Manitoba Clean Environment Commission

Review of Legislation and Programs for Sites Impacted by Development

December 2020

Manitoba Clean Environment Commission

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Honourable Sarah Guillemard
Minister of Conservation and Climate
Room 344, Legislative Building
450 Broadway
Winnipeg, Manitoba R3C 0V8

Re: Review of Legislation and Programs for Sites Impacted by Development

Dear Minister Guillemard,

The panel is pleased to submit the Clean Environment Commission's Report on the Review of Legislation and Programs for Sites Impacted by Development.

Sincerely,

Original signed by:

Serge Scrafield, Chair

Original signed by:

Glen Cummings

Original signed by:

Terry Johnson

Original signed by:

Laurie Streich

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Executive Summary

On March 19, 2020, the Minister of Conservation and Climate requested the Clean Environment Commission (commission) conduct a review of legislation, policy and programs addressing environmental liabilities related to contaminated sites, orphaned and abandoned mine sites, orphaned and abandoned oil and gas sites, quarries and other industrial activity that resulted in contamination. The commission is to review programs across Canada to identify best practices that could be incorporated in Manitoba. The commission is to provide the findings to the minister along with options, suggestions and recommendations for regulatory and procedural improvements.

Contaminated Sites

Canada

Across Canada, statutes set out the framework and general principles of a contaminated sites program and act as a fully supplied toolbox enabling actions that may be used in specific circumstances. Contaminated sites remediation programs either put the onus on the owner to take all remedial actions, with limited technical involvement of the respective government agencies, or are moving in this direction. Operational requirements included in regulations and protocols, take a narrower approach to program application. The number of legislative tools used is limited, maximizing efficiency and focus on ensuring protection of human health and the environment and putting land back into a useful condition. In many jurisdictions, the person responsible for the contaminated site is independently responsible for reporting an exceedance, enlisting a qualified professional to investigate, advising other affected parties, having the qualified professional determine appropriate actions, preparing a remediation plan, implementing the plan and providing a final site condition report with the qualified professional's certification and relevant documentation.

All jurisdictions incorporate the "polluter pays" principle as a factor in determining liability for incurred remediation costs but only as one factor, not the primary one. Few jurisdictions are involved in apportionment of cost for remediation. Several state in their statutes that apportionment is a civil matter to be determined outside the remediation process. Responsibility for costs of remediation are joint and several in almost all jurisdictions. No shares are unassigned. An appeal does not stay any required actions. Although almost all jurisdictions has the ability to designate sites, it is done sparingly and only in serious situations where cooperation and compliance is unattainable.

Manitoba

The Contaminated Sites Remediation Act in Manitoba includes the standard requirements contained in statutes of other jurisdictions. It allows the director to make most decisions, designate sites, designate responsible persons, issue orders and recover costs. The director may also enter into and approve agreements with parties to voluntarily undertake investigations and remediation, as in other jurisdictions. However, there are major differences in requirements contained in the act and in program application.

These differences include:

- the primacy of the "polluter pays" principle in determining responsibility
- the designation of sites at two different risk levels: "contaminated" and "impacted"

- the requirement to designate a responsible person
- the requirement to designate a site as contaminated
- the director deciding, through advice or order, whether a site is investigated after exceedance is reported by the owner or operator
- not requiring the involvement or certification of a site professional in legislation
- the ability of a potentially responsible person to request determination by the director or a tribunal, resulting in a pause in remediation
- the ability for the director to request advice directly from a quasi-judicial body, who may later hear an appeal on the same matter
- allowing for apportionment by the director or, on request of the director, by a tribunal
- the responsibility for remediation being "several" (liability is limited and proportional to contribution to contamination) and leaving shares of responsibility for costs unassigned

The commission provides 13 recommendations. These address:

- certification of site professionals, obliging them to report contamination and a requirement for owners and occupiers to use these professionals in the remediation process
- responsibilities of the owner or occupier to remediate
- a process for classification of sites and that remediation actions be commensurate with the level of risk
- the role of the director and a requirement to develop codes of practice, protocols and guides
- options for the owner or occupier to recover costs from responsible parties
- the role of the Clean Environment Commission

The commission recommends the "polluter pays" principle be retained in legislation as one of the factors to be considered in assigning responsibility for costs.

Mines

Canada et al.

British Columbia, Ontario and Saskatchewan mine rehabilitation, remediation and reclamation programs were reviewed.

Mines and mining activity are regulated under mining or environmental legislation in the three jurisdictions, the basic operating conditions are consistent. A mining operation requires a closure plan that includes progressive rehabilitation along with financial assurance. Assurances are calculated based on the estimated costs of rehabilitation. In two of the provinces, five-year reviews are mandatory. In all jurisdictions, securities are held in a special account designated for each operation, within the consolidated revenue fund and managed by the government.

Responsibility for rehabilitation, by the licence holder, endures after closure of the mine site. The conditions for jurisdictions to accept a site after closure are not well defined, except in Saskatchewan. Here a separate statute sets out conditions and requires two funds, one for on-going maintenance and one for unforeseen events.

The government agencies responsible for management of orphaned and abandoned mine sites differs with jurisdiction. These may include the agency responsible for mining operations, environmental ministries, Crown land management agencies, a Crown corporation or some combination of these.

Financial assurances, if any, have not covered remediation costs for abandoned mine sites. Government agencies are required to seek additional funding through the provincial appropriation process. Funds are also sought through the appropriation process for management of orphaned sites. Alternate funding arrangement for such sites were surveyed in Australia and the United States.

Manitoba

Manitoba's mining legislation is similar to that in other jurisdictions. Major actions are addressed, mainly requirements for attaining an authorization to undertake mining related activity, the work required and financial requirements to retain authorization. Companies are required to address environmental liabilities but the publicly available information and guidance are not clear in outlining the expectations of an operator. Program managers provided clarification on program implementation. Many of the actions taken, that are best practices and mirror those of other jurisdictions, are not readily available to the public, are not recognized in legislation or in guidance documents.

Operating and closure plans are required but formal guidance on contents of a plan is minimal. In contrast, other jurisdictions possess detailed regulations and codes of practice providing comprehensive direction on many components of the plan. Included in the closure plan is a rehabilitation plan. The cost of implementing the rehabilitation plan is to be estimated by the proponent, approved by the director and a financial assurance is to be supplied that reflects the estimated costs. There is little publicly available information on what is considered in developing the estimate or a required review period for the plan and assurance. Some jurisdictions have a mandated five-year review period. In Manitoba, assurances have not been reviewed for some time and are currently being updated.

Operators remain responsible for rehabilitation if a site is closed temporarily or permanently. On permanent closure, guidance on policy and procedures are wanting as in most jurisdictions, except Saskatchewan. A legislated requirement, for scheduled inspections, plan review and review of assurance would help in the successful management of mine sites and limit government liability in the future.

The management of orphaned and abandoned mines sites is similar to other Canadian jurisdictions. Manitoba Conservation and Climate currently manages these sites. There are no known operators or the operator is unable to undertake rehabilitation for these sites. These are largely historical sites in operation prior to the imposition of liability conditions and environmental restrictions.

An inventory and hazard assessment of orphaned and abandoned sites was undertaken between 2005 and 2007. Many of the sites identified have been rehabilitated, some are in progress and others will require management well into the future. Formalization and clarity on policy and procedures for this program would benefit public understanding.

Financial management for orphaned and abandoned sites in Manitoba is similar to other Canadian jurisdictions. No Canadian jurisdiction has a dedicated fund; all must seek approval for expenditures through the provincial appropriations process. In Australia and in the United States there are examples of levies being used to finance rehabilitation of abandoned sites.

The commission offers four recommendations related to the review of rehabilitation plans and calculation of assurances as well as policy and procedures for long-term maintenance of closed mine sites. Five policy options address financial support for orphaned and abandoned mine sites.

Aggregate Quarries

Canada

The aggregate management program was examined in Alberta, British Columbia, Ontario, Québec and Saskatchewan. All five jurisdictions require operators to rehabilitate or reclaim their sites, with few exceptions. Operations are governed under mining, environmental, municipal and Crown land legislation, or some combination of these. Ontario has a stand-alone statute for aggregate management.

Rehabilitation or reclamation plans accompanied by financial assurance are required, with some exceptions for small pits on private land or aggregate destined for public projects. Some jurisdictions require periodic review of plans and assurances.

Specific requirements for rehabilitation are contained in regulations or in adopted standards, criteria, guidelines or codes. Where operations are governed by environmental or land use legislation, conditions related to the environment may be imposed. All five jurisdictions provide for municipal designation and regulation of aggregate operations, although the role of municipalities in rehabilitation and reclamation is variable.

Manitoba

Manitoba's program for rehabilitation of aggregate quarry sites is different from those in other jurisdictions. Rehabilitation plans and assurances are not required for aggregate operations in contrast to all other mining activities in the province. Planning and municipal legislation allows municipalities to require such plans and assurances through bylaws, which some municipalities do.

In place of rehabilitation requirements, the government imposes a levy on aggregate quarry operators on both Crown and private lands. The levy is managed by the government and is used to finance rehabilitation activities on private lands, through the Quarry Rehabilitation on Private Land Program.

There are few legislated rehabilitation standards to be met, beyond those related to safety. Conditions for receiving funding are few. New leases or expanding operations on private land, are subject to a Technical Review Committee assessment, as required under planning legislation. The committee assessment is provided to the municipality to assist in decision making and developing permitting conditions.

The commission provides six recommendations that address requirements for rehabilitation plans and financial assurances for leased sites on Crown land and large sites on private land as well as the option of continuing the levy for permitted sites on Crown land and small sites on private land.

Oil and Gas

Canada and North Dakota

Oil and Gas reclamation and rehabilitation programs were examined in Alberta, British Columbia, Saskatchewan and North Dakota. Operation of the industry and management of well and facility abandonment, closure, remediation and reclamation of sites is overseen by an independent corporation, a commission or by the responsible ministry.

Operators are required to provide financial assurances to address spills, abandonment and reclamation even if the operation is no longer viable. Methods for calculating the amount of the assurance varies between jurisdictions. Some are calculated based on the difference between the operation liabilities and assets; others are set dollar amounts for different aspects of the operation adjusted for the number of wells in operation.

In addition to the security, an annual contribution is made to an orphaned well fund in the Canadian jurisdictions. The amount due is based on the reclamation plans for the year and each operator's share of the total liabilities. North Dakota's fund is sourced mainly from fees. The respective corporations, commissions or ministers manage these funds. In Alberta, the corporation transfers the funds to an industry led Orphaned Well Association. The levies collected do not cover the costs of rehabilitation of orphaned sites and substantial financial assistance has been provided by governments.

Manitoba

The responsible department administers the oil and gas program rather than an independent body, as in some other jurisdictions. The industry has been relatively stable considering current market conditions. There are two types of financial requirements associated with oil and gas facilities in Manitoba: a performance deposit and a non-refundable levy. The method of calculating these financial requirements appears to lead to more stability than approaches in the other jurisdictions.

A performance deposit (financial security) is required for each well or battery, up to a maximum, per licence holder, depending on the recent net revenue stream from their facilities. A non-refundable levy is also required to transfer a licence or apply for a well licence or battery permit and annually for inactive wells or batteries. Amounts vary depending upon the activity and period of inactivity.

Levy funds are deposited in a separate account under the consolidated revenue fund. The minister may make expenditures from this fund, for abandonment of sites acquired by government, to offset shortages after a performance deposit has been expended. Expenditure commitments do not lapse at the end of the fiscal year.

The government has acquired a relatively small number of wells thus far, but even that number will significantly deplete the levy fund. Given current industry uncertainty, the financial requirements should be increased to prepare for the possibility of more sites having to be acquired by government.

The commission recommends that the performance deposit and the levy be increased.

Conclusion

The commission recommends legislative and procedural improvements and makes other suggestions broadening requirements to remediate and rehabilitate sites, clarifying the role of the operator, owner or occupier and other responsible parties in addressing contamination, and enhancing and updating financial instruments to backstop the costs of rehabilitating sites, including legacy sites.

These steps, and others included in the report, should result in more consistency across programs, fewer costs being borne by the public and more effective rehabilitation and remediation of sites impacted by development.

Chapter 1: Introduction

1.1 Mandate and Terms of Reference

On March 19, 2020 and later clarified on June 8, 2020, the Minister of Conservation and Climate made the following request of the Clean Environment Commission:

Pursuant to Section 6(a) of The Environment Act, I have requested the Clean Environment Commission to conduct an in-depth review to support the development of a policy options paper and recommendations on a polluters pay approach to environmental liabilities for Manitoba. The focus will be on sites under both the OAM [Orphaned and Abandoned Mine] Program and the Contaminated Sites Environmental Liabilities Program.

The accompanying Terms of Reference requires the commission to:

- Review and propose amendments and/or consolidation of the current legislation governing contaminated sites to ensure there is consistency across government in how these sites are assessed from a risk perspective.

- Identify options for the development of an appropriate risk-based approach towards the identification, classification and management of all contaminated sites in Manitoba, including but not limited to, abandoned mines, abandoned oil and gas wells, quarries, and any other industrial activity that resulted in contamination.

- Uphold the general concept of 'polluter pays' and the appropriate apportionment of responsibility amongst responsible parties; but explore added flexibility to allow for joint and/or several liability when certain criteria are met.

- Reduce the liability of Manitoba associated with abandoned mine sites and other contaminated sites by providing recommendations for an updated funding structure to defray costs on behalf of Manitobans. This may include exploring options to replace the existing Environmental Remediation Fund or other similar funds (e.g. Abandonment and Reclamation Fund under The Oil and Gas Act), with a more flexible and longer-term fund that would draw from a variety of sources (e.g. administrative penalties, application fees, securities, and/or grants).

Upon completion of the review, Clean Environment Commission staff will provide the Minister with the results of the review, along with options and recommendations for regulatory and procedural improvements.

1.2 The Commission

The Clean Environment Commission (the commission) is established under The Environment Act and provides advice and recommendations to the minister, develops and maintains public participation in environmental matters and carries out functions that it is required or permitted to carry out under The Contaminated Sites Remediation Act and The Drinking Water Safety Act.

The commission consists of a full-time chairperson and part-time commissioners appointed by Order-in-Council. A four person panel was formed to carry out the investigation that is the subject to this report. The panel members were Serge Scrafield (Chair), Glen Cummings, Terry Johnson and Laurie Streich.

1.3 The Process

As mandated, the commission panel reviewed legislation and programs in Canadian jurisdictions, specifically examining management approaches for environmental liabilities for contaminated lands, mine sites, quarries and oil and gas operations. Program managers in some of those jurisdictions were contacted seeking clarification on program implementation. The panel also reviewed funding arrangements to address orphaned and abandoned sites. Input from program managers in Manitoba, legal practitioners with experience with contaminated sites in Manitoba and industry representatives was considered in the review.

1.4 The Report

The report is divided into four Chapters. Chapter 2 includes the background and current state of legislation and programming addressing contamination and degradation of sites across Canada. Also included is a review of management approaches associated with orphaned and abandoned mining and oil and gas sites. Chapter 3 provides an in-depth assessment of Manitoba's legislation and programs. Chapter 4 outlines options and recommendations for program improvements in Manitoba.

The appendices of the report include the terms of reference and a list of individuals with whom the panel engaged.

Chapter 2: Inter-Jurisdictional Review

2.1 Introduction

Contaminated Sites

Historically, industrial and commercial development provided Canadians with jobs and contributed significantly to the economy. While development has provided economic benefits, it has also contributed to adverse impacts on human health and the environment. Much has been done in recent decades to improve processes associated with industrial developments to prevent or reduce effects on human health and the environment. However, historical practices left contamination and impacts on the land that are now subject to remediation, restoration, rehabilitation, or reclamation.

Contamination is broadly defined as a location at which soils, sediments, wastes, groundwater and surface water are contaminated by substances above benchmark criteria and/or pose an existing or imminent threat to human health and the environment[1].

Although there are now greater restrictions on the production, release and management of contaminants in contemporary industrial applications across Canada, historical contaminated sites are a common concern and regularly become the responsibility of the jurisdiction to address. In the 1991 State of the Environment Report[2], the federal government estimated there were 1,000 contaminated sites where the owner could not be found and became the government's responsibility. This number increased in subsequent years with additional investigation.

To start to address this universal and on-going problem, in 1989 the Canadian Council of Ministers of the Environment (CCME), established the National Contaminated Site Remediation Program (NCSRP) with three key objectives[3].

- to apply the "polluter pays" principle ensuring responsible parties are accountable for costs associated with the remediation of a contaminated site
- to remediate high-risk orphaned sites (those sites for which the owner or responsible party cannot be identified or is financially unable or unwilling to carry out the necessary work)
- to work with industry to stimulate the development of innovative remediation technologies

The federal government provided $250 million over five years to the program to help remediate orphaned high-risk contaminated sites across Canada, while promoting Canada's technology industry. Under the program, 45 contaminated sites were addressed and 55 technological site development demonstrations were undertaken[4].

In 1990, CCME held multi-stakeholder workshops to identify key factors for incorporation into a framework for the assessment and remediation of contaminated sites in Canada. Key recommendations resulting from the workshops included a need for a simple classification system to identify priority sites, a "two-tiered" approach (generic and site specific) for assessment and remediation, and equal consideration of human health and environment in the development of all common scientific tools for use in the NCSRP[5].

