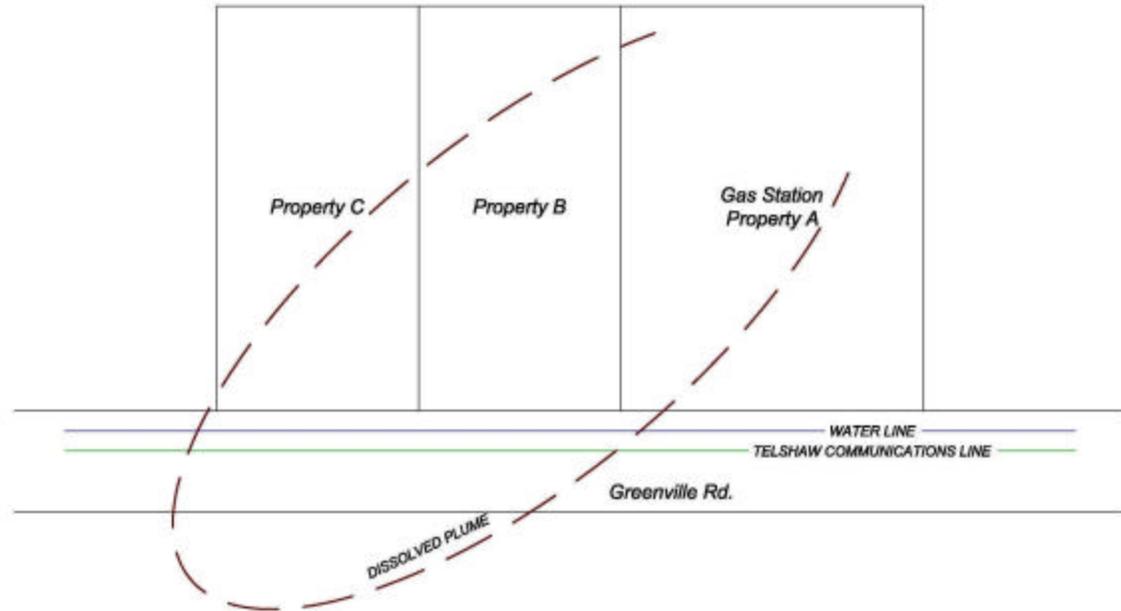
These 10 elements are discussed in detail in Sections 2.2 to 2.12 below.

Section 2.13 identifies a potentially new tool – the “screening level risk assessment” (SLRA) – that is under review by the MOE. This tool, if implemented, may be used to assess the condition of and need for remediation of migrating plumes of contamination.

2.2 How the Elements Work Together

By way of introduction, the existing off-site migration regime can be illustrated in the following scenario:

- **Party A Conducts Independent Remediation.** Party A owns a gas station site and wishes to remediate this property. Party A gives notification of independent remediation to the MOE, which duly enters the notification on the site registry.
- **Notification of Off-Site Migration to Neighbour.** In the course of conducting site investigations at its site, Party A finds from boreholes near the property boundary that contamination is likely migrating to two adjacent properties, namely a local government (Greenville) road and private property owned by Party B. Party A complies with section 57 of the CSR and, using the Ministry standard form, gives notice to Greenville and Party B. Party A also provides a copy of the off-site notification to the Ministry (which in turn files it in the site registry).
- **MOE “Expectations” Letter.** The MOE, on receiving the section 57 notification from Party A, sends a standard form “expectations letter” to A, with a copy to Greenville and Party B, stating that it expects Party A to conduct investigation, remediation and consult with neighbours respecting the off-site plume. Parties A and B and Greenville enter into discussions, but are unable to agree on how the MOE “expectations” will be implemented. Party A advises Party B and Greenville that it does not intend to investigate or remediate the off-site plume.
- **Notifications by Innocent Parties to Other Downstream Owners?** Party B investigates its property and discovers that the plume originating from Party A is in fact migrating through Party B’s property and to the downstream neighbour, Party C. Party B faces the issue of whether it should give notification of offsite migration to Party C, and ultimately decides that it has no duty to do so.



- **Potential Impacts to Utilities.** On further investigation, Greenville finds that the plume from Party A, if left un-remediated, might damage Greenville’s water lines. Greenville, as a matter of courtesy, advises Telshaw (communications company) of the plume going through the roadway. Telshaw is concerned that the plume might damage its sensitive telecommunications cables located within Greenville’s roadway.
- **Downstream Owner Seeks to Redevelop Site.** Party B wishes to remediate his property using risk-based standards and redevelop it. Party B seeks Greenville’s approval for a development permit. To comply with section 946(2)(g) of *the Local Government Act*, Party B must arrange for a release instrument from the MOE to enable the local government approval.
- **Party B seeks AIP for Partial Site.** One form of MOE release is an AIP. For technical and financial reasons, Party B prepares a remediation plan using the risk-based standards. (The plume has migrated beneath recently constructed buildings, making dig-and dump remediation infeasible.) It also recognizes that, due to Protocol 6, approved professionals (APs) cannot provide submissions respecting the application of risk-based standards. Party B therefore applies directly to the MOE for an AIP of the remediation plan. After 6 months (during which the MOE contracts with an AP to conduct an external review), obtains an AIP for its site from the MOE. Party B then begins to implement the AIP.

- **Party B and Greenville Sue Party A.** Party B sues Party A for recovery of remediation costs under EMA. Greenville also sues Party A after starting remediation of the plume in its roadway.
- **Telshaw Sues Greenville and Party A.** Telshaw alleges that Greenville is negligent under the common law and also seeks to recover remediation costs from Party A (under EMA).
- **Party B's Neighbour, Party C, Discovers Plume.** Party C sees the investigation activities at Party B's property and learns from Party B's employees that a plume is migrating through B's property in the direction of Party C. Party C wishes to sell her property, but now fears that a stigma exists. Party C cannot afford to investigate and, if contaminated, remediate her site.
- **Parties B and C, Greenville and Telshaw request MOE order.** These parties recognize that, rather than incur further potentially high litigation and remediation costs, a more cost-effective solution consists of having the Ministry order Party A to investigate and remediate on a plume-wide basis. MOE however refuses to issue an order, citing no evidence of "high risk" and that this matter does not constitute a "high priority".

2.3 The EMA Site Registry

EMA establishes a site registry. The clear policy intention of the site registry is to allow the public to rely on the site registry as a source of information. A Ministry Fact Sheet states:

"The Site Registry is a valuable resource for anyone who wishes to obtain, before the sale or development of a site, due diligence information about the land. The registry provides information about:

- formal determinations as to whether a property is contaminated;
- environmental screening information from site profiles;
- site investigation reports;
- site cleanup plans; and
- Certificates of Compliance with provincial site cleanup requirements.

It also provides information that can be used to identify and assess the potential for migration of contaminants onto neighbouring sites.

The Site Registry is the best place to start a due diligence search for information on the environmental condition of land.”²

Section 43(2) of EMA provides a list of regulatory decisions that must be entered on the site registry:

43(2) A director must provide to the registrar, in a form suitable for inclusion in the site registry, information respecting

- (a) all site profiles, preliminary site investigations and detailed site investigations that the director receives,
- (b) all orders, approvals, voluntary remediation agreements and decisions, including determinations under section 44 (3) [*determination of contaminated sites*], made by the director under this Part,
- (c) pollution abatement orders under section 83 [*pollution abatement orders*] that impose a requirement for remediation,
- (d) notifications under section 54 [*independent remediation procedures*] respecting independent remediation,
- (e) declarations and orders made by the minister under section 58 [*orphan sites*], and
- (f) other information required by the regulations.

Section 8 of the CSR lengthens the list of possible site registry entries with 12 other categories of items. The CSR also includes discretionary powers enabling the MOE to ‘load up’ the registry with other information not specified in the EMA and CSR lists.

The site registry is heavily relied upon by a variety of users, notably prospective purchasers and consultants conducting investigations. Many of these parties seek information about existing and possible migration of contaminants. For example, a search of entries pertaining to a specific property could reveal that:

- a CSR notification of off-site migration was issued prior to remediation;
- the subject property was remediated and is the subject of a COC; and
- the COC applies to a partial contaminated site, i.e., the subject site is part of the larger contaminant plume originating from the subject site.

A search can also provide a broader picture. For example, a search of entries in a general vicinity of a subject property could reveal notifications of off-site

² Fact Sheet No. 24: “Why Search the Site Registry?”, April 2005.

migration under sections 57 and 60.1 of the CSR made by property owners upstream of the subject property.

The site registry, however, is not necessarily a comprehensive source of all information that might exist in respect of contamination. For example:

- a property owner may privately conduct a site investigation (for bank or insurance purposes) without any duty to report this to the MOE. This information would not be entered on the site registry because the site registry is essentially a 'record of decisions' made pursuant to EMA and the CSR, and thus might not reflect other reviews or studies that are not linked to such decisions; and
- the MOE does not post notifications of off-site migration (discussed in detail in Section 2.5) against the recipient site. That is, to determine who received such a notification, one must refer to the source-site, where the notification filed against that site would indicate the recipients of the notification.

2.4 EMA Notifications of Independent Remediation

2.4.1 The Notification Requirement

Under section 54 of EMA, a party who seeks to independently remediate a site must provide the MOE with basic information about the commencement and completion of remediation. The term “independent remediation” is not defined. The term “remediation”, however, is broadly defined in section 1(1) of EMA to include “tests, sampling, surveys and data evaluation”. These notifications allow the MOE to monitor progress at these sites and to consider whether the site should be the subject of regulatory measures such as orders (as discussed in Section 2.4.2 below).

The key provisions are found in section 54 (2) – (4) of EMA:

54 (2) Any person undertaking independent remediation of a contaminated site must

(a) notify a director in writing promptly on initiating remediation, and

(b) notify the director in writing within 90 days of completing remediation.

(3) A director may at any time during independent remediation by any person

(a) inspect and monitor any aspect of the remediation to determine compliance with the regulations,

(b) issue a remediation order as appropriate,

(c) order public consultation and review under section 52 [*public consultation and review*], or

(d) impose requirements that the director considers are reasonably necessary to achieve remediation.

(4) On request of a person carrying out independent remediation and on receiving adequate information respecting the independent remediation, a director may

(a) review the remediation in accordance with the regulations and any requirements imposed under subsection (3) (d), and

(b) issue an approval in principle or a certificate of compliance under section 53 [*approvals in principle and certificates of compliance*].

As of March 1, 2006, a total of 3,723 notifications of independent remediation had been given (covering both notices of initiation and completion). They are routinely filed on the site registry.³

2.4.2 Ministry Actions after Receiving Notification

As is evident from section 54(3) of EMA, the MOE (i.e., the “director”) may exercise a variety of regulatory powers on receipt of a notification of independent remediation. If, for example, the MOE concludes that contaminants may be or are migrating from the subject site, it may issue orders under paragraphs (b) and (c) and the “requirements” of paragraph (d).

As a rule, however, such follow-up letters are not issued.⁴ The MOE appears to exercise these powers selectively. Where the MOE does so, it clearly signals its concern that off-site contamination should be addressed.

An example of a requirement under paragraph (3)(d) requiring off-site study is as follows:

“This letter is to inform you of the Ministry of Environment’s requirements pursuant to section 54(3)(d) of the Environmental Management Act at, and in the vicinity of, the above referenced site.

Independent Remediation Requirements

1. Submission of a Preliminary Site Investigation Report
2. Submission of a Detailed Site Investigation Report
3. Submission of a Remediation Plan including an evaluation of the risks to human health and the environment.

Please submit a schedule for completion of site investigations and submission of these documents within four weeks of receiving this letter.

As required in section 54(2)(b) of the *Environmental Management Act*, please notify the director in writing within 90 days of completing remediation.”

³ Personal communication with MOE, March 1, 2006.

⁴ Personal communication with MOE staff (John Ward and Katherine O’Leary).

2.4.3 Enforcement

It is an offence not to provide a notification of independent remediation – see section 120(17)(g) of EMA. The maximum penalty is \$200,000 and imprisonment to a maximum of 6 months.

It is also an offence to fail to comply with the MOE follow-up requests under section 54(3). (These requests, as discussed in Section 2.4.2, could take the form of a remediation order, an order to conduct public consultation or review, and “requirements”.) Section 120 (17)(h) of EMA is the applicable offence provision. The maximum penalty is \$200,000 and imprisonment to a maximum of 6 months.

To date, no party has been charged for an offence under section 54(2) or 54(3).⁵

2.5 CSR Notifications of Off-site Migration

Two requirements in the current contaminated site regime are directly concerned with notification of off-site migration. Both requirements are imposed on parties who, in specified circumstances, must notify downstream parties whose properties might be the subject of migrating contamination. These requirements were enacted in 2002.

2.5.1 Section 57 of CSR

Under section 57, if a “responsible person” carries out independent remediation of his or her property and knows that contaminants have migrated or are likely to have migrated onto neighbouring lands, that person is required to notify the owner of the neighbouring land with a copy of the notification to the MOE.

This off-site migration notification requirement is found in section 57(1) and (1.1) of the CSR:

Notifications for independent remediation

57 (1) A responsible person who carries out independent remediation of a site pursuant to section 54 (1) of the Act must, if the responsible person knows that one or more substances has migrated or is likely to have migrated to a neighbouring site and is or is likely causing

⁵ Personal communication with Katherine O’Leary, February 28, 2006.

contamination of the neighbouring site, provide the notification described in subsection (1.1).

(1.1) The responsible person must provide written notification to the person or persons who own the neighbouring site and a copy of the notification to a director, within 15 days after the responsible person becomes aware of the migration or likely migration of each substance to the neighbouring site, giving

(a) the name and address of the person or persons who own the site or sites to be remediated,

(b) the name, address and telephone number of the person to contact regarding the remediation activities to be undertaken at the site, and

(c) a general description of the nature of the migration or likely migration of each substance.

As is evident, the section 57 notification requirement is imposed exclusively on “responsible persons”. The term “responsible person” is a core concept of EMA’s liability scheme. It is potentially complex, and is the subject of considerable detail in both EMA and the CSR, as discussed in more detail in Section 2.12.1 below. In practice, “responsible persons” tend to be owners and operators of real property, but subject to exemptions such as ‘innocent acquisition’.

2.5.2 Section 60.1 of CSR

A similar notification requirement is found in section 60.1 of the CSR. Under section 60.1, a “responsible person” must provide a notification if, on carrying out a preliminary or detailed site investigation, he or she finds that one or more substances has migrated, or is likely to have migrated, to a neighbouring site and is, or is likely causing contamination in the neighbouring site.

The notice, as under section 57, must be made within 15 days after the responsible person becomes aware of the migration or likely migration of contaminants to the neighbouring property.

Unlike section 57, this section is not confined to circumstances where a party conducts independent remediation. Section 60.1 appears to assume that the duty applies in circumstances where the responsible person conducts only a PSI or DSI, i.e., full remediation is not undertaken.⁶

⁶ The potential confusion of this provisions arises from the fact that the definition of “remediation” includes a PSI and a DSI.

Section 60.1 states:

Notification of neighbouring site owners after site investigations

60.1 (1) A responsible person who carries out a site investigation that discloses that one or more substances has migrated or is likely to have migrated to a neighbouring site and is or is likely causing contamination of the neighbouring site must provide written notification described in subsection (2).

(2) The responsible person for the investigated site must provide written notification to the person or persons who own the neighbouring site and a copy of the notification to the director, within 15 days after the responsible person becomes aware of the migration or likely migration of each substance to the neighbouring site, giving

(a) the name and address of the person or persons who own the investigated site,

(b) the name, address and telephone number of the person to contact regarding the investigation, and

(c) a general description of the nature of the migration or likely migration of each substance.

[en. B.C. Reg. 17/2002, s. 14; am. B.C. Regs. 322/2004 and 324/2004, s. 62.]

2.5.3 Notifications to Date

To date, the MOE has received approximately 300 section 57 and 60.1 notifications.⁷

2.5.4 Entries on Site Registry

All section 57 and 60.1 notifications are routinely entered by the director on the site registry. As already noted in Section 2.3, MOE policy is to enter the section 57 and 60.1 notifications only against the source-site property. That is, property owners who receive notifications do not have the fact of these notifications registered against their particular (impacted) properties.

⁷ Personal communication with MOE (C. Dalley).

2.5.5 Enforcement of CSR Off-site Notification Requirements

Failure to comply with sections 57 and 60.1 of the CSR is not an offence under EMA. Administrative penalties (tickets), however, may be imposed by the MOE under s. 115(1)(a). Section 115 of EMA states in part:

115 (1) Subject to the regulations, if a director is satisfied on a balance of probabilities that a person has

- (a) contravened a prescribed provision of this Act or the regulations,
- (b) failed to comply with an order under this Act, or
- (c) failed to comply with a requirement of a permit or approval issued or given under this Act,

the director may serve the person with a determination requiring the person to pay an administrative penalty in the amount specified in the determination.

(2) A determination under subsection (1) must be in the prescribed form and contain the prescribed information.

(3) A penalty imposed under this section must be paid within the prescribed time.

To date, the MOE has not issued tickets for failure to provide notifications. On several occasions, the MOE communicated with parties about the duty to notify, and notifications were submitted as a result⁸.

2.6 MOE Standard Form Letters to Notify Off-Site Recipients

The MOE has published a standard form letter that has been used to provide the required off-site notifications discussed above in Section 2.5. The MOE standard form of notification states in part:

“We are writing, pursuant to section 60.1 of the Contaminated Sites Regulation (CSR) made pursuant to the *Environmental Management Act* (British Columbia), to provide written notice to you, as owner of the lands comprising at _____ (the “Adjacent Site”) adjacent to our _____ site located at _____ (the

⁸ Personal communication with Surrey office of MOE, January 30, 2006.

“_____ Site”), that _____ has become aware of the migration or likely migration of petroleum hydrocarbons from the _____ Site to the Adjacent Site, and to provide you with the following information in such respect as required by the CSR:

Name and Address of Owner of Site:
_____.

Name, Address and Telephone Number of Contact Person regarding _____ investigation and/or remediation activities at the _____ Site. _____

General Description of the Nature of Migration or Likely Migration: [Eg., Toluene, VHw, VPHw, Naphthalene, Benzo(a)pyrene, [etc.] were identified at concentrations in excess of the applicable CSR standards in groundwater.]”

2.7 The MOE’s “Expectations Letter” After Notifications of Off-Site Migration

Upon receipt of a notification of off-site migration, MOE policy is to send a letter to the notifying party with expectations of future work to be applied to the subject plume. For example, the following standard form letter is used by the MOE when sending letters to parties who provide notification under sections 57 and 60.1:

Thank you for copying the ministry on your notification to the owner(s) of neighbouring property as referenced above, pursuant to section 57 and/or 60.1 of the Contaminated Site Regulation.

This letter outlines the ministry’s expectations of you regarding the contamination. Specifically, the ministry expects you to advise any other affected persons (e.g. owners of rights-of-way, utility corridors, easements, etc.) of the contamination, determine the full extent of contamination and prepare and implement a remediation plan. We strongly encourage you to initiate discussions with all affected persons so that a mutually satisfactory remediation plan can be implemented.⁹

It is not an offence to fail to meet the MOE “expectations.” Nor does the “expectations letter” specify possible MOE follow up action for failure to comply with the expectations. The MOE does not have a formal policy for dealing with non-compliance with the “expectations” letter.¹⁰ To the extent that a policy can

⁹ See full text of standard form letter in Appendix C.

¹⁰ Personal communication with Katherine O’Leary, MOE, February 28, 2006.

be inferred from the MOE expectations letter, it is that affected parties are encouraged to work together.

2.8 Protocol 6

2.8.1 General

Protocol 6 is a primary source of guidance for the administration of EMA's approved professional (AP) system. It is adopted by the "Director" under EMA, and has legal force analogous to a regulation.

Protocol 6 contemplates that APs may make recommendations to the MOE director¹¹ respecting 4 types of MOE decisions. Table 1 of Protocol 6 sets out the types of applications that are currently eligible for AP recommendations. Specifically:

Table 1. Eligibility of Applications for Review by Approved Professionals

Application Type	Remediation Standards Used		
	Numerical Standards ²	Local Background Concentration ³	Risk-based Standards
Determination that a site is not contaminated	Eligible	Eligible	Not Applicable
Determination that a site is contaminated	Eligible	Eligible	Not Applicable
Approval in principle ^{4,5}	Eligible	Eligible	Not Eligible
Certificate of compliance ⁴	Eligible	Eligible	Not Eligible
Contaminated soil relocation agreement ⁶	Eligible	Eligible	Not Eligible

APs therefore play a significant role in preparing the necessary regulatory instruments, notably COCs and AIPs, that can once approved by the MOE be used to control off-site migration. The rules discussed below are particularly

¹¹ In accordance with sections 15, 43, 47 and 49 of the Regulation, a director may endorse a contaminated soil relocation agreement or issue a determination, approval in principle or certificate of compliance based on the recommendation of an approved professional. Alternately, the director may decline to process any application incorporating a recommendation by an approved professional. If declined, the director must provide written reasons to the applicant and the professional association of which the approved professional is a member. This is a decision of the director and may be appealed.

relevant sources of guidance in the preparation of instruments dealing with off-site migration.

2.8.2 Part Site Applications for Source Sites

APs may make submissions for source sites in accordance with the following principle set out in Protocol 6, Footnote 4:

“Applications for an approval in principle, a certificate of compliance, or a combination of an approval in principle and a certificate of compliance addressing the *entire extent* of contamination are acceptable”.

When applying this principle, the MOE generally requires applications for source sites to include at least an AIP for the off-site affected properties.

2.8.3 Part Site Applications for “Affected” Sites

Footnote 4 of Protocol 6 also allows for approvals at off-site affected properties. Essentially, Footnote 4 states that APs may make submissions respecting part AIPs and part COCs for off-sites, namely those “affected by contamination migrating from a source property”. Two salient aspects are:

- **Part Site Recommendations by APs.** Footnote 4 expressly authorizes such applications: “Applications for an approval in principle or certificate of compliance for *part of a site* (i.e., a site affected by contamination migrating from a source property) are eligible for the roster of approved professionals process”. [italics in original]
- **Special Conditions for Part Sites.** Special conditions apply to these applications. Specifically the AP’s application must include a statement of assurance “confirming that any measures necessary to prevent re-contamination of the affected property have been, in the case of a certificate of compliance, or will be, in the case of an approval in principle, put in place.”

2.8.4 Risk-Assessed Sites Not Eligible

As is evident from the chart under Section 2.8.1, sites subject to risk-based remediation standards are not eligible for AP recommendations for AIPs and COCs. For many sites – both those with on- and off-site contamination – the only realistic option is the risk-based standards. That is, the ‘dig and dump’ approach often followed to meet the numerical standard is frequently not technically or financially feasible for contaminants migrating from or through a property.

The practical result is that property owners seeking a COC using the risk-based standards are left with two options: request the MOE staff to review the application directly or request an MOE external review.¹² When compared with the AP system, both options have serious drawbacks due to limited MOE resources – both take longer and cost more than is the case in the AP system.¹³

The MOE, together with the Roster Steering Committee (which oversees the AP system), is considering changes to extending AP recommendations to sites using risk-based standards.¹⁴ (A potential tool to be used by APs is the risk assessment screen recently developed by the Science Advisory Board, discussed below in Section 2.13.)

2.9 Local Government Approvals

2.9.1 The Prohibition Against Local Government Approvals

A feature of the contaminated sites regime is a prohibition against certain types of local government approvals pending a release by the MOE. In summary, the prohibition is triggered when a party, in the course of applying for development approval, submits a site profile to the local government, as required in EMA section 40. In turn, the prohibition can be released by MOE in the form of either:

- a regulatory approval (AIP, COC), or
- some other instrument that conveys MOE consent that the local government may give development approval. (See section 946.2 of the *Local Government Act* and section 571B of the *Vancouver Charter*.)

MOE approvals are discussed in Section 2.10. Section 2.9.2 below discusses the instruments used by the MOE to release the prohibition in circumstances where an AIP or a COC has not yet been issued.

¹² These two options are summarized as follows by MOE in Fact Sheet 22:

“the ministry may contract out report reviews to qualified external consultants. The third options, review by the ministry directly, is generally reserved for high-risk sites and sites where risk-based standards are used.

...

Hiring external contract reviewers ensures a property owner that a report will be reviewed within a fixed timeline. Timely reviews reduce the cost of seeking ministry approvals.

¹³ Personal Communication with Reider Zapf-Gilje, Chairperson of Roster Steering Committee.

¹⁴ Ibid.

2.9.2 MOE Release Letters

For the purposes of removing the prohibition discussed above, MOE has prepared several standard form “release” letters. The standard form release letters essentially give notice that the MOE does not perceive a significant risk, subject to possible further investigations.

The standard form release letters, while applied differently depending on the circumstances discussed below, include the following general statement: “... in the opinion of the manager (now director), the site would not present a significant threat or risk if the [local government] application were approved.” These letters are therefore also known as “Notices of No Significant Risk” and “consent” letters.

In practice, the MOE release letters require the applicant (for local government approval) to comply with various conditions. These conditions vary, generally depending on the state of remediation and MOE’s knowledge about the subject site. For example, one standard form MOE release letter requires the applicant to provide a DSI as a condition of the release. This letter could also include several other conditions, including a requirement to obtain an AIP for the off-site part of the contaminated site:

“In the event that contamination originating from the subject property (i.e. on-site part) extends onto neighbouring land (i.e. off-site part):

- the certificate must include the on-site part and off-site part or alternatively;
- the proponent must obtain a certificate for the on-site part and an approval in principle of a remediation plan for the off-site part prior to occupancy or reutilization of the on-site part, where upon completion of remediation, a certificate will be obtained for the off-site part;”

Not all MOE release letters include the above-noted off-site conditions. For example, one of the standard form MOE letters calls for a PSI of the subject site only as a condition of the release from the prohibition against local government approval.¹⁵

The release letters do not purport to distinguish between “responsible persons” and others. The focus, rather, is on the applicants for local government

¹⁵ The MOE could, of course, on the basis of a PSI, take other actions (whether through orders or by requiring further information of the approval process), but the owner through this letter is cleared for possible municipal approval.

development approval. This is evident from the language used in the release letters, which contemplates a “proponent” in the context of local development approvals.

Nor do the MOE standard form release letters distinguish between proponents who are source-site owners and those who are downstream ‘victims’ of a migrating plume. The MOE appears to reserve the right to impose a wide range of conditions irrespective of whether the proponent is located on-site or off-site.

Neither the standard form release letters nor other MOE documents provide a rationale to be used by the Ministry when deciding which conditions, if any, will be imposed by the MOE to release the prohibition. The MOE Surrey Office advises that the wide array of development applications means that the Ministry must take care to apply the proper conditions in a release, and this necessarily requires a site-by-site consideration. We further confirmed that the MOE has not adopted a formal policy as to which conditions will be imposed because of the need to retain flexibility.¹⁶

In many cases, an important consideration for the MOE when considering a “release” letter is whether the relevant local government has enough comfort or knowledge to enable it to proceed. Local governments are generally concerned about their liability for negligently approving development applications. It is therefore not implausible that a local government might conclude that a release provided by the Ministry does not answer all contamination issues. This is especially so if the applicant’s site creates a risk of migration to local government property or roads. In this case, the development applicant would be required to provide further information and perhaps further measures to satisfy local government concerns.

2.9.3 Local Government Regulation of Part Sites

Generally, local governments defer to MOE approvals and release letters as key sources of guidance as to the contamination issues associated with a particular development application.

A recent decision by the BC Court of Appeal (*Imperial Oil v. Vancouver*, 2005 BCSC 387) generally serves as a caution to local governments who seek to take more proactive measures than simply deferring to MOE approvals and release letters. In this 2005 decision of the Court of Appeal, the City of Vancouver was concerned about a contamination plume from an Imperial Oil gas station site to roads and utilities, and accordingly imposed ‘cleanup’ and liability conditions to Imperial’s development permit at the source site. Even though Imperial received an AIP for the source site, the City’s condition was

¹⁶ Personal communication with MOE (Kerri Skelly).

that Imperial must sign an “Off Site Soils Agreement” (OSA), which included a condition that Imperial must become a “responsible person” under EMA. Imperial argued it was beyond the City’s powers to require Imperial to assume “responsible person” status, particularly since it had already received an MOE AIP.

At trial, the Supreme Court of British Columbia agreed with Imperial and found that development permit conditions must be limited to the ‘development’ of the project at the source site. It also stated that the City does not have unlimited development permit powers; otherwise, the City could use development permits to resolve any issue with a developer.

The Court of Appeal affirmed the trial decision, and in even more unequivocal language. The Court of Appeal stated that development permit provisions are “not authority for remediation” and that “general authority [for remediation] falls within the purview” of the MOE (at para. 20). (Leave to appeal was denied by the Supreme Court of Canada.)

The Imperial Oil case was concerned with the City’s development permit powers. The Court therefore did not address whether the City or other local governments might succeed in imposing remediation conditions to other forms of development approval such as zoning and subdivision. Whether such alternative strategies would survive, however, may be debatable after the Court of Appeal’s general statement that remediation falls within the “purview” of the provincial government.

2.10 MOE Approvals for Part-Sites

As already discussed in Section 2.8.1, the MOE relies heavily on APs to provide the necessary submissions for part-site applications. Section 2.10 below discusses how the part-site approval system applies to parties seeking approval of properties located within a larger plume, how such approvals are enforced, and case law relevant to part-site approvals.

2.10.1 Approvals in Principle

The director of EMA may grant an AIP under section 53 of EMA. A remediation plan sets out how remediation would proceed on the basis of selected remediation standards. In practice, AIPs are used by local governments, developers, parties in real estate transactions and lenders to proceed in their particular transactions without incurring the costs of actually carrying out the on-site remediation work.

Persons seeking AIPs must pay particular attention to the elements which comprise a “remediation plan”, as defined in section 1 of the CSR. This definition implies that parties preparing a remediation plan must produce

detailed assessments of the extent and type of contaminants in a plume migrating over two or more legal parcels.

Section 47 of the CSR provides that an application for an AIP can be made by a responsible person, provided that the necessary information has been, or is concurrently, submitted to the director of EMA. The director may request additional information as deemed necessary to assess whether remediation, once completed, is likely to meet the remediation standards.

Subsection 47(2) of the CSR allows the director to request any additional information considered necessary to assess potential compliance of the planned remediation with the remediation standards of sections 17 and 18.

Subsection 47(3) of the CSR allows the director, when issuing an AIP, to specify any of a number of listed conditions relating to risk assessment and risk management measures, confirmatory sampling, testing and monitoring, financial security, etc.

2.10.2 Certificates of Compliance

Section 53 of EMA enables the director to issue a COC when a site has been satisfactorily remediated according to a remediation plan and otherwise meets CSR standards. The director must also be satisfied that appropriate security is given in circumstances where contaminating substances remain on the site.

2.10.3 Approvals for Part Sites

EMA's COC provisions specifically allow for approval for part of a site:

53 (6) A director may issue an approval in principle or a certificate of compliance for a part of a contaminated site.

No other provision (in EMA or the CSR) provides guidance on **if** and how such part site approvals may be issued.

In practice, COC and AIP approvals for part sites are contemplated through Protocol 6, Footnote 4 (discussed above in Section 2.8.2).

2.10.4 Enforcement of Approvals

It is not an offence to breach a condition of a COC. Nor does EMA set out civil liability repercussions for such breaches. For example, the legislation does not contemplate that an offending party must pay an injured party for damages attributable to a breached COC.¹⁷

The lack of liability sanctions is not surprising, given the underlying policy intention of AIPs and COCs. A key function of AIPs and COCs is to facilitate private financial transactions, as reflected in MOE Fact Sheet 4, which states:

The Act authorizes a Director of Waste Management to grant an Approval in Principle of a remediation plan that will lead to satisfactory remediation. Responsibility for costs, site characterization, and the remediation approach to be used needs to be in place before such an approval is issued. Approvals in Principle are supported by local governments, developers, and lenders because they allow the next steps – regulatory, business, and project work onsite – to proceed while minimizing costs.

At the conclusion of the remediation process, responsible persons, local governments, lenders, and purchasers usually seek written assurances that the cleanup has been completed. The Act authorizes a Director to issue a Certificate of Compliance when a site has been remediated according to the approved remediation plan and in compliance with standards defined in the Contaminated Sites Regulation. A financial guarantee and covenant under the Land Title Act may also be required.¹⁸

A COC generally is not intended to serve as a liability instrument; it neither assigns liability nor protects against it.¹⁹ That is, a COC does not assure the

¹⁷ It may be a different matter under the common law. Although this subject is beyond the scope of this study, it is not inconceivable that a downstream neighbour might suffer damage from an owner's negligence in satisfying the conditions of a risk-based COC applicable to the source site. The downstream neighbour could seek common law damages by suing, amongst others, the party who failed to satisfy the COC conditions.

¹⁸ MOE Fact Sheet 9 similarly states:

“Developers urged the Ministry to provide interim approval, or Approval in Principle, to enable them to seek appropriate financing and municipal development approvals. A Director may grant an Approval in Principle by approving a remediation plan which, if implemented, would lead to remediation that meets applicable standards. Investigation results, an evaluation of remediation options, public consultation input, and remediation plans would be reviewed and, if satisfactory to a Director, may lead to an Approval in Principle being issued.”

¹⁹ The relatively narrow exemption is section 46(1).

COC-holder that it cannot be held liable in the future, especially given the MOE's right to re-open liability under section 60 of EMA.

Breaching a condition of a COC, however, can result in the MOE rescinding the COC. (See 53(3) of EMA and conditions in standard form.) Such rescission falls short of assigning civil or quasi-criminal liability – the rescission would, in practical terms, mean that the certainty and 'comfort' otherwise gained by the COC is removed.