CCME convened a number of working groups with representation from member jurisdictions, industry, experts in the field and others as needed. These groups addressed many topics, including liability and technical and scientific procedures and methodologies. A number of technical guidance documents

were produced and in 1997, *Guidance Document on the Management of Contaminated Sites in Canada*[6] was published linking the technical documents to successful contaminated site remediation. Objectives were to:

- provide procedural guidance to those managing contaminated sites
- link existing CCME documents to aid their effective use
- educate and inform government, industry and the public about the issues involved
- assist in establishing a common approach to manage contaminated sites

The CCME's national framework for the assessment and remediation of contaminated sites involves a staged approach addressing:

- identification of contaminated sites through a classification process, designating sites relative to the risk to human health and the environment
- comparison of site conditions to generic environmental quality guidelines to identify whether further action is required
- determination of site-specific remediation objectives using either a guideline-based approach or a risk-based approach; risk-based approach includes ecological risk assessment and human health risk assessment
- development of a remedial action plan and associated activities to reach remediation goals
- verification that remediation goals have been achieved
- identification of ongoing monitoring requirements

At the same time the Decommission Steering Committee, a subcommittee of the Waste Management Committee, was exploring options to decommission and rehabilitate major industrial sites so they could be put back into a safe use[7]. At the time, Ontario and Québec had developed guidelines and policies to address decommissioning and cleanup of generic industrial sites. British Columbia had undertaken clean up of Pacific Place in Vancouver and proposed a contaminated sites program. CCME had also proposed guidelines for polycyclic aromatic hydrocarbons (PAH) at coal tar sites.

The committee produced *National Guidelines for Decommissioning Industrial Sites*[8]. It was concluded that regardless of regulation, the onus was on industry to be good corporate citizens and facilitate the cleanup of sites. Also stated, was that actions should be site specific and that the "polluter pays" principle be paramount in all decommissioning and cleanup. Industry should take preventative actions to avoid future contamination. It was also noted that the polluter may no longer be viable or able to pay for the clean up.

Suggestions to address the costs of rehabilitation while recognizing the polluter pays principle were made. These included a decommissioning cleanup bond held by the government or an annual surcharge based on practices and revenue or annual contributions to a contingency fund.

It was concluded that existing environmental legislation and regulations could address contaminants but, except for Ontario and Québec, a provincial policy on how these regulations would be applied was needed to address industrial sites.

In 1992, a core group of representatives from CCME jurisdictions addressed liability issues[9]. Members of the committee were Nova Scotia, Ontario, Canada, Manitoba, Alberta, and representatives from five stakeholder organizations: the Canadian Banker's Association, Canadian Environmental Law Association, Canadian Chemical Producers Association, West Coast Environmental Law Association and the Canadian Petroleum Products Institute.

A broader advisory group participated in discussions on a variety of liability issues. Thirteen principles on contaminated sites liability came out of the process.

The committee recommended that these principles be supported in policy and legislation:

1. The "polluter pays" principle should be paramount.

2. Governments strive to satisfy the principle of "fairness". It should be possible to satisfy the principles of both "polluter pays" and fairness. "Deep pockets" should be rejected as a determinant of liability.

3. The three concepts of "openness, accessibility, and participation" be enshrined.

4. Support the principle of "beneficiary pays" based on the view there should be no "unfair enrichment".

5. Base the process on the principles of "sustainable development".

6. Cast a broad net for determination of potentially responsible persons and include a defined list as well as a clearly defined statutory exemption for certain types of parties such as lenders and receivers.

7. Enable recovery of public funds and have priority for recovery from estates that have entered bankruptcy or receivership.

8. Encourage efficient cleanup of sites and fair allocation of liability and discourage excessive litigation by promoting alternative dispute resolution.

9. Include a list of factors for use in the liability-allocation process. (a suggested list was provided)

10. Make available alternative dispute resolution as an alternative in the allocation process.

11. Maintain discretion for the designation of contaminated sites. Base designation on risk to human health and to the environment. Public notification should also take place.

12. A "responsible person" who completes a cleanup to the required standards should be issued a certificate of compliance that indicates that they have met the standards of the time, but does not absolve them of further liability should standards or regulations change.

13. Develop benchmarks relative to land usage and site location. Include public input into development of these benchmarks.

In the early to mid-1990's, with guidance from the CCME process, jurisdictions amended existing legislation or established new legislation. Alberta was one of the first to specifically address contaminated sites in the Environmental Protection and Enhancement Act[10]. Other jurisdictions

followed suit, some using Alberta as an example. Manitoba stands alone in enacting a separate statute to address contaminated sites[11].

In 2003, CCME began a study to re-examine whether the established principles were still relevant and added the allocation of liability and brownfields to its agenda[12]. A review and consultations with stakeholders was carried out. The results informed liability issues for other types of sites, particularly the transfer of liability.

In 2004, the Environmental Law Centre prepared a report, *A review of Regulatory Approaches to Contaminated Site Management*, for Alberta Environment[13]. The focus of the review was:

- brownfields and voluntary cleanup
- liability matters, including allocation and termination of liability
- retrospective application of contaminated land legislation and liability
- triggers (initiating circumstances or conditions) for the use of contaminated land legislation and regulatory tools
- effects of changing remediation objectives on liability and remediation obligations

The report provided the following findings. At the time, all Canadian jurisdictions had some form of environmental legislation enabling management of contaminated land, although some was through provisions related to control of substance or contaminant releases, rather than provisions specifically directed to contaminated land. Alberta, British Columbia, Manitoba, Nova Scotia and Yukon had incorporated most or all of the liability principles into their legislation. Ontario and Québec had incorporated about half of the principles. The remaining jurisdictions incorporated only a few of the principles into their legislation.

All jurisdictions included the "polluter pays" principle as an important element of their regulatory systems and almost all provided for retrospective application of their legislation to contaminated land.

At the time, most jurisdictions had in place or were building regulatory systems that recognized limited resources on the part of regulators (BC had incorporated a fee for service). Most jurisdictions had taken steps to increase public accessibility of information related to land contamination, usually in the form of a separate site registry or through registration of notices in the applicable land registry system.

Exemptions from liability were often tied to a lack of involvement in causing contamination or to the exercise of due diligence with respect to one's involvement with a site, and contamination on that site. Every jurisdiction, except one, provided for retroactive application of its legislation and retroactive liability for contamination. There was no clear trend regarding the use of joint and several liability versus proportional liability, although most of the jurisdictions used a combination of the two approaches. The use of third party expert review and certification began to be incorporated into regulatory systems. The effect of changing remediation standards on liability or remediation obligations was not addressed.

Many jurisdictions either had adopted or were moving to facilitate use of risk management to deal with land contamination. Remediation of contaminated land was being tied to anticipated land use after remediation. In many jurisdictions, changes in land use trigger regulatory duties, ranging from requirements to provide information to duties to undertake new environmental site assessments. For example, British Columbia, Ontario and Québec all linked their contaminated land management systems

to land use planning requirements, often with requirements that certain land use authorizations not be granted without certain environmental conditions being met.

Incorporation of third party expert review and certification into regulatory systems was considered a way for governments to deal with limited resources. Some jurisdictions provided for a roster of experts to be determined by the minister or other government officials, while others set out the necessary qualifications for experts in its regulations.

Since this review, legislation across Canada has further evolved, informed by new information and experience with program application. In several jurisdictions (Ontario[14], Nova Scotia[15], Manitoba[16], PEI[17], BC[18]) operational third party reviews of contaminated sites programs led to alterations in program procedures and legislative amendments.

Additionally, developing case law around liability has further refined the procedural application of this principle.

CCME committees continue working collaboratively on updating and amending technical information and standards.

In addition, regional groups formed to work collaboratively and harmonize approaches to management of contaminated sites. In the Atlantic region, Atlantic Risk-Based Corrective Action (Atlantic RBCA) is a process to assess and manage the remediation of sites impacted by petroleum hydrocarbons and other contaminants in Atlantic Canada. The implementation and maintenance of Atlantic RBCA is overseen by the Atlantic Partnership in Risk-Based Corrective Action Implementation (Atlantic PIRI)[19].

Established in 1997, Atlantic PIRI is a collaborative group of provincial environment regulators, industry representatives, and regional environmental consultants from Nova Scotia, New Brunswick, Prince Edward Island, and Newfoundland and Labrador. This group identifies and discusses issues, develops standards and processes, and provides recommendations for continued technical and regulatory harmonization across the region.

In 2006, the CCME liability group published a report on the re-evaluation of the liability principles for contaminated sites[20]. The conclusion was that the original 13 principles still applied. It recommended an additional principle to address the transfer of liability and the conditions to be imposed.

Experience with the implementation of programs, practices and policies requires on-going amendments and changes in procedures to address emerging issues.

Orphaned and Abandoned Mines

Orphaned and abandoned mines are those mines for which the owner cannot be found or for which the owner is financially unable or unwilling to carry out rehabilitation. They pose environmental, health, safety and economic problems to communities, the mining industry and governments in many countries, including Canada[21].

Abandoned mines exist in all jurisdictions in Canada. These sites were not well documented as to their numbers and associated health, safety and environmental impacts and liabilities. The most serious environmental issues are acid drainage and metal leaching from underground workings, open-pit mine faces and workings, waste rock piles and tailing impoundment areas[22]. Further research and data

compilation is required to support sound decision-making, cost-efficient planning and sustainable rehabilitation.

In 1999 and 2000, a number of stakeholders in the mining industry asked the Ministers of Mines across Canada to establish a joint industry-government working group to review the issue of abandoned mines. The ministers supported the initiative and requested a workshop be organized[23].

The Workshop on Orphaned/Abandoned Mines in Canada, held in 2001, reviewed the issues surrounding orphaned and abandoned mine sites and identified processes to move forward. Five major themes were discussed:

- building a national inventory
- community perspectives
- setting standards and rational expectations
- ownership and liability issues
- identification of funding models

The workshop produced a set of principles and objectives which are:

1. Remediation of orphaned/abandoned mine sites must be based on concern for public health and safety, respect for ecological integrity, and sustainable development.

2. All work currently on-going with respect to inventory building and remediation must continue to be based on sound science and good communication among all parties.

3. Work toward eliminating future abandonments must continue, including the tightening of regulatory approaches.

4. The “polluter pays” principle must be implemented.

5. Targeted end-use and reclamation standards must be acceptable to local communities.

6. There must be transparency and disclosure in all decision-making processes.

7. All endeavours must encompass the notion of fairness.

8. Although the objective must be comprehensive reclamation of all sites, the approach must be cost effective and based on an acceptable method of prioritizing sites (for each jurisdiction).

The objectives were that a national multi-stakeholder advisory committee be formed and funded to address the following issues/initiatives to:

1. develop capacity for a national inventory of active, closed and orphaned/abandoned mine sites based on compatible inventories in each province and territory, and including an acceptable system for categorization and priority ranking

2. reach agreement upon definitions and terminology as applied to orphaned/abandoned mine sites

3. develop a plan to foster community involvement in decision-making about closure and reclamation standards, and to ensure that targeted end-use and reclamation standards are acceptable to local communities

4. evaluate the efficacy of various approaches, including voluntary rehabilitation legislation, permit blocking, non-compliance registries, and allocative liability versus joint-and-several liability

5. evaluate models and mechanisms to pay for the remediation of orphaned/abandoned sites, including insurance options and contingency funds

6. develop a plan for shared responsibility and stewardship when ownership cannot be established

7. develop a plan to foster transparency and disclosure in all processes

8. engage other relevant federal, provincial and territorial departments and ministries

9. secure appropriate funding for the above, at a level to be determined by Intergovernmental Workshop Group on the Mineral Industry and other stakeholders, to ensure delivery of the initiative

The ministers endorsed the workshop results. The National Orphaned/Abandoned Mines Initiative (NOAMI) was established. An Advisory Committee, with representation from the Canadian mining industry, federal, provincial and territorial governments, non-government organizations and Indigenous representatives guides NOAMI. The advisory committee receives direction from the Canadian mines ministers and reports their progress at the national mines ministers' conference. The federal, provincial and territorial governments, the Mining Association of Canada and the Prospectors and Developers Association of Canada, jointly fund NOAMI's activities. Its activities focus on policy solutions for management of orphaned and abandoned mines[24].

A number of published reports, guidance documents and tools assist in management of orphaned and abandoned mine sites.

In the early years, task groups formed to work on key issues. These included standardization of definitions and development of a web-based inventory of orphaned and abandoned mine sites across the country and their relative risk levels, which is now available on-line[25]. Other issues addressed are development of best practices for community engagement, reviews of the legislative environments and an examination of funding approaches for mine rehabilitation[26].

A 2007 jurisdictional review[27] provided a snapshot of the status of orphaned and abandoned mine site legislation at the time. The findings include that orphaned sites are not usually recognized or defined in legislation. Thus, there are no mechanisms developed to effectively deal with these sites. Even in jurisdictions where an orphaned site is defined, usually in environmental legislation, there is no follow through to a program that would effectively address the issue. Legislation recognizes the liabilities of an

operating mine with identifiable responsible parties and has mechanisms such as fees, securities and penalties to address the liabilities; these are often insufficient. However, if a company becomes insolvent, the management responsibility falls to the Crown along with a need to bridge any gap in funding. If a responsible party for a legacy site cannot be found, the responsibility also falls to the Crown. Even though there is legislation to address liability, these conditions cannot be enforced if there is no identifiable responsible party. The responsibility falls to the Crown and the Crown would therefore impose conditions on itself.

Most orphaned and abandoned mine sites are addressed under emergency actions due to safety issues, at a cost to the Crown. Ad-hoc programs without statutory support appear to be ineffective in dealing with the overall problem. None of the jurisdictions reviewed had authority to impose levies and create permanent funds dedicated specifically to mine site remediation. In some environmental legislation, related to contaminated sites, the minister may impose levies and establish a fund, but no jurisdiction had a sustaining fund for contaminated mine sites.

To help address orphaned and abandoned mine sites the author suggested that collaborative approaches between governments and government and industry be enhanced. In addition, volunteer abatement, remediation and reclamation should be included in legislation. Possible ways in which liability could be minimized or waived for parties willing to undertake the actions required are outlined in the report.

Funding is a major issue in addressing orphaned and abandoned sites. The author also recommends the establishment of an Orphaned and Abandoned Mine Cleanup fund in legislation and identification of the minimum and maximum amount in the fund each fiscal year, as well as authorization of a well-defined remedial action plan and budgetary process. Suggested was that funding would come from general revenue, cost sharing arrangements, levies, government-industry partnerships, a portion of mining tax revenues along with financial incentives for industry and other sources such as fines and penalties, donations etc.

Following the legislative review, NOAMI focussed on the closure requirements for mines and the long-term liabilities. Studies on a policy framework regarding the transfer of mining lands back to the Crown, long-term liabilities, decision processes for accepting these lands back to the Crown and long-term stewardship were published[28] .

In addressing mine closure and long-term liabilities, researchers concluded that closure plans are required by statute in all jurisdictions[29]. Recommended is that these plans and associated assurances be regularly reviewed and adjusted as required, especially when closure is imminent. Also suggested is that estimates of cost for long-term maintenance be done or reviewed by third parties to ensure they are reflective of true costs. Issues and processes surrounding post-closure and return of the sites to the government are outlined. Although all jurisdictions will accept sites, the conditions for acceptance vary, and processes are generally weak, except in Saskatchewan. Several jurisdictions will not accept properties with ongoing water treatment or contamination concerns, but there is little indication of how these sites will be maintained or funded should the proponent disappear. The authors found little address of catastrophic events or contingency response planning for worst-case scenarios. Challenges in calculating future costs are regularly encountered; there is no widely accepted process.

Many of the policy and information gaps identified in these studies have been filled or are in the process of being addressed. Inventories, classification and reclamation of orphaned and abandoned sites have accelerated since NOAMI's establishment. The involvement of auditors general in requiring an accurate accounting of liabilities and identification of priorities has also focussed attention on orphaned and abandoned mine sites.

Legislation and policy continues to evolve to address current and foreseeable issues, particularly to limit to the extent possible, government liabilities in the future. Climate change adds a complexity to the situation. The universal outstanding issue continues to be: how to address and fund reclamation of emerging and legacy orphaned and abandoned sites.

The following section outlines current approaches to addressing contaminated sites across Canada, and environmental liabilities for mine sites, sand and gravel, and oil and gas operations for a select number of jurisdictions.

2.2 Jurisdictional Summaries

The minister requested the commission to further research and analyze regulatory regimes across Canada to better understand best practices, and adaptability to Manitoba.

Following is a summary of the regulatory environment for each jurisdiction, highlighting major differences and singular approaches to management of contaminated sites. Provided is a legislative overview of the main components in contaminated sites programming. An overall summary can be found in Table 1. The information was collected through review of statutes and regulations as well as examination of third party program reviews, policies and mandated guidance documents. Provincial representatives in British Columbia, Nova Scotia and Saskatchewan were contacted to gain clarity on their approaches to contaminated sites management.

Approaches to management of mine environmental liabilities were examined in British Columbia, Ontario and Saskatchewan. Examples are also included for Australia and the United States. Programs for aggregate and quarry mining were investigated in Alberta, British Columbia, Ontario, Québec and Saskatchewan.

The panel also examined the reclamation and security requirements as well as levies and funds associated with the oil and gas industry in Alberta, British Columbia, Saskatchewan, and North Dakota.

Review of legislation and program implementation was done from a procedural viewpoint. Legal analysis of interpretations regarding legislation has not been undertaken and will be required prior to consideration of legislative change in Manitoba.

2.2.1 Alberta

Contaminated Sites

In Alberta, contaminated sites are addressed in the Environmental Protection and Enhancement Act[30], the Remediation Regulation[31] and the Conservation and Reclamation Regulation[32]. The *Contaminated Sites Policy Framework*[33] provides guidance on the implementation of the program. Among the principles included in the description of the purpose of the act is "the responsibility of polluters to pay for costs of their actions".

The act enables the minister to "establish programs and other measures for the use of economic and financial instruments and market-based approaches for the purposes of protecting the environment, achieving environmental goals in a cost effective manner and providing methods of financing programs and other measures for environmental purposes"[34].

The act established the former Environmental Protection and Enhancement Fund and the Environmental Protection Security Fund, as described later.

Reporting Contamination

A person who releases or causes or permits the release of a substance into the environment that may cause, is causing, or has caused an adverse effect must immediately report it to the department. Adverse effect is defined as an "impairment of or damage to the environment, human health or safety or property".

The person having control of the substance also has the duty to take all reasonable measures to:

- repair, remedy and confine the effects of the substance
- remediate, manage, remove or otherwise dispose of the substance to prevent an adverse effect or further adverse effect
- restore the environment to a condition satisfactory to the director[35]

The director may issue an environmental protection order to address release of a substance and remedy the effects. An inspector or the director may issue a remediation certificate if work is satisfactory.

Designation and Responsibilities

Where the director is of the opinion that a substance may cause, is causing or has caused a significant adverse effect is present in an area of the environment, the director may designate an area as a contaminated site. The director must notify the owner, others responsible and the municipality in a form set out in regulation. Any person directly affected by the designation may submit a statement of concern to the director[36].

A 2004 review for Alberta Environment noted that in practice, voluntary cooperation is sought and site designation is rare. Agreements between responsible parties and apportionment of costs is encouraged. Such agreements shield the parties from environmental protection orders[37].

Person responsible for the contaminated site[38] is defined as:

- a person responsible for the substance that is in, on or under the contaminated site
- any other person the director considers caused or contributed to the release
- the owner of the contaminated site
- a previous owner of the site who was the owner at any time when the substance was in, on or under the contaminated site
- a successor, assignee, executor, administrator, receiver or trustee of any of the above
- a person who acts as the principal or agent for anyone other than the person responsible for the substance

Table 1: Jurisdictional review of contaminated sites remediation.

Province or Territory	Polluter Pays	Site Professional	Apportionment	Registry	Designation	Standards Referenced	Fund	Appeals
Alberta	Y*	Y	Y*	Y	Y	Y	N	Board
British Columbia	N	Y	Y^	Y	Y	Y	N	Panel^
Manitoba	Y	N	Y	Y	Y	Y	N	Minister Commission
New Brunswick	N	Y	N	Y	Y	Y	N	Minister
Newfoundland & Labrador	N	Y	N	Y	Preliminary & final	Y	N	Minister
Northwest Territories	N	Y	N	N	N	N	N	Minister
Nova Scotia	Y	Y	Y*	Y	Y*	Y	Y^	Minister
Ontario	N	Y	N	Y	N	Y	N	Tribunal
Prince Edward Island	N	Y	N	Y	Preliminary & Final	Y	N	Commission
Québec	N	Y	N	Y	N	Y	N	Tribunal
Saskatchewan	N	Y	Y*	Y	N	Y	Y	Courts
Yukon	N	N	Y	Y	Preliminary & Final	Y	N	Minister

*Not in practice ^See description on status.

Municipalities are exempt if they acquired the property through tax arrears.

A person responsible for a contaminated site may prepare a remedial plan for approval or make an agreement with others and/or the director; the director must approve all agreements[39].

Where the director designates a contaminated site, the director may issue an environmental protection order to a person responsible. In determining the person responsible, the director will take into consideration[40]:

- when the substance became present in, on or under the site
- in the case of an owner or previous owner of a site
    - whether the substance was present at the time the person became owner
    - whether the person knew or ought reasonably to have known
    - whether the substance ought to have been discovered had the owner exercised due diligence
    - whether the presence of the substance was caused by the omission of another person
    - the price the owner paid and the relationship between that price and fair market value had the substance not been present
- in the case of a previous owner, whether they disposed of their interest without disclosure
- whether the person took reasonable care to prevent the presence of the substance
- whether the person dealing with the substance followed accepted industry standards and practice in effect at the time or the laws at the time
- whether the person contributed to further accumulation of the substance
- what steps the person took to deal with the substance
- any criteria the director considers relevant

The environmental protection order may:

- require the person to take any measures the director considers necessary to restore or secure the contaminated site
- provide for the apportionment of costs
- regulate or prohibit the use of the contaminated site

The person responsible and the municipality receive notice, as do any others required by regulation.

Where an environmental protection order is directed to more than one person, all persons are jointly and severally liable for costs[41].

<u>Conservation and Reclamation</u>

If required by regulation an operator must provide a security and insurance[42].

An operator must conserve specified land, defined by regulation, reclaim specified land and unless exempt by regulation obtain a reclamation certificate[43].

Site conservation or reclamation must be done in accordance with conditions of approval or code of practice, terms and conditions of a protection order, or on directions of an inspector or the director, and the act. An inspector or director may issue a reclamation certificate if conservation and reclamation are completed satisfactorily.

An environmental protection order can be issued any time before a certificate is issued and may apply to offsite damage. An order can be issued, if new information becomes known after a certificate is issued. Surrender of surface rights or expropriation cannot take place unless a certificate is issued[44].

Where an enforcement order is issued to more than one person, all are jointly responsible to carry out the terms and are jointly and severely liable for payment of costs[45].

Remediation

Remediation certificates may be issued, on request, when remediation has been carried out under the terms and conditions or approval or a protection order. If a certificate is issued, an environmental protection order cannot be issued for further work related to the same substance. A remediation order does not affect an obligation to obtain a reclamation certificate, also covered under the act [46].

Appeals

The Environmental Appeals Board hears appeals pertaining to environmental protection orders regarding conservation and reclamation and reclamation and remediation certificates. The act states that "submitting a notice of appeal does not operate to stay the decision objected to". The Board retains the discretion to issue a stay[47].

Additionally, "… the Minister or the Board has exclusive and final jurisdiction to do that thing and no decision, order, direction, ruling, proceeding, report or recommendation of the Minister or the Board shall be questioned or reviewed in any court, and no order shall be made or process entered or proceedings taken in court to question, review, prohibit or restrain the Minister or the Board or any of its proceedings"[48]. This means that appeal to a court may only address issues of jurisdiction and law, and cannot overturn a decision of the minister or the board.

Orphaned Sites

The minister may establish programs and other measures to pay for costs of restoring and securing contaminated sites and the environment affected by the contaminated sites where the person responsible cannot be identified[49].

Standards and Guidelines

The minister may also develop objectives, standards, practices, codes of practice, guidelines or methods to meet environmental protection goals including those for monitoring and predictive assessment[50].

Qualified Professional

The legislation states that, if required by regulation, no person shall undertake an activity without the specified certificate of qualification. The certificate may be issued by the director or an approved organization. It also states that any activity should comply with any code of practice[51].

Security

If required by regulations, an applicant for or a holder of an approval, a registration, remediation certificate, a certificate of qualification or a certificate of variance shall provide financial or other security and carry insurance[52].

Policy and Regulations

Alberta's Contaminated Sites Policy Framework provides a description on how the statute, regulations, policies and guidance documents are incorporated into a comprehensive program. The department's policies promote the return of contaminated sites to productive use and ensure that risks to human health and the environment are minimized. Also indicated is that the Alberta Energy Regulator will apply these policies to upstream oil and gas and coal activities to ensure the same objectives are met for these activities[53].

The Remediation Regulation[54] adopts the guidelines that direct the implementation of the remediation program. Detailed instructions on the reporting, assessment and remediation processes are provided. The regulation also affirms the requirements for a qualified professional to undertake all activities. Review of the regulation is required every five years.

Reclamation

The objective of the Conservation and Reclamation Regulation is to return specified land to an equivalent land capability. The regulation allows the director to establish standards, criteria and guidelines and requires an operator to conserve and reclaim the specified land according to the standards, criteria and guidelines. Codes of practice are adopted by the regulation. Specified lands include those used for oil and gas production and pipelines, telecommunication systems, pit mines, quarry and peat operations, railways and roadways. Some oil and gas reclamation activities are governed by the Alberta Energy Regulator[55].

The regulation sets out the parameters on how local inspectors are incorporated into the program and an operator's liability after obtaining a reclamation certificate. The regulation applies to coal and oil sands mines and processing plants[56].

In undertaking approved reclamation, securities are required or may be imposed by the director. The amount of the security is based on:

- the estimated costs of conservation and reclamation submitted by the operator
- the nature, complexity and extent of the activity
- the probable difficulty of conservation and reclamation in consideration of such factors as topography, soils, geology, hydrology and revegetation
- any other factors the director considers relevant

The amount of the security is determined in accordance with the code of practice. Adjustments to the security are made in accordance with the applicable code of practice[57].

Environmental Protection Enhancement Fund

Until December 5, 2019, the Environmental Protection and Enhancement Fund[58] was used for environmental protection and enhancement and emergencies with respect to any matter under the minister's administration. Although the fund has been rescinded, it is included as some of its attributes may be of interest to the Manitoba government.

The fund was held by the minister, under a separate accounting record, and administered in accordance with the act. However, Treasury Board could transfer money to the consolidated revenue fund if money in the fund was not required for the purposes of the fund.

Revenue to the fund included:

- fees, levies, revenue, royalties, penalties, charges, dues, rents or other sums received by the government regarding any matter under the minister with Treasury Board Approval
- forfeited securities
- money recovered for work carried out by the government or taking emergency measures under any act administered by the minister
- money advanced by the minister from the consolidated revenue fund, capped at $100 million
- money from a supply vote appropriated for the purpose of the Environmental Protection and Enhancement Fund

Although the purpose of the fund was quite broad it appeared it was primarily used for fighting forest fires. The source of funds was primarily transfers from the Department of Agriculture and Forestry. However, a small portion of the fund was directed to environmental emergencies[59].

The Fiscal Measures and Taxation Act, proclaimed on Dec 5, 2019, dissolved some dedicated funds, including the Environmental Protection and Enhancement Fund, and rescinded the provisions of the act relating to the fund[60].

Environmental Protection Security Fund

The Environmental Protection Security Fund[61] is administered by the minister and can be used in accordance with the act. Contributions to the fund come from security deposits required through an approval, code of practice, a registration, a certificate of qualification, a certificate of variance or by an approval or licence under the Water Act[62].

The fund's purpose is to hold security until land reclamation is completed satisfactorily. The funds are used to complete reclamation if the operator does not comply with the conditions of the approval or the operator is unwilling or unable to do the work.

The securities are connected to:

- chemical production and manufacturing plants
- coal and oil sands mining operations
- hazardous wastes and recyclable projects
- landfills
- quarry activities
- sand and gravel operations
- waste management facilities

This fund does not hold security for oil and gas wells or other mining activities; these are held by the Alberta Energy Regulator, described below.

Sand and Gravel Operations

The Ministry of Environment and Parks regulates pit operations under environmental legislation and a code of practice. The province also encourages municipalities to address aggregate operations, especially smaller ones.

All pits, regardless of size, classification or whether on public (except federal) or private land, must comply with requirements of the Environmental Protection and Enhancement Act and the associated Conservation and Reclamation Regulation[63]. Under the act, "pit" means "any opening in, excavation in or working of the surface or subsurface made for the purpose of removing sand, gravel, clay or marl and includes any associated infrastructure, but does not include a mine or quarry" [64]. The act requires an operator to conserve and reclaim specified land, which includes pits regardless of size, and to obtain a reclamation certificate from a ministry inspector[65].

The regulation specifies further that an operator must conserve and reclaim the lands to an equivalent land capability in accordance with applicable standards, criteria, guidelines established by the director[66].

Large Pits (Class I) on Private Land

Class I pits are five hectares or more in area, on private land and exclude borrow excavations. Operators must register with the ministry before constructing, operating or reclaiming a Class I pit[67], must comply with a code of practice approved under the regulation[68] and provide security. *The Code of Practice for Pits*[69] provides detailed requirements for filing of an activities plan for authorization by the director along with a financial security.

The activities plan includes the intended use for reclaimed areas. Reclaimed area means the area of a pit where the landscape has been re-established, the topsoil has been replaced and vegetation has been established, but does not include any certified area. The plan must contain a description of the measures to be used to prevent any adverse effects resulting from the activities. Adverse effects are defined in the act as impairment of or damage to the environment, human health or safety or property. The operator must report any contraventions of the code and, include a summary of all measures to be taken to address remaining adverse effects.

Under the act, if required by the regulations, an operator, other than a government or government agency, shall provide financial or other security and carry insurance for the activity carried out by the operator[70]. The regulation requires that an operator provide security to the director before the pit is registered[71].

The security, as established by the code, is $250 per acre plus the estimated costs for a third party to rehabilitate the site[72]. Security, in the form of cash or a letter of credit, must be renewed every five years. Security is paid into the Environmental Protection Security Fund (described above). The regulation requires that any security forfeited by an operator be transferred to the consolidated revenue fund. In that case, the minister may, carry out conservation and reclamation activities on the site[73].

Small (Class II) Pits on Private Land

Class II pits are less than five hectares in size on private land. Class II pit operators do not need to register with the ministry as they do not fall under the *Code of Practice for Pits*. Operators must

conserve the land and reclaim these pits as regulated under the act. Operators of class II pits are subject to all conditions of the Water Act[74].

To support reclamation success, operators of Class II pits are strongly encouraged to pre-plan the reclamation intended at the end of the life of the pit. A landowner may negotiate reclamation requirements in their agreement with an operator. Additional requirements concerning reclamation may be established at the municipal level[75].

Once a pit becomes larger than five hectares, the operator must cease all activity within it. Requirements for a Class I pit must be met before activity can resume including a registration authorized by the ministry.

Municipal Regulation of Pits on Private Land

A provincial guidebook advises municipalities to address aggregate operations in their municipal development plans[76]. The guidebook suggests that policies might include a number of land use considerations as well as a requirement to post reclamation bonding for sites of five hectares or less.

Under the Community Aggregate Payment Levy Regulation[77], municipalities may pass bylaws requiring aggregate sand and gravel extraction operators to pay a levy of up to $0.40 per tonne. The levy is intended to help finance community benefits and offset community impacts from pit operations. Approximately half of Alberta's municipalities have such a levy in place[78]. The levy does not apply to a shipment from a pit owned or leased by the Crown or a municipality for a use or project being undertaken by or on behalf of the Crown or a municipality.

Pits on Public Lands

The removal of surface material, which includes sand and gravel, from public land is managed through a short-term (one year or less) license or a long term (up to 25-year) lease under the Public Lands Administration Regulation[79] pursuant to the Public Lands Act[80]. Under a license, the operator must pay a royalty and a surcharge prescribed by the minister. The surcharge covers, among other things, restoration and reclamation of public pits.

The director may also require security from an authorized occupier of Crown land under the Public Lands Act[81]. According to a government guide[82] published in 2008, the security required from a lease holder for surface mineral operations on public land is $1,000 per acre. It is not evident that this amount had been updated since that time.

In the system for tenders or bids to lease public land for pit operations, a successful bidder will have up to six months to prepare a Conservation Operation and Reclamation Plan. This plan will provide specific details on the operation, including how reclamation will progress during the term of the proposed disposition and provide an appropriate security. The appropriate level of security was not specified[83].

In November 2019, the Alberta Auditor General in a follow-up report[84] on the management of sand and gravel pits on public lands concluded that the Ministry of Environment and Parks does not do enough to protect Albertans from unnecessary risks created by sand and gravel pits.

The report noted the ministry does not collect enough security from pit operators to compel them to reclaim the land and to cover the cost of reclaiming pits if operators fail to do so. The auditor reported

that the ministry held $31 million in security but that it would cost $151 million to reclaim all the disturbed pits on public land. The report noted that it was very unlikely that all operators would fail to reclaim the land. The most likely scenario was that government would have to cover the shortfall for the un-reclaimed inactive pits, some of which could be orphaned pits. The shortfall for these pits was $7 million.

The report also indicated that the ministry does not enforce reclamation requirements when operators repeatedly fail to meet them or collect all royalty payments that pit operators owe to Albertans.

On a positive note, the auditor concluded that the ministry had implemented previous recommendations to ensure operators report the correct volume of sand and gravel they extract and the royalties due, and to assess the sufficiency of the security.

Oil and Gas

The Responsible Energy Development Act establishes the Alberta Energy Regulator as a corporation, and though it is not an agent of the Crown, the Lieutenant Governor in Council appoints the board[85].

The regulator's mandate is to provide for the efficient, safe, orderly and environmentally responsible development of energy resources and, in so doing, to regulate the disposition and management of public lands, the protection of the environment, and the conservation and management of water, including the wise allocation and use of water, in accordance with energy resource enactments.

Powers, duties and functions include:

- overseeing the abandonment and closure of pipelines, wells, processing plants, mines and other facilities and operations at the end of their life cycle
- regulating the remediation and reclamation of pipelines, wells, processing plants, mines and other facilities and operations in accordance with the Environmental Protection and Enhancement Act; reclamation includes the decontamination of land and water
- monitoring energy resource activity site conditions and the effects of energy resource activities on the environment

The regulator also hears regulatory appeals and may hold hearings or make use of alternative dispute resolution. In carrying out its powers, duties and functions, the regulator must also act in accordance with any applicable regional plan. The regulator is empowered to issue directives to carry out various aspects of its responsibilities.

The Alberta Energy Regulator is authorized to undertake duties and functions under other acts related to energy resource activities. These powers include those for contaminated sites, remediation, conservation and reclamation as set out in the Environmental Protection and Enhancement Act. Additional authority for the regulator is outlined in the Specified Enactments (Delegation) Regulation[86].

Applications, decisions and matters specified in other acts are considered, heard, reviewed or appealed in accordance with the act, its regulations and rules. Decisions of the regulator may be appealed to the courts on a point of law or jurisdiction.

The minister may give directions to the regulator for the purposes of:

- providing priorities and guidelines for the regulator to follow in the carrying out of its powers, duties and functions
- ensuring the work of the regulator is consistent with the programs, policies and work of the government in respect of energy resource development, public land management, environmental management and water management[87]

Security

Under the Oil and Gas Conservation Act[88], the Oil and Gas Conservation Rules Regulation[89] and directives[90], the Alberta Energy Regulator, through the Licensee Liability Rating Program, may require a well or facility licensee to provide a security deposit at any time the licensee fails a licensee liability rating assessment. This regulator holds these securities.
The regulator manages the Licensee Liability Rating Program. Under the program, a licensee whose deemed liabilities exceed their deemed assets must post the difference as a security deposit with the regulator. This rating is recalculated once a month [91].