2.10.5 Cases on MOE Part-Site Approvals

2.10.5.1 The *Salmo* Case

In this case, contamination migrated from Imperial Oil's former gas station site to neighbouring residential properties.²⁰ The source site owners requested that the regulator issue an AIP of a remediation plan for cleanup of the source site. The regulator refused to grant the request (even though the paperwork appeared to comply with requirements issued earlier), taking the position that the AIP at the source site would be conditional on the site owner settling a dispute with the neighbouring landowners over remediation of migrating contamination. The legislation, the regulator argued, was permissive, as it states that the regulator "may" issue an AIP.

The BC Supreme Court granted the judicial review application brought by source site owners. The court held that the regulator did not have the authority or mandate to take the off-site migration into account when reviewing an application for an on-site AIP, particularly once the MOE had set out the necessary requirements that Imperial must satisfy in order to obtain the AIP. Having found that the regulator had admitted that all of the criteria for an AIP had been met, the court ordered that the AIP should be issued.

The practical result of this decision is that if the MOE indicates to an applicant that an AIP would be issued upon submission of the specified information, it must do so, and cannot include further conditions. What is less clear, however, is whether the MOE is otherwise precluded from requiring such conditions.

²⁰ *Imperial Oil Ltd. v. BC (Ministry of Water, Land and Air Protection)*, 2002 BCSC 954.

2.10.5.2 The *Super Save* Case

This EAB case concerned potential migration of contaminants from a site in the Rock Bay area of Victoria²¹. BC Hydro, the owner of the alleged source-site, sought and obtained an AIP for this site. BC Hydro's downstream neighbour, 427958 B.C. Ltd. ("Super Save"), was concerned that its lands had been contaminated by the migration of contaminants from BC Hydro's property. Super Save, on appeal to the Environmental Appeal Board (EAB), opposed the issuance of the AIP on the basis that MOE failed to ensure adequate investigation of off-site impacts of the remediation plan and failed to provide sufficient notice to neighbours to allow comments on the application for the AIP.

As a threshold issue, the EAB considered whether Super Save had standing to bring the appeal. BC Hydro and MOE argued that Super Save was not a "person aggrieved" by the AIP, and that the AIP did not constitute a "decision" under section 43 of the *Waste Management Act* (now EMA).

The EAB found that MOE's AIP decision did not prejudicially affect Super Save's interests. Additionally, the EAB noted that neighbouring parties could unreasonably delay the remediation of contaminated sites, which the EAB found would be contrary to EMA's goal of expeditious remediation. The EAB stated that the MOE's function respecting AIPs is:

...to review the remediation proposal and decide whether it should be implemented, bearing in mind that the proposal should be consistent with the purposes of Part 4 of the Act, including the protection of the environment and human health, as well as the expeditious remediation of contaminated sites. In cases such as this, where AIP endorses a remediation plan that is the product of years of negotiations with government and amongst the owners of contaminated lands, appeals by persons who are not subject to the AIP or are not party to the remediation proposal may unreasonably delay the remediation of contaminated sites, and may discourage private parties from negotiating ways to remediate contaminated sites. Legitimate AIPs should not be frustrated by persons who have grievances that go beyond the terms and requirements of the AIP. [at page 9]

This case, particularly EAB comments on the potential delay caused by downstream neighbours, raises the question of whether it is appropriate at

²¹ *427958 B.C. Ltd. (dba Super Save Group of Companies) v. B.C. Hydro and Power Authority*, (Appeal No. 2004-WAS-007(a), November 2, 2004).

all for the MOE to contemplate consent or cooperation by downstream affected owners as a precondition to approval at the source site. (To recall from Section 2.8 above, the MOE in practice requires such consent or cooperation as a result of Footnote 4 of Protocol 6 and the Ministry ‘release’ letters used to remove the prohibition against local government approvals.)

2.10.5.3 The *Squamish Terminals* Case

This EAB case also applied the approach used in *Super Save*. The case involved an off-site AIP, issued to the District of Squamish²². The source-site owner (Squamish Terminals) was concerned about the lack of monitoring at the neighbouring District site, arguing that this would adversely increase its liability exposure for its off-site contamination. The EAB refused to grant Squamish Terminals the right to appeal as an “aggrieved person”. The Board noted that EMA leaves considerable discretion to the MOE to determine whether or not to exercise its powers to ensure the protection of human health and the environment. Specifically, the Board noted:

Although the Deputy Director has the discretion under section 53(1)(c) of the *Act* to include conditions in an approval in principle, there is no express statutory requirement for him to include the conditions requested by Squamish Terminals in regard to off-site contamination, which are beyond the scope of the remediation plans for the properties covered by the AIP. [at page 14]

As for the discretion exercised by the MOE in issuing the partial site AIP, the EAB upheld the following policy:

As noted in *Super Save*, there are policy reasons for restricting standing in appeals of AIP decisions. The Deputy Director’s role is to review the remediation proposal and decide whether it should be implemented, bearing in mind that the proposal should be consistent with the purposes of Part 4 of the *Act*, including the protection of the environment and human health, as well as the expeditious remediation of contaminated sites at the responsible parties’ expense. Approvals in principle involve voluntary remediation and, in some cases such as the present one, may be the product of years of negotiations.

²² *Squamish Terminals Ltd. v. Director of Waste Management*, (Appeal No. 2004-EMA-002(a), March 22, 2005).

Appeals by persons who are not subject to the approval in principle can add uncertainty, may unreasonably delay the remediation of contaminated sites, and may discourage private parties from negotiating ways to remediate contaminated sites or portions thereof. The Panel agrees with the Board in *Super Save* that “legitimate AIPs should not be frustrated by persons who have grievances that go beyond the terms and requirements of the AIP.” [at page 14]

This and the *Super Save* decision clearly affirm the MOE policy that timely remediation is paramount, and that the MOE is entitled to treat the concerns by potentially affected neighbours as secondary considerations. One commentator has suggested that:

These cases *Super Save* and *Squamish Terminals* will adversely affect the options available to innocent neighbours to require polluting parties to remediate migrating contamination. The decisions by the Board confirm that the expeditious remediation of contaminated sites is vital and should not be delayed by neighbour disputes unless those neighbours can prove that the requirements of the AIP or the remediation plan prejudicially affect their interests or their property. This is a difficult standard to meet. Therefore, in order to protect their interest, neighbours may consider the following options:

- 1) immediately raise concerns in the approval and remediation process with the polluting owner, the Ministry of Environment (formerly the MWLAP), the municipality and the approved professional under the roster;
- 2) actively respond to any communication with government and others concerning the remediation and/or investigation of nearby properties;
- 3) consider having the Ministry of Environment issue a remediation order; keeping in mind that they will be reluctant to become involved in private disputes unless there is serious harm to fish habitat, fish, human health or an issue of public concern;
- 4) perform the remediation and then pursue the polluter for the reasonably incurred costs of remediation; and
- 5) rely on sections 57 and 60.1 of the Contaminated Sites Regulation to insist on rights of notice of migrating contamination; it is an offence for a polluter not to provide such notice.

In the event of remediation, neighbours should seek to obtain a separate certificate of compliance of their lands given section 53(5) of the Act. To obtain a separate AIP or certificate the Ministry of Environment requires separate environmental reports and submission fees, which will increase costs. The benefits and costs of obtaining a separate AIP or certificate will have to be weighed. However, given the implications of section 53(5) and these decisions, the extra cost may be worthwhile in the long term.²³

2.10.5.4 The *Petro Canada* Case

The MOE's standard form COC includes various conditions. One of these conditions (until it was removed as a result of this case) purported to indemnify the Crown²⁴:

“The site owners indemnify the Crown and her employees against loss, damages, costs, actions, suits and claims arising from any contamination remaining onsite.”

As a result of this indemnity, the site owner would be required to completely indemnify the Crown for all costs and damages arising from that contamination. These indemnities would apply even if the site owner had not been responsible for the contamination.

In this 2004 appeal before the EAB, Petro-Canada argued that the MOE had no authority under the *Waste Management Act* (now EMA) to include the Crown indemnity. The EAB agreed and found that the MOE was not granted legislative authority for requiring this condition. As a result, the EAB removed the indemnity.²⁵

²³ Crossman, Tony. “Contaminated Sites in BC – Important Developments in Contaminated Sites Case Law”, February 1, 2006. Prepared for a conference hosted by the Pacific Business and Law Institute on February 1, 2006.

²⁴ *Petro-Canada v. Assistant Regional Waste Manager, Deputy Director of Waste Management*, 2004-WAS-001(a) & 2004-WAS-002(a).

²⁵ Personal communication with MOE (Katherine O’Leary, February 28, 2006).

2.11 Order Powers

2.11.1 Scope of Powers

The “director” at the MOE has a very broad scope of authority for issuing investigation and remediation orders. These orders can compel “responsible persons” to undertake a wide variety of investigations and remedial actions, at “contaminated sites,” i.e., plumes covering both source sites and off-sites. (The definition of “responsible person” is discussed in Section 2.12.1 below.) These order powers obviously have very significant potential for addressing off-site migration.

The mere fact of contamination does not suffice for the director to issue an order. Section 48(3) and (9) sets out factors, aside from a finding of contamination, that the director may consider when issuing a remediation order. The common theme of these provisions is that the director must find “adverse effects” and “imminent and significant threat or risk”. Specifically:

48(3) For the purpose of deciding whether to require a person to undertake remediation under subsection (2), a director may consider whether remediation should begin promptly, and must consider each of the following:

- (a) adverse effects on human health or pollution of the environment caused by contamination at the site;
- (b) the potential for adverse effects on human health or pollution of the environment arising from contamination at the site;
- (c) the likelihood of the responsible persons or other persons not acting expeditiously or satisfactorily in implementing remediation;

...

(9) The director may provide in a remediation order that a responsible person is not required to begin remediation of a contaminated site for a specified period of time if the contaminated site does not present an imminent and significant threat or risk to

- (a) human health, given current and anticipated human exposure, or

(b) the environment.

2.11.2 Orders Issued to Date

The MOE has only issued approximately a dozen remediation orders since the enactment of this power (April 1, 1997). Seven of these are listed on the MOE Contaminated Sites web site²⁶.

Although few in number, these orders clearly reflect MOE concern over off-site impacts. In fact, no orders appear to be concerned exclusively with on-site issues.

For example:

- *Salmo Esso* remediation order (2001). This order was issued against Imperial Oil or Esso, to conduct investigations, monitoring and certain remedial measures in respect of a plume of hydrocarbon contamination migrating from the Imperial gas station site to local residential properties. These local residential properties were found in the order to be “contaminated”. The order did not specify whether there is a “high risk” or other significant threat as the condition relied upon to issue the order.
- *Wildwood Gas Bar* remediation order (2001). This order was issued jointly against Petro-Canada and two other source-site operators or owners. All were named jointly. The order required that the named responsible persons prepare a detailed site investigation to delineate the extent of the contaminated site and to determine remediation requirements. The order noted “potential adverse effects on human health and pollution of the environment caused by the contamination of the groundwater under and adjacent to the site”. On this basis the MOE issued the order.
- *Quesnel Legion Drive* remediation order (2003/04). The MOE identified a large plume extending from several industrial properties (including 2 gas stations) in an area north of and adjacent to the Quesnel river. The order found “significant petroleum related hydrocarbon contamination of the soil and groundwater at the Site”. Given this evidence, the order specified a series of remediation and monitoring requirements.

²⁶ See http://www.env.gov.bc.ca/epd/epdpa/contam_sites/legal_decisions/orders/index.html

- *Squamish Chlor-Alkali* remediation order (1999). This “contaminated site” included the on-site plant and a larger plume of mercury. The MOE regulator generally concluded that “there presently exists pollution of the environment [on-site and off-site] caused by the contamination of the site. I am also satisfied that there is ongoing potential for adverse effects on human health and pollution of the environment arising from the contamination of the site.”

As is evident from these orders, if there is one dominant consideration applied by the MOE, it pertains to whether the subject property poses an “adverse effect”. The term “adverse effect” is not defined in EMA, meaning that the MOE (and the EAB) must consider this term on a case-by-case basis. This is not surprising, given that section 48(3) of EMA requires a finding of “adverse effects” prior to the issuance of an order.

Moreover, the effects must, according to at least one order and current MOE policy not only be “adverse” but meet the arguably higher standard of “high risk”. (and, to use more recent terminology, “high priority”). Section 2.11.3 below analyzes how the MOE applies the “high risk” consideration.

2.11.3 “High Risk”, “High Priority” and Remediation Orders

The term “high risk” is not defined in EMA or the CSR. To the extent that the term “high risk” is used in the legislation, it appears in section 58, which contemplates “high risk orphan sites”. The minimal guidance provided under this section is that the Minister undertaking certain steps with respect to “high risk orphan sites” must declare that the selected steps are “necessary” for the protection of human health or the environment. This provision, however, does not provide a sense of the degree of risk or hazard that sites must present before the Minister may take the “necessary” steps.

Nor do the “risk-based standards for remediation” in the CSR provide more guidance. These standards set out processes and methodologies for determining the applicable risk (in terms of “hazard indices”). The standards are intended to prescribe when remediation is necessary, and do not otherwise address degree of risk (low, medium or high).

Because these risk-based standards do not use the term “high risk”, it is unlikely that the intention of the MOE is to conclude that a site poses a “high risk” merely because it exceeds the CSR numeric standards or the risk-based standards. Neither the CSR nor MOE policy suggest that an exceedance *per se* of either of the two CSR standards creates a “high risk”.

This appears to be the approach taken by the MOE’s above-noted *Squamish Chlor-Alkali* order. This order presumed that the mere fact of contamination

(i.e., qualities above the numeric standards of Schedule 4) should not trigger an order – the MOE considered whether there was, additionally, a “high risk” or “significant and severe contamination”. With respect to these terms, the MOE order commented as follows:²⁷

High Risk

COPL and BC Rail take issue with the Ministry characterization of the COPL Site as a high-risk site. COPL asserts that “[t]he Draft Order and the letter accompanying that draft contain many references to the site as a “high risk contaminated site” and to “significant and severe mercury contamination”. While it is recognized that a debate on semantics is not productive, that depiction is neither justified nor does it serve the needs of an effective process and the interests of the community.”

The Ministry characterization of the COPL Site as a high-risk site is based on the National Classification System adopted by the Canadian Council of the Ministers of the Environment (“CCME”) in March of 1992. This report was provided to the potentially responsible parties June 11, 1999.

The National Classification System for Contaminated Sites is a tool to aid in the evaluation of contaminated sites. Its purpose is to provide scientific and technical assistance in the identification of sites, which may be considered high, medium or low risk. The system classifies contaminated sites into general categories of concern (Class 1, 2, or 3) in a systematic and rational manner, according to their current or potential adverse impact on human health and the environment.

The National Classification System is not designed to provide a general or qualitative risk assessment, but rather is a tool specifically for the classification and general prioritization of contaminated sites.

This classification system “is not designed to provide a general or qualitative risk assessment, but rather is a tool specifically for the classification and general prioritization of contaminated sites.” What it is designed to do “is to provide a scientifically defensible method that will aid in identifying, on a technical basis, contaminated sites that present a high risk.”

None of the parties have suggested that the Plant Site does not meet the CCME high risk site criteria. The COPL Site is scientifically a Class 1 (high risk) site. Typically, Class 1 sites show a propensity to high concern for several factors, and measured or observable impacts have been documented. Class 1 sites are sites where “[t]he available

²⁷ *Ibid.*

information indicates that action (e.g., further site characterization, risk management, remediation etc.) is required to address existing concerns." It is these concerns that have been addressed in the remediation order I have issued today.

Significant and Severe Contamination

I have determined that the Plant Site which is the source of the Off-site contamination is significantly and severely contaminated.

I do not use the terms significant and severe contamination subjectively. When these terms are used in my reasons they reflect the available scientific data respecting the extent and nature of the contamination which exists at the Plant Site. While COPL and BC Rail have objected to the use of this terminology they have not provided me with any scientific evidence to support their objection. I am more than satisfied on the basis of the evidence before me respecting the volumes of soils which contain mercury and the concentrations of mercury presently detected in the groundwater that the Plant Site is significantly and severely contaminated with mercury.

Aside from the references in this order to the CCME classification system, the MOE does not appear to provide guidance or otherwise adopt policy as to what it considers to be "high risk" or "adverse effects". For example, by allowing APs to make submissions for low and moderate risk sites, MOE's Protocol 6, implies that they cannot do so with respect to the "high risk sites. (A difficulty facing APs, as discussed in Section 3 below, is that "low", "moderate" and "high risk sites" are not defined.)

A potential source for identifying "high risk" sites in the future is found in recent work conducted by the Science Advisory Board (SAB). The SAB has in the past year produced a document with such risk methodologies. The SAB's "Report on Screening Level Risk Assessment SLRA Level 1 and SLRA Level 2" states:

In January 2003, the Advisory Panel provided its recommendations, which included the following:

- Establish a new, tiered site assessment and classification process that differentiates sites on the basis of risk to human health and the environment.
- Establish a process that focuses regulatory resources on high-risk sites.
- Establish a Science Advisory Board (SAB) to:

- Develop a screening level risk assessment methodology that is appropriate and cost-effective;
- Oversee the review and development of scientifically-defensible numerical screening values, and:
- Reassess the current detailed risk assessment requirements to determine if appropriate information can be obtained in a more cost-effective manner.

The Ministry adopted the above recommendations and the task of developing a screening level risk assessment procedure was formally delegated to the Science Advisory Board in October 2003. The Board's task was to develop "a simple and streamlined risk assessment procedure to identify sites where substances exist above the numeric standards, but do not represent an unacceptable risk due to the absence of operable pathways of exposure to receptors."

As part of its work since October 2003, the SAB developed two risk assessment tools, and summarized them as follows:

- i) *SLRA Level 1* that consists of simple, highly constrained administrative rules to identify situations where risk is clearly acceptable although a site exceeds numerical standards. Application of professional judgement would be minimal, and it is anticipated the application would be within the abilities of all approved professionals (LEPs). Sites screened by the Level 1 process would have an obvious absence of active pathways and/or critical receptors.

...

- ii) *SLRA Level 2* enables a further level of screening and, consists of administrative rules and simple constrained models to identify situations where risk is clearly acceptable although a site exceeds numerical standards. The application of professional judgement is limited and a level of specialized training may be required to utilize the procedures. Essentially the Level 2 assessment confirms, by use of conservative models and/or assessments, whether a pathway to a receptor is present.

As is evident, the focus is on “acceptable” risk; neither SLRA Level 1 or 2 focuses on “high risk” or “adverse effects”. There is no direct or indirect language in the SAB’s proposed screening tools to support the view that risk that exceeds “acceptable risk” is necessarily a “high risk”

Another SAB report, however, does use the term “high risk” (SLRA-2 Vapour Intrusion Model, prepared by Golder). This report has not been adopted by MOE. It therefore remains to be seen whether the “high risk” terminology will be maintained and, if so, how it will be coordinated with the “adverse effects” terminology in EMA’s order power.

The MOE is currently developing a “high priority site” policy which will take into account technical risk and other public interest issues (social and economic) that should inform MOE actions.²⁸

2.11.4 Cases on MOE Orders

2.11.4.1 The *South Pacific v. Imperial Case*

In *South Pacific Development, Ltd. and Imperial Oil Ltd. v. Assistant Regional Waste Manager*, the appellants to the Environmental Appeal Board were former owners of the source site.²⁹ They appealed being named as responsible persons in a remediation order, and also sought to amend the order to include the current owner of a source site. The Board refused the appeals, holding as follows:

- 1) on issuing an order, the MOE regulator is not required to consider the relative contribution of responsible persons;
- 2) a private indemnity clause purporting to apportion liability between potentially responsible persons does not have to be considered by the regulator on issuing the order. The Board found that the “private agreement” allocation guidance of section 48(4)(a) only applies to agreements respecting liability for remediation between or among responsible persons named in the order, which was not the case here; and

²⁸ Personal communication with MOE (Katherine O’Leary).

²⁹ *South Pacific Development, Ltd. and Imperial Oil Ltd. v. Assistant Regional Waste Manager*, 2002-WAS-010 and 2002-WAS-011(b).

- 3) even though the current owner of the source property is a person responsible for remediation, remediation would not be expedited by naming that party to the order. The Board noted that a person who complies with a remediation order may recover those remediation costs through the legislative cost recovery proceedings against any responsible persons (whether named in an order or not).

This decision emphasizes the importance of giving the MOE regulator broad discretion to order timely remediation; the question of ‘who did what’ is a secondary matter. This principle arguably could also mean that the regulator has broad discretion to aim an order at only part of an overall site.

That is, remediation orders under section 48 can focus on the downstream effects of a source site, and are not necessarily required to consider the whole contaminated site. In doing so, however, the regulator must consider whether the downstream impacted owner is a “responsible person” (given that a remediation order can only be issued to these types of persons) and whether the circumstances meet the “adverse effect” condition.

2.11.4.2 The *Beazer* Case

This 1997 order to investigate and remediate a contaminated site in Burnaby was issued to:

- 1) Beazer East, Inc. (“Beazer”), a U.S. firm which today stands in the shoes of the parent of a subsidiary (Koppers International Canada Limited, or “KICL”) which owned and operated the site during 1969 to 1982;
- 2) Atlantic Industries Ltd. (“Atlantic”), a New Brunswick-based company which through a series of corporate amalgamations after 1982 acquired KICL; and
- 3) Canadian National Railway Company (“CNR”), which is the former owner of the subject lands.

Beazer and Atlantic appealed the order to the Environmental Appeal Board.³⁰ CNR did not appeal but was a third party in the appeal and argued in favour of the order.

³⁰ *Beazer and Atlantic*, 98 WAS 01(b).

The Board identified many examples of direct and indirect control that a parent could theoretically exercise over a subsidiary's site. The Board in this case found that the parent controlled the site by: extensive financial controls; control over the lease with CNR; signing of the indemnification agreement with CNR and a previous operator; reliance on its environmental staff to deal with the contamination; and, active involvement in defending against charges brought against the subsidiary in 1981 and 1982. The extensive financial controls especially appeared to weigh heavily in the Board finding that Beazer, as a parent, was an "operator".

Atlantic's appeal, in part, was that, as a successor company, it never was in possession of or even had the capacity to control or occupy the use of the site and that it never demonstrated ownership of the site. Atlantic argued that it was not indirectly involved in KICL until its parent corporation, Border Enterprises Ltd., purchased KICL in 1988, long after the contamination had occurred and after the land had been returned to CNR. Atlantic amalgamated with KICL on April 1, 1993.

The Board found Atlantic to be "responsible for remediation" and properly subject to the order:

The Panel finds that Atlantic is a previous owner and operator of the Site by virtue of the 1993 amalgamation and is, therefore a responsible person within the meaning of the Act. In *Black & Decker*, the Supreme Court of Canada is very clear that, upon amalgamation, no new company is created and no old company is extinguished. As the Court stated: "The effect is that of blending and continuance as one and the self same company". (p. 397)

The Panel finds that when Atlantic amalgamated with KICL, it took on the liabilities and "sins" of KICL. To hold otherwise, would allow a non-contaminating corporation to amalgamate with a contaminating company and then claim that the corporation formed as the result of the amalgamation should be absolved from liability under the Act as it didn't contaminate the Site. This is not consistent with the principles of amalgamation set out in *Black & Decker* or the general principles of corporate law, and such an interpretation would defeat the purpose of the Act.

Both Beazer and Atlantic applied to the B.C. Supreme Court for judicial review.³¹ The Supreme Court in late 2000 upheld significant portions of the Board decision (including the determinative finding that Beazer was an

³¹ See *Beazer East, Inc. v. BC Environmental Appeal Board*, 2000 BCSC 1698

“operator” of the site and thus properly named in the order and that Atlantic was liable as a successor corporation).

Other rulings by the Board (also generally confirmed by the Supreme Court) included: a previous order and compliance with that order do not prevent the regulator from issuing a new order; the regulator is not required to name all “responsible persons” in the order; and the U.S. Superfund cases involving parent-subsidiary liability are not wholly relevant under EMA proceedings, given the different standards used. The Supreme Court, however, disagreed with the Board ruling that Beazer was an “owner” of the site merely on account of its status as a shareholding parent corporation.

The Board decision (as confirmed by the BC Supreme Court) has several important implications for off-site issues. Although the migration from the source site did not impact neighbours *per se* (it flowed to the Fraser River), the lessons are as follows:

- liabilities for source site contamination do not disappear, even after successive amalgamations of the owner company; and
- parent companies of source site owners could be held jointly liable as well.

2.12 Civil Actions

2.12.1 EMA’s Civil Liability Principles and Off-Site Migration

A common feature of off-site migration issues today is civil litigation over remediation costs and other forms of damage. Our research suggests that, at present in British Columbia, at least 200 civil actions respecting contaminated sites are underway. The vast majority of these cases are concerned with assigning liability for off-site migration. The MOE clearly recognizes (as do the EAB and the courts) that EMA creates an opportunity for ‘victims’ to privately sue to recover their remediation costs, and that assignment of liability does not require MOE involvement.

The key legal principles governing contaminated sites civil actions, particularly in off-site migration disputes, include:

- **Principle #1: EMA and the CSR prescribe, often in considerable detail, key terms such “contaminated site”, “site investigations”, and “remediation”.**

Section 47(5) of EMA established, as of April 1, 1997, a cause of action enabling plaintiffs to recover “remediation costs” in the Supreme Court of British Columbia. This cause of action only applies to “contaminated sites”. Plaintiffs, including victims of migrating contamination, must therefore produce evidence that the subject impacted site is, when measured against the prescribed standards, a “contaminated site”. Related questions concern whether the site was investigated as prescribed and whether the remediation satisfies applicable standards.

- **Principle #2: Under EMA, plaintiffs may recover “remediation costs” from “responsible persons”.**

The term “remediation costs” includes actual site cleanup costs, investigation costs, and legal fees associated with the cost recovery proceedings. Recoverable costs must be “incurred”; that is, the costs are not prospective³².

The term “responsible persons” is a potentially broad concept, and in practice tends to include current and previous owners and operators of “contaminated sites”. Less commonly, generators and transporters could be “responsible persons”, particularly if they produce or transport substances in a manner which causes a site to be contaminated (section 45(1), (2)).

EMA therefore enables victims of migrating contamination, as plaintiffs, to sue “responsible persons” for costs associated with remediating their portion of the plume. (In this action, the court determines whether the defendant a “responsible person”.)

- **Principle #3: Source site owners are “responsible persons” vis à vis victim neighbours.**

The key provisions are:

45(2) In addition to the [responsible] persons referred to in subsection (1), the following persons are responsible for remediation of a contaminated site that was contaminated by migration of a substance to the contaminated site:

³² It remains an open question whether a single actual incurred cost, with others to come, suffices for filing an action.

(a) a current owner or operator of the site from which the substance migrated;

(b) a previous owner or operator of the site from which the substance migrated;

(c) a person who

(i) produced the substance, and

(ii) by contract, agreement or otherwise caused the substance to be disposed of, handled or treated in a manner that, in whole or in part, caused the substance to migrate to the contaminated site;

(d) a person who

(i) transported or arranged for transport of the substance, and

(ii) by contract, agreement or otherwise caused the substance to be disposed of, handled or treated in a manner that, in whole or in part, caused the substance to migrate to the contaminated site.

- **Principle #4: Innocent Downstream neighbours are not “responsible persons”.**

Section 46(1)(j) of EMA excludes the following ‘innocent’ party from the net of “responsible person”:

(j) a person who owns or operates a contaminated site that was contaminated only by the migration of a substance from other real property not owned or operated by the person;

Similarly, local governments are exempt from “responsible person” status with respect to their operation and ownership of road rights-of-way. Section 46(1)(l) states as part of a list of persons not responsible for remediation:

(l) subject to subsection (2), a government body that possesses, owns or operates a roadway, highway or right

of way for sewerage or waterworks on a contaminated site, to the extent of the possession, ownership or operation;

- **Principle #5: Source-Site owners and operators may seek exemptions from EMA “responsible person” status.**

In many actions involving off-site migration, the central issue is whether the named defendant can qualify for a “responsible person” exemption. Some 25 exemptions are found in EMA or the CSR. Some exceptions could apply to source-site owners and operators. Three such commonly asserted exemptions pertain to:

- innocent acquisitions (section 46(1)(d) of EMA), i.e., a source site owner is exempt if it proves that, in spite of all due diligence, it acquired the contaminated property without knowledge; and
 - third party acts (section 46(1)(c)), i.e., the contamination migrating from a source site was caused by a party unrelated to the current owner or operator; and
 - certificates of compliance under section 46(1)(m) of EMA. To illustrate, if A remediates to the industrial remediation standards and obtains the applicable certificate of compliance, and then sells the property to B, A can assert the exemption if B seeks to recover costs of remediating the site from the industrial to the (cleaner) residential standard. A can also assert the same exemption where the manager seeks to issue a remediation order against A for remediation to meet the residential standard.
- **Principle #6: “Responsible persons” may attempt to limit their liability by demonstrating that they are “minor contributors” or enter into a “voluntary remediation agreement”.**

Defendants who cannot qualify for a “responsible person” exemption may seek (from the Ministry or the court) minor contributor status as a shield against disproportionate liability. Section 50 of EMA provides general guidance as to who qualifies for minor contributor status. Liability is limited to the amount of the minor contribution. Similarly, liability can be limited by a “voluntary remediation agreement” between a responsible person

and the Ministry regulator. These agreements can apply to responsible persons even if their contribution was more than “minor”. Voluntary remediation agreements, however, are rarely used.

The courts have yet to address the question of whether the liability limitations inherent in minor contributor status and voluntary remediation agreements can go so far as to protect against third party liability. That is, it is unclear whether these instruments protect a source-site owner against an action brought by an off-site plaintiff?

- **Principle #7: Courts are required to allocate contaminated sites liability in EMA cost recovery actions using prescribed criteria, such as polluter pay, fairness and relative due diligence.**

Section 35 of the CSR prescribes the following allocation criteria:

- (a) the price paid for the property by the person seeking cost recovery;
- (b) the relative due diligence of the responsible persons involved in the action;
- (c) the amount of contaminating substances and the toxicity attributable to the persons involved in the action;
- (d) the relative degree of involvement, by each of the persons in the action, in the generation, transportation, treatment, storage or disposal of the substances that caused the site to become contaminated;
- (e) any remediation measures implemented and paid for by each of the persons in the action;
- (f) other factors relevant to a fair and just allocation.

In the context of migrating contaminants, these factors normally apply to allocating liability amongst defendants, i.e., in cases where the plaintiff/victim has contributed in part to the contamination, and thus cannot claim an exemption from “responsible person” status.

- **Principle #8: EMA defendants are exposed to absolute, retroactive and joint and several liability.**

These principles, set out in section 47(1) of EMA, apply to “responsible persons” who cannot qualify for exemptions or minor contributor status or who are not parties to voluntary remediation agreements with the Ministry. To illustrate, these general principles mean that an owner will not succeed in arguing that its contaminating activity did not breach the environmental prohibitions of the day, that it applied commonly accepted industry practices, or that its share should be limited to a portion of the overall liability in the event that other defendants cannot be found to contribute to the remediation.

- **Principle #9: Apart from the EMA cost recovery action, victims (as plaintiffs) rely on the common law to assign and allocate liability.**

EMA is not the only source of law governing contaminated sites liability. Plaintiffs, including victims of migration, also rely on the common law, which essentially has been developed over the past centuries by the courts as an independent source of liability rules. These plaintiffs tend to rely on common law torts such as nuisance, negligence, trespass, and strict liability (based on the case of *Rylands v. Fletcher*). Plaintiffs assert EMA cost recovery and common law actions simultaneously for the following advantages:

- unlike torts, the EMA cause of action does not require the plaintiff to prove that the defendant actually caused the contamination. The EMA plaintiff faces the lower onus of proving that the defendant falls within one of the broad categories of “responsible person” (with the more difficult onus of proving an exemption left to the defendants);
- although EMA does not require plaintiffs to meet the tort standard of causation, its remedy is not as comprehensive. Unlike tort, recovery under EMA is limited to remediation costs. Other forms of damages available under tort law, but not EMA, include loss of real estate value due to stigma, loss of profit, and business inconvenience; and
- EMA, through its retroactivity, clearly seeks to assign liability for historical contamination, meaning plaintiffs may in some cases overcome limitation defences which might otherwise succeed in tort.

2.12.2 Off-Site Liability Cases

2.12.2.1 The *CN v. A.B.C. Recycling* Case

This BC Supreme Court action arose from a CN property that was contaminated by its neighbour, ABC Recycling.³³ After ABC started remediation, CN took over and completed additional investigative and remediation work as it was concerned about the work conducted by ABC. CN subsequently sued ABC for its remediation costs.

From the perspective of off-site ‘victims’ who remediate and seek to recover from source-site owners, the following statements of the court are especially relevant:

- a fundamental principle of EMA is that “polluters pay the full cost of environmental damage that their activities produce and that those who benefit economically from the pollution be held responsible for the remediation of the pollution”;
- the costs of remediation must be related to contamination caused by the party being sued. That is, the victim party who remediates should not expect that any single named “responsible person” will necessarily be liable for a 100% remedy;
- a property owner cannot be faulted for adopting a careful and cautious approach to remediation (ABC had argued that costs should have been 20–40% lower and that CN had opted for a “Cadillac” remediation); and
- CN was entitled to recover all of its legal costs, not merely those prescribed by court rules, when seeking contribution.

³³ *Canadian National Railway Company v. A.B.C. Recycling Ltd.*, 2005 BCSC 647

2.12.2.2 **The *Workshop Holdings Ltd. v. CAE Case***

In this BC Supreme Court EMA cost recovery action, the source site owner (CAE) contended that the limitation period for bringing an action had expired in approximately 1979 pursuant to the statutory 30-year ultimate limitation rule.³⁴ The court disagreed on the basis that CAE could not articulate the precise cause of action that might have arisen during the 30 years in question. The court found that the cause of action did not arise until 1993 when the current legislative scheme first created liability for polluters of contaminated sites pursuant to s. 27 of the *Waste Management Act* (now s. 47 of EMA). In short, the court found that that Workshop's action was a new civil cause of action and did not exist prior to inception of the legislative scheme.

This decision confirms that impacted downstream property owners have a reasonably strong remedy against source-site polluters in the form of the EMA cost recovery cause of action. At the same time, the Court clarified that a polluter will not be responsible for the costs relating to contaminants caused by others, nor for costs that would otherwise have been incurred for site redevelopment.

2.12.2.3 **The *British Columbia Telephone Co. v. Shell Canada Ltd. Case***

The B.C. Supreme Court ruled that the defendant gas company was liable for over \$200,000 in damages to the plaintiff phone company for damage to underground phone cables caused by migrating gasoline contamination.³⁵ A 5,000 gallon underground gas tank was found to have a history of leaks and was the probable source of gas which destroyed underground cables several blocks away.

2.12.2.4 **The *Tridan Case***

The Ontario Court of Appeal decision in *Tridan* illustrates the value of tort for plaintiffs³⁶. The court in *Tridan* affirmed the trial decision that a plaintiff who remediates a contaminated site can be awarded not only the incurred remediation costs but also general damages attributable to the stigma of owning a property which has been adversely affected by a migrating plume of gasoline from an off-site gasoline station. This stigma

³⁴ *Workshop Holdings Ltd. v. CAE Machinery Ltd.*, 2005 BCSC 631.

³⁵ *British Columbia Telephone Co. v. Shell Canada Ltd.*, (1987), 13 B.C.L.R. (2d) 210 (B.C.S.C.).

³⁶ *Tridan v. Shell Canada*, 2002, Court of Appeal for Ontario, Docket C34404.

damage, the Court of Appeal held, does not depend on regulatory ‘part per million’ measures of acceptable contamination; rather, the plaintiff was entitled to use a more pristine benchmark. (This approach contrasts with British Columbia’s contaminated sites legislation in one key respect –the CSR here prescribes ‘part per million’ legally enforceable standards of contamination which generally are above pristine levels.)

2.12.2.5 The *Marall Homes v. Accton Petroleum Sales Ltd.* Case

One of the key issues in common law contaminated sites cases (unlike EMA cases) is whether the defendant actually controlled or otherwise caused the offending activity. This issue was paramount In *Marall Homes v. Accton Petroleum Sales Ltd.*, where the defendants purchased property with a service station on it which had been in operation for almost 30 years.³⁷ The plaintiff purchaser planned to build an apartment development on adjoining land and found, soon after beginning excavation, that the sub-soil of its lands had been contaminated by gasoline. The plaintiff sued for removal of the contaminated soil. The B.C. Supreme Court dismissed the action, holding that in order for the defendant to be found liable in negligence, it must have been shown that the alleged leakage of the underground gasoline tanks occurred during the period in which the defendant controlled the service station, and that the defendant’s lands were the origin of the contaminating substance. The evidence clearly showed that the leakage did not occur during the defendant’s period of control of the lands, and that the cause of the leak had been removed.

2.13 Screening Level Risk Assessment

As noted above, the SAB has developed a SLRA to assist users to readily classify sites based on risk. The SAB in 2005 provided an opportunity for public commentary on a draft SLRA and subsequently adopted a final version. The MOE has not yet adopted the SAB’s SLRA.

Nor has the MOE determined the regulatory function of the SLRA. One possible consequence of SLRA Levels 1 and 2, if adopted in their present form, is that owners of sites impacted by migrating contamination could ‘screen out’ their particular sites. That is, although contaminants would still remain on the site – and thus remain a “contaminated site” – the route to a COC is facilitated, possibly without the need to conduct a DSI (although this is not confirmed by the SAB). The COC could include conditions (as many do), but the purpose of both SLRA 1 and 2 is that site can be ‘screened out’ without the need for the otherwise detailed

³⁷ *Marall Homes v. Accton Petroleum Sales Ltd.*, (8 May 1995), New Westminster, A910602 (B.C.S.C.).

and time-consuming risk assessment normally required by the risk-based remediation standards before a COC is issued.

The MOE could, conversely, use the SLRA tools to screen out sites from the scope of “contaminated sites”, i.e. a property owner could, on applying the SLRA (1 or 2), obtain a determination that site is not a contaminated site in the first place. Such use of the SLRA tools would presumably require an amendment to the definition of “contaminated site”.

3. EVALUATION OF BRITISH COLUMBIA'S OFF-SITE MIGRATION REGIME

Section 3 identifies concerns arising from the current off-site regime. The concerns fall within four broad categories:

1. notifications of off-site migration;
2. protection for utilities;
3. part site approvals; and
4. the liability scheme.

Sections 3.1 to 3.4 discuss these concerns in turn.

3.1. Notification of Off-Site Migration

Notification requirements under sections 57 and 60.1 of the CSR were the subject of numerous comments, both from industry and local government sources. Our research (survey and interviews) generally found strong support for the goal of the notification requirement. A common view is that information regarding contamination should be distributed and available, so that all parties can make informed decisions and can identify problem sites. At the same time, our research identified numerous practical concerns respecting the requirement.

The issues most commonly identified in our research concerned the quality of the notifications, the MOE's enforcement policy, the potentially incriminating evidence implied by the notifications, legislative uncertainty over who and when notifications must be made, and the limited scope of recipients. These issues are discussed below.

Our research also found that the section 57/60.1 notifications are but one means that affected parties have for informing themselves about potential off-site migration. Some parties suggested that non-regulatory means of identifying migrating contamination must be relied upon to overcome the limitations of section 57/60.1 notifications. These other non-regulated notification methods include observing work at nearby or adjacent facilities, receiving calls and complaints from the public, and or experiencing contamination first hand working adjacent to a potential source area. Some local governments stated that they first found out about the potential for off-site migration when site operators requested permission to drill on City streets after having conducted a private on-site investigation.

3.1.1. The “Site Investigation” Precondition to Section 60.1 Duty

The section 60.1 notification requirement presumes the existence of “site investigation”. The term “site investigation” is defined with a high degree of prescription – EMA sets out the basic parameters of site investigations (preliminary and detailed) and the CSR sets numerous required elements.³⁸

Several questions arise from the “site investigation” precondition:

- **Are private studies included in the definition of “site investigations?”** Section 60.1 does not address the question of whether an investigation not necessarily conducted for MOE approval is deemed to be a “site investigation”. As noted above, owners commonly retain consultants to conduct environmental studies to satisfy lenders, insurers and prospective purchasers. If an owner prepares such a private study, without any intention of obtaining MOE approval, he or she might conclude that this work does not constitute a “site investigation”. Therefore, the question is: “Do these private studies – even if generically entitled “site investigations” – fall within the “site investigations” contemplated in section 60.1 of the CSR?” Sound arguments could be asserted to support or reject the view that a “site investigation” includes private studies.
- **At what point must the notification occur?** That is, is the requirement triggered when the site investigation (however defined) is finalized? We heard a concern that parties do not notify because they assume that the duty to notify does not crystallize until a site investigation reaches the final draft.

A Vancouver law firm has expressed the following view of the uncertain state of the “site investigation” precondition:

At present, it is unclear what the phrase “site investigation” means in the context of the new neighbour notification requirements, and the issue has not yet been judicially considered. It is possible that the new requirements apply only to persons who conduct Preliminary Site Investigations (“PSI’s”) or Detailed Site Investigations (“DSI’s”) pursuant to the Act and Regulation. However, the Ministry may interpret the phrase “site investigation” broadly, and attempt to impose

³⁸ Further detail is prescribed in protocols and MOE guidelines. “Site investigations” are intended as a basis for regulatory approvals such as AIPs and COCs and determinations as to whether a site is a “contaminated site”.

the reporting requirement on any person who discovers substances that are migrating or likely to be migrating through some other investigation that is not a PSI or a DSI. [Lawson Lundell, April 2002, website³⁹]

A likely practical result of these concerns (as well as concerns discussed in Section 3.1.2 below) is that many parties who know of off-site migration may not be providing notifications. That is, the estimate of 300 notifications rendered to date may not fully reflect that actual knowledge of source-site owners and operators.

3.1.2 The “Responsible Person” Precondition to Section 57/60.1 Notifications

The notification duties under sections 57 and 60.1 only fall on “responsible persons.” The term “responsible person” under EMA is complex, and requires the application of both law and facts (as discussed in Section 2.12.1 above). For example, numerous exemptions, many based on due diligence standards, could apply to render an owner or operator not to be a “person responsible” for contamination at his or her site. Substantive historical research is sometimes required to assess whether an exemption applies.

A threshold question therefore is “Who must assess whether the source-site owner or operator is a responsible person?” This question is not answered by EMA. Moreover, the question could be answered in three potentially conflicting ways:

1. In spite of the legislative silence, EMA implies that the owner or operator must self-assess. However, the potential responsible persons may say that they are entitled to do so in whatever process they deem appropriate to reach their particular conclusion (and this could be done on a schedule left to their discretion);
2. Only persons found to be “responsible persons” by the MOE or the courts (in order power and civil action proceedings respectively) face the duties under section 57 and 60.1. The difficulty with this view is very few such orders or decisions exist, supporting the view that these requirements should not be constrained in such a manner.
3. The onus to prove “responsible persons” falls on the party who would benefit from such a result. This is the case for the MOE when issuing orders and/or plaintiffs in civil actions – they have the onus of demonstrating that the adverse party is a “responsible person”. The same principle should apply in the context of off-site notifications,

³⁹ <http://www.lawsonlundell.com/resources/EnvironmentalMailing.pdf>

especially absent legislative direction. The practical problem with this argument, however, is that the legislation does not provide the prospective recipient with a procedure or opportunity to discharge the onus. From a policy perspective, the onus is arguably best left to the source-site owners or operators to self-assess, in which case the difficulty of point 1 above arises.

In summary, provisions governing two other principal EMA liability processes – orders and cost recovery actions – do not contemplate such self-assessment: plaintiffs seeking to sue “responsible persons” have the onus of demonstrating this status, as is the case for the MOE regulator wishing to issue a remediation order. No such guidance is found in sections 57 and 60.1. This lack of guidance might raise the inference that liability cannot be assigned through these processes. Although this study is not intended to provide a legal opinion, we further note that a consideration for a legal opinion would be that EMA’s regulation-making authority (section 63(1)) does not authorize a regulation to assign remediation liability.

3.1.3 When is the Duty Triggered?

A key clause in section 57 is that the duty to notify arises when a responsible person “knows” that a contaminant is “likely to have migrated”. (Section 60.1(2) uses similar “becomes aware” language.) The practical question is what information suffices to make such a conclusion. The legislation, by using the “knows” and “becomes aware” language, applies an actual knowledge test. That is, the responsible person must “know” or “become aware” about actual off-site migration and upon such knowledge or awareness give notification within 15 days.

We received the following criticism of this test:

- responsible persons could arrange their investigations in such a way as to avoid “knowing” about actual or likely off-site migration. This could be done, we heard from ‘recipient’ stakeholders, by source-site owners or consultants selectively locating test holes away from property boundaries or by arranging for the “responsible person” (owner) to never see the site investigation;⁴⁰
- the term “knows” arguably means an unequivocal conclusion about actual or likely migration. The legislation does not say the responsible

⁴⁰ Personal communication with Toni Frisby, Gary Johnson of Terasen Gas, Joe Pach and Jack Cembalisty, Telus and Ian Collings, Environmental Consultant to Telus, February 20, 2006. and Personal communication with Neil McCreedy, Bill Molony, Doug Doyle, Karen Magnuson and Mark Schwark of the City of Vancouver, March 22, 2006. and Survey responses in Appendix A.

person must merely “have reason to believe” or a similar reasonable doubt standard falling short of actual knowledge. That is, the duty does not arise if the responsible person merely concludes that it is possible or probable that migration is occurring or is likely occurring; and

- it is the knowledge of the “responsible person”, and not his or her consultant, that is determinative. The legislation is silent on whether there is an implied duty of the responsible person to inform itself of studies or investigations performed by its consultants. (Consultants do not have a duty to give the off-site migration notification directly.)

3.1.4 Quality of Notifications

Recipients and prospective recipients of notifications identified numerous issues respecting the quality of notifications. These parties noted the following:⁴¹

- the notification information is not adequate for acquiring a reasonably full understanding of the off-site migration. The information is not detailed enough in some cases to even ‘guestimate’ where the contaminants are entering the affected property;
- the notifications are too cryptic and do not allow recipients to inform themselves about the severity of the contamination (especially since the notifiers in many cases do not wish to disclose for liability reasons). The information raises an alarm, but does not provide sufficient information to qualify or quantify the degree of concern that should be raised, given the available information, limiting the recommendations that affected parties might make regarding practice changes in the vicinity. The cryptic information is reflected in the standard form language described in Section 2.6 above;
- the notifications should be accompanied by the relevant site investigation or study which served as the basis for the notification, or such investigation or study should or at least be filed on the site registry (with the notification);
- the notification should come complete with a site address or site plan showing the source site and the potentially affected adjacent site;

⁴¹Personal communication with Toni Frisby, Gary Johnson of Terasen Gas, Joe Pach and Jack Cembalist of, Telus and Ian Collings, Environmental Consultant to Telus, February 20, 2006. City of Burnaby survey responses as attached in Appendix A.

- the timing of the MOE expectations letters can create problems. In some cases, we heard, on- and off-site parties reached a mutual understanding soon after the initial identification of the off-site migration, but an expectations letter was subsequently issued and conveyed requests inconsistent with the mutually agreed upon actions;
- a PSI should be prepared (and filed on the site registry) within a prescribed time if the notifying party provides the notification without such backup analysis; and
- if the notifying party does not rely on a PSI or DSI as the basis of a notification, it should be required to prepare and disclose at least a PSI.

Different concerns over the quality of notifications were expressed by parties who would more commonly face the duty to notify, i.e., source-site owners.⁴² These parties' concerns were:

- notifications can only convey very limited information, and thus may raise more questions than answers;
- notification should only be given if there is evidence of a "high risk" (to avoid unnecessary concern by notification recipients);
- more fundamentally, the common law duty to warn should be used, rather than sections 57 and 60.1 of the CSR. The common law duty is based on a case-by-case assessment of risk, which is not the case in the existing provisions. The sanction of common law civil damages could apply to the parties who fail to discharge the duty to warn, and should suffice as an incentive to provide an appropriate degree of disclosure by source-site owners⁴³.
- timing for the notifications is too tight, in that one barely has sufficient time to review the available data before a notification must be provided;
- the MOE expectations letter can, in some cases, inappropriately raise the expectations of third parties. Some recipients may expect the MOE to require the work identified in the notification letter. If the recommended actions from the expectations letter are not followed, recipients unfamiliar with the CSR may have unrealistic expectations that the Ministry will require action.

⁴² Personal communication with Adrian Michielsen, CPPI.

⁴³ *Ibid.*

3.1.5 Notification Enforcement Policy

As discussed in Section 2.5.5 above, failure to provide an off-site migration notification is not an offence, but can be subject to an administrative fine by ticketing procedures.

The MOE has not issued any tickets for failure to give notifications.⁴⁴ Parties who tend to be recipients of notifications informed us that there is no meaningful sanction or enforcement policy for failure to notify.⁴⁵ The lack of enforcement may, we heard, cause some owners to take a “blind eye” approach to avoid notification. We were given examples on a “no-names” basis that certain owners who appear to know about off-site migration have not given notification of off-site migration.⁴⁶

3.1.6 Incriminating Evidence

We heard concerns from prospective notifiers that the CSR notification requirements may improperly produce incriminating evidence in two ways. First, as already noted in Section 3.1.2, the practical result of notification is an admission of “responsible person” status and its associated remediation liability exposure. We heard concerns that giving notifications as a ‘good neighbour’ should not necessarily import substantial remediation liability exposure. Notifications and remediation should be independent legal issues.

A second form of possible incrimination arises in the context of prosecutions.⁴⁷ The particular concern arises from provincial and federal statutes that create offences for releasing pollutants into the environment. Examples include sections 36(1) of the *Fisheries Act* and section 6 of EMA.

⁴⁴ The MOE Surrey office observed that:

“I’m not aware of any enforcement action respecting NOMs that proceeded through to a ticket or court. Typically, we had no site investigation information, particularly for new sites created in conjunction with a site profile submission or notice of independent remediation. Our (former OCU) response letters included a clause advising of NOM requirements but we had no means of following up. There were a few sites where we did have sufficient information to indicate off-site contamination and for these we responded with a letter. One that comes to mind was for a site where a site investigation order (DSI) had been issued. In that case, a NOM was provided in response to our letter advising of NOM requirements and penalties associated with non-compliance.”

⁴⁵ Personal communication with Toni Frisby, Gary Johnson of Terasen Gas, Joe Pach and Jack Cembalisty of Telus and Ian Collings, Environmental Consultant to Telus, February 20, 2006. Survey responses as attached in Appendix A

⁴⁶ *Ibid* and personal communication with Neil McCreedy, Bill Moloney, Doug Doyle, Karen Magnuson and Mark Schwark at the City of Vancouver, March 22, 2006.

⁴⁷ Personal communication with Adrian Michielsen, CPPI.

These offences broadly prohibit releases into the environment and are prosecuted with quasi-criminal law principles. The argument, therefore, is that a suspect or an accused should not be required to divulge a release of potentially incriminating evidence if that evidence could be used by the Crown to prosecute.

It is beyond the scope of this study to give a legal opinion or otherwise analyze case law over this concern. We do note, however, that section 13 of the Canadian Charter of Rights and Freedoms prohibits the use of incriminating evidence:

13. A witness who testifies in any proceedings has the right not to have any incriminating evidence so given used to incriminate that witness in any other proceedings, except in a prosecution for perjury or for the giving of contradictory evidence.

Some cases limit the application of section 13 in a way that may cast doubt over the strength of the argument that section 57/60.1 notifications might constitute incriminating evidence in the context of prosecutions. Section 13, for example, does not apply in circumstances where someone may be required to admit a civil liability (which may be the case for the CSR notifications): *Juric v. Ivankovic* (1982), 44 A.R. 46 (Alta. Q.B.). Furthermore, section 13 only applies to a “witness in any proceedings”, not to a person who provides information to regulators as part of their investigations: *Prousky v. Law Society of Upper Canada*, (1987), 41 D.L.R. (4th) 565 (Ont. S.C.); leave to appeal refused, (1987), 62 O.R. (2d) 224 (Ont. C.A.).

3.1.7 The “Independent Remediation” Precondition to Section 57 Duty

A less prominent issue identified in our research stems from the CSR definition of “independent remediation”. Section 57 of the CSR contemplates that this notification requirement applies to parties who carry out “independent remediation”. It is an offence not to provide notification of independent remediation.

A possible enforcement difficulty arises from the lack of full definition of “independent remediation”. While the term “remediation” is defined with a reasonable degree of detail, uncertainty arises over if and when such remediation is “independent”. The question is “independent of WHAT?” There are several possibilities:

1. The remediation may be “independent” in the sense that it is not compelled by order. This is a commonly held interpretation amongst parties doing remediation.

2. “Independent remediation” only exists if the owner has filed a Notice of Independent Remediation under section 54(2) of EMA.
3. In contrast, other owners for purely private transactions may commission studies without any intent to seek MOE approval of the studies themselves or remediation. This is the purest form of independent remediation, given that remediation includes “studies”. To illustrate, the term "remediation" is defined to include "tests, sampling, surveys and data evaluation". It is not clear, however, whether this means that any testing done at a site is considered "independent remediation" or whether only testing done in conjunction with actual excavation and removal of contamination or installation of remediation equipment is caught by this section. That is, it might be open for owners to argue that knowledge of off-site migration must only be disclosed if the intention is to “remediate” contamination for the purposes of EMA approval. The duty therefore does not arise if the owner merely intends to investigate, short of “remediation”.

3.1.8 Operators Do Not Receive Notifications

Sections 57 and 60.1 require that notifications must be provided to “owners” of neighbouring properties. The duty does not appear to extend to occupiers (e.g., tenants) of these properties. As a result, parties who are occupiers – not owners – of properties, such as utility companies, are concerned that they do not receive notifications directly. At best, they are advised of an off-site migration notification from the owner as a matter of courtesy. This is a practical concern to the occupiers because they have often located expensive and sensitive equipment in the impacted properties.⁴⁸

3.1.9 Comparison with Other Jurisdictions

Our jurisdictional survey found a wide range regulatory tools in the various off-site notification regimes. Some, but not all, features of British Columbia’s off-site notification system are similar to the more common approaches used in other jurisdictions. Section 4 below provides a comparison of 12 selected jurisdictions and British Columbia.

In summary, key features that are common to BC and other jurisdictions include:

⁴⁸ Personal communication with Toni Frisby, Gary Johnson of Terasen Gas, Joe Pach and Jack Cembalist of , Telus and Ian Collings, Environmental Consultant to Telus, February 20, 2006.

- some form of legislatively mandated system for notifications of off-site migration, i.e., no jurisdiction appears to rely solely on the common law duty to warn;
- most other jurisdictions do not have a public notification system for sources of off-site contamination unless there is an imminent threat to public health and safety, or the environment;
- the notifications itemize the substance of concern;
- the notifications sent to off-site affected property owners is limited;
- the “responsible person”, who might not necessarily be the original notifier, in many jurisdictions subsequently gives the notifications to affected neighbours; and
- there is not much active monitoring or follow-up of compliance with reporting requirements.

Key differences include:

- many jurisdictions rely on generic spill notification requirements and do not have separate provisions for addressing historical contamination issues, contrary to BC;
- most jurisdictions do not have numeric land use-based triggers for notification and rely on qualitative triggers (e.g., “adverse effect”) or quantitative release volumes (e.g., volume of fuel spilled);
- some jurisdictions do not distinguish between on-site and off-site contamination, and consider notification only in terms of the “affected property”, which can extend across legal property boundaries (e.g., Texas, Massachusetts);
- most jurisdictions have different notification content for notices to regulators versus those sent to affected property owners (BC uses the same form);
- substantially more information is required of notifiers in other jurisdictions than is the case under sections 57 and 60.1 of the EMA. This is so especially with respect to information to be disclosed to government (as opposed to downstream affected parties). This higher level of information is driven by detailed spill response requirements in effect in those jurisdictions. Other jurisdictions (Texas, Massachusetts) do not distinguish between on and off property and the reporting

requirements, as in British Columbia, are the same with respect to the regulator;

- longer notification periods are available in other jurisdictions for historic contamination issues (up to 90 days, compared with British Columbia's 15 days, which is at the low end of the range);

3.2 Protection for Utilities

We heard numerous concerns from utilities (telecommunications, natural gas, water), and municipalities that off-site migration is adversely impacting their equipment and real property. The types of contamination experienced in off site areas included mostly BTEX compounds (between 80 and 100% of survey respondents attributed off site migration of contamination to BTEX), however PAH's, VOCs and metals also were also identified in some cases to be migrating off of the source sites.

3.2.1 Impacts on Utilities

The presence of contamination in utility corridors results in various impacts. These impacts, the utility providers advise, cause damages to the physical utility, the ability to provide service and the quality of service provided. More than 75% of respondents identified real property and equipment damages. The costs were quantified as both financial and stigmatic for most organizations. The financial costs were described to include:

- Damages to utility service;
- Interruption to service;
- Shorter service life of utilities due to long term exposure;
- Increased costs for installation due to testing prior to repair, maintenance and installation as well as delineation requirements when contamination has been identified in the utility corridor (municipalities reported that the extent of contamination is seldom completed satisfactorily in the utility corridor);
- Negatively affecting the longevity of infrastructure;
 - Paving structure damage when off-site assessment and/or remediation required;
 - Traffic and sidewalk impacts during assessment and remediation;
- Transit impacts during assessment and remediation;
- Increased costs for soil disposal;
- Increased costs for replacing gaskets (nitrile or viton for water lines);
- Increased necessity for legal fees;
- Negative impacts to businesses and parking during off-site assessment and remediation; and

- Safety (costs and delays).

These costs are both financial and create a drain on the corporate resources.

Stigmatic costs associated with off-site migration that are experienced by municipalities include:

- The presence of ugly vacant lands in city cores;
- The presence of remediation piles;
- Potential legal writs attached to property (2 cases noted in the City of Surrey);
- Limited development of site and surrounding areas; and
- Negative public perception.

In addition to preventative measures in place before selecting a route, additional measures must commonly be taken by municipalities to protect pipe and corridors that are already in place. These measures include:

- Replacing rubber gaskets with nitrile or viton gaskets at an increased expense;
- Wrapping the pipe;
- Not using plastic pipe; and
- Increasing water pressure in operating lines.

3.2.2 Types of Damage

These impacts, the utilities advise, affect their ability to provide service and the quality of service they can provide. The effects to the various utilities vary, and as such, their effects will be discussed separately.

Damages to Telecommunications and Natural Gas Lines

Two main concerns were identified by the telecommunications and natural gas carriers:

1. the potential to impair service via water migration into the utility line;
and
2. the potential for secondary contamination.

With respect to the first concern, there is documentation and scientific evidence supporting the argument that hydrocarbon compounds can penetrate plastic components, rendering them less impermeable than originally designed, and potentially enabling water to enter the service. It is known and accepted that these chemical reactions can occur⁴⁹. The disparity regarding

⁴⁹ George, S.C., Thomas, S. "Transport phenomena through polymeric systems", Progress in Polymer Science, 26 (2001) pp985-1017

the science revolves around the concentrations at which this degradation occurs and the rate at which the degradation occurs. When the integrity of the line is breached by water or by water containing dissolved concentrations of contaminant compounds, damage to the service is the result reported by utility companies.

The second concern involves the presence of hydrocarbon compounds such as benzene, toluene, ethylbenzene and xylenes (BTEX) in groundwater dissolving other chemicals present in the utility corridors. Some gas lines and electrical conduits use low solubility hydrocarbon compounds such as coal tar and creosote as the initial barrier coatings on the utility infrastructure. In the natural environment, these compounds are relatively recalcitrant and provide a seal for the utility. However, when BTEX compounds are present in groundwater at sufficiently elevated concentrations or in free phase form, they may dissolve the coatings, resulting in the dissolution and mobilization of the otherwise immobile compounds within the coating materials. These compounds typically have very low environmental thresholds (e.g., polycyclic aromatic hydrocarbons). Dissolution of these coatings creates a two-fold problem: 1) the mobilization of recalcitrant and known carcinogenic compounds, and 2) having lost the initial designed protective barrier, utilities face a higher risk of service interruptions and utility damage.⁵⁰

Damages to Water Lines

Numerous studies have been conducted regarding individual components of gasoline and their effect on the integrity of materials commonly used for utility corridor piping. These studies vary in their conclusions regarding the concentrations that result in measurable degradation of the material's integrity: however, despite a diversity of information and a disparity of confidence in the scientific results, the American Water Works Association (AWWA) cautions utility owners to be concerned about the installation of

Ranney, T.A, and Parker, L.V., "Susceptibility of ABS, FEP, FRE, FRP, PTFE and PVC Well Casing to Degradation by Chemicals, January, 1995, Special Report for the US Army Corps of Engineers, Cold Regions Research and Engineering Laboratory"

Holsen, T.M., Park, J.K., Jenkins, D., and Selleck, R.E., "Contamination of Potable Water by Permeation of Plastic Pipe" August, 1991 American Water Works Association

Selleck, R.E., and Marinas, B.J., "Analyzing the Permeation of Organic Chemicals Through Plastic Pipes", Journal of American Water Works, July, 1991.

Park, J.K., Nibras, M., "Mass flux of organic chemicals through polyethylene geomembranes" Water Environment Research, Volume 65, Number 3, pp 227 – 237.

Leseman, W.G. "Water Contamination Caused by Gasoline Permeating a Polybutylene Pipe" American Water Works Association, November 1986.

Berens, A.R., "Prediction of Organic Chemical Permeation Through PVC Pipe". Journal of the American Water Works Association, November 1985.

⁵⁰Personal communication with Toni Frisby and Gary Johnson, Terasen Gas, February, 20, 2006.

plastic piping in areas contaminated by hydrocarbons. The City of Vancouver has direct experience that has led them to be very cautious regarding the use of appropriate materials for water line installation. This concern also translates to the final remediation of contaminated soils. Water mains in the City of Vancouver are installed to last 120 years. The presence of materials that may degrade utilities can certainly affect the longevity of the design and the materials, thereby possibly negatively affecting the water quality.

The City of Vancouver has documented two instances where contamination from the surrounding area has negatively affected the quality of drinking water. In one instance, in the 1980s, the City of Vancouver experienced migration of contamination through rubber gaskets on a water line. The water line was in a former heavy industrial area of the city. As a result of this experience the City confirmed the potential for migration of some contamination through rubber gaskets. As a result, the City of Vancouver determined that Viton gaskets were necessary on water mains in areas of known contamination to protect the City water mains from future fuel spills and plumes.⁵¹

The second instance, in 1991, concerned poly-butylene (PB) pipe for residential water service. A homeowner complained of a fuel oil taste in the water. Upon further investigation, the City found that the groundwater transmitted fuel oil towards the PB pipe, which was then permeated by petroleum hydrocarbons and on into the drinking water service. The PB pipe was replaced with copper pipe, and the water quality problem was addressed.⁵²

In addition to the financial and stigmatic effects of utility impacts, the City of Vancouver identified additional concerns – health and safety concerns as a result of contamination in the utility corridors. We were provided with two examples of potential health and safety concerns. The first health and safety concern is a result of direct exposure to contamination in the utility corridor from an adjacent property. The City of Vancouver has had one documented health and safety incident from worker exposure to contamination in a utility trench. In the incident, the worker exhibited a respiratory issue which was directly related to the presence of contamination in the area in which he was working⁵³.

The second health and safety concern is the result of expecting contamination to be present in the utility corridors, and how the City manages to maintain the

⁵¹ Personal communication with Neil McCreedy, Bill Moloney, Doug Doyle, Karen Magnuson and Mark Schwark, City of Vancouver, March 22, 2006.

⁵² *Ibid.*

⁵³ *Ibid.*

quality of the water in the supply chain. In Vancouver, city services are designed for a 120 year life span. Some of the services are nearing the end of that life span, and the integrity of the corridor is somewhat compromised. The water lines in some areas have known leaks and preventing contamination from entering the water service through these leaky zones creates a unique risk when preparing for utility corridor maintenance.

To prevent contamination from entering the water service as a regular course of action in areas where there are known leaks, the City of Vancouver increases the water pressure to create a physical advective gradient moving away from the water pipeline. This gradient ensures that contaminants present in the subsurface are physically moved away by the water pressure and do not infiltrate water lines.

When conducting repairs on some water lines, to protect the quality of water and prevent a “suction wave” from travelling down a utility corridor and possibly drawing contamination into the water service, the City undertakes a procedure whereby pressure in the water line is gradually decreased before maintenance. During this time (i.e., when the pressure is lower), the surrounding area has a limited ability to respond with regards to fire safety⁵⁴.

Damages Resulting from Contaminant Migration Through Utility Corridors

In addition to contamination entering into the utility corridors, ROW users and operators identified additional concerns regarding contamination migrating into utility corridors.

Many utility corridors are designed to drain directly or indirectly to surface water, thereby potentially draining impacted groundwater that has infiltrated into the utility corridor directly to surface water, potentially releasing deleterious substances to fish bearing waters.

Those utilities that are not designed to drain by gravity may arch over or under other utility lines, creating traps. If sufficient contamination enters the utility corridors, these gravity traps may result in free phase liquid coming into direct contact with utility lines, increasing the potential for chemical exposure to utility users.

⁵⁴ *Ibid.*

3.2.3 Adequacy of CSR Standards for the Protection of Utilities

Telecommunications and other utility companies and local governments are concerned that the CSR standards are not strict enough in that even otherwise “acceptable” contamination under Schedule 4 and 5 of the CSR could still, as reported to us, substantially impact high fibre optic electronic equipment and pipe insulation.

Most municipalities and service providers identified that they have in-house staff (ranging from one to more than five full time employees) as well as hiring environmental consultants (for between \$15K and \$75K per year) dedicated to addressing the migration of contamination into utility corridors. These parties also feel the need to utilize more legal resources to address concerns resulting from contaminants migrating onto their property from off-site sources.

The protection of utilities from subsurface contaminants does not appear to be a common concern amongst other environmental regulators, based on the survey of other jurisdictions conducted as part of this study. It should be noted that this study was not exhaustive in that only a select number of jurisdictions were surveyed, and it is possible that other jurisdictions do have provisions for protecting buried utilities. Only one of the jurisdictions surveyed, Alberta, has attempted to assess this problem with a number of technical studies and draft guideline measures. This is discussed below.

In 2004, Alberta Environment contemplated whether special measures should be implemented to protect telecommunications and water utility equipment. Alberta’s benchmarks of contamination are similar to the BC generic numeric standards, making the experience in that province relevant here. In that Alberta review, the petroleum industry sector strongly objected to the adoption of ‘made for utilities’ standards, especially those pertaining to telecommunications. For example, the following letter from CPPI to the City of Calgary, dated February 20, 2004, stated:

“While the current criteria were developed to be protective of human health and ecological receptors, they may be protective of various utility materials as well. The fact is that the effects of petroleum hydrocarbons on various utility materials in concentrations below the current criteria are not well known. While not denying that effects are possible, the evidence of such effects in the field is circumstantial and difficult to quantify. For example, instances where a utility does appear to be affected it is not known when the effects took place and what the conditions, such as petroleum hydrocarbon concentrations, were during that time.