The Alberta Government recently announced a new Liability Management Framework[92], which will include:

- a licensee capability assessment system to replace the Licensee Liability Rating program taking into account factors beyond assets and liabilities
- assistance to distressed operators to manage their assets and operations
- an inventory reduction program with minimum annual licensee spending requirements, averaged over five years, on abandonment and reclamation of inactive facilities
- an area based closure program where companies work together to share the cost of cleaning up sites
- a process to address legacy and post-closure sites which were abandoned, remediated or reclaimed before current standards were put in place as well as sites that have received reclamation certificates and the operator's liability period has lapsed

Abandonment and Reclamation

Under the Environmental Protection and Enhancement Act and the Conservation and Reclamation Regulations, companies have a duty to:

- reduce land disturbance
- cleanup contamination (known as remediation)
- salvage, store, and replace soil
- revegetate the area

A company can apply for a reclamation certificate when it can demonstrate to the regulator that the site is functioning in a similar manner as it was prior to disturbance, and no longer needs intervention. Only companies with a reclamation certificate, which shows that all reclamation requirements have been met can close their projects and end their surface leases[93].

Under the Oil and Gas Conservation Act, the regulator may order a well or facility be suspended or abandoned[94] where it is considered necessary to protect the public or the environment. A suspension

or abandonment must be carried out in accordance with the regulations and rules. Abandoned sites are those that have been permanently plugged, cut and capped and left in a safe and secure condition. Surface reclamation work would be complete and reclamation certificates may have been issued. Abandoned well locations are mapped and publicly available[95].

If a well or facility is not suspended or abandoned in accordance with a direction of the regulator or the regulations or rules, the regulator may authorize any person to suspend or abandon the well or facility, or suspend or abandon the well or facility itself. Abandonment of a well or facility does not relieve the licensee, approval holder or working interest participant from responsibility for the control or further abandonment of the well or facility or from the responsibility for the costs of doing that work. The well or facility suspension costs, abandonment costs and reclamation costs must be paid by the working interest participants in accordance with their proportionate share in the well or facility.

The regulator may determine suspension costs, abandonment costs and reclamation costs and allocate those costs to each working interest participant in accordance with its proportionate share in the well or facility. The regulator will also prescribe a time for payment.

Where a well or facility is suspended, abandoned or reclaimed by a licensee, approval holder, working interest participant or agent, the costs constitute a debt payable to those parties. Where a well or facility is suspended or abandoned by the regulator or by a person authorized by the regulator, the costs constitute a debt payable to the regulator. The debt is enforceable as if it were a judgement of a court. Recent legislative changes strengthen the regulator's role in requiring reasonable care to prevent impairment or damage and the associated costs, and in specifically addressing remediation as well as reclamation[96].

Orphaned Oil and Gas Sites

The regulator may:

- designate wells, facilities, facility sites and well sites to be orphan wells, facilities, facility sites or well sites
- deem working interest participant or licensee (large facilities) to be defaulting if they
    - have an obligation under the act to contribute toward suspension costs, abandonment costs or related reclamation costs
    - have not contributed to those costs as required by the act, and in the opinion of the regulator, do not exist, cannot be located or do not have the financial means to contribute to those costs[97]

Orphan Fund and Orphan Well Association

An orphan fund is established under the Oil and Gas Conservation Act[98]. The administration of the fund is delegated, through the Orphan Fund Delegated Administration Regulation[99], to The Alberta Oil and Gas Orphan Abandonment and Reclamation Association, an independent non-profit organization, generally known as the Orphan Well Association.

The association operates under the delegated legal authority of the Alberta Energy Regulator. The board of directors is made up primarily of industry representatives (five) with one representative from each of the Alberta Energy Regulator and Alberta Environment and Parks.

The orphan fund covers a variety of costs related to suspension, abandonment and reclamation of orphaned wells, facilities, facility sites and well sites, including recovering funds where the government has taken action. It is also used to pay the costs of administering the fund.

Recent legislative amendments strengthen the association's ability to manage and find purchasers for viable orphaned sites, to accelerate the cleanup of orphaned wells, infrastructure and pipelines and to expressly address remediation costs as well as reclamation costs100. The Orphan Well Association may authorize money to be paid from the orphan fund for any of these purposes.
For large facilities, the fund may be used to pay a defaulting licensee's share of costs. However, the defaulting working interest participant or licensee is not released from any liability for costs. As well, if the person who received the payment recovers all or part of the costs, they are to immediately pay the regulator an amount equal to the amount recovered, less the reasonable costs of recovery as determined by the regulator.

A debt to the regulator to the account of the orphan fund is treated the same as any other debt to the regulator, and all the same remedies under the act are available to the association for that purpose.

Orphan Fund Levy

Under the Conservation Rules Regulation, the regulator may each year, prescribe classes of wells, facilities (other than pipelines) and un-reclaimed sites and the rates of the orphan fund levy applicable to each class[101]. In prescribing the orphan fund levy for a fiscal year, the regulator must provide for a total levy that will be sufficient to cover:

- the costs referenced in the fund purposes for the fiscal year, as estimated by the regulator
- any deficiency arising out of the operations of the fund from the previous fiscal year
- any surplus for emergency and non-budgeted expenditures that the regulator considers necessary

Each licensee or approval holder's levy is a portion of the total levy. The portion is calculated as the licensee's deemed liabilities divided by the sum of the industry's liabilities[102].

Orphan fund levies for large facilities are calculated, held and accounted for separately in the orphan fund and used only in relation to those facilities. A licensee that fails to pay the levy to the regulator by the specified date must pay a penalty equal to 20 percent of the levy, unless directed otherwise. Under limited circumstances, licensees may appeal the levy.

The act also provides for a special orphan fund levy against licensees of oilfield waste management facilities.

Government Loans for Reclamation of Orphaned Sites

Until recently, funding for the association's work came primarily from Alberta's oil and gas producers through the orphan well levy, set and collected by the regulator and transferred to the Orphan Well Association. Since 2017, due to financial circumstance affecting the oil and gas industry, significant loans have been made to the OWA by the Alberta and Canadian governments[103].

The recently launched Site Remediation Program, administered by the Government of Alberta, is providing up to $1B in federal government funding to abandon and reclaim inactive oil and gas wells and to provide employment in the industry. Industry may apply, and landowners and indigenous communities may nominate sites, for grants. The funding flows to the service providers who do the abandonment and reclamation work[104].

Security for Oil Sand and Coal Mines

The Alberta Energy Regulator is also responsible for holding the security deposits of the Mine Financial Security Program for Oil Sands and Coal Mine closure costs. These deposits are required pursuant to the Environmental Protection and Enhancement Act and the associated Conservation and Reclamation Regulation[105].

At the end of a mining project's life, the company that owns the coal or oil sands mine must remove all infrastructure, remediate and reclaim their sites, return the land to a similar state and use before development took place, and maintain the land until they receive a reclamation certificate.

A company's security deposit is based on the estimated liabilities of its mine, which are the costs to abandon, remediate, and reclaim the site. Companies can elect to pay the full security deposit based on estimated liabilities at the start of the mining project, or four security deposits during the course of the project, addressing potential risks throughout the mine's life cycle.

The four deposit types, and when mining companies must pay them, are as follows:

- Base Security Deposit: All companies with new and existing mines must provide a base security deposit. This amount is primarily used to maintain the security and safety of the site until another operator assumes responsibility for the project or until all infrastructure is removed and the site is reclaimed.
- Operating Life Deposit: This deposit covers project risks that coincide with the end of a mine's operations. A company is required to start posting financial security when there are less than 15 years of reserves remaining. This ensures that all outstanding abandonment, remediation, and surface reclamation costs will be fully secured by the time there are less than six years of reserves remaining.
- Asset Safety Factor Deposit: If a company's assets (net cash flow from remaining reserves) fall below an acceptable level, this deposit ensures that all Mine Financial Security Program liabilities are fully funded. When a project's asset-to-liability ratio falls below 3.0, the company must pay the regulator sufficient financial security to bring the ratio back up to 3.0.
- Outstanding Reclamation Deposit: This deposit addresses the risks posed by a company that defers reclamation of its site until the end of operations. The company must post an outstanding reclamation deposit when it fails to meet its approved reclamation plan targets[106].

2.2.2 British Columbia

Contaminated Sites

British Columbia's Environmental Management Act[107] addresses contaminated sites. The major focus is on commercial and industrial sites. The Contaminated Sites Regulation[108] provides specific direction on the assessment and remediation process and protocols provide detailed standards.

Site Profile

The act requires provision of a site profile when applying for a subdivision or zoning change. The applicant must indicate whether the property was previously a commercial or industrial site and provide the prescribed information regarding past uses. A vendor must provide a site profile to a prospective purchaser if the site was used for a prescribed commercial or industrial purpose or prescribed purpose or activity. The profile must also be provided to the director as set out in regulation[109].

The director may order a site profile if the director is of the opinion the site is contaminated based on past use. The director is not liable for costs if no contamination is found.

The director may order an owner or operator to undertake a preliminary site investigation or a detailed site investigation and to prepare a report in accordance with regulations and protocols. If the site is not found to be contaminated the director is not liable for costs of the study.

Registry

The minister is required to establish a site registry and appoint a registrar. The director must provide information and documents regarding contaminated sites as per the list provided[110].

Designation

The act enables the director to determine whether a site is contaminated[111]. The director must make a preliminary determination based on the available information, give notice to the affected parties including the municipality, provide an opportunity for comment by the parties, decide on the final determination, give notice and carry out the procedures prescribed by regulation.

A person can by-pass the procedure by making a request to the director, providing sufficient information to determine the site is contaminated, and agreeing to be a responsible person for the site.

A final determination may be appealed.

Responsibility

Persons responsible for remediation of contaminated sites are:

- current owner or operator of the site
- previous owner or operator of the site
- person who produced the substance or did not undertake due diligence
- person who transported the substance and did not undertake due diligence
- person whose class is designated in the regulations

Persons responsible for remediation caused by migration are:

- current owner or operator of the site from which the substance migrated
- previous owner or operator of the site from which substance migrated
- person who produced the substance and did not undertake due diligence
- person who transported the substance and did not undertake due diligence
- secured creditor if they exercised control over persons undertaking treatment, disposal or handling of the substance or if the creditor becomes the registered owner

Persons not responsible for remediation are:

- person who became responsible by an act of God and exercised due diligence
- person who became responsible by an act of war and exercised due diligence
- person who became responsible by act of omission of a third party and exercised due diligence
- purchaser who could not have known and took appropriate steps to find out
- person where the seller did not disclose the contamination
- person who did not pollute when in ownership
- person who transported the contaminant and acted responsibly
- government body that inadvertently acquires property
- person providing assistance and advice on remediation
- person who owns or operates a site where contamination is due to migration
- person who owns or operates a site where there are naturally occurring substances
- government body that owns roadways, sewerage or waterworks
- person who was a responsible person where a certificate of compliance was issued and for which another person proposes or undertake a land use and change further remediation
- person who is in a designated list in the regulations as not responsible

A person responsible for remediation is absolutely, retroactively and jointly and separately liable for costs on and offsite, unless a director, by order, or a court apportions a share of the liability to a responsible person[112].

Program staff indicated that the onus is on the owner to demonstrate, on a balance of probabilities, that they are not responsible.

Remediation costs include preparation of a site profile, site investigations and reports, legal and consultant costs, and any fee imposed.

Any person (e.g. minor contributor, responsible person and director) may commence action to recover costs as long as not under consideration by director or panel.

<u>Remediation</u>

The director may issue a remediation order to any responsible person, and may require a person to undertake remediation, contribute cash or in-kind to another person or provide a security in the amount and form determined by the director.

In issuing an order the director must consider:

- adverse effects on human health and the environment
- potential adverse effects on human health and the environment
- likelihood of responsible persons not acting expeditiously or satisfactorily
- in consultation with the chief mines inspector, the requirements of a reclamation permit under the Mines Act
- in consultation with the commission, the adequacy of remediation undertaken under the Oil and Gas Activities Act
- the actions being undertaken or to be undertaken under a recovery related to a spill response

The director, in deciding who the order will be directed to must take into account:

- private agreements between and among responsible persons
- who should be named a responsible party based on the most substantial contributions to the contamination

A remediation order does not limit the right of a person to seek relief by some other method such as from the allocation panel or the courts.

If a remediation order is issued but the site has not yet been designated as contaminated, the director must determine whether the site is contaminated and if the appropriate person is named in the order. If the person named is not responsible then government must compensate the person for costs incurred directly related to the order.

A person who receives a remediation order must not, without consent of the director, knowingly do anything that diminishes or reduces assets that could be used to satisfy the terms and conditions of the remediation order; if they do so the director may take action to recover the amount of diminishment or reduction.

The director must give notice of intent to issue an order to all parties concerned. Program staff indicated that this often promotes greater voluntary cooperation on behalf of the parties, negating the need to finalize the order.

All investigations, assessments and remediation actions must be undertaken under the supervision of a site professional. The site condition report must be signed off by a site professional[113]. The act enables the minister to determine who is a site professional[114].

Apportionment

The minister may appoint up to 12 people with specialized skills in contamination, remediation or dispute resolution to act as advisors.

A director, on request of any person, may appoint an allocation panel of three advisors to provide an opinion on any or all of the following:

- whether a person is a responsible person
- whether a responsible person is a minor contributor
- the responsible person's contribution to the contamination and the share of their costs attributable to the contamination

The panel is to consider:

- the person's relative contribution to contamination
- the nature and quantity of substances causing contamination
- the degree of toxicity of the substances
- the degree of involvement by the responsible person in comparison to others
- the degree of due diligence exercised by the responsible person compared to others
- the degree of cooperation with government official

- in the case of a minor contributor, if contribution was minor, required no remediation or the cost would be minor
- other relevant factors

In determining whether a responsible person is a minor contributor the director must consider:

- whether only a minor portion of contamination can be attributed to the person
- whether not remediation is required due to the contribution, or the costs attributable to the person are minor
- in all circumstances, whether the application of joint and separate liability would be unduly harsh

The director is not bound by the opinion of the panel[115].

Program manager advised that the applicability of sections of the act dealing with the allocation panel and minor contributor have been restricted by court decisions. They advised that before making any changes to legislation in Manitoba, case law should be studied and recommended consultation between provincial legal advisors.

Voluntary Remediation Agreements

On request of a responsible person or minor contributor a director may enter into a voluntary agreement, consistent with regulations, that includes:

- provisions of financial or other contributions
- certification that all information has been disclosed
- security in the form prescribed
- schedule of remediation
- other conditions imposed by the director

On entering into an agreement:

- the responsible person is discharged from further liability
- other responsible persons not named in the agreement are not discharged from liability
- potential liability of others is reduced by the amount specified in the agreement
- an agreement does not affect the ability of any person to seek remedy by other means
- the director is not prevented from entering into other agreements for the same site

The director may order a responsible person, at their expense, to undertake public consultation regarding the remediation plan. A list of factors for the director to weigh is provided[116].

Certificates of Compliance

The director can issue approvals in principle after reviewing existing information. This is usually only done for low risk sites. A certificate of compliance may be issued if the director ensures all conditions in regulations, orders and plans have been fulfilled and a security paid, if required.

Independent remediation may also be approved if the actions comply with all regulations and protocols and the fee has been paid[117].

Orphaned Sites

The act enables the director to determine if a contaminated site is an orphaned site and if it is high risk. An orphaned site is defined as a site for which a responsible person cannot be found or is not willing or financially able to carry out remediation in the time frame specified, or a government body has become the owner subsequent to the failure of the former owner or other responsible person to comply with a requirement to carry out remediation at the site[118].

The minister may then declare, in writing, that it is necessary for the protection of human health and the environment for the government to undertake remediation of a contaminated site that is not otherwise being adequately remediated or is a high risk orphan site. The government undertakes remediation and recovers costs. The minister certifies the money is required and it is paid out of the consolidated revenue fund.

Cost Recovery

Where the government is required to take action, the director may recover funds from the responsible person, sell all or parts of the property or seek contributions from cost sharing agreements with government or other persons.

Debt is due to the government and is recoverable from any responsible person by action in the Supreme Court, by order of the minister to a purchaser of the site to pay the equivalent amount to government rather than to the vendor, or by placing a lien on the title.

The government retains the right to take future action if new information about responsible parties or substances becomes known, activities change at the site, there is a failure to exercise due care and diligence, and there is contamination.

The act enables the minister to make regulations and the director to establish protocols[119].

The act applies to some mine sites, with limitations.

Regulations and Protocols

The Contaminated Sites Regulation provides clarification and further requirements regarding the implementation of contaminated sites remediation.

The regulation:

- provides clarification on the submission of site profiles for commercial and industrial sites
- enables fees to be charged
- enables third party review of plans
- describes procedures for determination of a contaminated site
- provides remediation standards, risk based-standards and lists not responsible persons
- provides timelines for responses to application and orders
- requires a qualified professional to undertake assessment and remediation
- allows protocols to be established and requires them to be published on the website

A comprehensive website includes plain language guidance for landowners as well as technical information for the qualified professionals and opportunities for public comment on regulatory and administrative amendments.

Contaminated Sites on Crown Land

The Ministry of Forests, Lands, Natural Resource Operations and Rural Development manages high risk priority contaminated sites on Crown land under the Crown Contaminated Sites Program. Sites are ranked according to risk to human health and the environment and are governed under the Contaminated Sites Regulation[120]. Most of the high-risk sites are historic mine sites, in operation prior to mine permitting requirements.

It is the panel's understanding that when a site is identified as potentially high priority, a modified preliminary site investigation is undertaken. If remediation is required, the site is booked as a liability to the government using average costs based on experience with previous projects. The estimate is revised based on results of subsequent detailed site investigations. Funds required for remediation are obtained through the government's appropriation process.

Third party site management is used for long-term maintenance and monitoring. Long-term contracts can be issued, as part of public-private partnership. Biennial program reports are required.