“Further, it is our collective experience that even when petroleum hydrocarbons have been present in a utility trench, it is the exceptional case that the utility has also suffered some adverse effect, whether it be a result of the petroleum hydrocarbon or not”.

The CPPI letter also noted the following particular concern (amongst others):

“Questionable Science: The report recognizes that the petroleum products are complex chemicals in complex environments and that the available research and data is limited, yet proceeds to derive specific simplified threshold numbers based on broad assumptions. CPPI does not support this approach.” [

CPPI, in a letter to Alberta Environment dated August 16, 2004, further recommended that any regulatory scheme should separate drinking water line versus utility line damage:

“CPPI recommends separating the issue into drinking water line permeation and other utility lines damage. Consistent with AENV and current CPPI practice, the interim generic management protocol (pending new research results) would be:

1. Drinking Water Line Permeation
 - If the water line is non-polymeric (e.g., iron, concrete), then there would be no generic criteria for management.
 - If the water line is polymeric (eg. PVC, PE, PB), then further assessment or mitigation actions are required if mobile gasoline containing free product is likely in contact with the line. These actions could include test drinking water versus drinking water criteria, remove mobile free product, relocate water line, change material of construction, etc.
2. Other Utility Lines (natural gas, electricity, telephone) Damage
 - No generic criteria for management, as insufficient research, case histories and performance assessment information currently exists. Since this damage is not primarily a human health or environment issue, it is best left as a civil matter.”

In spite of these CPPI concerns, the City of Calgary and the City of Edmonton are developing new approaches for evaluating hydrocarbons within utility corridors. These initiatives, while still in the formative stages, identify limitations in the standard environmental investigation techniques with respect to migration of contamination in utility corridors and other preferential pathways. As a result of the work to date, they have suggested staged approach for investigating utility corridors and describe preferred methods. Highlights of these recommendations include:

- Senior level professionals with experience in utility corridor investigations should be actively involved in the field;
- Prepare a conceptual model using historic drawings and other service and municipal plan information;
- Refine the model through field work, identifying if the utility corridor is more permeable than the surrounding native soil; and
- Investigate within the utility corridor. Preferential investigative techniques include (in order of preference) test pitting, solid stem augers, hydrovac sampling, split spoon sampling.

The report concluded that safety concerns need not prevent information from being gathered in utility corridors. The report identified several methods for conducting an intrusive investigation that would not create an unacceptable health and safety risk for the investigator.

The City of Burnaby and other Lower Mainland municipalities similarly recognize that the current contaminated sites regime does not guarantee protection of roadways and buried water lines. BC Municipalities are interested in developing new approaches. These new approaches are at various stages of development as they are in Alberta. While it is premature to identify any clear pattern, one possible outcome is a diversity of approaches. This likelihood exists because there does not appear to be a single body (e.g., GVRD or UBCM) that is coordinating the work to come up with a uniform model.

3.2.4 No Cost-Effective Recourse

Utilities also advise that it is very expensive, time-consuming and uncertain to engage the EMA cost recovery and common law civil remedies. Specific problems cited by utilities representatives include:

- **The ‘incurred-first’ rule.** Section 47 of EMA provides that a plaintiff may recover only incurred – not prospective – remediation costs. As a result of this requirement, many cases, after pleadings are filed to protect against limitation periods, languish pending completion of remediation costs. Remediation at some sites could take several years (and longer if the risk-based remediation

standards are applied and the site requires monitoring). Utilities suggested that there is a need for more ready decisions confirming recoverability of costs of contemplated remediation. (See more details in ‘Liability’ below.)

- **Commingling of contaminants.** It may be difficult to ‘fingerprint’ hydrocarbons to two or more sources. The science of age-dating hydrocarbons is still being developed. It is not uncommon that utilities are impacted by commingled contaminants from two or more sources.
- **Delay and high costs of litigation.** Utility companies expressed frustration that legal processes cannot produce more timely decisions in a cost-effective manner. For example, it may take two years or more and over \$100,000 in legal fees to recover an expenditure of, say, \$500,000. Cities and municipalities expressed that it was an ineffective use of taxpayers’ dollars to settle these issues in court, and for Cities, it was deemed to be too expensive.

As a result, utilities and municipalities decide that, rather than invest in litigation in an effort to recover incurred costs, it is more cost-effective to employ expensive ‘super-safeguards’ (extra insulation, liners) to protect against business loss and potential effects to workers. The utilities further say that such costly ‘super-safeguards’ arise from a less-than-ideal dispute resolution mechanism, and these costs are ultimately borne by the consumer. This result contradicts the polluter-pay goal of EMA.

- **Lack of appeal process.** Cities and utilities expressed frustration that legal processes do not seem fair to the affected parties. They report that impacts are present and in some cases they are measurable, but the investigation methods used preferentially exclude investigation in the utility corridors due to safety or other concerns. If the source site obtains an AIP for the off site area, impacted parties believe that the potential pathways are not always effectively addressed or investigated.

3.2.5 Lack of Liability Protection for Local Governments

We heard concerns that the local government liability exemption has limited value. While protecting against being named as a “responsible person” in an MOE order or an EMA cost recovery action, remaining issues faced by local governments include:

- local governments are still exposed to common law actions, especially negligence;

- the ‘bottom line’ is that they will still have to clean up the roadway because they could be exposed to further liability;
- there is no cost-effective recourse for compensation, whether by EMA cost recovery or by the common law; this is especially so after the *Imperial Oil* decision which essentially held that the City of Vancouver could not use its development permit powers to obtain controls over potential off-site migration;
- the impacts on pipe insulation create secondary pollution in the form of degraded materials, and thus utilities might be seen as being the source of contamination and thus cause a dispute with the local government operator or owner of the roadway.
- Several of the municipalities expressed a frustration that they had been given the responsibility for ensuring the cleanup, but not the authority to make it happen. The downloading of responsibility to the municipalities was considered to be a frustrating result of the CSR process.

3.2.6 How Other Jurisdictions Address Utilities’ Concerns

As discussed in more detail in Section 4, none of the 12 jurisdictions which responded to the jurisdictional survey discussed in Section 4 has promulgated assessment or remediation standards specific to the protection of buried utilities. Only one, Alberta, has undertaken studies to investigate the need for the development of utility-specific criteria. According to Alberta Environment, the study results to date did not provide adequate evidence that utility-specific standards were required, and it is not currently contemplating introducing such criteria pending more definitive scientific research.

Other jurisdictions, such as Texas, do have provisions for notifying adjacent easement holders and right-of-way owners, and for accounting for utilities in any risk assessment of offsite impacts. However, there is no specific mention of utility-based standards in the survey responses. It should be noted that the survey was limited to a select number of jurisdictions and it is possible that other jurisdictions do have provisions for the protection of buried utilities, most likely for water distribution lines. An exhaustive review of all jurisdictions in North America was beyond the scope of this study.

3.3 The Part Site Issue

3.3.1 Diverse Sources and Approaches

Different sources, and correspondingly different approaches, govern how the MOE will issue approvals for partial contaminated sites in BC (whether for source-sites or off-sites).

In summary:

Source	Approach
<p>1. EMA “site”, “COC” and “AIP” provisions</p>	<p>EMA s.39(1) states:</p> <p>"contaminated site" means an area of the land in which the soil or any groundwater lying beneath it, or the water or the underlying sediment, contains</p> <p>(a) a hazardous waste, or</p> <p>(b) another prescribed substance</p> <p>in quantities or concentrations exceeding prescribed risk based or numerical criteria or standards or conditions;</p> <p>EMA s. 53(6) states that a COC and AIP may apply to part site. No further guidance on how AIPs and COCs can apply to part-sites.</p>
<p>2. Director’s Protocol 6, Footnote 4 – Source-site approvals</p>	<p>Source-sites: Protocol 6 is silent regarding on-site part-site AIPs and COCs. However, it can be implied that such approvals can be issued if the applicant “addresses the entire extent” of the contamination. Addressing the entire extent does not necessarily mean that the applicant must remediate the affected off-site properties. (MOE practice is to require an AIP for these</p>

	properties, as discussed below.)
3. Director's Protocol 6, Footnote 4 – "Affected property"	An AP can make an AIP and COC submission for part of "a site affected by contamination migrating from a source property". "However, if the entire extent of contamination is not addressed, then the roster application must include a statement of assurance confirming that any measures necessary to prevent re-contamination of the affected property have been, in the case of a certificate of compliance, or will be, in the case of an approval in principle, put in place."
4. MOE Release Letter to local government (Notice of No Significant Risk or "Consent" letter)	MOE release letters may require, for an on-site applicant, that the COC include an on-site and off-site DSI or, alternatively, the proponent must obtain a certificate for the on-site part and an approval in principle of a remediation plan for the off-site part prior to occupancy or reutilization of the on-site part, where upon completion of remediation, a certificate will be obtained for the off-site part;" (see Section 2.9.2 above.) These letters do not distinguish on-site and off-site part-sites.
5. EAB <i>Super Save</i> decision	Off-site owner does not have standing to comment on an on-site AIP.
6. EAB <i>Squamish</i> decision	Same reasoning as <i>Super Save</i> in reverse situation: On-site owner does not have standing to comment on an off-site AIP.
7. BC Supreme Court	MOE cannot require that on-site AIP

<i>Imperial Oil v. Driedger</i> decision	deal with off-site properties of same plume if MOE has previously set out on-site information requirements for obtaining AIP
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These sources and their corresponding approaches have given rise to the issues and concerns identified below in Sections 3.3.2 to 3.3.9.

3.3.2 Legislative Silence on Part Sites

Legislation does not provide guidance on the scope of a “site”. It is arguable, however, that the Legislature deliberately did not use the term “contaminated property” (as opposed to “contaminated site”) to ensure that a plume would be considered in its entirety, irrespective of legal parcels.

Section 53(6) of EMA, opens the door for MOE approvals on a legal parcel basis. This provision confirms that COCs and AIPs may be issued for partial contaminated sites, which could in practice mean one or more legal parcels within a larger contaminated site. EMA and the CSR, however, are silent on how such approvals should be given.

3.3.3 MOE’s Response to Legislative Silence – Conditional Part-Site Approvals

The legislative silence respecting partial sites has been addressed primarily by two MOE documents – Protocol 6 and release letters. These documents contemplate that, in certain cases, the MOE will issue approvals to part-sites, but subject to certain conditions. Specifically:

- **Footnote 4 and Source Sites.** Footnote 4 of Protocol 6 states that “Applications for an approval in principle, a certificate of compliance, or a combination of an approval in principle and a certificate of compliance addressing the *entire extent* of contamination are acceptable”. That is, this provision contemplates that applications are acceptable if the “entire extent” is addressed, leaving the inference that source sites alone can be the subject of a COC or AIP, provided that the off-site affected properties are “addressed”. Addressing these off-site properties, according to MOE practice, consists of requiring an AIP for those properties.
- **Footnote 4 and “Affected” Sites.** Footnote 4 allows “affected” off-site owners to obtain a COC or AIP. For practical purposes, “affected” properties mean legal parcels (one or more) located

downstream of a source site. Owners of these sites (and their APs) face several conditions. The MOE will require a “statement of assurance” and measures to prevent further contamination.

- **MOE Release Letters.** Similarly, the MOE release letter for local government approval may require an applicant for on-site COC approval to obtain an AIP for the off-site affected properties. Moreover, it is plausible, given the highly discretionary approach used to issue the release letters, that even off-site (or ‘flow-through’) owners must obtain an AIP for the downstream properties.

3.3.4 Concern Over Feasibility of Off-Site Conditions

As stated above, Protocol 6, Footnote 4 requires a “statement of assurance” that measures will be used to prevent re-contamination of the subject (“impacted”) site. The only realistic means of preventing further re-contamination may take the form of some measures located on the upstream property, which of course would require cooperation with that property owner. We heard concerns from APs that, to properly develop measures to prevent re-contamination, the applicant must in some cases secure the cooperation of the upstream neighbour (to implement measures to prevent re-contamination). This may be a difficult matter. Upstream neighbours might not, for example, be willing to allow the construction of the necessary preventative measures. The price of accessing the upstream property may simply be unaffordable to the “affected” property owner, or such access might be refused outright. In practical terms, this requirement substantially constrains the ability of downstream owners to receive part site approvals for their legal parcels. The concern, we heard, is that this Footnote 4 condition creates a disincentive to remediate.

The same can be said of the MOE “release” letters. They too contemplate that a subject site owner (whether source site or non-source-site) may be required to obtain an AIP for neighbouring properties as a condition of releasing the prohibition against local government approval.

Concern over the need to obtain neighbour cooperation was also reflected in the EAB decisions in *Super Save* and *Squamish Terminals*. These EAB decisions cast considerable doubt over the right of the neighbours of recipients of part site AIPs to comment on those AIPs. The EAB also suggested that such rights would be inconsistent with the legislative intention to effect timely remediation, i.e., neighbours might attempt to exact a high price from the party wishing to remediate his or her “affected” property. These concerns are reflected, for example, in the *Super Save* decision of the EAB:

“In cases such as this, where AIP endorses a remediation plan that is the product of years of negotiations with government and amongst the owners of contaminated lands, appeals by persons who are not subject to the AIP or are not party to the remediation proposal may unreasonably delay the remediation of contaminated sites, and may discourage private parties from negotiating ways to remediate contaminated sites. Legitimate AIPs should not be frustrated by persons who have grievances that go beyond the terms and requirements of the AIP.” [page 9]

The same concern was raised by the EAB in *Squamish Terminals*. The case was based on a converse fact pattern – the grievor was an source-site owner concerned about an MOE approval for an off-site property. The EAB ruled that this source-site owner does not have the right to comment on MOE off-site approvals (and thus do not enjoy a corresponding right to appeal).

Reflecting a similar concern, the Supreme Court of BC in *Imperial Oil v. Driedger* stated that, if the source-site owner provides the necessary information requested by the MOE for the part-site, the MOE must issue the part site approval. Approval in these cases, the Court suggested, should not be subject to a lingering dispute with neighbours.

3.3.5 Concern over Liability Implied by Conditions to Part Site Approvals

Concern over the off-site conditions is not limited to the spectre of uncooperative neighbours. Our research identified several liability issues associated with the MOE’s current part-site policy. The linkage between liability for remediation and the MOE’s part-site policy is particularly evident in two ways:

- The Footnote 4 condition that the “affected site owner must confirm measures to prevent re-contamination will practically mean, at some if not many sites, that the owner must implement remediation or containment measures at the up-gradient property boundary. Without undertaking remediation measures satisfactory to the MOE, the “affected” site owner is unable to re-develop his or her site.
- The MOE release letter could be used to require a part-site owner, as a condition of development approval, to assume responsibility for preparing an AIP on neighbouring (downstream) properties. This could apply to both source site and non-source-site owners. Preparation of an AIP and preparation of the supporting site investigations are included in the definition of “remediation”, meaning that owners would, pursuant to the release letters, be

required to incur such liability to remove the local government prohibition.

The difficulty posed by these conditions is that they practically require the applicant to perform some form of “remediation” irrespective of whether he or she is, under EMA, “responsible for remediation”. It is arguable that such liabilities are not implied in EMA.

This argument is credible if one considers how liability is assigned elsewhere in EMA. EMA expertly fixes liability in essentially two ways: orders and cost recovery actions. These liability-fixing mechanisms establish who has the onus for proving liability, the limits to the liability and procedures for assigning liability. In contrast, analogous rules and procedures do not appear to exist to govern if and how the MOE may impose off-site requirements as conditions for part-site approvals. In short, as suggested by one person interviewed for this report, the conditions may amount to ‘liability creep’.

3.3.6 Uncertainty over Protocol 6, Footnote 4

As discussed in Section 2.8, above, Protocol 6, Footnote 4 uses broadly-stated requests. This broad language, we found, is susceptible of different interpretations and leads to confusion by APs. The uncertainties are:

- **“Applications for an approval in principle, a certificate of compliance, or a combination of an approval in principle and a certificate of compliance addressing the *entire extent of contamination are acceptable*”.** The uncertainty stems over what, exactly, should be done to “address” the “entire extent”. That is, does a PSI suffice? A DSI? An AIP? The MOE has, as a matter of practice, required an AIP in the non-source portions. This is an unwritten practice, however.⁵⁵ A related question is whether the AP can make a submission respecting an off-site AIP that is based on the risk-based, as opposed to the numeric, remediation standards (and the source-site is the subject of the numeric standards). Another source of uncertainty raised by an environmental consultant pertains to whether natural attenuation short of the risk-based standard is sufficient to “address” the off-site contamination.
- **“a site affected by contamination migrating from a source property”.** This clause is reasonably clear that the AP may limit his or her submission to an “affected” legal parcel.

⁵⁵ Personal communication with Reider Zapf-Gilje.

- **“statement of assurance confirming”**. Unanswered questions include:
 - who must make the statement? (owner? the neighbour? AP?);
 - what is adequate assurance? a legally binding document? a statement of intention by the owner? a statement confirming that such measures are in place?
- **“measures necessary to prevent re-contamination of the affected property”**. Essentially, this condition calls for measures to prevent further movement of a plume onto the affected property. However:
 - What controls can an impacted neighbour impose on the upstream source-site owner (and future owners)?
 - Can a “measure” be an agreement between the on-site and off-site owners addressing the former’s responsibilities in the event of new migration?
 - Can the measure to prevent cross-boundary migration be a technical one?
 - Why are such measures necessary in any case, give that the off-site owner incur the responsibility for any contamination after the date of the COC?
 - What if the source site is not the property immediately, but several properties, upstream? That is, must the subject “affected” property owner secure the measure with the immediate (innocent) neighbour or the source-site owner located further upstream?

These uncertainties must be addressed by APs on a case-by-case basis.⁵⁶

3.3.7 Uncertainty Over MOE Release Letters

We further heard concerns that it is difficult to predict MOE expectations over how it will issue consents for the purpose of releasing the prohibition against development approval (Section 2.9.1 above discusses this prohibition.) This uncertainty exists in two ways:

- The Ministry position may require a DSI or AIP for the subject property and all down-stream properties – this is reflected in some (but not all) Ministry standard form release letters.

⁵⁶ Personal communication with Reidar Zapf-Gilje, Chairperson of the Roster Steering Committee.

- The second source of uncertainty is that the Ministry does not have an apparent policy as to when and how such stringent conditions will be applied. Given the absence of policy guidance, it is left to the subjective discretion of individual Ministry staff members to determine which conditions should be attached to the Notice letter. Applicants' concerns may be compounded by the fact that such Notice decisions are not eligible for appeal to the Environmental Appeal Board, leaving expensive litigation in the Supreme Court of BC as the only recourse.

Taken collectively, these uncertainties heighten the risk facing parties who intend to remediate their part-sites. This silence has created confusion amongst owners and APs. Owners are reluctant to retain APs only to find that the MOE will not accept such applications or that the conditions for off-site are too severe.⁵⁷

3.3.8 No Participation by Off-Site Owners

We heard concerns that the existing scheme does not provide off-site owners with any meaningful opportunity to comment on draft AIPs that are prepared by source-site owners (as a condition under Protocol 6, Footnote 4 or the MOE release letter). Off-site owners suggest that such commentary could be considered by parties preparing the draft AIP and ultimately would produce higher quality AIPs. Local governments and utility company representatives gave examples of allegedly deficient DSIs and AIPs that did not properly consider how roadways and utility corridors act as contamination pathways. Moreover, we heard, once the source-site operator's application has been approved, there is no realistic opportunity for the MOE to require that source-site owner (or successor owners) to correct a deficient DSI and AIP. That is, i.e., it is too late after the source site owner has received the necessary COC and has on that basis received lender and municipal approval (the incentives for obtaining a COC).

3.3.9 Concerns over Expectations Letter

We heard various concerns respecting the expectations letter issued by the MOE upon receipt of a section 57/60.1 notification. We heard, for instance, that recipients who are unfamiliar with the regulatory process perceive the expectations to be legally binding. These recipients assumed that the "expectations" would compel action by source-site owners, but subsequently discovered that the letters in fact do not require investigation

⁵⁷ Personal communication with Reidar Zapf-Gilje, Chairperson of the Roster Steering Committee.

or remediation. The letter merely suggests these actions be taken as a matter of prudence. The resulting confusion does little to focus attendance on practical actions for dealing with the migrating contamination.

3.3.10 Experience in Other Jurisdictions

Although Section 4 provides more detail, our survey of selected jurisdictions suggests the following common features with respect to part-site approvals:

- A significant number of jurisdictions (a third) require a source-site owner – irrespective of whether it is “innocent” or a “responsible party” – to prepare a remediation plan for off-site contamination. Two of these jurisdictions also require a human health risk assessment for off-site properties to demonstrate acceptable risk. In New Jersey, for example, offsite delineation of contamination emanating from a source site may be required. A full risk assessment, or at least an exposure assessment, is required by some jurisdictions to demonstrate that there are no unacceptable risks to human health offsite.
- A somewhat different approach is generally taken for actual remediation – “innocent owner” and other exemptions to liability are more commonly used to focus liability for off-site remediation on “responsible persons”.
- Some jurisdictions including Oregon, Alaska and Texas have provisions such as prospective purchaser’s agreements or innocent purchaser limited liability releases that define liabilities prior to purchase.
- There was no evidence from the jurisdictions surveyed that a part-site approval could proceed without addressing offsite impacts to some degree. In fact, some jurisdictions (Texas, Massachusetts) do not differentiate sites based on the property boundaries.
- Remediation based on generic (numeric) and risk-based standards is possible for off-site contamination in most jurisdictions.
- In several jurisdictions, where clean up targets less stringent than residential land use and potable groundwater conditions are proposed for off-site properties, regardless of actual land use, some form of consultation or agreement is required from the affected (off-site) landowner.

3.4 Liability Scheme

We identified several problems respecting how the current liability scheme applies to off-site migration.

3.4.1 Order Powers are Not Used Strategically

Section 2.11 noted that the MOE exercises its order powers infrequently and applies a high-risk (and, more recently, “high priority”) policy.

Our research found general support for the principle that the MOE’s limited resources should be devoted to high risk and high priority sites. This is not to suggest, however, that the high risk/priority principle could not be applied in a more strategic and effective way. We were provided with the following concerns:

- Utility representatives interviewed for this study suggested that the MOE’s apparent unwillingness to order remediation (absent “high risk”) sends a ‘hands-off’ message to polluters, and thus tends to drive up costs due to the need to apply utility protection safeguards at impacted properties.
- Many sites with a lower degree of risk, however, can bog down in litigation and become ‘brownfields’ (even if there is not an immediate high risk to human health or the environment).⁵⁸ The result of the Ministry’s passive policy we heard, is that the parties have no choice but to embark on potentially costly litigation to recover remediation costs. Or, the parties may decide that litigation is too time-consuming and costly, and leave the property in a dormant state.
- Another set of concerns pertains to if and how affected parties could attempt to convince the MOE that an order is warranted. These concerns are:
 - The MOE appears to place the onus of demonstrating “high risk” or “high priority” on parties seeking an order. In many cases, however, the parties seeking an order do not have access to existing site investigations or the means of conducting them. As victims of the migrating plume, they say that they should not be responsible for paying for someone else’s pollution problem; incurring liability for investigating a plume is contrary to the polluter-pay principle.
 - Should the Ministry be able to conclude, as it appears to do in practice today, that “high risk” or “high priority” does not exist if no site investigation has been completed?

⁵⁸ In practice, the number of “high risk” sites is likely to be very low, likely a dozen or two, according to environmental consultants who have applied the CCME’s criteria of “high risk”. This number compares with hundreds of, if not several thousand, “contaminated sites” which do not fall into the “high risk” category.

- There is confusion as to whether legislative standard of “adverse effects” or the higher (non-legislative) standard of “high risk” should be used as the precondition to the issuance of a remediation order.
- Litigation costs increase because of the current unwillingness by the MOE to use its various powers to encourage timely and cost-effective resolution of civil disputes. The result of the MOE’s passive policy at least in some cases, is that downstream ‘innocent’ parties must incur litigation costs (estimated at approximately \$100,000 per party in a simple civil action). In these cases, the source-site owner’s funds could arguably be made available for remediation.
- Brownfields result from what some parties consider to be an unreasonably passive order policy. Impacted downstream property owners, we heard, see little practical advantage in seeking EMA’s cost recovery remedy or common law remedies generally. These owners are concerned that they will likely have to incur approximately \$100,000 in litigation costs and a further cost (several times \$100,000) to remediate and obtain a COC. These costs can become unaffordable for many parties, who despite suffering a significant loss of real estate value, will decide to leave the property un-remediated (i.e., make no improvements) or otherwise abandon it. The property then becomes paralyzed and its land use development potential is impaired.

U.S. federal and state statutes and policy contemplate a more active role for regulators. Legislation and policy have sought to create incentives and opportunities for ADR in multi-party contaminated sites cases. These incentives and opportunities take various forms, but all are designed to encourage expeditious settlement of disputes which otherwise would require lengthy and expensive litigation.⁵⁹ ADR incentives and opportunities appear to be a response to strong criticism that CERCLA litigation costs are too high. The ultimate incentive available to the EPA, according to the U.S. literature, is the implied threat that that it will use its strong order and cost recovery powers in the event that “potentially responsible parties” do not undertake sufficient litigation and remediation work. EPA investigations and remediations, the literature suggests, tend to be considerably more expensive than if conducted by the parties directly.⁶⁰ This carrot and stick approach is not evident in BC.

⁵⁹ For example, the EPA’s [Final Guidance on Use of Alternative Dispute Resolution Techniques in Enforcement Actions](#) was one of the first guidance documents for conducting ADR in the context of an enforcement case.

⁶⁰ Ann L. MacNaughton and Jay G. Martin, *Environmental Dispute Resolution, An Anthology of Practical Solutions* (Section of Environment, Energy, and Resources – American Bar Association), Chapter 8: Resolving Superfund Cost Recovery Disputes Outside the Courtroom

3.4.2 No Cost-Effective Recourse by Innocent Downstream Victims Who Remediate

Aside from the particular concerns about order powers, we heard criticism of the EMA's other principal liability fixing mechanism – the cost recovery action. Particular concerns over the cost recovery mechanism are discussed below.⁶¹

3.4.3 The 'Incurred-First' Rule Prevents Timely Remediation

Section 47 of EMA provides that a plaintiff may recover only incurred – not prospective – remediation costs. As a result of this requirement, many cases, after pleadings are filed to protect against limitation periods, languish pending completion of remediation costs. Remediation at some sites could take several years (and longer if the risk-based remediation standard is applied and the site requires monitoring).

This problem was also noted by the BC Business Council submission to the Minister's Advisory Panel on Contaminated Sites⁶²:

“In addition, the cost recovery action can only be relied on where the plaintiff has incurred remediation costs. Again, it simply may not be possible for a private property owner to incur all the costs of remediating the site as a precondition to relying on the cost recovery action. Business Council of British Columbia” [p.105]

The potential delay in recovering remediation costs means that parties who would otherwise acquire and redevelop contaminated sites will invest in other properties. This may contribute to sites not being remediated and developed to their full land use potential. This delay is not merely a concern for private litigants. Timely resolution of contaminated sites disputes is important for two public interest reasons:

- protection of the environment – cost-effective recovery of costs creates incentives for parties to acquire and remediate sites, and thus prevent further migration and exposure of contaminants; and
- optimal land use – with enhanced abilities to forecast how liability will be allocated, developers can more readily assess the economics of remediating a site and bring that site to a higher use consistent with

⁶¹ Research for sections 3.4.3 to 3.4.7 was conducted by Braul Environmental Law for the MOE in a separate project conducted in 2005.

⁶² “Final Report of the Minister's Advisory Panel on Contaminated Sites”, Vancouver, January 2003.

community planning goals. Indefinite delay makes it difficult or impossible to test the feasibility of acquiring and remediating a contaminated site, and may ultimately lead to ‘brownfields’, or sites too encumbered by liability concerns to be attractive for re-development.⁶³

3.4.4 No Early Dispute Resolution

The current legislative regime in BC generally does not create a forum in which potential litigants may attempt to resolve technical issues at an early (pre-litigation) stage. These disputes – commonly pitting non-source-site owners v. source-site owners – are often left to resolution by expensive litigation.

The lack of an effective early opportunity to resolve technical disputes was identified by lawyers and ADR experts as a significant deficiency in the contaminated sites regime.⁶⁴ This deficiency was also identified by the Minister’s Advisory Panel:

“Defendants often do not know about, and hence cannot participate in, the remediation they will ultimately be expected to pay for until after the remediation has been completed and they have been sued. They cannot challenge the reasonableness of the remedial plan, the choice of remedial option, or remediation expenses until after the cost recovery action has begun. At that point, the contaminants have already been altered or removed and it is difficult for a defendant to prove that its actions did not cause or contribute to some or all of the contamination at the site. In addition, the remediating party can effectively define the scope of the area considered a contaminated site without notifying affected parties when it seeks to have its remedial plan approved.” [p.104]

The Panel accordingly recommended that:

“... if a disagreement or dispute about a “contaminated site” remained unresolved among potentially responsible persons, the Ministry and, in certain circumstances, other affected parties, any person could give written notice to the others requiring that the unresolved issues be submitted for ADR”. [page 117]

⁶³ The recoverability of remediation costs can often be a very significant component of a business strategy to purchase and redevelop a contaminated site.

⁶⁴ Personal communication with Glenn Sigurdson, Q.C., Jim Titerle, Doug Robinson, Q.C., John Sanderson, Q.C., John Alexander.

We found that litigators and ADR experts generally endorsed the policy of creating incentives and opportunities for identifying and resolving disputes before civil actions are filed. This policy attracted considerable support especially with respect to technical (e.g. whether a DSI has been conducted satisfactorily), as opposed to liability allocation, disputes. That is, experts interviewed in our research strongly urged the creation of a mechanism to attempt to resolve technical disputes early, leaving latter stages (whether litigation or ADR) to allocate liability. The assumption is that, with earlier efforts to resolve technical issues that have a direct bearing on remediation costs, the subsequent task is devoted to allocating these costs.

An early opportunity to identify potential technical disputes would, according to persons interviewed, lead to more rational area-wide remediation efforts. As one participant noted, “one-off, property-by-property settlements are ineffective”, and are a costly and time-consuming method of resolving disputes over appropriate investigation and remediation. Moreover, without a reasonably comprehensive approach to defining the extent of contamination and preparing area-wide remediation plans, there may be little incentive for individual property owners to remediate their sites – these owners will defer remediation pending clean up of the source of the migrating contamination. In short, the contaminated sites regime does not encourage all potentially affected parties to collaborate in defining the problem and, where appropriate, implementing a solution on an area-wide basis.

3.4.5 No Fast Track Trials Opportunity

Another factor that contributes to delayed and expensive dispute resolution between on-site and off-site parties is the nature of the civil action procedures. Our discussions with lawyers and ADR experts found that the BC Supreme Court Rules are not particularly well-suited for achieving timely contaminated sites decisions.⁶⁵ Although Rules 66 and 68 have many features that theoretically could promote timely decisions in contaminated sites disputes, several constraints limit their application. These constraints are as follows:

- Rule 66’s 2-day trial maximum is commonly viewed as insufficient. Even relatively simple cases regarding contaminated sites will typically require considerable time for experts, cross-examination of witnesses or consideration of affidavit evidence on the historical facts relevant to causation and “responsible person” status, and evidence of whether remediation costs were actually incurred in the line with the numerous technical standards and guidelines. Considerably longer than 2 days is required for these cases, even for trials using an expedited format.

⁶⁵ *Ibid.*

- A second constraint pertains to Rule 66's 2-hour limit on discovery. While parties may consent to extend the limit by agreement, it may be difficult to achieve (especially if a defendant adopts the strategy of 'hiding in the weeds'). At the very least, negotiations to extend the 2-hour limit may add to litigation costs. Plaintiffs might also conclude that the 2-hour limitation favours defendants – defendants often possess the historic and operational information which is particularly useful for plaintiffs (who are commonly current owners with relatively limited knowledge of historic circumstances at the site). As a result, plaintiffs may simply conclude that conventional trials and discoveries are best. Civil court procedures in BC are, when compared with other jurisdictions, not amenable to timely dispositions.

British Columbia's Rule 68 appears to have more potential for timely decisions than other BC Rules, e.g., it does not include the Rule 66 2-day hearing and 2-hour discovery rules. Our interviews with litigators and ADR specialists suggest that many of the above-noted aspects of Rule 68 could realize the goal of early disposition of contaminated sites cases, and thus in certain cases may be a more cost-effective process than is contemplated in Rules 18A and 66. For example, the mandatory exchange of witness lists and evidence summaries, mandatory admissions of fact, and use of jointly instructed experts would serve to crystallize issues early and would tend to facilitate negotiated settlements. However, the Rule 68 \$100,000 limit poses a significant constraint, as the vast majority of even relatively simple remediation efforts involve considerably higher costs (ranging from \$200,000 to, more commonly, \$1,000,000).

We found the Ontario experience particularly informative. Our research of Ontario court rules applicable to contaminated sites cases found as follows:

- Interviews with Ontario contaminated site litigators suggested that a particularly beneficial part of Rule 77 is that it places the onus on counsel at an early stage, with judicial direction if necessary, to directly address the question of whether the case will raise relatively straight-forward legal and technical issues (and thus be suitable for the fast track). That is, Rule 77 calls for an early sorting of cases.
- Rule 77's 'sorting out' principle was endorsed by interviewed BC litigators. These litigators recognized both the need for an improved fast track and the importance of preserving the 'full trial' option for more complex matters, and, further, recognized the necessity of a mechanism to sort out these cases.
- Environmental litigators in Ontario further suggested that some – but by no means all – contaminated sites cases could best be

handled by the fast track. One litigator noted the following drawback of Ontario's two track system:

I have dealt with a few matters where an environmental claim was started on the fast track. I think we were successful in having all of them transferred to standard track. My view is that the net result of the different tracks led merely to more tactical fights between the plaintiff and the defendant and increased time/expense.

- Rule 77's binding litigation timetable has the potential of creating a reasonably predictable schedule, which can prove advantageous for plaintiffs seeking a timely answer on potential contribution from defendants for remediation costs.

3.4.6 No Early Independent Evaluation

Many off-site disputes involve complex technical questions, whether in the methodology of a site investigation or the particular application of a remediation standard. Although many standards and legislative rules provide guidance, a good deal of discretion is left to professional judgement. Competing professional judgements arise at many contaminated sites amongst the experts retained by the respective parties.

Our research confirmed that there is a need (not now found in the legislation or Ministry policy) for truly independent technical experts, as opposed to so-called 'hired gun' experts called by the various parties to provide evidence.⁶⁶ As one lawyer noted, "an independent peer review of a [draft] remediation plan could greatly assist in the development of a generally accepted remediation plan." Another lawyer noted that the "battle of the experts", a common feature of contaminated sites litigation today, is a "drag" on the process of reaching a commonly accepted remediation plan, and there is potential for a truly independent expert, perhaps under the auspices of the regulator, to help reduce these battles.

U.S. experience affirms the potential benefit of introducing truly independent expert opinions. Some U.S. contaminated sites statutes supplement generic court rules with provisions that call for contaminated sites-specific evaluations by the regulators. For example, CERCLA allows the EPA, upon conducting an expert evaluation, to issue a "non-binding allocation of responsibility" to the disputing parties, covering both the allocation of cost and work that should

⁶⁶ *Ibid.*

be undertaken at a site. This and similar forms of evaluation appear to have considerable influence in instigating settlements.

3.4.7 Uncertain Liability Allocation

EMA's primary source for allocating liability amongst responsible persons is found in section 35 of the CSR, which sets out 6 allocation criteria:

35 (2) In an action between two or more responsible persons under section 27 (4), the following factors must be considered when determining the reasonably incurred costs of remediation:

- (a) the price paid for the property by the person seeking cost recovery;
- (b) the relative due diligence of the responsible persons involved in the action;
- (c) the amount of contaminating substances and the toxicity attributable to the persons involved in the action;
- (d) the relative degree of involvement, by each of the persons in the action, in the generation, transportation, treatment, storage or disposal of the substances that caused the site to become contaminated;
- (e) any remediation measures implemented and paid for by each of the persons in the action;
- (f) other factors relevant to a fair and just allocation.

Our research found that litigants in BC are often uncertain as to how the courts will apply these criteria. The section 35 allocation criteria were criticized by BC litigators as being too general, both for the purposes of adjudication and ADR.

A clear lesson from U.S. experience is that a condition for successful resolution of disputes – whether by adjudicative or alternative means – is the existence of pragmatic and clear allocation criteria.⁶⁷ Our research found that U.S. courts have attempted to set out in a systematic and comprehensive way

⁶⁷ Based on the article by *Environmental Dispute Resolution: An Anthology of Practical Solutions*. Chicago: American Bar Association, 2002. "Chapter 8: Resolving Superfund Cost Recovery Disputes Outside the Courtroom" by Robert P. Dahlquist, Ann L. MacNaughton, and Raymond G. Schaefer.

how contaminated sites liability should be allocated. The allocation criteria identified in U.S. courts in the many allocation liability decisions appear to go much further in detail and pragmatic relevance than is the case in BC law. U.S. courts and state statutes often apply allocation criteria reflected in section 35 of the CSR, but also apply the following criteria:

- the ability of the parties to demonstrate that their contribution to a discharge, release, or disposal of a hazardous waste can be distinguished;
- costs caused by “potentially responsible parties” (causation);
- conduct of the “potentially responsible parties” (culpability and cooperation);
- indemnity agreements;
- the cost caused by the conduct of each party;
- the benefits received from using a particular waste disposal practice;
- the parties’ knowledge of, and acquiescence in, the activities that caused contamination;
- whether a property owner may benefit from an increased property value following the remediation;
- the existence of an agency relationship among the parties;
- the extent to which cleanup costs are attributable to wastes for which a party is responsible; and
- the party’s financial resources and ability to pay its share of the costs.⁶⁸

3.4.8 Lack of Enforcement of COCs

Section 2.10.4 above identified the extent to which the MOE (and adversely affected parties) may enforce COCs. We noted, for example, that the MOE has but one potential sanction for enforcing compliance with a COC, namely rescission of the COC. Although we did not review the adequacy of this approach with stakeholders, we preliminarily conclude that the MOE does not

⁶⁸ *Ibid.*

have a monitoring or enforcement capacity to systematically ensure that COC conditions are satisfied. A practical result may be that, over time, the value of COCs will be eroded. That is, prospective users of COCs might recognize that there has been little or no monitoring or enforcement by the MOE, thus raising uncertainty as to whether the conditions have been satisfied. If so, this would undermine the presumption that COCs clarify or otherwise give comfort that remediation standards have been satisfied. Parties who may have reason to suspect that conditions of a COC have not been met or adequately monitored by the MOE will, as a result, be compelled to essentially ignore the existence of the COC and undertake investigations to confirm that the conditions have, in fact, been implemented.

3.4.9 No Opportunity to Limit Liability with Approved Natural Attenuation

Stakeholders commonly agreed, at least in general terms, that monitored natural attenuation (MNA) can be a cost-effective and appropriate means of remediating a plume, particularly of hydrocarbons without exposure pathways of concern. For instance, an off-site owner's property might have relatively deep contamination (e.g. greater than three metres) and has no intention to excavate to that depth; there are no other pathways of exposure to occupiers of the site or to any sensitive ecological receptors. At the same time, the source-site and off-site owners might even agree that, technically, there is no immediate significant risk. In these scenarios, stakeholders suggest that there should be an enhanced role for MNA, together with regulatory clearance for such use and that there is a need for a mechanism to allow for MNA.

As discussed in Section 2.10, liability for remediation attaches only to "contaminated sites". This term is defined with reference to quantitative terms, as well as "conditions". Numeric ('part per million') standards of the CSR have traditionally been used to identify "contaminated sites". More recently, risk-based standards have also been established as a benchmark of "contaminated site". MNA can be considered as a form of *in situ* remediation just as chemical oxidation, air sparging, soil vapour extraction and enhanced bioremediation are, and as such could be considered as part of an offsite remedial action plan for AIP purposes.

The fact that neither generic nor risk-based approaches contemplate, at least not directly, natural attenuation is a potentially significant liability concern, at least from the perspective of some approved professionals. [CITE] That is, there is no guidance available to approved professionals for applying monitored natural attenuation short of applying the risk-based remediation standards (which can be an expensive and time-consuming exercise). Adding to the difficulty, we heard, is the fact that no regulatory instrument is available

to confirm acceptability of natural attenuation in cases falling short of the risk-based standards (in which case a COC could be issued).

The MOE appears to recognize the need for a mechanism to confirm that on-site contamination, absent significant risk, does not require further action. An example is the ‘Screening Level Risk Assessment’ (SLRA), which is under review by the MOE.

3.4.10 Liability of ‘Flow-Through’ Owners

Local governments and utility companies operating in local government roadways are concerned that they may be responsible for migrating contamination that flows through their properties. Their concern stems from section 45(1)(a) of EMA. Section 45(1)(a) states:

45 (1) Subject to section 46 [*persons not responsible for remediation*], the following persons are responsible for remediation of a contaminated site:

(a) a current owner or operator of the site;

Local governments and utility companies acknowledge that the legislation appears to excuse an impacted property owner in s.46(1)(j) as a person “not responsible for remediation”:

(j) a person who owns or operates a contaminated site that was contaminated only by the migration of a substance from other real property not owned or operated by the person.

The concern over this exemption, however, is that it does not apply to substances flowing through their property to downstream properties, especially if the substances have been altered in some way in their migration through the property to create new contaminants (as discussed in section 3.2.2 above). This concern has not been tested by the courts.

Moreover, local governments and utilities are concerned that the EMA exemption for victims of migration does not assist them, and in fact reinforces their concern that contaminants migrating through their property render them “responsible persons”. Under section 45(2)(a) and (b), “persons responsible for remediation of a contaminated site that was contaminated by migration of a substance to the contaminated site” include:

- (a) a current owner or operator of the site from which the substance migrated;
- (b) a previous owner or operator of the site from which the substance migrated.

This provision, we heard, should be amended to clarify that it does not apply to 'flow through' sites.

4. SURVEY OF PROVISIONS IN OTHER JURISDICTIONS

4.1. JURISDICTIONAL SURVEY - OVERVIEW

Based on the requirements of the Request for Proposals and a web-based review of several jurisdictions, the Project Team developed a questionnaire that was sent out to 16 state or provincial jurisdictions and three municipalities. A copy of the survey questionnaire and a tabulated summary of survey responses are provided in Appendix B.

The jurisdictions which were sent the questionnaire, along with an indication of those which had submitted responses at the time of writing this report, are provided below:

Jurisdiction/ Department	Contact Name	Mail Address	Comments
Alberta Environment	Mike Zemanek Manager, Oil and Gas Policy Ph: (780) 427-9882 Fax: (780) 422-4192 Mike.Zemanek@gov.ab.ca	Environmental Policy Branch Alberta Environment 4th Floor, Oxbridge Place 9820 - 106 Street Edmonton, Alberta T5K 2J6	Response Received
Ontario Ministry of Environment	Tim Krsul Ph: (416) 326-4840 Fax: (416) 327-6421 tim.krsul@ene.gov.on.ca	2nd Floor 40 St Clair Ave W Toronto, ON M4V 1M2	Response Received
Quebec Ministry of Environment	Michelle Beaulieu Marc Pedneault Service des lieux contaminés Ph: (418) 521-3950 ex 4963 Fax: (418) 644-3386 marc.pedneault@mddep.gouv.qc.ca	Centre d'expertise en analyse environnementale du Québec 2700, rue Einstein, bureau E-2-220 Sainte-Foy (Québec) G1P 3W8	No Response
Alaska Dept. of Environmental Conservation Contaminated Sites Program	William Janes Ph: (907) 465-5208 Fax: (907) 465-5281 bill_janes@dec.state.ak.us	Regulations and Technical Oversight Unit 410 Willoughby Avenue, Suite 303 P.O. Box 111800 Juneau, AK 99811-1800	Response Received
California Environmental Protection Agency	Mr. Noel Laverty Department of Toxic Substances Control Ph: 916-255-3617 nlaverty@dtsc.ca.gov		No Response
Florida Department of Environmental Protection	Brian Dougherty Ph: (850) 245-8983	Florida Pollution Prevention Program 2600 Blair Stone Road, MS4570 Tallahassee, FL 32399-2400	Response Received
Illinois	Bill Child	Bureau of Land	No Response

Jurisdiction/ Department	Contact Name	Mail Address	Comments
Environmental Protection Agency	Ph: (217) 782-6762 bill.child@epa.state.il.us	Illinois Environmental Protection Agency P.O. Box 19276 Springfield, Illinois 62794-9276	
Massachusetts Department of Environmental Protection	Paul W. Locke Ph: (617) 556-1160 Paul.Locke@state.ma.us	MA Dept. of Environmental Protection Bureau of Waste Site Cleanup Policy & Program Development One Winter Street, room 7002 Boston, MA 02108	Response Received
Michigan Department of Environmental Quality	Phil Schrantz Ph: (517) 241-7706 schrantp@michigan.gov	Remediation and Redevelopment Division P.O. Box 30426, Lansing, MI 48909-7926	No Response
New Jersey Department of Environmental Protection	Dr. Barry Frasco Ph: (609) 633-6801 barry.frasco@dep.state.nj.us	New Jersey Department of Environmental Protection Hazardous Site Science Element	Response Received
New York Department of Environmental Conservation	Jim Harrington Ph: (518) 457-0337	New York State Department of Environmental Protection 50 Wolf Road, Room 268 Albany, NY 12233-7010	Response Received
Ohio Environmental Protection Agency	Tim Christman Ph: (614) 644-2297 timothe.christman@epa.state.oh.us	Emergency and Remedial Response	Response Received
	Martin Smith Ph: (614) 644-4829		
Oregon Department of Environmental Quality	Michael Anderson Ph: (503) 229-6764 anderson.michael.r@deq.state.or.us	Land Quality Division - Program Planning and Development	Response Received
Pennsylvania Department of Environmental Protection	Nick Molina Tel: (717) 783-9475 Fax: (717) 787-0880	Bureau of Waste Management Post Office Box 8471 Harrisburg, PA 17105-8471	Response Received (from Bureau of Waste Management – responses applicable to waste facilities only)
	Gene Pine Ph: (717) 787-7381 epine@state.pa.us	Division of Municipal and Residual Waste PO Box 8472 Harrisburg, Pennsylvania 17105-8472	
Texas Commission on Environmental Quality	Paul Lewis Ph: (512) 239 2341 plewis@tceq.state.tx.us		Response Received
Washington	David Byers	Spill Prevention, Preparedness &	Response

Jurisdiction/ Department	Contact Name	Mail Address	Comments
State Department of Ecology	Response Section Manager Ph: (360) 407-6974 dbye461@ecy.wa.gov	Response Lacey, WA	Received
City of Seattle Office of Sustainability and Environment			No Response

At the time of this report, twelve responses were received, all from state or provincial jurisdictions. This summary is based on those jurisdictions for which responses were received to date. The following jurisdictions have not responded at the time of this report: California, Illinois, Michigan, and Quebec. The Quebec provisions were reviewed using a web-based search, and are summarized below.

The responses to the jurisdictional survey are summarized below, on a question by question basis and with notable verbatim comments from the various jurisdictions provided. The responses are categorized under the following general headings:

- Off-site Migration Notification Requirements
- Requirements for Remediation of Off-site Contamination
- Protection of Buried Utilities, Rights-of-Way
- Role of Monitored Natural Attenuation (MNA) as an Off-Site Remedial Strategy
- Role of Regulator in Addressing Off-Site Issues.

4.2. SUMMARY OF SURVEY RESULTS

4.2.1. Off-site Migration Notification Requirements

Q1) In your jurisdiction, is there a separate set of requirements for reporting and responding to recent spills and discharges versus discovery of historic contamination issues?

Trends

Seven of the twelve respondents have separate notification requirements for recent spills and discharges, versus discovery of historic contamination.

Comments

- New York: answered “no” to the question stating that “historic releases generally do not fall into our reporting requirements. If a release exceeds the reportable quantities (RQ) contained in our Bulk Storage Regulations, a report is required. Since the RQ's are in pounds, it is difficult to determine if a release above the RQ occurred from historical data. An important exception is petroleum where the RQ is any quantity which means that discovery of petroleum always requires a report”.
- Texas: answered “yes”, and stated that “the Texas statute, Texas Water Code §26.039, is one of the authorities we rely upon for reporting of both recent spills and historic contamination. The wording is very clear that it applies to recent spills, it is by interpretation that it applies to historic releases. There are specific regulations (Title 30 Texas Administrative Code Chapter 327) that expand upon the statute and apply only to recent spills. The Chapter 327 rules have specific reporting requirements for emergency response or recent spill situations but are not considered further in this survey”.
- Florida: responded “yes”. Recent spills must be immediately contained, removed and abated. Notification of off-site migration is required immediately if an emergency situation exists, otherwise, notice would be given during later assessment and cleanup. For historic contamination issues, that are undergoing a 'typical' cleanup, notice is required whenever there is actual data, that adheres to all appropriate QA protocols, that contamination has migrated beyond the boundary of the property at which cleanup was initiated.

Comparison to BC

BC is consistent with the slight majority of jurisdictions which have separate requirements for historic contamination versus recent discharges or spills. .

Q2) According to your legislation, during which activities must a site owner/operator notify the regulator with respect to the discovery of on-site contamination (i.e., on the investigated property)?

Trends

None of the respondents answered that no notification was required under any circumstances.

Five of the twelve respondents answered “yes” that notification was required during voluntary environmental site assessment or remediation of historic contamination, although some of the comments suggested even more “yes” responses.

Ten responded that notification was required for both emergency response situations (i.e., to recent spills) and any work carried under regulatory orders.

Comments:

- Alberta: If the owner/operator discovers an old release that has the potential to cause, or has caused, an adverse effect it must be reported immediately to AENV.
- Ontario: where a municipality, secured creditor, fiduciary or their representative become aware of a prescribed circumstance involving historical contamination on, in, or under the property they must report to (the) Ministry.
- Ohio: Only if imminent threat to safety is present.
- Texas: Various statutes that establish regulatory programs (e.g., state version of federal statutes and rules for hazardous waste, superfund and underground storage tank programs) have reporting requirements for different situations. In general, these statutes and rules do not distinguish between on-site and off-site releases with regards to the initial report. The Texas Risk Reduction Program (TRRP) rule (Title 30 Texas Administrative Code Chapter 350) sets basic requirements under all these programs for the assessment and remediation of releases once the initial report of a release has been made to the TCEQ. The onset of remediation (actual cleanup) of historical contamination can be reported to the TCEQ in a self-implementation notice (SIN, §350.92 and TCEQ Form 10323). As discussed in other comments below, the TRRP rule does have specific requirements for notification of land owners regarding availability of sample results for off-site releases.
- Florida: During voluntary cleanup, if the person conducting the cleanup will want the agency to issue a formal acknowledgement of the cleanup (e.g., a clean closure order) then all data must be submitted to the department for review.

Comparison to BC

BC differs somewhat. Compared with other selected other jurisdictions, there is less attention in BC law on requiring disclosure to government immediately on finding of on-site contamination. That is, there is no requirement that an owner finding contamination on site must produce a report or notification to the government. That is not to suggest, however, the MOE does not receive information eventually. The owner faces requirements to disclose information of on-site contamination, for example, when producing a site profile to a local government when applying for development approval, giving the MOE notification of independent remediation, and producing evidence of satisfactory investigation of contamination prior to receiving an AIP or COC.

That is, the reporting comes later (in various forms) as the owner or a subsequent purchaser seeks to do something with that contaminated property, such as development approval or remediation approval.

It follows therefore that BC has no equivalent to jurisdictions such as Texas, which require that, on giving the initial notification of a finding of contamination, the owner must then immediately turn to investigations. BC's system, as discussed above, is more oriented to ensuring that site investigations are properly done in the course of MOE and local government approvals. It is a more 'laissez-faire' approach.

Of course, the situation in BC differs where there is a "spill" or some other sudden form of release. In these cases, as is the case in other jurisdictions, there must be immediate reporting.

Q3) According to your legislation, during which activities must a site owner/operator notify the regulator with respect to the discovery of off-site contamination?

Trends

The responses were similar to those for Question #2 in that the majority required notification during voluntary environmental site assessment or remediation of historic contamination, and even more so in the event of emergency response situations (i.e., to recent spills) and any work carried under regulatory orders. In some jurisdictions there is no distinction between on- and off-site notification requirements.

Comments

New Jersey: The reporting requirement is for an off site discharge that is associated with the responsible party.

Massachusetts: It is important to differentiate between "off-property" and "off-site". Massachusetts defines a "site" as wherever the oil or hazardous material has come to be located, regardless of property lines. So, for this question, a PRP investigating his/her "site" on "off-property" locations would be required to notify MassDEP if they found new conditions related to their release (e.g., NAPL, Imminent Hazards). In contrast, an innocent party (e.g., prospective purchaser) who is not a PRP but who may have taken samples on a property does NOT have a notification obligation.

Comparisons to BC

These trends are similar to the requirements in BC with respect to the discovery of historic contamination, although there does not appear to be a similar notification requirement in BC for off-site notification in the event of emergency response to spills.

Q4) What are the thresholds that trigger the requirement for notification of off-site migration of contamination?

Trends

Many respondents answered "other" rather than specifying a particular threshold (i.e., residential versus background). Alaska and Florida indicated the residential land use threshold for soils, and the most stringent standards available for groundwater, regardless of groundwater use. Three jurisdictions specify qualitative descriptions (e.g., "adverse affect").

Comments

New Jersey: the discharge of any hazardous substance regardless of quantity of the discharge requires reporting of the discharge to the Department.

Oregon: No limit. If you're doing one of the activities above (e.g., site assessment, remediation, spill response) that require reporting, then you report if you find something. Whether cleanup is needed is another question.

Texas: Within the TRRP rule, the requirement to notify off-site land owners and others is contained in §350.55. The trigger is the act of taking samples on property not owned by the person (the "RP", not the environmental professional who actually collects the samples). This trigger is independent of the

concentration of any contaminants; it is merely the act of taking samples. [Note the Texas regulations cite six triggers - this is just one of them].

Massachusetts: Assuming notification already occurred for the source property, the "off-property" notification would be triggered by the discovery of conditions different from the originally notified conditions.

Comparison to BC

BC differs from the general pattern, which is that jurisdictions use qualitative descriptions (e.g., "adverse affect") as the triggering condition for notifications or that (as in New Jersey) "any" hazardous substance is enough to trigger the notification. And BC certainly has nothing approaching the Texas approach of multiple triggers, including sampling off-site.

BC's approach is number-oriented – the CSR numeric standards serve as the point of reference for determining whether there should be notifications.

Q5) Receipt of which type of information triggers the off-site migration notification requirement?

Trends

Six of twelve respondents stated that receipt of laboratory data or an environmental site assessment (ESA) report with data for the off-site property was required, while three indicated that laboratory data or an ESA for the investigated (i.e., source) property was a sufficient level of information. Five indicated that visual observations at the property boundary were sufficient triggers.

Comments

Alberta: It could be any or all of the above noted types of information. It would depend on whether or not they indicate the potential for some type of adverse effect on the environment.

New Jersey: The actual discharge of the hazardous substance; visual observation of the hazardous substance; receipt of analytical results (including lab results, field analytical results, or field screening results)

Texas: To comply with the TRRP rule, the person would notify the off-site property owner that the results of samples collected on that property are available. If the owner requests the information, the person must provide it within 14 days of receipt of the request. In addition, for the situation in Response (e) (i.e., Observations at property boundary (e.g., free product or sheen in soils/groundwater/surface water, soil staining)), if other data indicate that it is more likely than not that contaminants originating from on-site activities are present on off-site property owned by others, notification to the other owners is required also, even if samples were not collected from the off-site property.

Comparison to BC

The BC legislation does not appear to identify any particular type of study conclusion or lab finding that can serve as basis for the notification. Rather, the focus in sections 57 and 60.1 is more generically on “knowledge”, which suggests that it does not matter how that knowledge is formed. And, however that knowledge is formed, it must be about “contamination” (which is not a generic term, but rather is legally defined by numeric measures per type of substance). Therefore, British Columbia’s “knowledge” is not restricted to, say, lab results or a site investigation. Nor does it require a consideration of whether, as in Alberta, the contaminants might pose an “adverse effect”.

Q6) Who must be notified when off-site migration is suspected or confirmed?

Trends

Eleven of the twelve stated that the regulator must be notified (the twelfth response was “other”). Only three indicated the off-site property owner had to be notified, and one the municipality. One of the respondents indicated the health authority had to be notified.

Comments

Texas: Regarding Response (e) (i.e., municipality), a municipality can be the recipient of a notice if the samples are taken on rights-of-way (streets) or public land (parks, etc.) owned by the municipality. In these instances the municipality is the off-site property owner. In addition to the TRRP rule requirements in §350.55, some other Texas statutes require notice to others in certain cases regarding only groundwater

contamination. Texas Water Code (TWC) §5.236 requires the TCEQ to notify the county judge and county health official when groundwater contamination may affect drinking water supplies in their area. TWC §26.408, effective on 9/1/03, requires the TCEQ to provide notice of groundwater contamination to owners of private drinking water wells that could be affected by groundwater contamination, and also to affected groundwater conservation districts. This notice must be made within 30 days of when the TCEQ becomes aware of, or documents the contamination. The form and content of the required notice is specified in Title 31 Texas Administrative Code §601.10. TWC §26.406 requires an annual report to the Texas Legislature and public that provides the status of all groundwater monitoring programs of state agencies and local groundwater conservation districts. The report must tabulate all cases of groundwater contamination documented or under enforcement for the preceding calendar year. This annual report also includes tabulations of notices prepared in response to TWC §5.236 and §26.408. All three of these statutory requirements can be triggered by groundwater sampling results taken from on-site or off-site property, whether the person is responding to the TRRP rule or some other requirement.

Florida: The regulatory agency must be notified; the agency's district office and local department of health must also be notified. The agency must then send the actual notifications to the offsite property owners.

Comparison to BC

The BC system provides that the recipients of notifications are the MOE and the owner of the “neighbouring site”. The notification to the MOE falls within the clear trend in other jurisdictions, but BC appears to be in the minority when it comes to requiring notifications to others (in this case, neighbours).

Q7) Who is responsible for notifying the regulator upon discovery of a trigger?

Trends

Six of the twelve respondents answered that the current site owner and/or operator of the site being investigated, regardless of responsible party status,

was responsible for notification. One (New Jersey) stated that the environmental professional conducting the site investigation was responsible as well. Oregon and Massachusetts stated that the responsible party as per their legislation was required to notify. Four respondents selected “other”.

Comments

Ontario: EPA 92(2)(4) Person with charge management and control of the pollutant plus others investigating spill Part XV.1. The party or their representative.

New York: Whoever discovers the release or is the applicant in one of our programs.

Comparison to BC

Most jurisdictions assign this responsibility to current site owners and/or operators. BC assigns the duty to “responsible persons”, which is defined to include owners and operators.

It should not necessarily be concluded, however, that BC’s “responsible owners” will include all owners and operators. The concern raised by stakeholders is that some owners and operators do not consider themselves “responsible persons”, given possible exemptions to this term. Significant liability implications attach to “responsible persons”, as discussed in Section 2.1.6, further giving reason to owners and operators to consider whether they are in fact caught in this category.

Q8) Who is responsible for notifying the off-site affected property owner?

Trends

Three of the twelve respondents stated that the “responsible party” had to notify. Three stated that the regulator had to notify (once notified in turn) and two stated that the current site owner and/or operator needed to provide notification. Three respondents listed multiple potential parties who had to notify. Six respondents selected “other”.

Comments

Oregon: For this and the previous question, it should be noted that in reality the consultant usually does reporting for the RP (responsible party), though it is ultimately the RP's job.

- Alaska: Regulations do not specify. It may either be the department or the responsible party.
- New Jersey: The initial notification process as mandated in the New Jersey Spill Act does not include notification of affected off site property owners. However, as a practical matter, the affected off site property owner would be notified by the responsible party as part of its cleanup response. In addition, if the Department responds to a discharge emergency, affected off site property owners would be contacted by Department personnel.
- Florida: Legislation requires "any person" conducting cleanup to notify agency. May be RP or environmental consultant or other party. The rules limit this responsibility to the person conducting cleanup, their authorized agent or other representative.

Comparison to BC

Generally the answer as above – i.e., “responsible person” must notify the neighbour and the regulator. BC is similar to those three jurisdictions requiring “responsible persons” to give the notification to the neighbours.

Q9) Is an innocent down-gradient property owner responsible for notifying the regulator upon discovery of contamination on their property (despite an obvious up-gradient source)?

Trends

Five of the twelve respondents replied with “yes” and four with “no”, and there were six “other” answers (i.e., some “yes” and “no” respondents selected “other” as well).

Comments

- Alberta: Again, if it has the potential to cause an adverse effect, AENV must be notified.
- New Jersey: As described in the response to Question 25 below, the innocent down gradient property owner would not be liable for the remediation of the contamination (Note: New Jersey responded to “yes” to the above question).

Oregon: I suspect that in most cases the off-site contamination is found by working out from the source unless the off-site location is a facility undergoing a site-assessment prior to sale (Oregon answered “yes” to the question).

Massachusetts: If the "obvious" up gradient source has already notified, then "no". Otherwise the downgradient property owner must notify, although they would qualify for "Downgradient Property Status"

Comparison to BC

BC differs from the general finding that some notification by down-stream owners must be given. No such notification is required at all by down-stream owners. As discussed above, disclosure may happen later in the course of local government development approval, during independent remediation, and/or MOE approval of remediation.

Q10) What information must be included in the notification to the regulator?

Trends

Eight of the twelve respondents required the location of the property at which the rehabilitation/investigation was initiated and the contact information for the person responsible (for rehabilitation) or authorized agent. Seven required contact information for person responsible (for rehabilitation) or their authorized agent. Five required the date of discovery of actual or suspected contamination on the off-site property. Four required a list of owners of off-site properties at which contamination was discovered. Three required summary tables of analytical results. Three required a map showing sampling locations and the property boundary. Three required a list of the contaminants of concern. Nine of the respondents selected “other”.

Of the respondents, Texas has the most extensive list of information requirements, selecting all 13 of the information items on the survey including:

- i. the location of the property,
- ii. contact information for the person responsible for rehabilitation
- iii. a list of owners of off-site properties where contamination was discovered
- iv. off-site parcel ID
- v. off-site owner's address and phone number

- vi. date of discovery of actual or suspected contamination on off-site property
- vii. summary tables of analytical results
- viii. map showing sampling locations and property boundary
- ix. laboratory reports (Certificates of Analysis)
 - x. contaminant target levels/assessment or remediation criteria
 - xi. actions taken or proposed actions regarding suspected contamination
 - xii. list of the contaminants of concern
 - xiii. issue that initiated the investigation

Following Texas was Pennsylvania with 10 of the 13 items, and Florida with 9 of the 13 items.

Comments

- Alberta: The initial report to AENV must include contact information for the reporter, information on where the contamination was discovered, and a verbal summary of what was found. A follow-up letter within 7 days of the verbal report usually includes much of the above noted information.
- Texas: The notice to the regulator is included within the assessment report, known as the Affected Property Assessment Report (APAR, §350.91 and TCEQ Form 10325) which includes both on-site and off-site investigation results. The APAR contains all of the items listed in responses (a) – (m). The APAR is not submitted until the assessment is complete, thus, there is not normally a separate notice to the regulator specifically for discovery of off-site contamination.
- Oregon: This depends on what program covers it; spill response, tanks, etc., but eventually covers most if not all of the items shown above. The initial report, however, may require less.
- New York: All information available.
- New Jersey: New Jersey selected location, contact name and date of discovery of contamination but then qualified this by stating that “this is for the initial notification of the discharge. Other information may be required as part of later remedial activities”.

Comparison to BC

Compared with the number of selected jurisdictions requiring detailed information, the BC notification is relatively limited and straightforward. The MOE standard form notification letter to be used in these notifications simply requires the notifier to list “a general description” of the possible contaminants. (See MOE standard form letter in Section 1.6). This difference is one of the more significant ones – it seems many jurisdictions require substantially more disclosure than is the case in BC (e.g., disclosure of reports in Texas, all information in New York), although some of these extensive requirements are driven more by spill reporting rather than discovery of historic contamination issues.

Q11) If separate notice is required to affected off-site property owner, what information must be included in the notification?

Trends

Many respondents selected “other”. Only Pennsylvania indicated an extensive list of information requirements (eight items), followed by Florida (four) and Texas (two).

Comments

- Alberta: Our legislation requires notification to those people who may be "directly affected". It's not prescriptive about what information must be relayed.
- New Jersey: Initial notification of a discharge of hazardous substances pursuant to the NJ Spill Act does not require notification of affected off-site property owners.
- Texas: The initial notice to the off-site property owner is just a statement of the availability of the information checked in responses (e) (i.e., tables of analytical results for off-site property, if available) and (h) [i.e., contaminant target levels (CTLs)]. If the off-site property owner requests the information, the person is required by §350.55(a) to provide it.

Comparison to BC

The same notification goes to MOE and the affected off-site property owner in BC – i.e., the standard form letter discussed in Q10 above. It appears, however, that the details and types of information that must be sent to neighbours in other jurisdictions appears to be less than that sent to regulators (e.g., Florida, based on a review of web-based information, requires detailed information go to the regulator as well as a second form with summary information, which is subsequently sent to third party affected owners).

Q12) What are the acceptable notification methods?*Trends*

Eight of twelve respondents indicated that verbal or personal contact was acceptable although other forms of notification were also required. Five indicated a prescribed written format was required. Four indicated written notification in a non-prescribed format was acceptable and four accepted electronic submissions. Five selected “other” (see comments below).

Comments

- Ontario: Verbal to a Provincial Officer at the Spills Action Centre.
- New Jersey: Written notification as a follow up to the verbal notification.
- New York: Releases must be reported to the Spill Hotline within two hours followed up by a written report as requested.

Comparison to BC

Generally, BC’s system is more formal (MOE standard form) than the more casual forms such as verbal or personal contact in many other jurisdictions. There is more formality and detail in spills cases, both in BC and other jurisdictions.

Q13) What are the acceptable notification periods?*Trends*

Only two jurisdictions selected one of the multiple choice answers provided - Texas indicated within 60 days (of the receipt of the chemical analyses) while Florida indicated within 10 days of "...the person responsible for site

rehabilitation, the person's authorized agent or another representative of the person discovers from laboratory analytical results that contamination as defined in applicable department rules exists in any medium beyond the boundaries of the property"⁶⁹

Comments

- Alberta: As soon as that person knows (Immediately).
- Ontario: Within 24 hours of becoming aware of a danger.
- Alaska: Depends on estimated volume and whether the discharge was to land or water.
- New Jersey: Immediately (defined as within 15 minutes) upon discovery of the discharge. Enforcement discretion is used for reporting timeframe of a historic discharge.
- Ohio: 30 minutes to call, 30 days for written report
- Oregon: Off-site notifications are usually worked out with our department.
- Pennsylvania: within 15 days after completion of analyses.
- Texas: For instances of actual or probable human exposure, the requirement at 350.55(e) is as soon as possible but no later than 60 calendar days from the receipt of laboratory analyses. For all other instances, the requirement at §350.55(a) is that notice of availability of sample results must be sent no later than at the time the first plan or report that contains the sample analysis result is submitted to the TCEQ.
- Washington: Immediately for releases to surface or ground-water. Within 90 days for historic releases.