A representative of the program chairs the Provincial Sites Secretariat which provides a forum to share information and address issues concerning the management of contaminated or potentially contaminated site, across ministries. The secretariat liaises with central agencies to ensure compliance with adopted Public Sector Accounting Standards. The standards provide guidance on the recognition, measurement and disclosure of liabilities resulting from remediation. The secretariat uses a common database for sites with recognized liabilities and reported under the accounting standards. Secretariat membership includes:

- Ministry of Environment and Climate Change Strategy
- Ministry of Citizen's Services
- Ministry of Transportation and Infrastructure
- Ministry of Agriculture
- Ministry of Energy, Mines and Petroleum Resources
- Ministry of Forests, Lands, Natural Resource Operations and Rural Development
- Ministry of Finance – Treasury Board Staff (Performance Budgeting Office)
- Ministry of Finance – Office of the Comptroller General[121]

Mines

Mines in British Columbia, including sand and gravel quarries are regulated under the Mines Act[122]. The mandate is to protect workers, safeguard the public from undue risks associated with a mine, and to protect and reclaim land and watercourses. The act applies to all aspects of mining activities including exploration, development, construction, production, closure, reclamation and abandonment. Prior to starting any work a permit must be issued. To acquire a permit, a plan must be filed with an inspector outlining the details of the proposed work. The plan must provide for the reclamation of land, watercourses and conservation of cultural heritage resources affected by the mine. The inspector may impose additional conditions. Such terms and conditions may include:

- the provision of a security
- notification and reporting requirements
- the use of qualified professionals
- environmental protection and reclamation
- public health and safety[123]

The chief inspector must establish and chair an advisory committee and establish regional advisory committees to review applications for mine approvals and reclamation permits, referred to them by the chief inspector[124].

The chief inspector may require security for mine reclamation and to provide for protection of, and mitigation of damage to watercourses and cultural heritage resources affected by the mine. The security must be deposited annually in the amount and form satisfactory to the inspector, in addition to the original deposit. The total calculated over the estimated life of the mine must be sufficient to perform the permit conditions and any additional orders or directives of the inspector.

The Lieutenant Governor in Council or the chief inspector may apply many of the same requirements, including reclamation and security requirements, to persons exempted from having to obtain a permit[125].

If an owner, agent, manager or permittee fails to perform and complete the program for reclamation or to comply with conditions, the chief inspector, after giving notice to remedy the failure may:

- order a stoppage of the mining operation
- apply part of the security toward payment of the cost of work required
- close the mine
- cancel the permit[126]

Mine Reclamation Fund

The act enables the Lieutenant Governor in Council to establish a fund by regulation. Money paid for securities must be credited to a separate account in the fund in the name of the mine. The minister may refund money and interest if it is no longer required for mine reclamation and protection of, and for mitigation of damage to, land and watercourses affected by the mine, or to pay for costs of work done by the government[127].

Code

Under the Act[128], the minister must appoint a committee, chaired by the chief inspector, to prepare a *Health, Safety and Reclamation Code for Mines in British Columbia*. Once approved by the Lieutenant Governor in Council, the code governs activities related to a mining operation. The code, most recently revised in 2017, includes a section on mine plans and reclamation and provides specific details on the planning, operational and monitoring requirements and the environmental standards that must be met for the life of the mine[129]. The requirements include:

- the obligation for the submission of an application that contains a program for environmental protection of and watercourses during construction and mining operations, a conceptual final reclamation plan, a closure plan for the tailings storage facility and a cost for reclamation

- preparation of plans for the prediction, and if necessary, the prevention, mitigation and management of metal leaching and acid rock drainage according to the guidelines
- requirements for monitoring to ensure the objectives are being achieved
- development of detailed closure plan to achieve environmental objectives, prior to closure of a tailings facility or dam
- requirement of every owner, agent or manager to institute and, during the life of the mine, to carry out a program of environmental protection and reclamation, in accordance with the standards described in several sections of the code
- the plans shall be updated every five years

Manager and Qualifications

A manager must be appointed at a mine before work begins and the manager must possess qualifications established by regulation or the code. The manager must keep in the office at the mine site accurate plans that are updated every three months, are prepared on a scale that adheres to good engineering practices, and contains particulars established by regulations or the code[130].

Orphaned and Abandoned Mines

If an inspector determines that work is required at an abandoned or closed mine to avoid danger to people or property or to abate pollution of the land and watercourses, the inspector may cause remedial work to be done. The costs incurred must be paid from the consolidated revenue fund without an appropriation other than the relevant provisions of the act. The costs and interest are a debt due the government. Notice of the debt may be registered on the land title or in the office of the chief gold commissioner. No transfer of title is allowed until the debt is paid[131].

An Orphan and Abandoned Mines Program was recently established in the Ministry of Energy, Mines and Petroleum Resources to manage orphaned and abandoned mine sites that were permitted under the Mines Act after 1969 as well as historic mine sites. The program's mandate is public safety. The program is housed in a different division of the ministry, separating management of orphaned and abandoned mine sites from mine permitting functions.

Sites containing contamination are assessed following the process outlined in the Contaminated Sites Regulation, as described previously, although not bound by that legislation. The program includes responsibility for orphaned tailing facilities.

Funds for site remediation are requested through the government appropriation process. There are no dedicated funds at this time, although ideas are being explored. Contractors are relied upon to undertake field studies and perform work on-site.

Environmental Legislation

Major mining projects require an environmental assessment under the Environmental Assessment Act[132] and the Reviewable Projects Regulation[133]. In order to avoid duplication, there is limited application of the Environmental Management Act to permitted mining activities. The act and regulations, address discharge of wastes to the environment[134]. Permits are required, with conditions, authorizing the discharge. Remediation orders cannot be issued for core areas of permitted mines[135], including tailings, although they may be issued for chemical storage areas and mineral crushing and processing mills.

Sand and Gravel Operations

Sand and gravel operations are regulated primarily under the Mines Act (see above) with some applications of the Land Act and the Local Government Act. Reclamation provisions of the Environmental Management Act do not apply to sand and gravel operations but contaminated site provisions could.

Under the Mines Act[136], a mine is a place where mechanical disturbance of the ground or any excavation is made to explore for or to produce, among other things, sand or gravel, including related activities such as site reclamation. The exploration, development and production of sand or gravel is considered to be a mining activity, as is the reclamation of a mine.

Reclamation

Under the Mines Act and its provisions, aggregate extraction requires a permit and the applicant must meet the requirements outlined in the act. These include the requirement for a plan outlining the details of the proposed work including for the protection and reclamation of the land, watercourses and cultural heritage resources affected by the mine. Monitoring and submission of annual reports are required along with a financial security should the inspector require it. The chief inspector may also refer the notice of work to the regional advisory committee or other government departments for comment. A review is required every five years[137].

Aggregate operations are also governed by the health, safety and reclamation code[138]. Relevant conditions, and those required by the inspector, apply to sand and gravel operations. The specific conditions for pit rehabilitation include:

- Pit walls constructed in overburden shall be reclaimed in the same manner as dumps unless an inspector is satisfied that to do so would be unsafe or conflict with other proposed land uses.
- Pit walls including benches constructed in rock, or steeply sloping footwalls, are not required to be re-vegetated.
- Where the pit floor is free from water, and safely accessible, vegetation shall be established.
- Where the pit floor will impound water and it is not part of a permanent water treatment system, provision must be made to create a body of water where use and productivity objectives are achieved.
- The owner, agent, or manager shall undertake monitoring, programs, as required by the chief inspector, to demonstrate that reclamation and environmental protection objectives including land use, productivity, water quality and stability of structures are being achieved.

Under the code[139], if all conditions of the act, code and permit have been fulfilled to the satisfaction of the chief inspector and there are no on-going inspections, monitoring, mitigation or maintenance requirements, the owner, agent or manager will be released from all further obligations under the Mines Act.

Aggregate Mining on Crown Land

Under the Land Act[140], except by order of the minister, on the terms the minister may specify, Crown land must not be disposed of by Crown grant under the act if the minister believes it is suitable for mining, quarrying, digging or removal of building or construction materials, including, without limitation, earth, soil, peat, marl, sand and gravel.

The Land Use Operational Policy, Aggregate and Quarry Minerals,[141] was developed in consideration of sections of the Land Act for quarrying land and royalties. The policy outlines three types of tenure.

- Temporary Licence: A temporary licence may be issued where the applicant requires a small quantity of quarry material over a short-term period, or where aggregate testing/investigation does not meet the requirements of the Permissions Policy. Maximum term for a temporary licence is two years.
- Licence of Occupation: A licence of occupation is the usual form of tenure for quarry dispositions during the promotion (capital raising), physical development and production stages. A standard term for an initial license is five years, but where need is proven (e.g. quarry operator has long-term obligations as a supplier); a longer-term tenure may be acceptable. A replacement licence may be issued with a term of up to 30 years subject to the quarry operator having diligently used the site, and where continued use is expected for the term.
- Lease: A standard term is five years for an initial tenure, but where need is proven (e.g. quarry operator has long-term obligations as a supplier), a longer-term tenure may be acceptable. A replacement lease may be issued for a term of up to 30 years subject to the quarry operator having diligently used the site, and where continued use is expected for the term.

Crown quarry resources are disposed of by public competition based on royalty bids, for "known deposits" where a quarry deposit is not in active use, or a prior tenure or reserve is not currently tenured or reserved, or "new deposits" when quarry resources are in high demand and there is strong known competition for the resource.

Land Act dispositions for quarry purposes, excluding those for soil and peat extraction, are subject to the applicant obtaining a Mines Act permit and providing a site reclamation program. The authorizing agency will participate in reclamation advisory committees to promote reclamation and subsequent coordination of inspection of reclamation sites. The inspection, by a mines inspector, will determine if reclamation work has been completed to the satisfaction of the agencies and if the return of a performance guarantee funds is warranted.

At the discretion of the authorizing agency, a financial guarantee may be required for licences issued for any quarry extraction or exploration purpose. With the exception of soil or peat extraction uses, financial guarantees for lease and licence quarry materials tenures are covered under the Mines Act. Management plans are reviewed every five years, or at a party's request. Royalties are due on materials removed from Crown land.

<u>Environmental Legislation</u>

The Environmental Management Act remediation provisions do not apply to exploration, mine development or the production of placer minerals, marl, earth, soil, peat, sand, gravel, dimension stone, rock or any natural substance that is used for a construction purpose on land[142].

Applications for new large sand and gravel pits are subject to environmental review under the Environmental Assessment Act[143] if the total to be extracted is greater than 250,000 tonnes per year for at least one year, or greater than 1 million tonnes over four years[144].

Local Government Act

Under the Local Government Act[145], an official community plan must include statements and map designations for the area covered by the plan, for the approximate location and area of sand and gravel deposits that are suitable for future sand and gravel extraction.

Certain powers to regulate sand and gravel operations may be exercised by regional district boards, if the district provides a service in relation to the control of the deposit or removal of soil, which includes sand and gravel. Regional districts are modeled as a federation composed of municipalities, electoral areas, and in some cases, Treaty First Nations, each of which have representation on the regional district board. The boundaries of the regional districts span nearly the entire geographic area of the province[146].

Under the Local Government Act, a regional district board may regulate or, with approval of the minister, prohibit the removal of soil from any land or area in the district[147]. The power to prohibit soil removal may be restricted by the provincial government under provisions of the Community Charter[148]. Any bylaw must be in accordance with provincial regulation or an agreement with the province, or approved by the minister responsible. The board may also require a permit for the removal of soil from any area in the regional district and impose rates or fees for a permit or for amount of soil removed. The fees must be related to the cost of services provided by the municipality such as road maintenance.

Oil and Gas

The Oil and Gas Activities Act establishes the Oil and Gas Commission, a three-member body chaired by a deputy minister and including two other ministerial appointees. One of the commission's purposes is to regulate oil and gas activities in British Columbia in a manner that provides for the sound development of the oil and gas sector, by fostering a healthy environment, a sound economy and social well-being[149].

The commission may require a permit holder or applicant to provide security to ensure the performance of obligations under the act, a permit or an authorization[150]. Among those obligations, a permit holder and a person carrying out an oil and gas activity must comply with environmental measures established by regulation[151].

Under the Fee, Levy and Security Regulation, security must be submitted in the form of cash or an irrevocable letter of credit from a financial institution:

- for pipelines: $50,000 per kilometer on private land and $10,000 per kilometer on Crown land, the latter to a maximum of $150,000
- for other permits a minimum of $7,500[152]

Orphaned Sites

The commission may designate as an orphaned site a well, facility, pipeline, or oil and gas road, or an area that requires restoration as a result of one of these activities, if:

- the permit holder or former permit holder is insolvent, or the commission has not been able to identify the permit holder or former permit holder or
- is satisfied that that they no longer exist or cannot be located

The commission may restore orphaned sites[153].

Legislation establishes an orphan fund held by the commission, with the primary purpose of paying the costs of restoration of orphaned sites and to pursue responsible persons. The board may make regulations, subject to approval of Treasury Board, to raise revenue for the fund by requiring permit holders or a class of permit holders to pay a levy to the government, and establish the amount to be raised by the levy.

If a levy is imposed, each permit holder is required to pay a portion of the amount to be raised based on the estimated value of their liabilities in proportion to the estimated liabilities of all permit holders. The liability of a permit holder is the cost, estimated by the commission, to the permit holder of restoration and protecting public safety for cancelled, spent or expired permits in relation to all of the permits and authorizations held by the permit holder[154].

The following must also be deposited to the credit of the fund:

- money paid to the commission by the Minister of Finance out of the consolidated revenue fund, as follows:
- the gross revenue received from Treasury Board approved commission levies on permit holders to recover administrative expenses[155]
- the gross revenue received from the orphan site restoration levy[156]
- the gross revenue received from fees in relation to applications for and issuance of permits and other authorizations issued by the commission under this act, and Treasury Board approved service fees prescribed[157]
- money borrowed to meet any deficit in the fund
- money recovered or received by the commission from responsible parties
- any interest or other income of the fund

If the commission restores an orphaned site, the costs paid out of the fund are a debt payable by the responsible parties, jointly and severally, to the commission. The commission has a right of action against the parties for the recovery of that debt[158]. The minister, with the approval of Treasury Board, may pay out of the consolidated revenue fund, on application by the commission, money required for commission officials to undertake actions to address emergencies, risks to public safety, the environment or petroleum and natural gas resources or requests from the Lieutenant Governor in Council to undertake enquiries or investigations.

Under the Petroleum and Natural Gas Act, the Surface Rights Board may require a person to provide security as a condition of obtaining a right of entry order onto another person's land[159].

Dormant Sites Reclamation Program

The federal government recently announced $100 million in funding for British Columbia to reclaim inactive oil and gas sites. The Ministry of Energy, Mines and Petroleum Resources under the Dormant Sites Reclamation Program, manages the funding[160]. The program offers opportunities for oil and natural gas service sector contractors to apply for a financial contribution to undertake and complete work on dormant site reclamation. Opportunities are available for Indigenous peoples, landowners and local communities in British Columbia to nominate dormant sites for reclamation.

2.2.3 New Brunswick

Contaminated Sites

The Clean Environment Act[161] in New Brunswick addresses contaminated sites through the control of contaminating substances. A guidance document, *Guidelines for the Management of Contaminated Sites*[162] provides instructions on navigating the process.

The act allows the minister to designate a contaminant, classes of contaminants and their maximum levels[163].

Reporting Contamination

The Petroleum Product Storage and Handling Regulation requires any person who suspects or detects a petroleum product leak to notify the minister[164]. The Water Quality Regulation requires immediate notification of the minister where any contaminant is emitted, discharged, deposited, left or thrown in any such place that it may, directly or indirectly result in water pollution[165].

Responsibility

The minister may issue an order to:

- control, reduce or eliminate the release of a contaminant(s)
- conduct an investigation and supply reports
- carry out cleanup, site rehabilitation, restoration of land premises or personal property
- undertake other remedial action

An order can be issued when a contaminant is released in excess of safe levels or the action or contaminant is prohibited. An order can also be issued if it is in the public interest, and is causing or may cause harm to human health and the environment.

The order may be directed to the following or any combination of the following:

- an owner of the contaminant
- a person having control of the contaminant
- a person who caused the release
- a person who owns, leases, manages or has control of the site
- an authority with jurisdiction over the land
- any other person whose assistance is determined to be necessary to deal with the contamination

If a restoration order is issued, the responsible party is required to restore the land immediately.

One order may apply to several contaminants. The act states that "Each person to whom an order is directed is responsible for ensuring and shall ensure that all of the work directed to be performed under the order is carried out and all the action directed be taken under the order is taken, at the person's own expense, whether the order is directed to one or more than one person and whether or not the Minister has given directions by order to all of the persons to whom an order may be directed"[166].

Appeals

A person may appeal to the minister, as set out in the appeal regulation[167]. The initiation of an appeal does not abrogate the requirement to comply with the order. An order is binding on heirs, successors, administrators and assignees.

Cost Recovery

The minister may take action to address contamination if it is in the best public interest or a threat to human health and the environment or the owner or person responsible cannot be identified, has not or cannot deal with an order, the person asks for assistance from the minister, or the situation cannot be dealt with any other way[168].

Costs incurred are a liability to the government. If more than one person is responsible, the minister may recover any or all costs from any one person or from contributions from each person, unless the court has determined apportionment or there is an apportionment agreement.

A court decision or settlement does not abrogate the responsibility to take action as set out in an order.

The act allows the minister to enter into an agreement to share insurance payments on a pro-rated basis to cover costs incurred[169].

Standards and Guidance

New Brunswick is a member of the Atlantic Partnership in Risk-Based Corrective Action Implementation (Atlantic PIRI) and follows the practices and guidelines accepted by this group.

Guidelines for the Management of Contaminated Sites provide procedural guidance in addressing contaminated sites. Set out in the guidelines are the responsibilities of the key parties. These include:

- The responsible party, who is responsible for advising the department, for advising third parties, financing the management process, engaging a qualified site professional, forwarding site professional submissions and maintaining an appropriate level of due diligence throughout the management process.

- The site professional whose key responsibility is for technical judgement and problem resolution. The site professional is responsible for notifying the responsible party and department of the presence of contamination and associated risks, preparing reports and delivering appropriate documentation to the responsible party including the content of the Record of Site Condition.