Comparison to BC

Although there is a good deal of diversity in the time periods used in other jurisdictions, BC's 15-day rule is not out of line. Of course, for spills and releases, most jurisdictions (including BC) require much quicker time lines. In BC, the *Spill Reporting Regulation* under the EMA requires that a spill shall be reported **immediately** to the Provincial Emergency Program.

⁶⁹ Initial Notice of Contamination Beyond Property Boundaries,
http://www.dep.state.fl.us/waste/quick_topics/forms/documents/62-770/770_3.pdf

Q14) How is the general public notified?*Trends*

Four of the twelve respondents indicated that this was not part of the process. One (Oregon) used a web-based registry and one (Texas) used signage posted at the affected areas. Six respondents selected “other” as their answer.

Comments

- Alaska: There is no requirement for general public notification. This is done on a discretionary basis.
- New Jersey: The NJ Spill Act does not mandate notification of the general public as part of the initial notification of a discharge. Depending upon the nature and severity of the discharge, the Department may notify local and county officials.
- Ohio: As emergency officials deem necessary.
- Oregon: Our cleanup site databases can be found at <http://www.deq.state.or.us/wmc/cleanup/databases.htm>., Public notice to review the cleanup proposal. For "bad" sites, however, there are usually neighbourhood meets to notify the public early and continue to update them throughout the process.
- Pennsylvania: verbal and through meetings, public notices
- Washington: For spills, public only notified if necessary for safety reasons. For historic releases, public only notified if Ecology is overseeing the cleanup or taking a private right of action under RCW 70.105D.
- Massachusetts: When public notice is required (not just for "off-property" migration) a notice must be published in local newspapers.
- Florida: List of sites for which notices have been sent is posted on the agency website for those sites where the agency took the lead in sending out the notices. Otherwise, notification of the general public is not currently part of the process.

Comparison to BC

The BC approach is analogous to that used in many of the other selected jurisdictions. That is, the notification of off-site migration is not intended to go to the public generally. Of course, the public can learn of the notifications via the site registry in BC, and other jurisdictions commonly provide analogous opportunities to ascertain potentially migrating contamination.

Q15) How do you ensure that proper notification has occurred?*Trends*

Four of the twelve respondents selected policing/follow up investigation of complaints from potentially affected parties. Three of the respondents request and review copies of notification correspondence. One (Texas) requires affidavits signed by owners/agents of investigated property stating proper notification has been undertaken. One (Alaska) relies on an honour system. Five selected “other” exclusively or in conjunction with above answers.

Comments

- Washington: In most cases, Ecology would be responsible for notification. In private right of action, courts would decide if notice adequate.
- New York: No monitoring per se but enforcement for not reporting is included in law.
- Oregon: Responsible party usually works with the project manager from our agency on such notifications.
- Texas: The person has 60 days from the date the notice was due to provide a notarized statement to TCEQ that all required notifications have been completed (§350.55(d)). The TCEQ can request the person to submit appropriate documentation to verify the notifications.
- Florida: Since the agency sends out the actual letters to the offsite property owners these letters are sent by certified mail with the return receipt serving as evidence notice was properly delivered.

Comparison to BC

BC does not appear to have significant resources devoted to monitoring compliance with the off-site notification requirements. This is roughly in line with the other jurisdictions, who likely, as in BC, will respond to complaints to determine if enforcement is required.

Q16) What is the legal interpretation of notification of off-site migration?

Trends

Four of the respondents answered “can be considered potentially incriminating evidence to be used in civil actions/torts”. The remaining respondents selected “other” or did not answer. None of the jurisdictions indicated this information would be inadmissible in court.

Comments

Florida: The regulations are specifically crafted so as not to state that the person conducting cleanup (and providing notice) is the owner of the source of the contamination. However, there are no restrictions on using the data provided in the notice in any sort of legal action, although the full file information would be more useful.

Massachusetts: Knowledge of the likely presence of contamination on a property and the likely source can trigger the clock for the statute of limitations.

Comparison to BC

Although BC uses numeric standards (which arguably are clearer than subjective or qualitative standards), it shares the experience found in other jurisdictions that there is uncertainty over key parts of the notification requirements. The uncertainties in BC are discussed in Section 3.1.

Q17) a) Are there any penalties and/or enforcement for non-compliance of any of notification requirements discussed above (in questions 4 through 16)?

No multiple choice answers were provided for this question and instead qualitative responses were requested.

Comments

Alberta: Yes. Failing to report these incidents is an offence under our legislation and can result in Warning Letters, Administrative Penalties, Orders, or Prosecution.

New Jersey: The Department may assess a civil penalty of not more than \$50,000 per day for any discharge less than 100,000 gallons, not more than \$10,000,000 per day for any discharge of 100,000 gallons or more, and not more than \$50,000 per day for each violation of the Spill Act and any associated rule or regulation. Actual penalties are assessed based on a variety of factors including number of previous offenses, severity of the offense, compliance history of the violator, measures taken by the violator to mitigate the effects of the discharge, actual amount of hazardous substance discharge, and other specific circumstances of the violator or offense.

Alaska: Discretionary depending on site-specific circumstances.

Ontario: Where convicted of an offense under see EPA s.187 fines range from \$50K to \$10 Million with possibility of imprisonment

[Note: Section 187(3) of the Ontario EPA states that for certain offences more severe penalties may apply. Some these *exception offences* include:

- contravening Section 14 (Prohibition, discharge of contaminant)
- contravening section 15 (When Ministry to be notified, adverse effect)
- contravening section 92 (Notice of spills)

The penalties, for each day of the offence, for these certain offences include, as specified in section 187(4):

- *For corporations:* not less than \$25,000 and not more than \$6,000,000 on a first conviction; not less than \$50,000 and not more than \$10,000,000 on a second conviction; and not less than \$100,000 and not more than \$10,000,000 on each subsequent conviction. 2005, c. 12, s. 1 (57).
- *For individuals:* not less than \$5,000 and not more than \$4,000,000 on a first conviction, not less than \$10,000 and not more than \$6,000,000 on a second conviction, and not less than \$20,000 and not more than \$6,000,000 on each subsequent conviction. There is also a possibility of imprisonment for a term of not more than five years less one day; or both a fine and a prison term.

Ohio: Civil or criminal penalties available for failure to report under ER program. Certified Professional may lose certification in VAP.

Oregon: Nothing specific for not carrying out notification requirements, but there are penalties for any thing that is not in compliance with regulations so this would be covered.

Washington: Spills penalty is up to \$10,000 per day. If being reported as a result of a permit condition, varies with permit. No monetary penalty for historic releases...Ecology can consider [an] enforcement. (According to the November 2004 Ecology Report on Policy and Trends, "Ecology conducts approximately 800 inspections of underground storage tanks each year. About 5 percent of the inspections result in field penalties ranging from \$100-\$400 per site. Field penalties rarely exceed \$1,000 per site. Ecology issues less than one formal order per year, and penalties associated with these orders are generally much higher than field penalties (ranging from \$20,000 to \$80,000)."⁷⁰

Massachusetts: Yes - failure to notify of the original source (not just off-property migration) is subject to criminal penalties.

⁷⁰ Washington State Department of Ecology "Enforcement Report on Policy and Trends", November 2004, Publication Number 04-01-009

Florida: Yes, there are no penalties in the legislation, but it would be non-compliance with the administrative rule and subject to administrative enforcement. Penalties for such non-compliance are not pre-determined.

Comparison to BC

As is the case in other jurisdictions, failure to comply with notification requirements an offence punishable by significant fines and possible imprisonment.

17b) How many times in the past five years have these penalties and enforcements been implemented?

No multiple choice answers were provided for this question and instead qualitative responses were requested.

Comments

Most respondents could not answer this question.

Washington: Approximately 25 times in the past 5 years the Spills Program has taken enforcement for failure to notify as a result of a spill to state waters.

Oregon: I don't know. Actually, I'm surprised at such an extensive survey as this on off-site notification. I don't think that we have much problem with that. It's much more difficult to get the RPs (responsible parties) to investigate off-site when it appears that contamination may have spread from their site.

Massachusetts: A dozen-or-so times per year.

Florida: None - requirements have only been in effect since April 17, 2005 (regulation) or September 30, 2005 (legislation)

Comparison to BC

There have been no prosecutions in BC.

Q18) How satisfied are you with the effectiveness of your notification process? What improvements would you envision making?

Trends

Eight of the respondents indicated they were very satisfied with their processes and three indicated they were somewhat satisfied. Only one (Alaska) indicated they were somewhat dissatisfied. Of note is that Texas, with the most prescriptive regime of the respondents, was one of those that was “very satisfied”.

Comments

Alaska: A more consistent enforcement policy and civil penalties structure.

Washington: For historic releases, there should be better notification of nearby property owners. There have been bills introduced to address this shortcoming but have failed to pass.

Florida: Since the process is somewhat new to us there are many opportunities to streamline the process. Some of those improvements could take the form of more descriptive submittals to the agency, expanded information to the offsite property owners, or refinement of required submittals upon discovery of offsite contamination.

Comparison to BC

Similar to BC, there are a few concerns over possible deficiencies such as inconsistency in enforcement and penalties (Alaska), and inadequate notification of nearby property owners for historic releases (Washington). Most jurisdictions seem satisfied with their existing provisions.

Q19) How satisfied do you feel the business community is with your notification process?

Trends

Four of the twelve respondents indicated the business community was “very satisfied”, and six “somewhat satisfied”. Alaska and Washington indicated this was unknown.

Comments

Florida: No improvements are being requested but the notification process makes the business community a little uneasy because some notice letter recipients may see the letter as an invitation to sue. This has not been a widespread problem however, and it can be more difficult to sustain a suit for property damages when the RP is actively pursuing cleanup.

Comparison to BC

N/A

4.2.2. Requirements for Remediation of Off-site Contamination**Q20) What are the clean up requirements for off-site remediation?***Trends*

Five of the twelve respondents indicated generic criteria based on applicable land use (parkland, residential, commercial, industrial). Seven indicated clean up to site specific risk assessment clean up targets was acceptable. Three indicated clean up to background was required (although other options were selected as well). One (Florida) selected cleanup to residential standards.

Comments

New York: Depends on program. Spill Program and State Superfund Program have a goal of returning to pre-release conditions. The Brownfield Cleanup Program and Environmental Restoration Program are use-based.

Ontario: All of the above at discretion of RP (Responsible Party). RA (risk assessment) is only possible where Property Owner submits RA for approval by Director.

Washington: Under 70.105D, there are published cleanup standards for historic releases [The *Model Toxics Control Act* Part VII is titled "Clean Up Standards" and provides a methodology to derive standards with default tabulated standards in Part IX of the MTCA for soil and groundwater for various land uses, like BC]⁷¹.

⁷¹ 1. Chapter 70.105D RCW Hazardous waste cleanup — Model Toxics Control Act
<http://apps.leg.wa.gov/RCW/default.aspx?cite=70.105D>

Florida: The default requirements are cleanup to residential use/background conditions. Elevated cleanup target levels can be approved based upon risk assessment and use of controls.

Comparison to BC

BC uses the two common cleanup requirements used in other jurisdictions: generic numerical standards based on applicable land use and risk-based standards.

Q21) Are there any requirements for the affected parties to agree with/to the clean up targets proposed by the responsible party?

Trends

Six of the twelve respondents answered “no”, and five “yes” with one not responding.

Comments

Alberta: Yes, only in the cases where Tier I or Tier II criteria are not used and the remedy requires the landowner to manage exposure in some manner through administrative controls or exposure barriers.

Texas: (Yes) If the person doing the cleanup proposes anything other than Remedy Standard A for residential land use (most stringent cleanup under the TRRP rules) for the off-site property, the person must get the written landowner’s consent for the filing of an institutional control (e.g., restrictive covenant, deed notice, etc.). See §350.31(g) and §350.111(c). Standard A for commercial/industrial land use and Standard B for residential or commercial/industrial land use require institutional controls; Standard A residential does not require institutional controls. If the landowner wants a cleanup more stringent than Standard A residential, the parties must settle that issue outside of the TRRP cleanup approval process. §350.111(c), (d) and (f) provide for some exceptions to the written consent requirement.

New Jersey: (Yes) Any remedial actions that result in cleanups to residential exposure levels and that are protective of ground water do not require agreement by innocent affected parties.

Any remedial action on an off site property that results in the use of engineering and or institutional controls requires agreement of the use of these controls by innocent affected property owner.

Alaska: (No) This gets tricky. Landowner consultation is required but not necessarily landowner consent.

Florida: If the RP is proposing cleanup target levels above the default residential use or most restrictive groundwater numbers, then the offsite owners will need to agree to an institutional control on their property (i.e., a deed restriction limiting property use) and possibly an engineering control (e.g., a cap). The offsite owners cannot be forced to accept such controls.

Comparison to BC

BC legislation does not contemplate that source-site owners must agree with affected parties on clean-up targets. This is because the legislation allows the party who is remediating to apply either the numeric or risked-based standards (and particular sub-standards). There is theoretically no need to negotiate – the regulations provide the answer. The intention behind the BC legislation is to take disputes between neighbours over remediation standards “off the table”. In practice, however, there is often negotiation. Negotiations over standards can arise, for example, when the source site owner seeks access to the affected owner’s property. In those cases where a downstream owner decides on his or her own volition to remediate, this party does not have to obtain the consent from or even consult with the source-site owner over standards. There is some risk in not doing this, however, because in the event of litigation the remediating party might be challenged by a defendant who argues that the remediation costs were not reasonably incurred in light of the prescribed standards, and thus are not recoverable.

Q22) Who is liable for remediation of off-site contamination?

Trends

Eight of the twelve respondents indicated that the current owner and/or operator of the source property, regardless of "innocent purchaser" status, were liable. Eight indicated historical owners and/or operators of the source property would be liable. Three indicated that the current owner and/or operator of the impacted off-site property and the previous owner and/or operator of the impacted off-site property would be liable. Three respondents

indicated that the owner/operators of any property situated between the source property and impacted off-site property (i.e., “flow-through property”) would be liable.

Comments

- Alberta: Any party who meets our definition of "person responsible". That is, generally, any party who has charge, management and control of the substance.
- New Jersey: Prior to 1993, the current owner/operator and any historical owner/operator could be held liable for the remediation of off site contamination (joint and several liability). Since 1993, any new buyer of property who meets the definition of "innocent" purchaser, would not be liable for the remedition of any off-site contamination.
- Ontario: Anyone who spilled a substance or had or has charge management and control of a discharged contaminant that is likely to cause an adverse effect.
- New York: Potentially all except property owners who have liability release - All non RPs (responsible parties) have the ability to sue the RPs.
- Ohio: With respect to enforcement program, historical owners and/or operators of source property. With respect to [any property situated between source property and impacted off-site property], owner/operators...may be brought into case for site access for monitoring and remediation.

Comparison to BC

The general principle commonly found in other jurisdictions – that source-site owners are liable for off-site contamination – is firmly entrenched in BC legislation. In fact, BC legislation expressly sets out this principle in the “responsible person” provisions of EMA, and further exempts downstream impacted parties from this status. Of course, these downstream parties may remediate their properties and then sue the source-site owners, but this does not mean that the court can assign a share of the remediation costs to this downstream plaintiff. The legislation imposes liability squarely on the upstream responsible persons. Therefore, BC provides an apparently higher degree of protection to “innocent” downstream owners than, say, Ontario and Alberta statutes which use the “charge, management and control test”, which

could in some cases include even impacted property owners (jointly with) upstream source-site owners.

Q23) For an innocent owner of a source site under redevelopment (e.g., Brownfield) seeking regulatory acceptance of on-site remediation, what are obligations for addressing off-site migration?

Trends

Four of the respondents require development of remedial action plan for cleaning up off-site contamination. Two required a human health risk assessment for off-site properties to demonstrate acceptable risk. None of the respondents selected “liability for clean up transferred to municipality/state/province to encourage Brownfield redevelopment”. The remainder selected “other” (see comments).

Comments

- Oregon: We will work to develop a "Prospective Purchaser" agreement so that the buyer knows exactly to what extent they will be held liable.
- New Jersey: Any person meeting the definition of innocent purchaser would not be liable for remediating any off site contamination. The innocent purchaser may, however, be responsible for delineating any off site contamination.
- New York: Complete an exposure assessment. If offsite contamination poses a significant threat, the state will remediate or compel an RP to remediate.
- Texas: The person could apply to the TCEQ's Voluntary Cleanup Program (VCP), Texas Health and Safety Code, Chapter 361, Subchapter S, and 30 TAC Chapter 333, to get a limited liability release from state enforcement action for the remediation of the release. Another option is to receive a Municipal Setting Designation (MSD), Texas Health and Safety Code, Chapter 361, Subchapter W (§§361.801-808) to exclude groundwater within the MSD from use as a human drinking water resource.
- Alaska: There are not specific obligations. These are often negotiated through a prospective purchasers agreement.

Massachusetts: State differentiates between off-property soil contamination (with limited liability for the "innocent owner") and groundwater/surface water/sediment contamination.

Comparison to BC

BC legislation contemplates that there may be innocent owners of source-sites. These innocent owners would not fall within the "responsible person" category, meaning that they cannot be held liable (if for example, the downstream owner sues this source-site owner). It follows that an innocent source-site owner is not responsible for off-site migration. These owners (non-responsible persons), however, are subject to conditions (including off-site AIPs) now found in the MOE release letter. These conditions appear to apply irrespective of whether the "proponent" (the person seeking the release letter) is a "responsible person"

Q24) Is there a formalized process for an innocent down gradient property owner to limit their liability for notification and clean up of contamination that has migrated underneath their property?

Trends

The responses to this question were evenly split with six answering "yes" and six "no".

Comments

Ontario: File a Record of Site Condition for their property under EPA s. 168.4 see EPA s.168.7 for limitations of statutory liability protection.

Texas: The person could qualify for Innocent Owner/Operator (IOP) status by meeting the provisions of Texas Health and Safety Code, Chapter 361, Subchapter V (§§361.751-754). The person does not have to formally apply for IOP status but can choose to do so. If the person qualifies for this status, he does not have to perform remediation but must allow access to the property. If the person applies to TCEQ for formal IOP status (i.e., TCEQ issues a document to that effect), the TCEQ might request the person to file a restrictive covenant on the property to prevent exposure to the contamination.

Washington: They may be exempt by statute but there is no formalized process for confirming this sort of court action.

Oregon: Our agency has a policy for properties affected by contaminated groundwater.⁷²

(Note: referenced document states that “it is DEQ’s policy, subject to specific conditions listed below, that where hazardous substances in groundwater have come to be located at a property, solely as the result of subsurface migration from a source or sources outside the property, DEQ will not take enforcement action against the owner or operator of the impacted property to require the performance of remedial actions or the payment of remedial action costs associated with the contaminated groundwater” One of the specific conditions is that “this policy might not apply where the impacted property contains a groundwater well, the existence or operation of which may affect the migration of contamination in or between aquifers. These cases will require site-specific analysis”.)

New Jersey: “If the property owner can demonstrate that the contamination on their property is from an up gradient source and that they are not responsible for the discharge of the hazardous substances, they are not liable for the clean up of the contamination.” [Based on this response and a brief review of available web-based information, we infer that there is no “formalized” process, however there appears to be a practical process that is being followed in the State of New Jersey].

Alaska: Alaska law creates an "innocent landowner" exemption (similar to other states), with prescribed rules on how to qualify for it. Some specific requirements as to how this is determined.

Massachusetts: Regulations allow for "Downgradient Property Status" providing liability protection, with prescribed qualification rules.

Comparison to BC

In BC, only “responsible persons” must give notifications of off-site migration. Given the exemptions available to impacted property owners, ‘innocent’ parties would not be “responsible persons” and would not have to provide notifications or otherwise attend to investigations and remediations of

⁷² See: <http://www.deq.state.or.us/wmc/documents/ContamAquiferPolicyFinal052004.pdf>

downstream properties. The legislation does not provide a “formalized process” in which these results are confirmed. If there is a process, it is the judicial process where, for example, the downstream owner sues the upstream property owner alleging remediation damages.

Q25) Does the regulator become involved in dispute resolution between responsible parties, or when off-site contamination is not being addressed?

Trends

Of the twelve respondents, one (New Jersey) selected “yes, regulator is actively involved, even if there is no dispute over responsibility”, one (Alberta) responded “only for high risk or imminent threat sites”, and two (Alberta and Texas) selected “only by request of disputing parties”. Seven opted to provide comments rather than selecting one of the multiple choices.

Comments

Ontario: Joint and Several liability regime in Ontario. Potentially Responsible Parties are ordered to undertake the preventative measures work. Either the parties or the courts apportion responsibility. Failure to comply with the Order is a contravention under the Act.

To clarify somewhat, the EPA has several provisions for the MOE to issue orders, namely where there is an i) adverse effect, ii) a danger to human life, health and property, or iii) injury or damage, as follows:

- Section 7.(1) of the EPA specifies that a control order can be issued *when a contaminant is discharged into the natural environment is a contaminant the use of which is prohibited by the regulations or is being discharged in contravention of section 14 or the regulations.* Section 14 prohibits any person to discharge a contaminant or cause or permit the discharge of a contaminant into the natural environment that causes or is likely to cause an adverse effect.
- Section 8. (1) of the EPA indicates that a stop order can be issued when there is danger to human life, health or property.

- Section 17 states that the Director may issue an order to repair or prevent injury or damage to land, water, property, animal and plant life, or human health and safety],

Ohio: Site specific, agency get involved, sometimes, when necessary.

New York: No.

Alaska: We don't act as a dispute resolution referee generally. We may, however, insert ourselves if contamination is not being addressed and two parties are disputing responsibility.

Washington: Case by case decision.

Pennsylvania: Only when off-site contamination not being addressed.

Oregon: If the RP is not working as required to assess and cleanup off-site contamination then our agency will enforce our cleanup regulations. If the off-site party is upset about the contamination, they would have to take their own legal actions to try to receive compensation for their damages. We do not deal with that.

Massachusetts: Massachusetts has a privatized program with limited regulator involvement. Through audits and other compliance enforcement activities we work to insure requirements are met.

Florida: The agency does not play a role in "dispute resolution" between responsible parties but does take enforcement action to compel cleanup and will work with all potential RPs. Similarly, if there is offsite contamination then the agency will take appropriate enforcement action to compel cleanup by the RP(s).

Comparison to BC

BC appears to take the similar approach of not becoming actively involved in resolving disputes of off-site contamination absent a high or significant risk. At least on first glance, some survey responses suggest that some of the selected jurisdictions are prepared to intervene if the dispute is protracted (and not merely because the off-site migration poses a high-risk). BC policy does not necessarily call for involvement in these circumstances, or at least this an apparent practice.

Q26) How is the completion of off-site remediation/risk management tracked and ensured?

Trends

Four of the twelve jurisdictions responded that Regulatory Orders are used, two of which also have administrative penalties, e.g., "tickets", for non-compliance. Alberta and Ohio selected "no formal enforcement policy, left to property owners to resolve". Six respondents selected "other" (see comments below). Massachusetts performs random audits of a selected percentage of non-"high risk" sites.

Comments

Ontario: Risk Management is only acceptable in relation to an approved risk assessment under EPA s. 168.5 at the time the RA (risk assessment) is accepted. A Certificate of Property Use (a Control Document issued under EPA s. 168.6) is issued to the owner. The CPU is binding on successors EPA s.19(1). Failure to comply with the terms and conditions of a CPU is an offence under EPA s. 186.

New Jersey: Upon completion of a remediation, a No Further Action Letter is issued. If remediation is conducted to the residential exposure standards, no further management or tracking of the site is conducted. If remediation is conducted that requires the use of institutional and/or engineering controls, the person responsible for conducting the remediation must submit a certification every two years that the engineering and or institutional control remains protective. Failure to do so may result in the revocation of the No Further Action Letter and penalties. In addition, the Department is mandated by law to inspect sites with engineering controls at least once every 5 years. Failure to maintain engineering controls may

result in the revocation of the No Further Action Letter and assessment of penalties.

- Oregon: The same as any other contamination. We do not really distinguish between on or off-site contamination since our rules define the cleanup site as being anywhere the contamination has gone or could go in the future. Therefore, the cleanup site -- called "locality of facility" -- encompasses the contamination regardless of property lines.
- Texas: Off-site remediation is tracked as part of a regulatory program's case load, i.e., review and approval of reports submitted in response to the TRRP rule, whether voluntarily submitted or in response to permit or order provisions. If the RP is not responding, the TCEQ can initiate enforcement to compel action with administrative orders, judgments, referral to U.S. EPA, etc., or list a site in the state or federal Superfund program.
- New York: Tracking as required by the remedial action document.
- Washington: For independent remedial actions--owner requests no further action letter. For sites under formal Ecology oversight, Ecology staff review and assess compliance.
- Alaska: Off-site remediation is tracked by our cleanup project staff as part of the listed contaminated site.
- Florida: Progress is also tracked by recording document submittals in accordance with established timeframes. Technical review of those documents also helps ensure cleanup.

Comparison to BC

BC differs somewhat from the somewhat more active approach found in many of these selected jurisdictions. These jurisdictions apply various means of tracking off-site migration, or at least certain aspects of such migration. While remediation of off-site plumes in these jurisdictions is left to be resolved by civil court processes amongst the various property owners, regulators in these jurisdictions pay some attention to monitoring progress on how plumes are dealt with by property owners (whether individual property owners within a plume or one owner of all such properties). In British Columbia, the MOE receives notifications of independent remediation and applications for regulatory approvals (AIPs, COCs), and these occasions enable the MOE to inform itself of the existence of off-site remediation for a particular plume. These mechanisms do not appear to be as effective as those

found in some jurisdictions to track migration. No jurisdiction appears to use a mechanism to systematically understand the broad picture of the extent to which a plume is being dealt with by individual efforts.

4.2.3. Protection of Buried Utilities, Rights-of-Way

Q27) Are there specific clean-up standards/guidelines/criteria for the protection of underground utilities above and beyond generic land use standards (e.g., residential, commercial, industrial)?

Trends/Comments

All twelve respondents answered “no”. There were no substantial comments.

Comparison to BC

BC also does not have such specific standards, guidelines or criteria.

Q28) Does the risk-based clean up approach within your jurisdiction include consideration for protection of buried utilities? (e.g., damage to telecommunications cables)

Trends

There was an even split of six “yes” and six “no” responses to this question.

Comments

- | | |
|-------------|--|
| Alberta: | Experience to date suggests CCME criteria are protective - no definitive evidence has been brought forward to suggest otherwise. |
| Washington: | Potential exposure of maintenance workers is considered in cleanup decisions. |
| Texas: | Though no generic cleanup values have been developed for this purpose, buried utilities can be addressed in the TRRP rule by invoking several provisions: <ul style="list-style-type: none"> ○ §350.31(a) – ensure the effected property is rendered protective of human health and the environment; ○ §350.51(h) – attempt to identify subsurface utilities that could aid contaminant migration; |

- §350.55(a) – notification to easement holders of availability of sample results; and
- §350.74(i)(3) – adverse effects can be remedied by cleanup levels based on other scientifically valid published criteria.

New Jersey: Department regulations allow for remedial action decisions to take into consideration "technical impracticability". For example, the Department may make the determination that the excavation and removal of contaminated soil in an area of extensive underground utilities may be technically impracticable. In those situations contaminated soil may be left in place in conjunction with an engineering control (cap) and institutional control (deed notice)

Massachusetts: Repair/replacement of utilities must be specifically addressed in the risk assessment.

Comparison to BC

BC legislation does not go so far as some jurisdictions, such as Texas, which require identification of utility corridors as pathways. That said, it is arguable that a proper application of the risk-based standard in BC would require consideration of all pathways, including utility corridors. Aside from such an implied requirement, the risk-based standard in BC would also require consideration of health risk in the event of contaminants impacting utilities. This is not directly prescribed in British Columbia's risk-based standards but it can be reasonably inferred from the standard's emphasis on pathways and exposure that the presence of utilities cannot be ignored.

Q29) Have you undertaken any studies to assess the potential damage to buried utilities caused by contaminated soils and/or groundwater?

Trends/Comments

Eleven of twelve respondents answered "no". Alberta answered yes and has provided a copy of the draft report to FRANZ. (It is FRANZ'S understanding that this report, being in draft, is not for further distribution).

Comparison to BC

No such studies appear to have been undertaken in BC.

Q30) In your opinion, are the existing generic land use criteria in effect protective of sensitive utility infrastructure such as fiber optic cables and pipe insulation?

Trends

Three of the respondents (Alberta, Alaska and Florida) answered “yes”. None answered “no”. Eight answered “unknown, due to lack of information”. New Jersey responded with “other” (see comments below).

Comments

Alberta: Apart from the existence of free product, there is no definitive evidence to suggest otherwise.

Washington: Infiltration of solvents in ground water into plastic water lines is a potential issue that should be considered on a site specific basis.

New Jersey: Yes, taken in conjunction with the consideration of technical impracticability. [The inference is that an argument of technical impracticality can be applied to the assessment and remediation of utility corridors, and that application of a standard more stringent than residential could result in unnecessary, and potentially risky and expensive, investigation and remediation].

Alaska: Standard operating procedure allows contamination to remain in place due to the presence of infrastructure such as utility cables.

Comparison to BC

There are mixed views on this issue in BC. Some utility operators believe that the existing land use standards are not fully protective of the utilities. Others (such as the source site operators) believe that there is no direct relation to the presence of contamination in utility corridors and damage to the utility services.

Q31) What are notification criteria for abutting rights of way (municipal roadways, railroads)?

Trends

One of twelve respondents indicated “above generic background”, two selected “above generic residential” and two “above commercial or industrial”. Most respondents selected “other” (see Comments)

Comments

Alberta: Depends on the adjoining land use.

Ohio: General spill reporting requirements.

New York, Washington: None

New Jersey: Any discharge of a hazardous substance regardless of amount and regardless of the location of the discharge and subsequent spread of contamination (including rights of way) require notification of the discharge to the Department.

Alaska: No distinction from our general reporting requirements.

Ontario: Specific to municipality.

Pennsylvania: Would be determined through Dept. of Transportation

Massachusetts: None beyond generic notice to public in newspapers. On-site (even if off-property) easement holders must be notified if any Activity and Use Limitations are used as part of the remedy.

Comparison to BC

BC legislation does not predetermine the level. The applicable standard of contamination depends in part on the selected land-use. Permitted concentration levels vary by land-use for any given contaminant. Therefore, BC legislation does not default to a particular standard (e.g. “residential in Alberta”) or a standard to be determined on a case-by-case basis by the regulator (which is the case in Pennsylvania).

4.2.4. Role of Monitored Natural Attenuation (MNA) as an Off-Site Remedial Strategy

Q32) How does your jurisdiction view MNA as a remedial strategy for off-site contamination?

Trends

Five of the respondents answered that it was acceptable with non-prescriptive guidelines as to its applicability. Three responded that it was acceptable but only in conjunction other more aggressive remedial actions. Three responded that it was acceptable as a stand alone approach, but with strict prescriptive guidelines as to its applicability and timeframe for cleanup. Three selected “other” while none indicated that it was an unacceptable approach.

Comments

New York: Approach can be considered along with others. Approval generally follows EPA’s guidelines on MNA: Source control, modelling to predict performance, monitoring to ensure that it is working and a contingent remedy that will be implemented if MNA doesn't perform as predicted.

Oregon: Same as any other remedy. You can do it if you have enough data to show that it might work and if you monitor it to show that it does work.

Ohio: The survey comments infer that with respect the voluntary action program, MNA is acceptable as a stand alone approach but with strict prescriptive guidelines as to its applicability and timeframe for cleanup. If the remediation is being completed as part of an enforcement program, it is expected that MNA, if used, would be completed in conjunction with other, more aggressive remedial actions. It may even be considered in emergency response situations.

Comparison to BC

The general pattern amongst the selected jurisdictions appears to be that there is some receptivity to monitored natural attenuation, subject to safeguards. BC legislation does not explicitly address MNA as a remedial strategy.

4.2.5. Role of Regulator in Addressing Off-Site Issues

Q33) At what stage does the Regulator become actively involved in directing action to address off-site migration issues (e.g., through Orders)?

Trends

Four responded “for all offsite migration issues for which it receives notification, regardless of perceived risk”; two responded “for sites where there is a dispute over responsibility”; one “for sites where there is likely an adverse affect”; and two “only for high risk or imminent threat” sites. Two selected “other”.

Comments

Texas: TCEQ can intervene when the [responsible party] is denied access to the off-site property. [The survey response alludes to Texas Commission for Environmental Quality (TCEQ) procedures contained in a July 16, 2004 memo which references the Texas Health & Safety Code section 361.752 – this was not obtained for review as part of this study]

Ohio: Site specific, depends on presence and involvement of owner-operator

Washington: Also for sites doing voluntary cleanups and requesting no further action decision.

Comparison to BC

The selected jurisdictions appear to suggest a spectrum of events which warrant regulatory attention. One end of the spectrum is where the regulator will only become actively involved if there is a high-risk or imminent threat. This is the BC approach. Many jurisdictions contemplate a more activist role for regulators including resolving disputes over access and clean up issues.

Q34) How does the regulator define a "high risk" or "imminent threat" site?

Trends

Many respondents selected multiple answers. Seven of the respondents answered that it is based on applicable potential exposure pathways (e.g., solvent vapour intrusion into indoor air via contaminated groundwater). Five indicated it was defined based on prescribed thresholds regarding proximity to sensitive receptors (e.g., distance to surface water, schools, drinking water wells). Five defined it based on the nature and concentrations of contaminants (e.g. contaminants greater than 10X generic criteria, acute versus chronic hazards). Four responded that it was defined in qualitative terms only (not clearly defined).