- The department which is responsible for identifying the responsible party, ensuring that the management process is followed, auditing the process, ensuring compliance with the guidelines and acknowledging the conclusion of the management process.

Although the department will identify the responsible party it is specifically stated in the guidance document that “The Minister does not determine or apportion liability.” Any disagreements between named parties are considered civil matters outside of the management process[170].

Site professional qualifications are set out in the guidelines.

The guidelines also provides options for two levels of site remediation, depending upon conditions, as well as two closure options. Unconditional closure is where the site has been remediated to a level suitable for use under its current land use classification. Conditional closure includes on-going conditions that must be met by the responsible party. Under conditional closure a responsible party must assume responsibility for ensuring engineered controls are monitored and maintained for as long as necessary to preserve human health and environmental risks at acceptable levels. The responsible party must also gain written agreement to the controls from all affected stakeholders, including the responsible party, the landowner and any party entitled to use the site.

To assist the public in obtaining information about the environmental status and property use restrictions, Property Identification Numbers are attached to listings in the land registry system.

2.2.4 Newfoundland and Labrador

Contaminated Sites

Contaminated sites are addressed in the Environmental Protection Act[171]. The act is enabling and the program is implemented through a policy directive[172] and guidance document[173].

Reporting Contamination

The act requires a person responsible for the release of a substance into the environment that has caused, is causing or may cause an adverse effect shall, as soon as that person knows or ought to know of the release report it to:

- the department
- the owner of the substance, if known
- the person having care, management or control of the substance, if known
- another person who may be directly affected by the release

An adverse effect is defined as “an effect that impairs or damages the environment and includes an adverse effect to the health of humans”.

If the concentration exceeds the standards or approved level or rate of release then the person responsible for the release must advise all parties listed above.

A person responsible for the release of a substance shall, at their own cost, and as soon as they know or ought to have known of the release of a substance into the environment that has caused, is causing or may cause an adverse effect,

- take all reasonable measures to
    - prevent, reduce and remedy the adverse effects of the substance
    - remove or otherwise dispose of the substance in a manner that minimizes adverse effects
- take other measures required by an inspector or the department
- rehabilitate the environment to a standard that the department may adopt or require[174]

Responsibility

The person responsible for a contaminated site includes:

- a person responsible for the substance that is over, in, on or under the contaminated site
- another person whom the minister considers to be responsible for causing or contributing to the release of a substance into the environment
- owner, occupier or operator of the site
- previous owner, occupier or operator at the time of the release
- successor, assignee, executor, administrator, receiver, receiver-manager or trustee
- a person acting as principle or agent of the person responsible for the substance[175]

A person is responsible regardless when the contaminant became present in, on or under a site[176].

The act allows the minister to enter compliance agreements to restore a site, pay for the costs of restoration and impose levies regardless if the person responsible cannot be identified or is able to pay[177].

The guidance document makes it clear that the department determines the responsible party; it may not necessarily be the polluter. The directive goes on to state "The Minister of Environment and Conservation does not determine or apportion liability". The Impacted Sites Program does not deal with civil or legal issues between the polluter and the person responsible, if not the same person[178].

Designation

The minister may designate a site if in their opinion it may cause, is causing or will cause an adverse effect. The minister then makes a preliminary determination, gives notice to the responsible person, others that may be affected and the municipality for comment. A final designation is then made and all parties are advised[179].

Rehabilitation

Once it is determined a site is impacted, the responsible person must submit a site assessment and remedial action plan. The responsible person may enter into an agreement with the minister or others to apportion costs. Any agreements must have the minister's approval.

The minister may determine:

- how a site is rehabilitated or managed and set a timeline
- issue standards and criteria that determines satisfactory completion
- enter into agreements regarding liability of creditors, receivers, receiver-managers, trustee or principle
- determine a person or classes of persons responsible for rehabilitation
- establish programs and enter into compliance agreements to rehabilitate or manage contaminated sites or prevent contamination of sites[180]

The minister has the ability to issue orders to ensure that adverse effects to the environment are addressed[181]. Any such orders may deal with more than one substance and may be directed to more

than one person. An order is binding on the heirs, successors, executors, administrators, trustee, receivers, receiver managers and assigns of the person to whom it is directed[182].

Where an order is directed to more than one person, all persons named are jointly and individually responsible for carrying out the terms of the order and are jointly and individually liable for payment of the reasonable costs, expenses and charges[183].

Appeals

Appeals of an order can be made to the minister or the courts. An order remains in effect during an appeal until a decision is made regarding that appeal[184].

Standards and Guidelines

The minister is to establish standards, criteria or guidelines[185].

Newfoundland and Labrador is a member of Atlantic PIRI and incorporates the guidelines and standards agreed upon by this organization.

The impacted sites program is governed by the referenced policy directive. Guidelines set out the rules and responsibilities of the parties and details of the Management Process.

The process is mandatory for all impacted sites (a site that contains an identified contaminant).

A person responsible must:

- report the contamination to the department
- take action necessary to ensure human health and the environment are protected during and after the completion of the Impacted Site Process, through the hiring of or with the assistance of a Site Professional
- proceed through the Impacted Site Management Process in a timely manner
- immediately notify third parties in writing
- remain involved throughout the process

The person responsible is responsible for exercising due diligence, financing and completion of remediation. The site professional and the person responsible decide on the remediation approach[186].

Site Professional

The qualifications of a site professional are included in the guidelines. The site professional is required to conduct assessment and remediation activities in a professional manner, advise the department if the person responsible fails to act appropriately, ensure there is an appropriate level of assessment and provide all required reports and a record of site condition[187].

The department is responsible for the protection of human health and the environment, for the identification of the person responsible, notification of the person responsible, advising the hiring of a site professional and ensuring the process is followed. The department establishes applicable standards, criteria and guidelines, provide technical verification of the work of the site professional as well as approves regulatory closure. Information is maintained in the Environmental Sites Registry; guidelines are to be updated as needed[188].

Closure

Newfoundland and Labrador also issues final closure where the site has been remediated to standards and conditional closure where on-going or future actions are still required.

If conditional closure is approved, someone, such as the person responsible, current and future property owners and bonding or other financial guarantors, must accept long-term responsibility for the ongoing site management in writing. Prior to regulatory closure the department must be satisfied that the necessary site management controls will be maintained in future[189].

2.2.5 Northwest Territories

Contaminated Sites

The Environmental Protection Act[190] provides provisions for the control of contaminants and remediation of sites where contaminants have been or are being released. *Guideline for Contaminated Site Remediation*[191] provides direction on implementing the program.

Reporting Contamination

The act requires any person (including successor, assignee, receiver, purchaser, or agent of a corporation), causing or contributing to, or increasing a chance of discharge and who is the owner or person in charge of management or control of discharge or likely discharge to immediately report, take reasonable action to stop and make reasonable effort to notify the public who may be affected[192].

An inspector may issue an order to any person causing or contributing to the contamination or the owner or person in charge of management and control. The inspector may order a person to repair the site and if actions are not taken, the Chief Environment Protection Officer may take actions. Any costs incurred are recoverable[193].

Any person who reports contamination and appropriate results of an environmental site assessment to the Chief Environmental Protection Officer may negotiate an agreement for remediation. Authorities may issue an order if the actions are not sufficient. An agreement does not bar issuing an order.

If contamination is self-reported, persons will not be prosecuted if they comply with an agreement or order[194].

Cost Recovery

Government may recover costs related to necessary actions. Where the government may claim and recover costs and expenses from two or more people, the costs and expenses may be recovered jointly and severally. Where a person fails to comply with an order, that person is liable for all costs and expenses incurred[195].

Remediation

The *Guideline for Contaminated Site Remediation* provides guidance for application of the program.

If the person responsible is notified or otherwise has reason to believe the site is potentially contaminated, that person must immediately report the incident and ensure an appropriate evaluation of the potential adverse effects and risks is completed to determine what action, if any, is required under the Environmental Protection Act or the guideline.

These responsibilities can include:

- exercising timelines in all matters related to the contaminated site
- retaining a "qualified person" to assess the site to determine the presence and extent of contamination
- developing a remedial plan
- contacting affected or interested parties
- remediating the contaminated site to an acceptable level

The requirements for a qualified person are provided in the guidelines.

Any issues, between parties, and not related to human health and the environment are considered civil matters.

The process applies a phased and tiered approach of assessment and remediation that is closely linked to land use. A qualified person must undertake the assessment and remediation process. A qualified person, is to submit a site closure report once remediation is completed. If it is acceptable to the department, a closure letter is issued.

As part of the devolution agreement with the federal government, a number of contaminated sites were transferred to the Government of the Northwest Territories, while others remain under federal jurisdiction[196].

2.2.6 Nova Scotia

Contaminated Sites

Management of contaminated sites is included in Nova Scotia's Environment Act[197]. The act enables the minister to take action on contamination and contaminated sites. One of the goals included in the purpose of the act is to maintain the "polluter pays" principle confirming the responsibility of anyone who creates an adverse effect on the environment is not considered too minor to take remedial action and pay for the costs of that action[198].

The act also allows the minister to:

- determine criteria respecting the designation and classification of sites
- determine the manner and time frame for rehabilitation of management of sites
- adopt and establish standards, policies, guidelines, procedures, risk-based assessments, models and tools for assessment and rehabilitation of contaminated sites
- enter into written agreements regarding liability of secured creditors, receivers, receiver-managers, trustees in bankruptcy, executors, administrators and other persons
- compile a list of persons not responsible
- establish programs and agreements to rehabilitate and manage contaminated sites[199]

<u>Reporting Contamination</u>

It is the duty of anyone who releases a substance into the environment that caused, is causing or may cause an adverse effect, to report it to:

- the department

- the owner of the substance, if not the reporter
- the person having care, management or control of the substance
- any other person who ought to know or may be directly affected[200]

An adverse effect is defined as "an effect that impairs or damages the environment or changes the environment in a manner that negatively affects aspects of human health"[201].

Remediation

All assessment and remediation actions must be undertaken by a qualified person[202]. The requirements of a qualified person are contained in the Contaminated Sites Regulations[203].

The person responsible for a contaminated site, in accordance with the regulations may prepare a remedial action plan for ministerial approval and enter into a written agreement with the minister or other parties responsible for the site or both the minister and other parties, providing for the remedial action and apportionment of costs.

Where the parties cannot reach agreement, the minister may refer the matter to alternate dispute resolution (ADR). Should ADR not be successful, the minister may issue an order. As well, if the persons responsible do not take action in the required time the minister may make an order[204].

A person responsible for a contaminated site is defined as:

- person responsible for a substance that is over, in, on or under a contaminated site
- any person the minister considers responsible for causing or contributing to the contamination
- current owner, occupier or operator
- previous owner, occupier or operator
- successor
- assignee
- executor
- administrator
- receiver
- receiver-manager
- or anyone acting in the capacity as principle or agent[205]

When a ministerial order is issued, the act provides "all persons named in the order are jointly responsible for carrying out the terms of the order and are jointly and severally liable for payment of costs of doing so, including any costs incurred by the Minister"[206].

The panel was told that in practice, the emphasis is on the owner, occupier or operator, either current or during the time the site was contaminated. Any disagreement about who is responsible would have to be taken to court. Program staff also cautioned that case law should be examined prior to making any major changes to the conditions in Manitoba law for the assignment of responsibility.

Factors to be taken into consideration when making an order are:

- when the substance became present over, on or under the site
- was the substance present when the current owner, occupier or operator acquired it
- did the person know or ought to have known that the substance was present

- did the purchaser undertake due diligence before purchase
- was contamination caused by a third party
- economic benefits person may have received on purchase
- did previous owner, occupier or operator dispose of their interest without disclosure
- was reasonable care taken to prevent the presence of the substance
- was due diligence taken to comply with industry standards and practices
- did the person further contribute to the accumulation of the substance after becoming aware of its presence
- what steps were taken to deal with the site on becoming aware of the substance
- any other criteria the minister considers relevant[207]

Designation

The act allows the minister to designate a site as contaminated only after following standards, criteria and guidelines. Parties the minister identifies, property owners and the municipality are advised of a preliminary determination. Opportunity to make comments is provided and the minister makes the final determination[208].

The panel was told this provision has not been used since 2013, when the regulation came into effect. It would only be used in an emergency where the persons responsible were uncooperative, all other options had been tried, and there was imminent threat to human health or the environment if actions were delayed.

Appeals

Inspector decisions are not appealable. Regional manager decisions are appealable to the minister. Ministerial decisions are appealable to the courts. The act states that, appeals do not suspend the required actions, nor do civil procedures[209].

Cost Recovery

The Crown may recover costs incurred in remediating a site[210].

Orphaned Sites

The act enables the minister to address orphaned sites by entering agreements or establishing programs or other measures to restore or secure contaminated sites where a responsible person cannot be identified or cannot pay the costs[211].

Program managers indicated there are few such sites in Nova Scotia. The government has remediated a few sites, some through federal-provincial agreements. Expenditures in this regard require approval through Treasury Board.

Registry

The environmental registry includes listed documents and is accessible to the public during business hours[212]. The panel was advised that currently there is limited information available on the electronic registry and that a freedom of information request is needed to obtain copies of reports. Updating the registry is a work in progress as older records are not in digital format.

Contaminates Sites Program

The Contaminated Sites Regulation is the guiding document for application of the contaminated sites program in Nova Scotia. The regulation states that ministerial protocols are incorporated by reference[213].

The regulation allows the minister to establish an electronic reporting system where responsible persons and site professionals can submit documents; the panel was advised it is currently inoperable due to privacy issues. The regulation sets out the qualifications and insurance requirements for a site professional. The site professional is included as a person responsible for reporting a contaminated site[214].

Outlined are the requirements and timelines for reporting, including verbal notification of the department on discovery followed up with written documents[215].

The regulation clearly states that a person responsible must, at their own expense, take all reasonable measures to:

- prevent, reduce and remedy the adverse effects of the contaminant or contamination
- remove or otherwise dispose of the contaminant or contaminants in a manner that minimizes adverse effects
- remediate the contaminated site in accordance with the regulations[216]

There are two levels of remediation, limited and full property. A person responsible must carry out limited or full property remediation.

The requirements and timelines are set out in the regulation and they both end with the submission of a site condition report. The guidelines provide several options to facilitate a limited remediation. Limited property remediation allows for the possibility of risk management, where contaminants may be left on the site depending upon on risk to human health and the environment. Full property remediation includes the requirement to undertake Phase I and Phase II assessments and does not include risk management. The panel understands that limited remediation is the usual route taken. Declaration of property condition filed with the minister protects the person responsible and/or the owner from further enforcement action, unless additional information regarding other contaminants becomes known. A declaration restricts the property to its current use[217].

Nova Scotia is a member of Atlantic PIRI and the standards are consistent with those in the other Atlantic provinces.

Comprehensive guidelines and protocols are available. The website provides an excellent overview of the process and the responsibilities of both the site owners and the technical professionals[218].

Indicated was that for some sites, in Atlantic Canada, some federal funding has been provided in the past. These included sites such as harbours or former Department of National Defence properties.

2.2.7 Ontario

Contaminated Sites

Contamination and contaminated sites are addressed in the Environmental Protection Act[219] and the Records of Site Condition Regulation[220]. The program focuses on industrial sites.

Reporting Contamination

The act addresses discharge of contaminants outside the regulated levels. It is incumbent upon discovery to report to the ministry. If the discharge is outside the regulated limits then the director may issue a control or stop order. These orders may be issued to:

- an owner or previous owner of the source of contamination
- a person who is or was in occupation of the source of contaminant
- a person who has or had the charge, management or control of source contaminant

The municipality will be notified[221].

The person responsible can submit to the director a program to prevent or to reduce and control the discharge. The director, with ministerial approval, can refer the program to the Environmental Council. The director can still issue an order even with a program in place[222].

Remediation

The director may also issue a remedial order to repair the damage, prevent further damage and provide alternate water supplies should the contamination be in groundwater[223].

Remediation is driven by land use criteria as described in the regulation.

Responsibility

The person who owns or owned or has or had management or control of an undertaking or property may be ordered by the director to take action to prevent further contamination, study and report on control measures and prevent further contamination[224].

A Certificate of Property Use or orders are binding on executors, administrators, administrators with the will annexed, guardian of property or attorney for property, and any other successor or assignee of the person the order is directed to. They are also binding on receivers or trustees. A receiver or trustee must take specific actions to remove liability, some of which are time bound[225].

Unless there is an approved agreement between parties, liability is joint and several[226]. Unless there is solid evidence regarding the relative contributions of the parties involved, liability is split equally. Where the responsible party cannot be found, those named in the order are still liable. Third parties may be added in a manner prescribed by the rules of the court for adding third parties.

Municipalities are not responsible unless they take control or management of the property and mismanage or add to the contamination. Actions may be taken if there is an imminent threat to human health and the environment[227].

Creditors, receivers and trustees are not responsible if they did not take charge of the site. A creditor that forecloses is not responsible for up to five years[228].

An investigator is not responsible unless they contributed to the contamination or mismanaged the site[229].

Appeals

The act enables the director to request a hearing of the Environmental Review Tribunal, or a person can appeal a director's order. There is no automatic stay on appeal. The tribunal can issue a stay in certain circumstance but not if it will threaten human health and the environment. Decisions can be appealed to the courts[230] on points of law.

Cost Recovery

The act allows the requirement for financial assurances as required by regulation[231]. The Crown can recover costs for necessary actions taken.

The act allows the director to take action by way of an order if a person has refused to comply, is not likely to complete the required actions or requests assistance from the director. The director will give notice of the intent to recover costs[232].

Registry and Information

The act requires establishment of a registry[233] and relies on the Records of Site Regulation to define the contents. Information regarding compliance approvals and related information is to be made publicly available. Included in the regulation, is that the registry should include a notice that directs registry users to undertake their own due diligence if they are purchasing a property[234].