Comments

Ontario: Emergency Circumstance under EPA s. 168.8 contemplates a threat to the health and safety of any person.

New Jersey: The Department has developed, by policy (not regulation) Immediate Environmental Concern (IEC) cases. For drinking water IECs, any site where there is an exceedence of a drinking water standard from a potable source is deemed an IEC. For other types of IECs (high levels of soil contamination, vapour intrusion, etc.), the IEC condition is based on professional judgement in qualitative terms that are not clearly defined.

Texas: See §350.55(e). “High risk” or “imminent threat” is not clearly defined for Texas. The qualitative aspect in this citation is in deciding what constitutes “actual or probable human exposure.” Regarding prescribed thresholds, TCEQ’s Petroleum Storage Tank Program uses a priority scheme for LUST sites based in part on presence or absence of receptors within certain distances. Regarding “high risk” or “imminent threat” based on applicable potential exposure pathways (e.g., solvent vapour intrusion into indoor air via contaminated groundwater), most pathways are included but indirect pathways are not, e.g., soil-to-groundwater.

Comparison to BC

BC legislation is generally similar. That is, all the jurisdictions generally tend to use qualitative terms and reliance on professional judgments to reach conclusions over high-risk.

Q35) If applicable, how is "adverse affect" defined?

Trends

Five of the respondents answered “related to human health and ecological impacts only” and five answered it included aesthetic (e.g. odour) impacts. None responded specifically with “includes damage to property value and stigma” or “includes interference with site operations, "enjoyment of property". Three selected “other” (see Comments).

Comments

Alberta: “adverse effect” means impairment of or damage to the environment, human health or safety, or property. Property is not defined.

Alaska: Not defined.

Texas: See §350.74(i). In addition to human health and ecological protection, adverse effects include “...adversely impacts environmental quality or public welfare and safety, presents objectionable characteristics (e.g., taste, odour) or makes a natural resource unfit for use.”

Ontario: See EPA s. 1 (Note EPA s.1 states that “adverse effect” means one or more of:

- (a) impairment of the quality of the natural environment for any use that can be made of it,
- (b) injury or damage to property or to plant or animal life,
- (c) harm or material discomfort to any person,
- (d) an adverse effect on the health of any person,
- (e) impairment of the safety of any person,
- (f) rendering any property or plant or animal life unfit for human use,
- (g) loss of enjoyment of normal use of property, and
- (h) interference with the normal conduct of business; (“conséquence préjudiciable”)

Comparison to BC

BC legislation provides that a condition of issuing a remediation order is a finding of “adverse effect”. This term, however, is not defined in the legislation. Most other jurisdictions specify that it relates to impacts to human health or the environment. Other definitions of adverse affect include aesthetic impacts as well (e.g., noise, odour). The only possible exceptions are Ontario’s definition of “adverse effect” which, in addition to the usual

concerns over health and the environment, includes “damage to property”, “loss of enjoyment of normal use of property” and “interference with the normal conduct of business”; and Alberta, which makes reference to impairment or damage to property as well. In BC, the MOE tends to view these latter effects as subjects for civil actions, and not orders and other regulatory actions.

4.2.6. Successes and Challenges of Off-Site Migration Regime

Q: Please discuss in bullet form the successes and problems you have had in addressing off-site migration of contamination

Successes:

Alberta: Off-site soil contamination is relatively easy to address barring the existence of infrastructure.

Oregon: Because of how our rules define a site, with respect to cleanup we do not distinguish between on-site or off-site contamination. These situations, however, do create additional work and sometimes conflicts with the downgradient property owner. Our contaminated aquifer policy has helped make it clear that our agency will not enforce on the "innocent" downgradient owner. Our Perspective Purchaser program has also facilitated the transfer and reuse of contaminated property and has been a success in our Brownfields work.

Florida: Has been overall very positive and well-received by the public. Most recipients appreciate receiving the notice and don't contemplate legal action as long as the cleanup is progressing. Negative reaction from the business community has been very rare and has not led to any major controversies to date.

Challenges:

Alberta: Off-site groundwater contamination is more challenging due to the long-term cleanup implications, especially if monitored natural attenuation is the chosen remedy. Another challenge is setting acceptable institutional controls on off-site properties where residual contamination remains due to the presence of infrastructure or the technical or economic impracticality of cleanup.

- Ohio: Recalcitrant responsible parties.
- Oregon: Sometimes landowners will not allow the RP to come on to their property to collect samples or install wells. We may have to get an order before we can move ahead with the investigation.
- Florida: Properly identifying property owners can be challenging. On-line property appraisers records are a tremendous help, but property lines can still be a little uncertain.

Q37: Please describe what additional measures you are considering to enhance the provisions to deal with off-site migration of contamination.

- Alberta: We are developing an on-line Institutional Controls Registry that will identify all properties with contamination remaining above cleanup levels.
- Ohio: All Ohio regulations, including Voluntary Program, are subject to review at five year intervals.
- Oregon: Nothing at the moment. Program cuts and required reductions in staff make it difficult for us to do anything other than trying to keep up with project work.
- Florida: No new provisions under consideration. Existing procedure works well and provides appropriate notice to affected parties. New legislative requirements extend notification requirements to lessees and tenants of the property being cleaned up.

Q38: Approximately how much of your overall budget and manpower is spent on regulation and enforcement of off-site contamination issues (in dollars and percentages)?

Most respondents stated that they did not track this or did not know.

- Washington: In the Spills Program, we employ a full-time enforcement coordinator who supports all enforcement activities ranging from vessel bunkering, oil spill, hazmat/pollution spills, and acute spill notification issues. This activity is supported by staff coordination natural resource damage assessment and staff who issue field citations for spills. The total expense for

this activity is in the order of 1.5 FTE, \$90,000 USD. This is about 2% of our Spills Program activity.

Florida: This data is not tracked by the agency, so the estimates presented here should be considered as only rough approximations. The level of effort expended this year may not be representative of future years because this was a start-up year for the agency and there were many one-time costs incurred. This first year was also primarily a 'catch up' year in that notices were sent to all affected property owners based upon information already in the agency's files. Future year noticing efforts will be on a go forward basis and likely result in fewer notices per year. It is estimated that approximately \$1 million dollars was spent this year for the agency's noticing effort. This amount include staff time, postage for the notices and private contractor assistance. Some of this amount represents start up costs to establish procedures and tracking. This amount covers notices for approximately 1600 sites, with a total of almost 5700 notices sent. It is estimated that subsequent year costs will be much lower due to non-recurring start up costs and many fewer notices will be sent but no reliable prediction is available at this time.

4.2.7. Summary of Literature Review – Quebec

A number of jurisdictions including Quebec, California, Illinois and Michigan have not responded to this survey at the time of reporting. As a key Canadian jurisdiction, the following brief discussion for Quebec is provided and is based on a web-based review of available information for this jurisdiction.

Applicable Policy, Acts, and Regulations

Québec's *Soil Protection and Rehabilitation of Contaminated Sites Policy* (Policy) provides the framework for the protection of soil and groundwater. It establishes priority actions and offers various ways to assess and manage contaminated sites. In addition to using specific criteria, the policy provides guidelines for assessment and rehabilitation through risk assessment and management.⁷³

Bill 72 (an Act to amend the Environment Quality Act and other legislative amendments with regard to land protection and rehabilitation; "Act") was passed in May 2002 and was entered into force on March 1, 2003. The purpose of the bill is to establish new rules to promote the protection of lands

⁷³ http://www.mddep.gouv.qc.ca/sol/inter_en.htm

and their rehabilitation in the event of contamination. The bill provides for implementation of the major directions of the Policy⁷⁴.

The *Land Protection and Rehabilitation Regulation* (“Regulation”) establishes “limit values” (i.e., numeric standards) for a range of contaminants and defines the types of higher risk industrial activities addressed by the Regulation. It also establishes the conditions under which groundwater quality must be monitored downgradient of the lands on which some of those activities take place⁷⁵.

A summary of key provisions of the Policy and Regulation specific to this study are discussed below.

Notification Trigger: Under the Policy, once an emergency intervention (i.e., spill response) has been completed, a characterization study must be carried out to identify the sources and extent of the contamination. If soils contaminated in excess of the use-based generic criteria are still present, the owner must, within a specified period, register a *Contamination Notice* with the Registry Office. The owner of the site must also notify neighbouring owners if he notes the presence of contamination at the property boundary. In some cases, action on neighbouring sites may be required if they have been “damaged”. Such action may then be carried out after agreement with the owners of the targeted neighbouring sites⁷⁶.

Under Bill 72, an owner, lessee or one having custody of the land in which contaminants from an industrial or commercial activity (specifically a list of suspect activities specified in Bill 72) are found in a concentration exceeding the “regulatory limit values” is required to give immediate notice in writing to the owner of the neighbouring land concerned. This notice must be made immediately on being informed of the presence of the contaminants at the property boundary of a “serious risk” of off-site contamination which could compromise a use of water. A copy of the notice must also be transmitted to the Minister (Ministère du Développement durable, de l'Environnement et des Parcs (MDDEP) du Québec).. The person who has the custody of land referred to in the first paragraph is also required to notify the Minister on being informed of any serious risk of off-site contamination⁷⁷.

Notification Recipients: Notice must be given to the owner of the impacted property and the Ministry. The Minister will then send a copy to the

⁷⁴ Ibid

⁷⁵ Ibid

⁷⁶ <http://www.mddep.gouv.qc.ca/sol/terrains/politique-en/chap6-3.htm#sites>

⁷⁷

municipality. A *Contamination Notice* must be sent to the Registry Office as well⁷⁸.

Notification content, timeframe and method: Required information includes the name and address of the person who is providing the notice and the name and address of the affected property owner; the municipality designation and land use zoning; a summary of the Environmental Site Assessment (ESA) attested to by an “Expert” (the equivalent of a rostered professional) including the contaminants of concern⁷⁹.

Public Notification/Site Registry: The Ministry publishes an inventory containing general and technical information on sites that have been contaminated by industrial and commercial activities or accidental spills. The inventory lists only those sites brought to the Ministry’s attention.

The presence of contaminated soils on a site must be registered with the Registry Office by means of a *Contamination Notice* sent by the owner, lessee or the person having custody of the source site.

Risk management measures and the restrictions associated with them are registered by means of a *Restrictive Use Covenant*. The public information available in the covenant includes:

- site designation and name and address of owner,
- summaries of the following:
 - site redevelopment project,
 - the environmental site assessment
 - the risk assessment and
 - the proposed remediation action plan,
- place, date and time of any public meeting, and
- a list of all documents available for consulting at the municipal office⁸⁰.

Every municipality, based on the notices registered in the Registry, is required to prepare and maintain a list of contaminated lands within its territory⁸¹.

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<http://www2.publicationsduquebec.gouv.qc.ca/dynamicSearch/telecharge.php?type=5&file=2002C11A.PD>

F
79

<http://www2.publicationsduquebec.gouv.qc.ca/dynamicSearch/telecharge.php?type=5&file=2002C11A.PD>

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<http://www2.publicationsduquebec.gouv.qc.ca/dynamicSearch/telecharge.php?type=5&file=2002C11A.PD>

E, s 31.55

81

<http://www2.publicationsduquebec.gouv.qc.ca/dynamicSearch/telecharge.php?type=5&file=2002C11A.PD>

E, s. 31.68

Requirements and Liability for offsite remediation:

The overall policy governing liability for contamination, on-site or off-site, is described in the Policy: “each person is responsible for the consequences of any action that affects a common asset”. With respect to contaminated sites, this concept is expressed by the polluter-pays principle, which establishes that the polluter is liable for the contamination he has caused and the impact it may have, as well as the costs of characterizing and restoring the sites he has damaged, and he may not transfer this responsibility to other members of society or to future generations⁸².

With respect to specific provisions in Quebec legislation, the Minister may under section 33.43 of Bill 72 issue an order where contaminants are present at concentrations exceeding the prescribed limit values (standards) of Bill 72, or where contaminants, even though they have no published prescribed limits, are likely to “adversely affect the life, health, safety, welfare or comfort of human beings, other living species or the environment in general, or to be detrimental to property”. Orders can be issued against any person or municipality that:

- even before the coming into force of this section, had emitted, deposited, released or discharged all or part of the contaminants or had allowed the contaminants to be emitted, deposited, released or discharged ; or
- after the coming into force of this section, has or has had custody of the land as owner or lessee or in any other capacity.

That is, an owner or lessee by innocent acquisition could potentially be liable for remediation.

The ordered parties must submit, for the Minister’s approval within the time specified, a rehabilitation plan setting out the measures that will be implemented to protect human beings, the other living species and the environment in general, including property, together with an implementation schedule⁸³.

⁸² <http://www.mddep.gouv.qc.ca/sol/terrains/politique-en/intro.htm#introduction>, s. 3

⁸³ <http://www2.publicationsduquebec.gouv.qc.ca/dynamicSearch/telecharge.php?type=5&file=2002C11A.PDF>, s. 31.43

Provisions for Source Water Protection

Quebec has an interesting provision for ensuring source water protection in areas in close proximity to higher risk industrial and commercial activities. Section 4 of the Regulation⁸⁴ requires that:

“The carrying on of an industrial or commercial activity in a category listed in Schedule IV is subject to the monitoring of groundwater quality, in accordance with the following provisions, if a catchment installation for surface or groundwater intended for human consumption is situated less than 1 kilometre downstream from the land.

“... The groundwater monitoring requirement prescribed by this section does not apply if it is shown that the industrial or commercial activity carried on on the land is not likely to alter the quality of the water referred to in the first paragraph by substances listed in Schedule V. If that demonstration is based in whole or in part on the land's prevailing hydrogeological conditions, it must be signed by an engineer or a geologist who is a member of an order governed by the Professional Code (R.S.Q., c. C-26).”

Schedule IV of the Regulation includes: “Petroleum Product Wholesaler-Distributors (Petroleum Products Station or Terminal governed by the Petroleum Products Regulation)”. This would not seem to include retail gas stations.

Provisions for Mandatory Site Investigations and Monitoring of Higher Risk Activities

The new legislation and Regulation also establish classes of industrial and commercial activities which must, within six months of cessation of activities, undertake an investigation to delineate contaminants and which also require submission of a rehabilitation plan where contaminants exceeding regulatory limits are found⁸⁵ .:

The determination of relevant classes of industrial and commercial activities to which these requirements apply refers to Schedule III of the Regulation which includes “Gasoline Stations”. This indicates that within six months after a gas station ceases operations, the owner must undertake a site characterization study.

⁸⁴ <http://www.canlii.org/qc/laws/regu/q-2r.18.1.01/20060310/whole.html>

⁸⁵ <http://www2.publicationsduquebec.gouv.qc.ca/dynamicSearch/telecharge.php?type=5&file=2002C11A.PDF>

5 OPTIONS AND RECOMMENDATIONS

This Section sets out and evaluates numerous options identified in the course of our research, and provides recommendations on whether they should be considered for implementation. The options are presented as suggestions by stakeholders or options that could be inferred from our consultations and research.

In preparing our recommendations, we subjected the various options to the evaluation criteria proposed by the MOE. The MOE criteria are that any changes to the existing regime should:

- minimize the use of government resources;
- minimize cost to client (both source site operator and off-site affected party);
- maximize timeliness and efficiency of government administration;
- minimize potential for litigation after tool is in place;
- ensure that any public notification requirements are efficient;
- ensure that any tracking requirements are timely and efficient; and
- have significant consequences for the client if requirements are not met.

Our evaluation was also informed by the stated objectives of the MOE's 2006/07-2008/09 Service Plan⁸⁶, particularly:

- Promote protection of human health and environment;
- Improve monitoring of industrial activities to ensure compliance;
- Promote sustainable (best) environmental practices;
- Shift responsibility for lower risk spills to industry and partners;
- Focus on those not in compliance with regulatory requirements.

We generally conclude that there is a need to amend legislation and MOE policy. Taken collectively, our recommendations call for marginally increased requirements for notification of off-site migration, more strategic regulatory involvement by the MOE to resolve utility and other off-site migration issues, express clarification of legal and technical matters that now compel approved professionals to adopt overly conservative assumptions when applying Protocol 6, and new rules allowing for more timely dispute resolution (whether in the courts or by alternate means).

⁸⁶ <http://www.bcbudget.gov.bc.ca/2006/sp/env/Goals,Objectives,StrategiesandResults8.htm>

5.1 Options for Changing the Notification System

1. Remove “responsible person” precondition from sections 57 and 60.1.

Why?

Under EMA, “responsible persons” may be held liable for remediation. As discussed in Section 3.1.2 above, owners and operators commonly give careful consideration as to whether they are “responsible persons” before deciding to notify. We heard concerns that giving notification as a “responsible person” may be a *de facto* admission of being responsible for remediation (and thus potentially incriminating in future civil proceedings). At the same time, we heard from recipients that source-site owner/operator concerns over potential “responsible person” status has resulted in fewer notifications. That is, the stated concern is that the source-site owners and operators, while knowing about the off-site migration, do not notify because they believe they are not “responsible persons”.

How?

The solution proposed by stakeholders – particularly prospective recipients – is to replace the “responsible person” clause with “any person”. CSR sections 57 and 60.1 would thus place the onus squarely on the party who, these parties could include learns about the off-site migration. Depending on the circumstances:

- an owner or operator (irrespective of “responsible persons” status);
- a consultant working at the site;
- any other individual discovering that contamination may be going off-site (including a downgradient flow-through property owner or utility operator).

Evaluation

This option, if implemented, would capture a larger net of notifiers and provide a correspondingly larger number of notifications. At the same time, this would result in generally higher costs to owners and operators of source-sites and even ‘flow-through’ sites. The higher number of notifications would place a marginally higher cost on the MOE for filing. The increase in the number of notifications would contribute to increased public awareness of possible migration.

Removal of the “responsible person” clause would be consistent with general practice in other jurisdictions, where six of twelve respondents required a current site owner and/or operator of the site under investigation to provide

notification, regardless of responsible party status (refer to Responses to Question 7 discussed in Section 4, and in Appendix B).

On balance, the arguments for removing the “responsible person” clause appear to be more compelling, especially if, as is expected, the result is that more potentially affected parties would receive notification clarifying the condition of their properties.

Recommendation #1: Replace “responsible person” with “any person” in CSR sections 57 and 60.1.

2. Notification to Ministry of Environment only; MOE then decides on further distribution.

Why?

We heard concerns that EMA notifications to potentially affected parties can be effected more fairly if done [exclusively] by the MOE. These concerns are stated in two ways:

- (i) the MOE can apply its expertise to determine whether there is a likelihood of significant risk associated with any migration;
- (ii) if no such risk exists, the flow-through site operators and owners should not have to go through the expense and trouble of providing notifications to downstream owners and operators.

How?

Amend CSR sections 57 and 60.1 to require notification only to the MOE. The amendment may also authorize the MOE to give notification to neighbours or to require the notifier to do so.

Evaluation

This option would encourage a more consistent approach to the notification of affected parties and would create a need for the MOE to review notifications on a case-by-case basis, thus creating considerably more administrative burden on the MOE, but less on source-site owners and operators. The MOE experts could review whether the neighbours should receive notification and, as importantly, in which form and would encourage greater consistency in approach across the province. This is the approach used in other jurisdictions, including New Jersey and Florida.

Recommendation #2: Amend Section 57 and 60.1 to require notifications by innocent flow-through site owners, but only to MOE.

3. Provide More Useable Information to Recipient.

Why?

As discussed in Section ___ below recipients of section 57 and 60.1 notifications suggest that the information is too cryptic and leaves many basic questions unanswered. Recipients of notification further state that they face obstacles in finding the information to clarify whether they should be concerned about the migrating substances.

How?

Stakeholders provided numerous diverse suggestions on how to improve the quality of notification information. These suggestions fall into several categories, described below.

- i. One option is that the notifications requirement would require reference to or copies of studies or site investigations, similar to the approach used in New York, Pennsylvania, Texas and Alberta.

- ii. A second option is to use the approach used in Florida, where the person “responsible for site rehabilitation” or their agent (who discovers the contamination) must send a notification form with detailed information to the regulator, along with a second summary form to be completed for each potentially affected (downgradient) property, which the regulator then sends to the affected property owners. The latter form has limited information but indicates that the recipient can obtain more information from the regulator.

- iii. A third variation of this theme is to require the subject party to send the detailed summary information directly to affected downgradient property owners, including all or some of the following information:
 - a) location of property at which rehabilitation/investigation was initiated;
 - b) contact information for person responsible for rehabilitation/investigation (distinct from responsible person with liability);
 - c) date of discovery of confirmed or suspected contamination on third party property;
 - d) identification of the contaminants present or suspected to have been released, and the media affected (air, land, water);
 - e) separate tables of testing results;
 - f) map showing testing locations and property boundary;
 - g) contaminant target levels (i.e., applicable standards);
 - h) actions taken or proposed actions regarding suspect contamination;
 - i) a brief description of the potential adverse health effects posed by the contaminant;

- j) a recommendation that water systems with wells impacted or potentially impacted by the contaminant(s) be appropriately tested; and
- k) the name, business address and phone number of the persons at the MOE from whom additional information about the release or suspected release can be obtained.

Evaluation

An increase in the amount of information required would likely mean that the cost to industry (notifiers) generally increases, albeit marginally. The higher degree of notification would place a marginally higher cost on the MOE for filing. At least one or a combination of these options is generally consistent with general practice in other jurisdictions.

The potential disadvantage of broad disclosure is that it may create a disincentive to parties conducting private studies for lenders, etc. This is especially so if the “responsible person” clause is retained.

Recommendation #3: Amend section 57 and 60.1 and the MOE standard form letter to require notifiers to provide more detailed information. This additional information should include location, tables of testing results, the impacted medium, contact information, and a list of studies, reports or investigations used to conclude that migration may be occurring.

4. Notification to Include Mere Reference to Studies (Not Copies).

Why?

We heard concerns that improving the quality of notification information should not necessarily mean that the notifier must disclose copies of all relevant studies and investigations to all recipients. We discovered that not all recipients need to see these studies; some recipients have other means of clarifying the migration. Many recipients might not even wish to receive copies of referenced studies. Preparation and disclosure of full studies and reports would in these cases be an unnecessary cost.

How?

Studies and investigations need only be referenced in the notification and thus the site registry (as part of the notification). This is short of requiring the notifier to prepare copies or summary information for all parties. It would be left to the recipient to request the studies and investigations.

Evaluation

There may perhaps be a marginally higher cost to notifiers in providing reports when requested, but recipients would have more information (or at least access to this information).

This approach follows the Texas model, whereby an initial notice to the off-property owner is just a statement of the availability of information about off-site analytical testing results and contaminant target levels (refer to responses to Question 11 in Section 4, and in Appendix B).

It is anticipated that many source site owners would not support this option due to the extensive amount of detailed information respecting their property provided in a typical site investigation report which may not be relevant to the off-site migration issue. They may see this as providing access to too much information.

Likewise, many recipients may not favour this option since i) most non-practitioners cannot easily understand a site investigation report and ii) it puts the onus on the affected owner to actively obtain the information. This also presupposes that a report is actually completed and available for review, feeding a reluctance on the part of a notifier to finalize a report.

Recommendation #4: Although the notifier should cite relevant studies and findings in the notification, he or she should not be compelled to disclose copies of these documents.

- 5. Replace “site investigation” in section 60.1 of EMA with “any study, report or investigation, whether completed or not”. Similarly, remove section 57’s precondition of “independent remediation”.**

Why?

We heard concerns that some parties do not notify unless they have completed a final draft of a PSI or DSI, as those terms are used in EMA and the CSR. Completing these reports could be delayed indefinitely.

Similarly for section 57, there may be some uncertainty over what is “independent” – this can be removed by simply requiring that any finding of off-site migration, regardless of the particular work being undertaken, must be given.

How?

Replace the terms “site investigation” and “independent remediation” with clauses with more generic language such as “any study, report or investigation, including laboratory data or field observations, whether a report has been completed or not”.

Evaluation

There would likely be more notifications, and in a more timely manner. This is consistent with the experience in most other jurisdictions surveyed, where

six respondents stated that receipt of laboratory data or receipt of an environmental site assessment (ESA) report for off-site properties were sufficient triggers, and three others indicated that laboratory data or an ESA report for the source site was adequate information to trigger notification. Five jurisdictions indicated that visual observation at the property boundary was sufficient information. Texas requires that if data indicate that it is more likely than not that contaminants originating from on-site activities is present on off-site property owned by others, notification to the other owners is required, even if samples were not collected from the off-site property (refer to responses to Question 5 in Section 4, and in Appendix B).

Recommendation #5: Amend section 60.1 to replace the “site investigation” precondition with “any study or finding” and replace remove section 57’s reference to “independent remediation”.

6. Remove the “knows” test.

Why?

Some parties do not disclose because they claim they do not unequivocally “know”, although they might have a reasonable suspicion that migration is occurring. Some stakeholders suggested to us that this standard allows source site owners to avoid notifications, even though they have a reasonably good basis for knowing about migration.

How?

Replace “knows” with “has reasonable basis for suspecting” or that contamination has “more likely than not” migrated off the property.

Evaluation

This would increase the number of notifications which is consistent with the pattern in most of the other jurisdictions surveyed. For example, Texas requires that if data indicate that it is more likely than not that contaminants originating from on-site activities is present on off-site property owned by others, notification to the other owners is required, even if samples were not collected from the off-site property Alberta indicated it would depend on whether or not the investigation information indicates the potential for some type of adverse effect on the environment (refer to responses to Question 5 in Section 4, and in Appendix B).

Recommendation #6: Amend CSR section 57 to replace “knows” with “reason to know”.

7. Require notification of offsite downgradient owners in 60 days rather than 15 days.

Why?

It may be difficult to collate and confirm the necessary information and to develop an appropriate response within 15 days. This would likely result in persons discovering contamination deciding to not notify rather than risk notifying based on false or faulty data.

How?

Change dates in sections 57 and 60.1 from 15 to 60 days.

Evaluation

With respect to historic contamination issues, there would be no significant difference. The benefit of a longer grace period is that it would allow more accurate information to be disseminated and would reduce “false-positive”-based notifications. This is consistent with other jurisdictions, where 15 days is at the lower end and 60 days is at the higher end of the range of notification periods for historical contamination quoted (refer to responses for Question 13 in Section 4, and in Appendix B). For spill/emergency response situations, a shorter time frame should still hold as per existing spill reporting requirements.

Recommendation #7: Change the CSR sections 57 and 60.1 timelines from 15 days to 60 days.

8. Mechanism for MOE to notify entire neighbourhood (in high risk or imminent threat situations).

Why?

There is no such mechanism at present. Section 14 of the CSR (wide area site) allows for various measures which could identify and manage a plume generally, but does not allow the MOE to notify all owners in that plume. This option was suggested by parties seeking a more proactive role by the MOE to inform vicinities about the existence of a large plume (knowledge of which might not be disclosed through the existing notification mechanism).

How?

Amend the “wide area site” provision in EMA to allow for MOE notification through an on-site registry and notices posted in affected areas. The responsible person should be compelled to take the lead in the neighbourhood notification program. In the absence of this, the MOE would assume this role and recover costs for the notification process from the responsible party.

Evaluation

This option would likely not create a significant cost impact to industry, but will require more resources from MOE.

In general, other jurisdictions attempt to track migration of plumes (and individual efforts to deal with parts of the plume) but do not have formal mechanisms for notifying the general public – this is done on a case by case basis, typically where there is a safety concern (for spills). One of the exceptions is Oregon, for example, which has a cleanup site database which includes public notices to review the cleanup proposal, but for “bad” sites there are typically neighbourhood meetings to notify the public early and continuously. Florida posts a list on its website of sites for those sites where the agency has taken the lead in sending out notices – otherwise, notification of the general public is not part of the process (refer to responses to Question 14 in Section 4, and in Appendix B).

On balance, however, we consider that this option is not necessary, especially if, as anticipated, broader disclosure and public knowledge will result from Recommendations 1 – 6.

Recommendation: No change.

9. Extend range of recipients of notifications to owners and primary occupiers and others.

Why?

Principal non-owner occupiers on off-site properties do not get notifications, but they are often the key users. They rely on dissemination of this information through site owners, who may be absent or unmotivated to pass on the necessary information to lessees and easement holders.

How?

Amend sections 57 and 60.1 of the CSR to require notifiers to give notification to either:

- principal occupiers; or
- persons described on a more specific list, e.g. lessees, tenants, easement holders, right-of-way owners.

Evaluation

Although we heard that tenants, occupiers, lessees and right of way owners should receive notification, this can in practice become a practical significant burden to site owners and operators. This could substantially increase cost to notifiers, but would enhance abilities of recipients to address contamination. Notification of the principal occupiers is the exception rather than the rule in other jurisdictions (refer to responses to Question 6 in Section 4, and in Appendix B). Most other jurisdictions require only that the regulator be notified. Some (e.g., Florida) in turn require the regulator to then notify the

downgradient site owner. Texas also requires notification to easement holders, although it is not clear whether this refers to on-site or off-site.

Recommendation #8: Amend sections 57 and 60.1 to require responsible parties to notify primary occupiers and operators, as well as owners.

10. Make breach of notification duty an offence.

Why?

Failure to notify is merely a ticketable offence; this is a relatively soft sanction. MOE should enforce notification requirements, as they produce the information that is necessary to reduce uncertainty.

How?

Amend section 115 of EMA to apply the \$200,000/imprisonment term generally found in other contaminated sites disclosure offences. e.g., failures to provide notification of independent remediation and site profiles.

Evaluation

Many other jurisdictions create civil or criminal penalties for failure to comply with disclosure requirements. The amounts of these penalties typically range from \$5,000 to \$50,000 per day of infringement of any of the response requirements. Ontario imposes penalties of from \$25,000 to \$10,000,000 a day for corporations who fail to notify the Ontario MOE of an “adverse effect”. In addition, in Ohio for example, environmental professionals may lose their certification if they fail to provide proper notification (refer to responses to Question 17 a) in Section 4, and in Appendix B).

Recommendation #9: Make it an offence for site owners and/or site operators to breach the CSR sections 57 and 60.1 notification requirements.

11. Remove the Notification; Defer to Common Law.

Why?

This duty existed prior to the enactment of sections 57 and 60.1 and, to the extent that we are able to determine, there was probably a very low rate of disclosure. The several hundred notifications under sections 57 and 60.1, while problematic, have at least raised the awareness of neighbours to put them in a better position to clarify the environmental status of their property, including whether they should remediate their impacted properties and then seek recovery from the source site RP.

How?

Repeal sections 57 and 60.1.

Evaluation

This is contrary to all other jurisdictions, where notification to at least the regulator is required. It will result in an increase in litigation and a lack of action in addressing offsite contamination issues. It is also not protective of human health and the environment and is contrary to the MOE's stated objectives (refer to beginning of this section).

Recommendation #10: Status quo, do not repeal sections 57 and 60.1 (aside from amendments recommended above).

5.2 Options for Utilities Issues**1. Develop 'Made for Utilities' Standards.****Why?**

We heard from a number of stakeholders representing utilities and municipalities that the current CSR standards are not protective of the underground utilities, and that more stringent standards are required to ensure there is no damage to utility materials.

How?

Create an additional specific set of numeric standards in the CSR for the protection of buried utilities.

Evaluation

None of the jurisdictions who responded to the survey have implemented utility-specific standards. Insufficient scientific information exists to enable developing utility-specific standards. Further research and scientific evidence is required to support more stringent standards.

Recommendation #11: No utility-specific standards until further research and scientific evidence supports the need for and development of more stringent standards.

2. Use "residential land" and "potable water" as default notification triggers and generic clean up standards for streets and right-of-way.**Why?**

According to recipient stakeholders, this option would ensure that municipalities and right of way owners are made aware of offsite contamination issues which could potentially impact human health of workers and the integrity of utility infrastructure, and that any risk-based clean up approach applied to their property will require their input and consultation.

How?

Several mechanisms were proposed by stakeholders (local governments and utilities):

- Designate the notification triggers for roadways and right-of-ways as residential land use standards.
- Designate that if cleaning up to a level less stringent than residential land use standards offsite, an additional form of institutional control is also required, such as risk assessment, or exposure assessment.
- Require off-site owner consultation and possibly off-site owner consent be obtained before approving clean up level less stringent than residential land use.
- Apply human health-based generic or risk-based standards for full-depth (i.e., not a stratified approach) for utility trenches to ensure protection of human health for utility workers.
- If a landowner wants cleanup to a standard more stringent than residential, the parties must settle the issue outside the COC/AIP process.

Evaluation

Jurisdictions with more developed and prescriptive off-site regulatory regimes (Florida, Texas), as a small minority of those surveyed, require notification when residential standards are exceeded at the property line, regardless of offsite use (refer to responses to Questions 20 and 21 in Section 4, and in Appendix B). Similarly, in these jurisdictions, if potable water standards (or the most stringent water standards if different) standards are exceeded, notification is required. These more stringent notification requirements will increase the number of notices the MOE receives, but will likely be criticized by source site owners, especially in the retail gasoline sector. However, this would meet the utility and municipalities concerns that they are not being adequately notified, and that generic clean up standards may not be protective of buried utilities.

Aside from notification issues, with potentially affected stakeholders (on-and off-site) more discussion is required about whether residential standards should be used as a generic clean up standard for offsite remediation, as this is an unrealistic expectation and impractical in many situations, especially in urban or industrial areas. Regardless, risk assessment should remain an option if it addresses utility worker health and safety and other concerns of utilities stakeholders.

Recommendation #12: Use potable groundwater and residential land use standards as the default trigger for notifying off-site property owners.

Undertake further discussion on whether these standards should become the default generic clean up standards, regardless of off site land use. If the latter provision is implemented, risk assessment must be an option for developing site specific clean up standards for off-site properties.

3. Clarify full Detailed Site Investigation delineation for “preferential pathways”.

Why?

Groundwater will often preferentially migrate via utility corridors, especially in a low permeability soil formations. Based on concerns expressed regarding the completeness of full delineation in the off-site environment (as expressed in the survey and discussed in section 3.2.3), investigation of preferential pathways should not be considered complete unless utility corridors are evaluated in one way or another as migration pathways.

How?

Specifically require utility corridors to be evaluated as potential pathways during the PSI stage and physically investigated at the DSI stage of the investigation. If utility corridors are to be discounted as migration pathways, the rationale must be provided in the DSI report. The City of Calgary has recently issued guidance for investigating utility corridors. This document could be the basis for enhancing the PSI and DSI guidance documents in BC.

Evaluation

The cost of investigation will be marginally more expensive; however, if remediation is conducted and the full migration pathways are not defined, then contamination could remain undetected in the subsurface and could extend the length of time required before the site meets the applicable standards (be they generic or risk assessment based). Also, if the utility corridors are specifically investigated, ROW users will have more assurance that their issues will be addressed, potentially decreasing the amount of litigation regarding contaminated sites. This option ensures more thorough investigations, but will require revising DSI guidance documents. As described in section 3.2.3, the cities of Calgary and Edmonton are working towards more prescriptive utilities investigations and have issued guidance documents that might be used to enhance the existing MOE guidance documents, and raise the standard expectations for off-site delineation.

Recommendation #13: Review and revise the PSI and DSI protocols to enhance requirements for assessing impacts to utilities. Provide more prescriptive requirements for off-site investigations if need be to ensure utilities are properly assessed.

4. Closure or sign-off letter from affected party after completion of the conceptual model for the off-site AIP.

Why?

If risk assessment is being applied to an off-site property, then affected parties should agree to the conceptual model for groundwater and contaminant migration. This will increase the likelihood that all contaminant migration and exposure pathways will be identified to the fullest knowledge of all stakeholders, and satisfaction levels with any proposed remedial strategies will increase. This issue is addressed in sections 3.3.3, 3.3.4 and 3.3.8.

How?

This might be implemented with the ADR options if they are followed, where the affected parties meet early in the process to address the concerns and the path forward. The challenges associated with the existing process are discussed in Section 3.2.4, and the possibilities of ADR are explored further in Sections 3.4.4 and 3.4.5.

Evaluation

This option is consistent with the requirements in a number of jurisdictions (Alberta, Texas, New Jersey, Florida) that innocent affected off-site property owners agree to any clean up which is less stringent than residential land use with potable groundwater (refer responses to Question 21 in Section 4, and in Appendix B). It addresses the MOE mandate of polluter pay; however the timeliness of the resolution might not meet the MOE's or the source-site owner's objectives.

Recommendation #14: While this option follows the spirit of off-site stakeholder consultation, it may be cumbersome to implement. Further discussion with stakeholders is warranted (particularly with source and affected site owners and APs).

5. Monitor Additional Research Underway.

Why?

Other jurisdictions are aware of concerns and are already addressing the data gaps acknowledged regarding some of the concerns. These studies will be expensive, and as they are already underway in other locations, it would be cost effective for BC to monitor the progress of the ongoing studies and to incorporate findings as they are made public from other areas.

The issue of impacts to utilities from contaminated soils and groundwater is being evaluated in Alberta, and there is a large study underway for the American Water Works Association (AWWA). The utilities discussion has been on-going for a number of years and will not be concluded before completing this report. The AWWA has commissioned a study to be completed in mid-2007 titled *Impact of Petroleum Hydrocarbons on PE/PVC Pipes and Pipe Gaskets*. The study will “determine the physicochemical, environmental, and pipe-specification parameters that influence the permeation of hydrocarbons through polyethylene and polyvinyl chloride pipes and pipe gasket materials under typically encountered field conditions”⁸⁷.

How?

Watch and wait, maintaining contact with Cities of Edmonton and Calgary and also monitoring the AWWA progress. The City of Calgary in particular has expressed interest in sharing information with the MOE on this issue.

Evaluation

There is insufficient data and evidence to date that warrants a change in assessment and remediation standards specifically for the protection of utilities. This “watch-and-wait” approach is a low cost option, and BCMOE can learn from other jurisdictions. Additionally, there are no other jurisdictions that are moving forward to create alternate standards and/or criteria specifically for the protection of utility corridors. It is anticipated that the AWWA study will provide a significant amount of new knowledge on the subject and could facilitate the derivation of utility-specific standards, if required.

Recommendation #15: Watch and wait, maintaining contact with Cities of Edmonton and Calgary and also monitoring the AWWA progress.

6. Consult with Local Governments in BC to assist in developing new off-site policies and requirements.

⁸⁷ [http://www .awwarf.org/research/TopicsAndProjects/projectSnapshot.aspx?pn=2946](http://www.awwarf.org/research/TopicsAndProjects/projectSnapshot.aspx?pn=2946)

Why?

Several local governments are in the process of developing new policies and requirements designed to protect their roadways and other properties (as well as water and other utility infrastructure in the roadways). The MOE should provide advice to coordinate provincial and local government strategies and to generally encourage uniformity.

How?

MOE staff would liaise and consult with individual or joint local government efforts.

Evaluation

The MOE would incur some costs in consulting with local governments. Improved coordination may result in reducing administrative costs to end users (both source site owners and affected stakeholders) and would reduce the risk of a patchwork of inconsistent local government approaches to the provincial legislation. With consistent applications across the province, there may be some cost savings incurred as a result of increased operational efficiencies.

Recommendation #16: MOE staff should liaise and consult more with individual or joint local government efforts to obtain buy-in on a consolidated and consistent approach to the protection of utilities. [ENGL]

5.3 Options for Part-Site Approvals**1. Give right of appeal to affected parties where source site owner receives COC.****Why?**

Section 3 above discussed how the Environmental Appeal Board and the MOE take various approaches when considering if and how affected parties might participate in a decision to issue a COC. These approaches are not satisfactory, according to stakeholders representing off-site (or down-stream) interests. Stakeholders representing off-site interests generally seek a more direct role in reviewing investigations and draft AIPs prepared by the source-site owners (as conditions of COC approval). We heard on more than one occasion that off-site owners and operators were dissatisfied with the quality of investigations and approvals in principle and that their quality could have been improved with appropriate review by the off-site owners and operators. These concerned owners and operators suggested that there is a need for a review opportunity for off-site owners and operators, and an associated right of appeal in the event that the owner or operator feels aggrieved by the COC or AIP decision.

A similar concern is that, even absent a requirement by the source-site owner to prepare an off-site AIP, a potentially impacted neighbour should have the ability to comment on the adequacy of the proposed COC.

In both of these related scenarios, potentially affected downstream neighbours feel at risk. These parties feel that they should be consulted, rather than having a solution imposed on them.

How?

Parties expressing the above-noted concerns seek two changes:

- EMA should expressly allow them a right of appeal at the EAB; and
- EMA or the CSR should create an opportunity or process by which the MOE would hear concerns from affected parties. As part of this new process, the affected parties should at least receive notice of the intention to issue a COC (or AIP, if a condition to the source-site COC).

Evaluation

The proposals give rise to competing considerations. Generally, it is arguable that quality assurance could be enhanced if AIPs at the impacted properties and COCs at source-sites by potentially impacted parties.

Other jurisdictions contemplate a more direct role for potentially affected property owners. For example, Alberta, Texas, Florida, and New Jersey remediation of off-site properties requires negotiated agreements with on the affected property owners is required.

Achieving this potentially improved result, however, will require further cost to either or both of the MOE and source-site owners. There could be increased costs and time associated with consulting with neighbours. The EAB has expressed its concerns in at least two cases already, that protracted negotiations could delay timely remediation efforts. (These cases were discussed above in section 3.3.8.) At the same time, the consultation might produce, at least in some cases, a higher degree of clarification, which might ultimately reduce the need to litigate over disputes.

On balance, we are of the view that high-quality AIPs for affected properties and COCs for source sites can be achieved with a more rigorous application and clarification of existing guidelines governing the preparation of these instruments (including their underlying DSIs). Quality control by improved guidance for approved professionals is likely to be more cost-effective than creating a special process enabling downstream owners and operators to review a site-investigation or recommended AIP.

Recommendation #17: Provide additional guidance to APs regarding appropriate requirements for delineation in an off-site environment with the presence of utility corridors. .

2. Allow unconditional part site approvals.

Why?

We heard source-site owners, operators, and APs, complain that the requirement to secure an off-site measure such as an AIP (though Protocol 6, Footnote 4), creates delay and, in some cases, serves no advantage in terms of environmental protection. Moreover, these critics say that the need to enter into access and other agreements with downstream owners presents an unfair opportunity for those downstream parties to “exact a concession” which has no bearing at all for environmental protection. The affected parties can “lever” advantages (financial and otherwise) from the source-site owners who wish to conclude their remediation effort as quickly as possible.

How?

Remove express and implied references to off-site requirements in Protocol 6 and Release Letter.

Evaluation

The MOE currently views, with justification, COC and local government development approvals as timely and administratively convenient windows of opportunity for securing plume-based investigation and remediation. To remove the conditions as now administered would arguably take away, the best opportunity to require a remediating party to attend to other (downstream) parts of the plume. That is, once the source-site owner conducts the remediation, it commonly develops and sells the property to other parties.

At the time of remediation, the source-site owner has a strong incentive to conduct the necessary investigation and remediation work. Future owners do not stand to gain as much from remediation as the party who remediates to facilitate development. Despite the arguments of source site owners and operators described above, the MOE needs to consider how to bring “responsible persons” (and even non-“responsible persons” who wish to remediate only their property and ignore any off-site contaminant migration) to remediation if the COC approval opportunity has come and gone.

If the MOE adopts a new policy of unconditional part-site approvals, it should consider other options to ensure that off-site contamination is dealt with in due course. The MOE has numerous options available to it, including orders. For the most part, the remediation of the off-site could be left to civil actions, but

there may be cases where it is clearly not fair to the impacted owners to bear the burden of remediating and suing.

The approach of allowing on-site remediation to proceed without addressing off-site contamination in some form was not observed in the other jurisdictions surveyed.

Recommendation #18: Do not remove requirements to address off-site requirements in Protocol 6 and Release Letter.

3. Clarify that in certain cases non-RPs can be required to remediate.

Why?

As discussed in Section 3.3.5, liability for remediation, at least indirectly, can be imposed on a party irrespective of whether it is a “responsible person”. This result can occur in the following two circumstances:

- Footnote 4 of Protocol 6 requires that the “affected” site owner must confirm measures “to prevent re-contamination” and will practically mean, at some if not many sites, that the owner must implement remediation measures at the upstream source property. These measures would likely fall within the definition of “remediation”.
- The MOE release letter could require a part-site owner, as a condition of development approval, to assume responsibility for preparing an AIP on neighbouring (downstream) properties. This could apply to both on-site and off-site owners. Preparation of an AIP and preparation of the supporting site investigations are included in the definition of “remediation”, meaning that owners would, pursuant to the release letters, be required to incur such liability to remove the local government prohibition.

The difficulty posed by these conditions respecting neighbouring properties is that EMA does not expressly authorize such liability. Imposing these remediation conditions thus creates a risk that a non-“responsible person” may challenge the imposition of remediation requirements in the two ways discussed above. Moreover, there appears to be a need to resolve MOE policy, given the underlying premise of the contaminated sites legislation is that remediation liability can only be imposed on “responsible persons”.

How?

Amend EMA to state that part site approvals can be issued if a non-RP accepts remediation liability (in the two circumstances discussed above) and that in certain cases non-“responsible persons” can be required to remediate.

Evaluation

If the ‘legality’ of off-site conditions (particularly if imposed on non-“responsible persons”) is successfully challenged, then the MOE will have lost its primary opportunity to secure off-site work. There is considerable risk in maintaining the current policy which, in some cases, requires non-“responsible persons” to remediate.

In our jurisdictional survey, eight of twelve respondents indicated that the non-“responsible persons” source site owners could be held liable for off-site remediation, and several indicated that “flow-through” property owners could also be liable to down-stream plaintiff (refer to responses to Question 22 in Section 4, and in Appendix B).

On balance, we conclude that there are good grounds for confirming the MOE policy that the imposition of remediation liability on non-“responsible persons” is warranted in certain cases (including the two cases described above). The current MOE policy, in spite of its uncertainties, appears to have produced tangible results, in that parties have been compelled to address contamination beyond their legal properties. Accordingly, to avoid the risk of losing such results, we recommend that legislation affirm current MOE policy.

Recommendation #19: Amend EMA to clarify the circumstances in which non-“responsible persons” can be required to remediate.

4. Clarify how source-site owners should ‘address the entire extent of contamination’ in Protocol 6, Footnote 4.

Why?

Protocol 6, Footnote 4 states:

“Applications for an approval in principle, a certificate of compliance, or a combination of an approval in principle and a certificate of compliance addressing the *entire extent* of contamination are acceptable”.

As discussed in Section 4.3.6, the uncertainty stems over what, exactly, should be done to “address” the “entire extent”. That is, does a PSI suffice? A DSI? An AIP? The MOE has, as a matter of practice, required an AIP in the non-source portions. This is an un-written practice, however. A related question is whether the AP can make a submission respecting an off-site AIP that is based on the risk-based, as opposed to the numeric, remediation standard (and the source-site is the subject of the numeric standards).

Given these questions, approved professionals, to protect their reputation and to minimize their risk, tend to use highly conservative assumptions. We heard this concern from both the approved professional community and industry. To complicate matters, it appears that MOE staff use a less than consistent approach when imposing the measures which would be acceptable for addressing the entire extent of contamination.

How?

MOE should amend Footnote 4 to specify answers, or at least give guidance, to the above questions.

Evaluation

This option seeks to remove the risk of MOE not being able to enforce Protocol 6 and the release letter.

Recommendation #20: Clarify how source-site owners, even if not “responsible persons”, should ‘address the entire extent of contamination’ in Protocol 6, Footnote 4.

5. Clarify Protocol 6’s “statement of assurance”

Why?

Protocol 6, Footnote 4 requires an AP to give a “statement of assurance” Unanswered questions include:

- who must make the statement? (owner? the neighbour? AP?);
- what is adequate assurance? a legally binding document? a statement of intention by the owner? a statement confirming that such measures are in place?

This requirement applies to APs preparing submissions for affected property owners. As discussed in part 4.3.6, these questions, if left unanswered, compel APs to take a highly conservative approach. Some parties claim that it may be unnecessarily costly to use such conservative assumptions. We did not test the veracity of these claims, but we generally agree that enhanced clarity would tend to remove unduly conservative approaches.

How?

Stakeholders suggested that questions such as those set out above require more detailed answers in the form of published guidance documents or at least timely verbal responses by MOE staff.

Evaluation

Clarification of the term “statement of assurance” would require some (but not likely substantial) resources by the MOE. The benefits of such work would

consist of more timely and cost-effective recommendations by APs. Ultimately, remediation work would be commenced earlier.

(Note: The requirements of a statement of assurance in other jurisdictions was beyond the scope this study; therefore, no comparisons can be made).

Recommendation #21: Clarify Protocol 6’s “statement of assurance”

6. Clarify Protocol 6 “measures necessary to prevent re-contamination”

Why?

Protocol 6, Footnote 4 requires affected property owners (through their APs) to implement measures necessary to prevent “re-contamination of the affected property”. This clause has been the subject of little, if any, MOE policy guidance. In the view of consultants and APs, the lack of guidance means that they must use highly conservative and costly assumptions.

How?

Amend Protocol 6 or other guidance documents to address the following questions:

- What controls can an impacted neighbour impose on the upstream source-site owner (and future owners)?
- Can a “measure” be an agreement between the on-site and off-site owners addressing the former’s responsibilities in the event of new migration?
- Can the measure to prevent cross-boundary migration be a technical one?
- Why are such measures necessary in any case, given that the off-site owner incurs the responsibility for any contamination after the date of the COC?
- What if the source site is not the property immediately, but several properties, upstream? That is, must the subject “affected” property owner secure the measure with the immediate (innocent) neighbour or the source-site owner located further upstream?

Evaluation

Such guidance would be favourable, since APs would not have to use overly conservative assumptions.⁸⁸

⁸⁸ The requirements of measures necessary to prevent re-contamination in other jurisdictions was beyond the scope this study; therefore, no comparisons can be made.

Recommendation #22: Clarify Protocol 6 “measures necessary” to prevent re-contamination.

7. The MOE should put in place a system allowing for approved professionals to make submissions using the risk-based standards.

Why?

Many properties located downstream of source-sites have only one realistic option - mainly risk-based clean up targets. One of the obstacles facing these property owners is that it is more time consuming and costly to use the external review system when compared with the approved professional review system.

How?

Amend Protocol 6 to allow for the submission of a COC based on a risk assessment reviewed by an approved professional (we understand that the MOE intends to do this by November 1, 2006).

Evaluation

The cost to both the MOE and industry would likely be reduced.⁸⁹

Recommendation #23: The MOE should put in place a system allowing approved professionals to make submissions using the risk-based standards.

8. Clarify how ‘Innocent’ Parties at ‘Flow-Through’ sites must address off-site contamination

Why?

We heard that while the principles of fairness and polluter-pay suggest that innocent parties should not be responsible for remediation of off-site impacts, these parties should bear some responsibility for delineating and assessing risks or, at the very least, disclosing known information of off-site contamination. That is, short of remediation and requiring off-site investigations non-“responsible persons” should at least have a duty to warn if they know of contaminants ‘flowing through’ their property to a down-stream property.

⁸⁹ The approach of using the equivalent APs to make submissions using the risk-based standards in other jurisdictions was beyond the scope this study; therefore, no comparisons can be made. However, it should be noted that in Ontario, *Qualified Persons* may complete a *Record of Site Condition* under Ontario Regulation 153/04 using risk assessment, which must still be submitted to the Ontario MOE for review and approval.

How?

Innocent downgradient property owners should be exempt from addressing off-site contamination, other than being required to report it to the MOE if discovered. A formal definition and application for “downgradient property owner” status would be required.

Non-RPs who own or operate a source site with off-site contamination issues should still be obligated to delineate or assess risks of off-site contamination (as discussed above). (This would not necessarily involve a requirement that the non-RP enter and investigate the downstream property.) If the risks are deemed to be unacceptable for either human health and the environment, the MOE may then compel a responsible party to remediate. Failing this, the MOE could undertake the remediation and pursue the responsible party to recover costs as is available under sections 87 and 88 of EMA.

A party that meets the definition of “responsible party” should remain liable for delineating, assessing risk and remediating off-site contamination.

Evaluation

Placing more onus on the flow-through owners (and other non-RPs) to report off-site migration of contamination, including knowledge of potential risk provides enhanced capacity to understand migrating contamination and ultimately secure remediation. This policy is reflected in five of twelve other jurisdictions surveyed.

Requiring non-RP source site owners to at least delineate and assess exposure to off-site impacts (resulting from source-site contamination) ensures that any imminent threats to human health and the environment are identified.

Of the jurisdictions surveyed, eight jurisdictions indicated that source site owners and three indicated that flow-through site owners were liable for off-site remediation. Furthermore four jurisdictions indicated that innocent owners of Brownfield source sites were still liable for developing remedial action plans for off-site impacts, and two jurisdictions required human health risk assessments (which would necessarily require off-site investigation) [refer to responses to Questions 22 and 23 in Section 4 and in Appendix B].

Recommendation #24: Clarify under which conditions and to what extent ‘Innocent’ Parties at ‘Flow-Through’ contaminated sites can be required to address off-site contamination.

5.4 Options for Liability

1. Remove the “incurred-first” rule.

Why?

For many off-site property owners the EMA cost-recovery remedy is inadequate. It does not allow for early clarification from the courts that the potentially heavy costs are recoverable. Giving affected property owners more power to recover remediation costs would reduce the need for the Ministry to use its own sanctions against the source-site owners. That is, the cost recovery remedy could be the primary engine of off-site clean-ups – this potential must be realized more fully in BC’s regime.

- As discussed in Section 3.4.3 above, the potential delay in recovering remediation costs means that parties who would otherwise acquire and redevelop contaminated sites will invest in other properties. This may contribute to sites not being remediated and developed to their full land use potential. This delay is not merely a concern for private litigants. Timely resolution of contaminated sites disputes is important for public interest reasons pertaining to protection of the environment and optimal land use.

We found significant support for this option, particularly from affected property owners. The “incurred-first” rule appears to be a significant obstacle to implementing polluter pay.

How?

Amend section 48 of EMA to allow court orders for prospective costs. This is not to suggest that the court order would or should result in advance compensation. Rather, an amendment to EMA would allow a court to specify that the implementation of, say, a remediation plan would be in compliance with EMA and that costs of the remediation plan would be recoverable as a debt upon incurring such costs. This approach obviates the need to first incur the costs using untested assumptions about an acceptable remediation plan, only to find that the assumptions and the incurred costs are not deemed reasonable by the court.

Evaluation

This change would give certainty to the parties seeking to remediate their sites (whether source-site or off-site properties).⁹⁰

Recommendation #25: Remove the “incurred-first” rule

2. The allocation of liability should take into account the plaintiff’s diligence in seeking to resolve disputes in the early (pre-civil action) stages.

Why?

We frequently heard concerns that there is no legal or other incentive to encourage neighbours to collectively tackle a migrating plume. The result is expensive litigation and piecemeal efforts at remediating a plume.

How?

Amend section 35 of the CSR (factors for cost allocation) to award parties who were diligent in attempting to resolve early technical disputes.

Specifically, Section 35 of the Contaminated Sites Regulation could be amended to include a new allocation factor, namely “relative due diligence in attempting to resolve disputes prior to filing a civil action”.

To document the efforts to identify and resolve disputes, plaintiffs may (but should not necessarily be required to) prepare a Dispute Identification and Resolution Report (“Dispute Report”). The Dispute Report would explain how the plaintiff attempted to identify and resolve disputes prior to filing the action. The Dispute Report would, for example, describe how the plaintiff consulted with potentially affected parties for defining the nature of contamination and proposed and actual remediation.

Evaluation

This would reduce litigation costs for all parties. There would be no further costs on the MOE.

Legislative incentives to bring parties together to work out solutions are evident in Quebec, where a ‘fairness principle’ applies which states that “an individual or a business that in good faith applies MDDEP policies and directives to prevent contamination of its site or to rehabilitate it must not be placed at a disadvantage with respect to those who fail to do so. This means that the action required from all owners in the same situation facing the same problems must be similar and apply equally to all at the same time”.

⁹⁰ This particular option was not evaluated in the jurisdictions surveyed.

The allocation of liability in dispute resolution was not evaluated for the other jurisdictions.

Recommendation #26: The allocation of liability should take into account the plaintiff's diligence in seeking to resolve disputes in the early (pre-civil action) stages. Further research in how this is implemented in other jurisdictions is warranted.

3. Develop special fast track trials tailored for contaminated sites disputes.

Why?

As discussed in Section 3.4.5, our discussions with lawyers and ADR experts found that the BC Supreme Court Rules are not particularly well-suited for achieving timely contaminated sites decisions.

How?

We recognize that the amendment of generic Supreme Court Rules of BC may take a considerable amount of time and consultation. (There are various judicial/Ministry of the Attorney General/Canadian Bar Association processes for this.) Some of the fast-track principles implemented in Ontario, however, could be incorporated within a regulation such as the Contaminated Sites Regulation (See Section – for discussion on potentially advantageous procedure in Ontario). This is not without precedent. The notice to mediate provisions enacted several years ago were not placed within the Supreme Court Rules but under the *Law and Equity Act*.

New fast track rules (whether in Supreme Court Rules or Contaminated Sites Regulation) should include the following elements:

- (a) mandatory early identification of cases suitable for fast track proceedings;
- (b) no monetary limit;
- (c) suspension of usual rules respecting discovery, as determined by a case management judge;
- (d) binding schedules leading to judicial decision;
- (e) no prescribed limits to trial and discovery periods; and
- (f) for cases assigned to the fast track, mandatory settlement conference within a prescribed time, including rules requiring parties to give notice of information to be used in the settlement conference.

Evaluation

These changes would reduce the costs of resolving contaminated sites disputes. BC is not the only province where concerns are raised about the delay and costs of contaminated sites litigation. Other provinces, particularly Ontario, appear to have made some progress in establishing fast-track trials that could lead to more affordable and timely decisions. Potentially new provisions for BC are discussed above in Section 3.

Recommendation #27: Develop special fast track trials tailored for contaminated sites disputes.

4. Clarify the liability allocation-factors in section 35 of the CSR

Why?

Our research found that litigants involving off-site migration in are often uncertain as to how the courts will apply these criteria. The section 35 allocation criteria were criticized by BC litigators as being too general, both for the purposes of adjudication and alternative dispute resolution.

How?

Amend the CSR to include more detailed and pragmatic allocation criteria. We recommend that, prior to this amendment, the Ministry undertake a detailed review of U.S. case law to consider expansion of British Columbia's list of allocation criteria. A detailed review of the U.S. decisions on allocation of liability was outside of the terms of reference of this study, but we are able to confirm the high importance that clarified allocation criteria can give to both adjudicative and alternative means of dispute resolution.

Candidates for an expanded list of criteria include:

- the ability of the parties to demonstrate that their contribution to a discharge, release, or disposal of a hazardous waste can be distinguished;
- costs caused by “potentially responsible parties” (causation);
- conduct of the “potentially responsible parties” (culpability and cooperation);
- indemnity agreements;
- the cost caused by the conduct of each party;
- the benefits received from using a particular waste disposal practice;

- the parties' knowledge of, and acquiescence in, the activities that caused contamination;
- whether a property owner may benefit from an increased property value following the remediation;
- the existence of an agency relationship among the parties;
- the extent to which cleanup costs are attributable to wastes for which a party is responsible; and
- the party's financial resources and ability to pay its share of the costs.

Evaluation

These changes would reduce the costs of resolving contaminated sites disputes.

As discussed in Section 3, our research of U.S. jurisdictions found that a condition for successful resolution of disputes – whether by adjudicative or alternative means – is the existence of pragmatic and clear allocation criteria. Our research found that U.S. courts have attempted to set out in a systematic and comprehensive way how contaminated sites liability should be allocated. The allocation criteria identified in U.S. courts in the many allocation liability decisions appear to go much further in detail and pragmatic relevance than is the case in BC law.

Recommendation #28: Clarify and add to the liability allocation-factors in section 35 of the CSR.

5. Refine the policy respecting the issuance of orders to allow strategic use of orders

Why?

The MOE's "high risk and "high priority" policies have attracted a good deal of criticism and commentary. Many stakeholders, commonly off-site owners, argue that the MOE should apply its order powers in a more strategic way. For example, utility representatives interviewed for this report suggested that the MOE's apparent unwillingness to order remediation (absent "high risk") tends to drive up costs due to the need to apply safeguards.

Many sites with a lower degree of risk, however, can bog down in litigation and become 'brownfields' (even if there is not immediate high risk to human

health or the environment).⁹¹ The result of the Ministry's passive policy arguably is that the parties, to attempt to recover costs from polluters, have no choice but to embark on potentially costly litigation. Or, the parties may decide that litigation is too time-consuming and costly, and leave the property in a dormant state. Either way, the MOE should be aware of the strategic effects of their limited and selected responses.

How?

Based on a more considered view of the costs and benefits of issuing orders, the Ministry should revise its remediation order policy. Stakeholders suggested that while some contaminated sites might create an "adverse effect" falling short of a high risk to human health or the environment, they nonetheless compromise a community's development plans because the site has practically become paralyzed. A 'brownfield syndrome' sets in when, as is usual, the many parties involved at a complex site either do not have the willingness or the capacity to find technical and legal solutions. The paralysis could be removed by an order. The same result might be achieved merely by the MOE signalling to the parties that it is contemplating an order. These signals are often enough, based on the experience in the U.S. (as described in section 3 above), to trigger cooperation. A commonly held view in the U.S. is that cooperative remediation solutions are more cost-effective than those ordered by regulators. Thus, even a threat of an order may compel parties to address remediation. In any case, MOE policy should be revisited to determine the unrealized benefits from using order powers in a strategic and proactive way.

Evaluation

U.S. federal and state statutes and policy contemplate a more active role for regulators. Legislation and policy have sought to create incentives and opportunities for ADR in multi-party contaminated sites cases. These incentives and opportunities take various forms, but all are designed to encourage expeditious settlement of disputes which otherwise would require lengthy and expensive litigation.⁹² ADR incentives and opportunities appear to be a response to strong criticism that CERCLA litigation costs are too high. The ultimate incentive available to the EPA, according to the U.S. literature, is the implied threat that it will use its strong cleanup and cost recovery powers in the event that "potentially responsible parties" do not undertake sufficient litigation and remediation work. EPA investigations and

⁹¹ In practice, the number of "high risk" sites is likely to be very low, likely a dozen or two, according to environmental consultants who have applied the Ministry's criteria of "high risk". This number compares with hundreds, if not several thousand, "contaminated sites" which do not fall into the "high risk" category).

⁹² For example, the EPA's [Final Guidance on Use of Alternative Dispute Resolution Techniques in Enforcement Actions](#) was one of the first guidance documents for conducting ADR in the context of an enforcement case.

remediations, the literature suggests, tend to be considerably more expensive than if conducted by the parties directly.⁹³ This carrot and stick approach is not evident in British Columbia. Based on our jurisdictional survey, four of 12 responded that they become actively involved in directing action to address off-site migration for all off-site notifications, regardless of perceived risk; two where there is a dispute over responsibility; and two only where there was a high risk or imminent threat [refer to responses to Question 33 in Section 4, and in Appendix B].

Recommendation #29: Develop a more strategic order power policy, taking into account:

- risk to human health and the environment;
- public interest priorities;
- the potential for brownfields without MOE involvement; and
- the potential effects of high litigation costs on ability to investigate and remediate.

6. Enforcement of COCs

Why?

Section 3.4.8 above identified possible concerns arising from the MOE having but one potential sanction – rescission – for breaching a COC condition. We also noted that monitoring and enforcement of COCs does not currently appear to be a priority of the MOE.

How?

Parties concerned about the long-term value of COCs suggested that EMA should be amended to legally compel holders of COCs to maintain compliance. These parties seek more than the risk of MOE rescission, which presumes monitoring and enforcement activity by the MOE, which currently faces significant resource limitations.

Other jurisdictions recognize the potential problem. New Jersey, for example, requires a certification every two years that the engineering and or institutional control remains protective (refer to responses to Question 26 in Section 4, and in Appendix B). Ontario's Certificate of Property Use

⁹³ Ann L. MacNaughton and Jay G. Martin, *Environmental Dispute Resolution, An Anthology of Practical Solutions* (Section of Environment, Energy, and Resources – American Bar Association), Chapter 8: Resolving Superfund Cost Recovery Disputes Outside the Courtroom.

(analogous in some respects to a British Columbia COC) is backed up with offence provisions – failure to comply with the terms and conditions of a Certificate is an offence under EPA s. 186 (refer to responses to Question 26 in Section 4, and in Appendix B).

Evaluation

These approaches would require an increase in the use of government resources to track and monitor COCs. Source site owners would generally incur greater costs to ensure COC measures are implemented, monitored and reported. Litigation should be reduced if COC provisions are completed as planned. Non-compliance of the COC would have significant consequences as any protection against liabilities would be removed.

Recommendation #30: Create mechanism for enforcement of COCs, whether by an offence or civil liability, for failure to comply with COC conditions.

7. Guidance to Allow for Monitored Natural Attenuation (MNA).

Why?

We heard concerns that the potential benefits of MNA are not being realized because of lack of MOE guidance.

How?

Monitored natural attenuation should be considered as an active remediation method to reduce contaminant concentrations. For example, in its 1999 directive titled ‘Use of Monitored Natural Attenuation at Superfund, RCRA Corrective Action, and Underground Storage Tank Sites’⁹⁴, the USEPA states that it:

“does not view MNA to be a “no action” remedy, but rather considers it to be a means of addressing contamination under a limited set of site circumstances where its use meets the applicable statutory and regulatory requirements. MNA is not a “presumptive” or “default” remediation alternative, but rather should be evaluated and compared to other viable remediation methods (including innovative technologies) during the study phases leading to the selection of a remedy. The decision to implement MNA should include a comprehensive site characterization, risk assessment where appropriate, and measures to control sources. In addition, the progress of natural attenuation towards a site’s remediation objectives should be carefully monitored and compared with expectations to ensure that it will meet site remediation objectives within a timeframe that is reasonable compared to timeframes associated with other methods.

⁹⁴ <http://www.epa.gov/OUST/directiv/d9200417.pdf>

Where MNA's ability to meet these expectations is uncertain and based predominantly on predictive analyses, decision-makers should incorporate contingency measures into the remedy."

This philosophy could serve as a basis for MOE policy and guidance on MNA.

Evaluation

MNA represents a cost-effective remedial alternative for addressing off-site contamination, subject to the conditions noted in the EPA's Directive discussed above. It should minimize costs to source site owners while ensuring minimal disruption to off-site affected properties. Government resources would not be taxed beyond those required for any other off-site remediation program. Litigation may increase as MNA is still incorrectly viewed by many, and especially affected property owners, as a "do-nothing" approach. The general pattern amongst the selected jurisdictions appears to be that MNA is treated as any other remedy and can be a stand-alone remedial solution, subject to safeguards.

Recommendation #31: Allow for Monitored Natural Attenuation, but clarify when and how it is to be implemented, as per the USEPA model. Develop a BC-specific MNA guidance document.

APPENDIX A –

**SURVEY OF UTILITIES AND
AGENCIES IN BC**

APPENDIX B –

**SURVEY OF OTHER
JURISDICTIONS**