Record of Site Condition

The standards for Site Condition records, land use definitions and classifications are set out in the Records of Site Condition Regulation[235]. Site condition records are filed in the site registry and must be available for public access[236]. The site condition record must be certified by a "qualified person".

A certificate of property use, issued after an acceptable risk assessment and any remediation, limits the use of the property to the current classification. No order can then be issued to the person who filed, a subsequent property owner, occupant, person who has charge or anyone in control before the certification date[237].

Qualified Person

The regulation sets out the qualifications and insurance requirements of a qualified person[238]. A qualified person is required to undertake all aspects of the site assessment and reporting to the described standards as set out in the regulation.

A qualified person is responsible for conducting a site assessment and undertaking any remedial actions required to bring the site into compliance so that a certificate of property use can be issued.

A plain language interpretation of the legislation and regulation is available and specifies what party is responsible for what actions, when and how[239].

Mines

In Ontario, the Mining Act[240] governs mining operations. The act sets out the administrative structure and management protocols. It sets out the requirements for various approvals, permits, licences and leases for all mining related activities. For major projects, Indigenous community consultation is

required and public notification may also be required. Environmental management and rehabilitation of mine sites are addressed and regulated under the act and its regulations, with some exceptions.

Rehabilitation of mining lands applies to:

- underground mining
- surface mining of metallic minerals
- surface mining of non-metallic minerals on non-Crown land
- advance exploration of mining lands[241]

Progressive and voluntary rehabilitation may be required under an approved rehabilitation plan, whether or not there is a closure plan in place. Proponents of advanced exploration and mine production must file a closure plan in compliance with the requirements in the Mine Development and Closure Regulation[242] and the Mine Rehabilitation Code[243]. Under the act, a financial assurance is required[244] and the regulation includes detailed requirements regarding the accepted forms. One acceptable form is compliance with a prescribed corporate financial test. Cash payments are held in a special purposes account managed by the Minister of Finance[245]. Closure plans are to include estimates of rehabilitation costs and a financial assurance equal to the estimate[246]. The code mandates a long list of safety and environmental requirements including monitoring of surface and groundwater and measures to address exceedances that threaten the environment. The code also requires plans to protect the environment from potential metal leaching or acid rock drainage.

In determining whether to grant approval for rehabilitation of a mine hazard, the director must consider whether Indigenous community consultation has occurred in accordance with any prescribed requirements[247]. Should there be disagreement, a dispute resolution process is available[248].

The director has the power to reassess an assurance if the proponent fails to comply with a corporate financial test[249]. Although, there is no legislative requirement for reassessment of the assurance on a regular basis, it is the panel's understanding that inspections in recent years have resulted in a significant increase in financial assurance levels.

If the minister has reasonable grounds for believing that a mine hazard is causing or is likely to cause an immediate and dangerous adverse effect, which includes a severe detrimental effect on the environment, the minister may order the proponent to rehabilitate the mine hazard. If the proponent asks for help or the minister is of the opinion that the proponent will not carry out the order, cannot be located, or there is no proponent, the minister may direct employees and agents of the ministry to carry out the work to eliminate or ameliorate the adverse effect[250]. If the financial assurance held by the Crown is insufficient to cover the total cost incurred by the Crown, the additional cost is a debt due to the Crown[251].

An owner may surrender mining lands or rights. The minister may refuse to accept a voluntary surrender if the proponent has failed to rehabilitate the site in accordance with the closure plan or if no closure plan is filed. If the minister accepts the surrender, money received from the proponent as part of an agreement for the surrender is placed in a special purpose account for use in the rehabilitation of mining lands. The cost of any work performed by the Crown or an agent of the Crown is paid from the account. The former owner is exempt from liability with respect to certain orders under the Environmental Protection Act, including remediation orders[252].

Regulations under the Environmental Protection Act address control of discharges to water from metal mining[253] and industrial minerals[254]. Rock fill or mill tailings are exempt from waste disposal and waste management requirements of the act[255]. Once the director has approved a rehabilitation plan under the Mining Act, orders or directives, including a remediation order, cannot be issued under a number of provisions in the Environmental Protection Act[256] and the Water Resources Act[257]. A proponent could use the Environmental Protection Act brownfield provisions to change land use on a contaminated mine site by undertaking an assessment and appropriate remediation.

The Auditor General of Ontario reviewed the Mines and Minerals Program in 2005[258] and 2015[259], with follow-up in 2017[260]. Recommendations were implemented or are in the process of being implemented. The panel was told that an inventory of abandoned mines sites was developed by policy as recommended by the auditor general.

Abandoned and Orphaned Sites

The ministry advised the auditor general that a little more than half of the roughly 4,400 abandoned mines in Ontario were managed by the provincial government[261]. Most of these sites are small, isolated and primarily require physical hazards be addressed. The ministry has an ongoing annual allocation for management of these smaller sites.

In 2015, a provincial fund was created to address contaminated sites under provincial management, in that all ministries managing contaminated sites were requested to assign liability to major sites; these amounts were recorded on the province's books. Forty-six crown-managed former mine sites were booked. The 2015 remediation cost estimates were done without the benefit of completion of phase 1 or 2 environmental assessments. The ministry is undertaking these assessments and adjusting remediation costs. Expectations are that they will increase.

Although the identification of contaminated mine sites and rehabilitation is accomplished under the Mining Act, the process is intended to follow the general principles contemplated under contaminated sites provisions of the Environmental Protection Act.

The ministry has begun to solicit proposals from private companies to undertake on-site project management of the rehabilitation of certain sites, on behalf of the ministry. The ministry provides oversight on the projects. Sites in close proximity are clustered allowing for one contract to enable assessment and remediation recommendations for several sites.

Sand and Gravel Operations

In Ontario, the aggregate industry under is managed under the Aggregate Resources Act.[262] The act and regulations[263] apply to all aggregate that is the property of the Crown or that is on land where surface rights are the property of the Crown and to private land in designated parts of Ontario (all of southern Ontario as far north as Sault Ste. Marie, Sudbury and North Bay). Municipalities may regulate pit and quarry operations on private land in the non-designated area (northern Ontario) which is not covered by the Act[264].

An operator of a pit or quarry is required to obtain:

- a license to remove aggregate from non-Crown land in the designated area (primarily southern Ontario)[265]
- a permit to remove Crown aggregate from areas not designated (primarily northern Ontario) or to remove aggregate from Crown land[266]

Every application for a license or permit must be accompanied by a site plan. A qualified person as defined in the act, must certify a plan for a Class "A" license. A Class "A" license allows for removal of more than 20,000 tonnes of aggregate annually[267].

The site can be rehabilitated into wetlands and wildlife habitat, farmland, parks, fruit orchards, vineyards, subdivisions, golf courses and recreational fishing areas[268]. Further detailed requirements are provided in a rehabilitation standard adopted by regulation[269].

Licensees and permittees are required to make rehabilitation security payments in the prescribed amounts and within the prescribed times and, if required by regulation, additional special payments in newly designated areas. Rehabilitation security payments and special payments are to be paid to the Aggregate Resource Trust (described later). These payments are included in licensee or permitee fees[270].

The act requires licensees and permittees to pay to the trust, an annual fee, set by regulation, related to the volume of aggregate materials extracted[271]. The fee is reduced for the Crown or other permittees removing Crown aggregate for Crown projects, if the site is within unorganized territory or within a non-designated single tier municipality[272]. Royalties are also paid annually to the trust for Crown-owned aggregate and royalty is set by regulation[273]. The annual fees and royalties are adjusted yearly to account for inflation using the Ontario consumer price index[274].

For 2020 the annual fee is $0.20 per tonne. About three percent of the fee remains with the trustee for rehabilitation work on legacy sites. The majority of the fee is passed on by the trustee to municipalities and the remainder to the province[275]. Royalties, also paid to the trust for removal of Crown owned aggregate are an additional $0.521 per tonne for 2020.

Pits and quarries on private land that stopped operating before they were required to obtain a licence are considered abandoned or legacy sites. Where the landowner has granted permission, these sites can be rehabilitated by The Ontario Aggregate Resources Corporation under the Management of Abandoned Aggregate Properties Program[276].

<u>The Aggregate Resources Trust and the Ontario Aggregate Resources Corporation</u>

In 1996, the Aggregate Resources Trust was established under the act. As noted previously, rehabilitation security payments as well as annual fees and royalties are made by operators to the trust. Money received or held by the trust does not form part of the consolidated revenue fund[277].

The act requires the trust to provide for the following functions[278]:

- rehabilitation of land for which a licence or permit has been revoked and for which final rehabilitation has not been completed

- rehabilitation of abandoned pits and quarries, including surveys and studies respecting their location and condition
- research on aggregate resource management, including rehabilitation
- payments to the Crown in right of Ontario and to municipalities in accordance with the regulations
- other matters specified by the minister

In 1997, the Ontario Aggregate Resources Trust Corporation was appointed by the minister as Trustee of the Aggregate Resources Trust, pursuant to the act and under a trust indenture between the corporation and the minister. The corporation assumed the responsibilities of the trust as noted above and the responsibilities provided for in the indenture.

The Ontario Stone, Sand & Gravel Association is the sole shareholder of The Ontario Aggregate Resources Corporation. A multi-stakeholder board of directors administers the affairs of the corporation. The seven-member board is composed of representatives of the association, environmental groups, municipalities and an aggregate producer who is not a member of the association. The corporation operates at arms-length from the association with separate office facilities, management staff and reporting requirements. The ministry maintains a presence on the board with an ex-officio representative[279].

Municipal Regulation of Aggregate Operations

Ontario has empowered municipalities to address pits and quarries in zoning bylaws and requires rehabilitation compatible with provincial standards. The Planning Act allows municipalities to pass bylaws prohibiting the use of land, for or except for, such purposes as may be set out in the bylaw within the municipality or within any defined area or areas or abutting any defined highway or part of a highway. The making, establishment or operation of a pit or quarry is a use of land for purposes of this provision[280].

Under the act, the province may issue policy statements approved by order-in-council. A decision of the council of a municipality (e.g. a zoning bylaw), a local board, a planning board, a minister of the Crown and a ministry, board, commission or agency of the government, including the tribunal, shall be consistent with these policy statements[281].

The most recent version of the Provincial Policy Statement addresses the protection of aggregate resources and specifically the rehabilitation of aggregate resource sites[282]. These include:

- Making as much of the mineral aggregate resources as is realistically possible available as close to markets as possible.
- Extracting minerals in a manner that minimizes social, economic and environmental impacts.
- Undertaking mineral aggregate resource conservation, including through the use of accessory aggregate recycling facilities within operations, wherever feasible.
- Protecting mineral aggregate operations from development and activities that would preclude or hinder their expansion or continued use or which would be incompatible for reasons of public health, public safety or environmental impact.
- Permitting, in known deposits of mineral aggregate resources and on adjacent lands, development that would hinder aggregate resource operation if the resource use is not feasible

or the proposed land use or development serves a greater long-term public interest and issues of public health, public safety and environmental impact are addressed.

- Requiring progressive and final rehabilitation to accommodate subsequent land uses, to promote land use compatibility, to recognize the interim nature of extraction, and to mitigate negative impacts to the extent possible. Final rehabilitation shall take surrounding land use and approved land use designations into consideration.
- Encouraging comprehensive rehabilitation planning where there is a concentration of mineral aggregate operations.
- Adopting, in parts of the province not designated (primarily northern Ontario) under the Aggregate Resources Act, rehabilitation standards that are compatible with those under the act for extraction operations on private lands.

Additional conditions are included for agricultural lands. Borrow pits are not subject to these policies. Developments must also recognize sites with cultural heritage and archeology. Several policies are set out protecting cultural and archaeological sites as well as engaging Indigenous communities in identifying, protecting and managing cultural heritage and archeological resources.

Although the province will not issue a license for an aggregate operation in an area not zoned for that purpose[283], as noted previously, the provincial land use policy requires municipalities to permit such operations except in areas where it is not possible to do so.

On sites not designated under the Aggregate Resources Act, the local municipality may regulate the operation of a pit or quarry as authorized under the Municipal Act[284]. The municipality may require the owner of a pit or quarry, that has not been operation for 12 consecutive months, to level and grade the area in and around the site.

2.2.8 Prince Edward Island

Contaminated Sites

Prince Edward Island incorporates contaminated sites management into the Environmental Protection Act[285]. The Contaminated Sites Registry Regulation[286] and the Petroleum Hydrocarbon Remediation Regulation[287] provide the framework for implementation.

Reporting Contamination

Spills and discharge of contaminants are addressed, where a responsible party is to immediately notify the department and take action as directed by the minister to investigate, restore, repair or remedy. The minister can apply for an injunction if human health and the environment are under threat[288].

Designation

The minister may designate a site as contaminated after consideration of the evidence, standards and criteria considered relevant as well as requirements in regulations. Conditions are listed in the Contaminated Sites Registry Regulation. Before designating, the minister must give notice to the owner or occupier and any others affected, and provide an opportunity for comment.

The designation can be postponed if an agreement is reached with the parties or the site is remediated.

Once a final decision is made, the designation and reasons are entered into the registry. The owner or occupier cannot alter the site without authorization. On application, the minister may authorize and require the person who makes the application to provide information, research or study as necessary.

The minister may cancel the designation if the site is no longer contaminated[289].

Remediation

The Petroleum Hydrocarbon Remediation Regulation sets out the procedures for site assessment and filing of closure reports. A site professional is to do the assessment and provide reports to the responsible party; the responsible party is to notify the minister and inform other affected parties[290]. Qualifications for a site professional are set out in the regulation[291].

A responsible party is defined as:

- the owner of a storage tank system
- the person in care or control of the a storage tank system
- the owner of the site on which the storage tank system is, or was, located, or
- or a person acting on behalf of any of the above[292]

The minister makes a preliminary determination if limited remediation is appropriate. If so, an environmental assessment must be undertaken in accordance with Atlantic Risk-Based Corrective Standards, using the limited remediation actions as described. The process will not be appropriate if certain conditions are discovered. The site professional submits the report and record of site condition indicating that remediation is successful. If not successful, additional direction is given[293].

If a limited remediation is not appropriate, a full site environmental assessment must be undertaken. A remedial action plan will be prepared by the site professional, the contents of the plan are provided in the regulation[294].

Voluntary agreements may be entered into with one or more parties and can be terminated if appropriate action is not taken.[295]

Appeals

Appeals are made to the Island Regulatory and Appeals Commission as set out in regulation. An appeal does not operate as a stay[296].

Cost Recovery

The minister may issue an order to recover costs and may take further action by filing for costs with the courts if required[297].

Registry

The minister is to establish a registry, provide public access to the information and may impose fees for registry access or other information. The contents of the registry are listed in the Contaminated Sites Registry Regulation[298].

Guidance documents

PEI is a member of Atlantic PIRI and incorporates standards and guidelines accepted by this organization.

The act also allows the adoption by regulation of codes or standards or accepts those from other jurisdictions or recognized technical organization and requires compliance with any code, standard or regulation[299].

2.2.9 Québec

Contaminated Sites

Contamination and contaminated sites are addressed under the Québec Environmental Quality Act[300]. The major focus of the program is on commercial and industrial sites.

Reporting Contamination

Under the act, any unauthorized release must be reported immediately[301].

The minister may order the cleanup if the contaminant is above the regulated standards or is a threat to human health and the environment. The order may be served upon the person who released the contaminant or has or had custody of the land where the contaminant was released. The minister may also order studies.

An order would not apply if:

- the land owner was not aware of the contamination
- had no reason to suspect its presence and took care and due diligence and acted within the law
- it is a result of offsite migration

The act describes the content of an order and requires that it be registered on the land registry and the owner and other affected parties are notified by the minister[302].

Rehabilitation

A rehabilitation plan must also be submitted within the specified time after reporting.

The rehabilitation plan may allow contaminants in concentrations above the prescribed limits to be left in place on the condition that toxicological and eco-toxicological studies and a risk assessment is submitted along with required land use restrictions. If the plan is approved, the land use restrictions are registered in the registry. Registration binds third parties and subsequent landowners by the plan and land use restrictions.

Once any required work is completed, a certification of completion is required from a qualified professional confirming the plan was implemented, as approved[303].

Qualified Professional

A qualified professional is required to undertake any investigation or study, prepare a plan and the certification of completion. The act also sets out the requirements and process for the certification of qualified professionals. The minister may set the qualifications in consultation with professional

organizations and the qualifications must be published in the gazette. The minister keeps a list of qualified individuals[304].

Responsibilities

The minister does not undertake apportionment. Any order for rehabilitation or characterization is open to civil remedies available to the person subject to the order for total or partial recovery of costs incurred or of any increase in the value of land as a result of the rehabilitation[305].

If an industry or commercial activity ceases, a characterization study must be undertaken and the results and rehabilitation plan submitted. If a change in the land use designation is proposed, a study must be conducted, a report provided and a rehabilitation plan submitted. There is an exemption if an existing certificate of compliance is on file. Specific procedures are provided regarding petroleum storage tanks[306].

Voluntary land rehabilitation is enabled. An applicant must submit a plan for approval and if contaminants with concentrations over the limit are to remain on the land, a characterization study and risk assessment must be done. If the study results show contamination over the limits the person who had the study done shall register a notice of contamination on the land registry and provide the minister and the land owner with a copy of the notice. The minister will inform the municipality[307].

A person may also register a notice of decontamination if the rehabilitation has been carried out and results in contamination below the prescribed limits. A characterization study is required and approved. Certification is sent to the owner[308].

Changes in land use categories must be approved by the minister. If contamination is proposed to be left in place with a land use change, a risk assessment must be done and the public must be advised. Public input must be sought and reported on[309].

For non-industrial sites, a person can submit a plan for ministerial approval. The person must advise the local community and provide proof of doing so. The minister will advise the municipality and provide the file for public review at the municipal office. Public comments are accepted. The minister will advise other departments if warranted.

Registry and Guidance

The minister is to prepare a guide setting out the objectives and elements of a characterization study, seeking input from others as needed, and make the guide available to the public[310]. A registry is to be established to contain a prescribed list of information. A registry of penalties is required[311].

Cost Recovery

The minister may take action to recover cost of any action required to be taken by the government. Fees can also be imposed for filing and retrieving documents[312].

Appeals

Appeals of orders and decisions can be made to the administrative tribunal, the Bureau D'audiences Publiques sur L'environnement. An appeal does not suspend execution of an order, unless the tribunal has a reason that has been agreed upon before a judge[313].

The Land Protection and Rehabilitation Regulation[314] provides categories of land use classes, contaminant limits and penalties for non-compliance.

Sand and Gravel Operations

Sand pits and quarries are regulated under the Environmental Quality Act by the Regulation respecting pits and quarries[315]. The regulation applies to any pit or quarry operated for commercial or industrial purposes, to fulfil contractual obligations or for the construction, repair and maintenance of roads, dikes and dams. The regulation does not apply to pits or quarries on Crown land for forestry purposes or on land intended to be flooded for hydro-electric generation.

Authorization is required to operate a pit or quarry. Application must be made to the minister and contain:

- contact information
- documentation of ownership and the right to access minerals
- characterization of the site including:
    - geographical coordinates and municipal zoning
    - environmental characteristics, especially plant and wildlife species of concern
    - scale plan of the site
    - buildings, structures, works, equipment, roads
    - water withdrawal facilities for human consumption in accordance with legislation
    - wetland and water bodies and their designation
    - protected lands
    - habitat of species of concern, particularly listed species
    - operational procedures, nature of the materials to be extracted, area to be disturbed, depth of extraction, maximum quantities to be extracted, groundwater levels
    - cross section showing topography
    - year of permanent cessation of mining, where redevelopment and restoration activities will be completed, and the year of closure
    - location of water discharge points to the environment
    - a rehabilitation or restoration plan
    - if activity takes place in the water table, a certified hydrogeological study
    - a predictive study of sound levels, certified by a professional

These applications are public, except for sensitive species information and confidential industrial and trade secrets[316].

The regulation outlines minimum distances for operation near water bodies, dwellings and other establishments, conditions for storage of topsoil and control of particles and dust, noise limits, quality of water discharge and blasting[317].

A financial guarantee is required. The guarantee must be held throughout the duration of mining, redevelopment and restoration and for 18 months following closure. This does not apply to provincial lands or contractors working on behalf of the province. The amount of a guarantee is set at:

- $10,000 if the area excavated is less than one hectare
- $10,000 multiplied by the number of hectares excavated greater than one hectare

The acceptable forms and requirements for guarantees are provided. The minister may use the guarantee, where the operator fails to meet its obligations[318].

Redevelopment and restoration must:

- eliminate unacceptable risks to health and ensure public safety
- prevent the release of contaminants likely to adversely affect the environment
- eliminate long-term maintenance and follow-up
- restore the site to a condition compatible with its previous use

Redevelopment and restoration must be done in accordance with the approved plan. Options and requirements for materials to be used and leveling and contouring requirements are provided. Seeded or planted vegetation must be established within 18 months, unless it is a harvested agricultural crop[319].

Fees and royalties are adjusted every year on January 1 to reflect the annual change in the Consumer Price Index in Québec[320].

In 2009, the Minister of Municipal Affairs and the Minister of Natural Resources and Wildlife signed an agreement with Fédération Québécoise des municipalités and the Union des municipalités du Québec to delegate management of sand and gravel mining on provincial lands to regional county municipalities, should they wish to participate. Between April 1, 2010 and June 1, 2011, about 30 municipalities signed a memorandum of understanding transferring responsibilities for management of sand and gravel mining. Currently, municipalities manage more than half of the 2,700 leases and authorizations on provincial land.

The municipalities retain half of the royalties and rental fees collected for sand and gravel. Additional municipalities have expressed interest. The computerized mining registration system is under modification to allow use by municipalities[321].

2.2.10 Saskatchewan

Contaminated Sites

The Environmental Management and Protection Act[322] regulates the impacted site process. The Saskatchewan Environmental Code[323] provides guidance for implementation of requirements in the act. The code is a consolidation of requirements in The Environmental Management and Protection Act and The Forest Resources Management Act, adopted by regulation[324] under each of these acts. The code contains a collection of legally-binding requirements to be followed by anyone conducting activities governed by The Environmental Management and Protection Act. The code provides clear directions for projects, allowing operators in many situations to proceed without waiting for a ministerial approval while ensuring enhanced protection of the environment. Saskatchewan has adopted a results-based model which, focuses on the desired outcome to protect human health and the environment.

<u>Designation</u>

Saskatchewan uses only one classification category for a site, an “environmentally impacted site” defined in the act as “an area of land or water that contains a substance that may cause or is causing an adverse effect”[325]. An adverse effect includes impairment or damage to human health or the environment caused by chemical, physical or biological alterations or a combination thereof and/or exceedance of any permissible limit, standard, criteria or condition as set out in the code. The act does

not enable designation of sites. Each site is addressed on a case by case basis in relation to its level of risk and site conditions and may be addressed as high, moderate and low risk based on criteria in the code.

Standards and Guidelines

The minister is required to develop or establish standards and requirements, publish them in the gazette and make them available to the public[326]. Saskatchewan has a variety of guidance documents, the major regulatory document being the code. It includes five chapters, with detailed steps in the process, addressing contaminants and site management:

- Discharge and Discovery Reporting
- Site Assessment
- Corrective Action Plan
- Transfer of Responsibility for an Environmentally Impacted Site
- Substance Characterization

Reporting and Responsibility

Unauthorized discharges that may cause or are causing an adverse effect must be reported to the ministry by the owner or occupier, a person who conducts work on the site (qualified professional) and discovers it or by a municipal or government employee.

The person responsible must take immediate action to repair or remedy the situation and decrease or mitigate danger to human health and the environment. The person responsible must also advise all others who may be affected.

If the situation warrants, the minister may issue direction to the owner or occupier to provide a report, as set out in the code, on all properties and substances owned or controlled[327].

A person responsible is defined as:

- a person who caused or contributed to the released substance
- a person who had possession, charge or control of the substance
- every owner or occupant at the time of release
- every owner or occupant subsequent to the time of release
- a transporter who failed to undertake due diligence
- every owner in prescribed circumstance
- every director of a corporation who had control, including issuing dividends where the funds were essential to financing a clean up
- persons agreeing by contract to be liable, such as a transferee

Those not responsible include:

- municipalities that acquired the property through tax arrears
- secured creditors unless they took control of the property or action thereon
- a person who provides advice regarding the handling of the substance
- a person where the discharge happened before ownership and they could not have known

- an owner of a site where a site condition report is filed and has not contributed to the impacts
- those subject to a surface rights transfer
- a person who aggravates the situation after a site condition report is filed; they can be held responsible for the additional impacts[328]

The person responsible is not necessarily the polluter[329]. The panels was told that in practice, the ministry usually deals with one person or entity, usually the owner. If the person provides solid evidence that others are responsible, they may be included. An insolvent or absent person will not be named a responsible person. In general, responsibility is considered a civil matter and the ministry does not undertake extensive investigations into who may be responsible. Only if the site is high risk, would the ministry consider being involved in identifying responsible persons. This would be a very rare occurrence and in such a case, responsibility would be apportioned equally.

The minister may require a person responsible to undertake an assessment according to the code, submit it immediately after completion and may require further investigation. If the assessment indicates an impact, a corrective action plan (remediation plan) is required within six months. If more than one person is responsible, the plan is to be prepared jointly[330].

The minister may assist in allocation of responsibility by providing alternate dispute resolution. The minister has the ability to allocate responsibility through environmental protection orders or reclamation orders. The minister may direct one or more persons to provide funding according to principles of responsibility set out in the code[331]. These responsibilities include the use of a polluter and/or beneficiary model to apportion liability to responsible parties[332].

The act requires that the minister provide notice to a person that an order is under consideration and provide the person an opportunity for written representation. An oral hearing is not required. The minister's decision is final[333]. Government officials indicated that issuance of a ministerial order is a last resort, only used if the person responsible is uncooperative and there is an imminent danger to human health and the environment. An "intent to order" will be issued 30 days prior to elicit cooperation. It was indicated that issuing an order is a long process requiring a detailed listing of requirements, and will only be used in an emergency.

Any person, including a person responsible, who incurs costs in carrying out an assessment or preparing a corrective action plan has a right to recover their reasonable costs from one or more other persons responsible in accordance with the principles of responsibility set out in the code[334].

<u>Corrective Action Plans</u>

Corrective action plans are to be submitted immediately on completion. The minister cannot accept a plan that proposes future risk unless a financial assurance is provided in a set amount and under the conditions prescribed[335].

In practice, the ministry does not impose timelines unless the site is of high risk. The risk-based and results-based approach for remediation provides for options to protect the environment. The only "acceptable" solution is removal of contaminated soil. All other actions are considered "alternative" solutions. However, the ministry's objective is to return sites to a productive use. Alternative solutions are acceptable if they achieve that end and any risk to human health and the environment is addressed.

It was noted that there are fewer soil relocation efforts ongoing and more risk assessment, management in-situ and alternative land uses proposed.

The risk-management approach requires qualified professionals to undertake the planning and remediation work. Qualifications and the qualification process are outlined in the code. The province makes a list of qualified professionals available.

If a person voluntarily reclaims an environmentally impacted site, through a corrective action plan, they may apply to file a site condition report on the registry. If it meets the standards, the minister approves it and files it on the registry[336]. A site condition report cannot be filed if remediation is undertaken under order.

A site can be transferred to another person if the other person accepts responsibility, an environmental site assessment has been conducted according to the code, and a satisfactory corrective action plan is prepared along with estimated costs. The other person must provide written agreement and financial assurance. If approved by the minister the action plan is filed in the registry[337].

If a site condition report is filed, a person responsible is not required to prepare a site assessment or an action plan and an order cannot be issued to the person responsible, owner or subsequent owners or to a person who transferred responsibility. The land can only be used in the same manner as that filed in the site condition[338].

The panel was told that the ministry is more often requiring financial assurance in situations where the person responsible is choosing to manage the site over time instead of remediating in the short-term. The financial assurance provides the government with some insurance that if in the future, the person responsible fails to take action, there will be funds available to remediate the site. It was also indicated that a requirement for an assurance may encourage a person responsible to take immediate action rather than putting it off to a later time. Also under consideration, is the use of assurances for inoperative or idle sites due to contamination to provide the person responsible with an incentive to address these sites. Assurances are in a form approved by the minister and the ministry holds the assurance.

Appeals

Appeal of an environmental protection order, on a question of law, is to be made to the Court of Queen's Bench. An appeal does not stay an order or decision[339].

Registry

The minister must establish a registry; and a list of the required contents is provided. The registry is to be open for public inspection[340]. The registry is not yet publicly available but should be shortly. The act enables fees to be charged for filing or inspection of documents. It does not appear that any fees are charged for filing contaminated sites related documentation at this time.

Cost recovery

As in all jurisdictions, costs incurred by the Crown are recoverable[341].

Orphaned Impacted Sites

The act addresses orphaned sites in the context of an "orphaned environmentally impacted site". An Impacted Sites Fund is established and managed by the minister. The fund receives monies from fines, administrative penalties, gifts/donations and by appropriation. The funds are used to reclaim, restore, remedy orphaned impacted sites, cover departmental costs and pay expenses for administering the fund[342].

The fund is managed by the Ministry of Environment and is a stand-alone fund. However, cabinet approval is required for disbursements. The government is encouraging municipal use of the fund, but has received few applications to date. The ministry has not contemplated using the fund for its own liabilities related to impacted sites. Approval is sought through the government appropriation process to remediate impacted sites.

The code and a comprehensive guidance document provide technical and plain language guidance to understand the impacted sites process in Saskatchewan.

Mines

The Crown Minerals Act[343] provides the administrative framework for the disposition of mineral rights and the collection of rent, fees, royalties and other charges. The act does not provide direction on environmental issues in the management of mine sites except that a disposition, in whole or in part, may be cancelled for environmental reasons if the required environmental assessment determines the development should not proceed[344].

Major mining operations are subject to an environmental review under The Environmental Assessment Act[345]. As described previously, The Environmental Management and Protection Act, which applies to mining, addresses contamination and environmentally impacted sites. The environmental code[346] provides further details on reporting and corrective actions. There are additional requirements for the mining industry in the Mineral Industry Environmental Protection Regulations[347], including reclamation plans and financial assurance. The Ministry of Environment administers the program to regulate environmental impacts of the mining and milling industry and contamination associated with those activities.

The act and regulations impose permit obligations on any person seeking to construct, install, alter, extend, operate, or temporarily close a "pollutant control facility" or undertake exploration of minerals or decommission and reclaim a mining site[348]. A pollutant control facility is defined as a facility or area for collection, containment, storage, transmission, treatment or disposal of any pollutant arising from any mining operations or from the development of or exploration of any mineral[349]. Environmental protection components include the:

- mine or mill
- tailings management area
- ore storage facility
- waste rock disposal area
- mine overburden or spoil disposal area
- waste treatment plant
- chemical storage facility

- waste sump
- site drainage control
- groundwater dewatering system
- any equipment used for exploration
- all associated machinery with the operation

As prescribed by regulation, a pollutant control facility cannot be closed until there is an approved decommissioning and reclamation plan, and an assurance fund has been established as directed by the minister[350]. The plan is to include an estimate of the cost to carry out the decommissioning and reclamation plan and the cost of monitoring the mining site after closure. The acceptable forms of assurance are listed. The plan and fund are reviewed at least every five years and at permanent closure. The plan and security are revised as requested or needed[351].

Default of assurance occurs when the approved rehabilitation plan is not complied with, all or part of the mining site is abandoned, the assurance fund is in jeopardy or the responsible person becomes insolvent. When this occurs, the minister may call in and cash a security or require that the assurance fund be used for decommissioning and reclamation. Where the assurance is insufficient to cover the costs, the remainder is a debt to the Crown. Recovery from the responsible person can be undertaken as allowed by law[352].

The Ministry of Environment, manages abandoned closed mine sites, other than former uranium mines, including the calling in of any available financial assurance.

The Provincial Auditor, in 2008,[353] assessed the ministry's processes to regulate contaminated sites. The auditor concluded that "The Ministry of Environment had adequate processes at August 31, 2007 to regulate contaminated sites except the Ministry needs to implement processes for assessing, monitoring, tracking, and reporting the status of contaminated sites." Recommendations related to these processes were made. In the 2019 annual report[354], the provincial auditor noted that the last of the 2008 recommendations had been implemented.

The panel understands that following the recommendations of the auditor, the ministry established an electronic registry of contaminated sites including a ranking system using the national classification system for contaminated sites ratings. Six non-uranium contaminated mining sites in the registry are entered as liabilities on the government's books. Appropriations for the remediation of contaminated sites are reviewed and approved through the province's budget approval process.

The Saskatchewan Research Council manages sites related to former uranium mining operations separately from the ministry. Saskatchewan Ministry of Energy and Resources and Natural Resources Canada contracted with the council in 2006. A $25 million fund was established, for the purpose of remediating abandoned uranium mines where no owner could be identified. Currently, 37 sites have been placed on the registry. The council makes submissions to carry out remediation through the government's budgeting process. Remediation costs are higher than was originally budgeted[355]. The Ministry of Environment plays a regulatory role related to these sites.

Institutional Control Program

The Ministry of Energy and Resources established a program in 2007 to address the future of closed mines, after the Ministry of Environment has signed off on the completion of the decommissioning and

reclamation activities as required by regulation. The Institutional Control Program addresses the long-term management of closed mine and mill facilities. The program is voluntary.

The Reclaimed Industrial Sites Act[356] and its accompanying regulation provide for ongoing management of sites where obligations under The Environmental Management and Protection Act[357] have been fulfilled but long-term management is required.

The act establishes the Institutional Control Program that is to:

- set out the conditions by which the government will accept responsibility for land, as a consequence of development and use, requiring long-term monitoring and maintenance
- ensure that required monitoring and maintenance are carried out
- provide a funding mechanism to cover costs associated with monitoring and maintenance
- ensure that certain records and information are preserved with respect to the land[358]

A site will not be accepted into the program unless the minister is satisfied the closed site meets the prescribed conditions, the site holder has paid a deposit into the Institutional Control Monitoring and Maintenance Fund, paid a deposit into the Institutional Control Unforeseen Events Fund and paid the $500 registration fee.[359]

The act also establishes the Institutional Control Registry that includes registered closed sites accepted into the program. The registry is open for public inspection[360].

The minister shall monitor and undertake maintenance of the accepted sites and may retain the services of a qualified person, request a qualified government employee carry out the responsibilities or enter into a third party management agreement. Funds to cover these activities are drawn from the Institutional Control Monitoring and Maintenance Fund or as required, the Institutional Control Unforeseen Events Fund[361].

The minister may also transfer the responsibility of a closed site to a responsible person who meets prescribed conditions, has agreed to accept responsibility, provides evidence of sufficient resources to cover the anticipated future costs and if required, any financial assurance. On transfer of a closed site, any remaining funds provided by the original registrant are refunded[362].

The act establishes the Institutional Control Monitoring and Maintenance Fund. The minister administers the fund; it contains deposits as prescribed and investment returns. Each project has its own account. Funds are used for monitoring and maintenance activities and costs incurred to undertake such activities[363].

The act also establishes the Institutional Control Unforeseen Events Fund, which is supported by deposits and investment returns. The funds are used for unforeseen and exceptional circumstances that could not be predicted at site closure[364].

The minister appoints an advisory committee to provide advice on matters related to fund administration. The provincial auditor audits the fund annually, and as needed. Each fiscal year, a report and financial statement must be prepared and provided to the Legislative Assembly[365].

A report on the program is provided to the assembly every five years. The act and regulations are reviewed every five years[366].

The Reclaimed Industrial Sites Regulations[367] provides the process details for acceptance of a closed site into the program. A site will be accepted if:

- the site holder has completed and complied with conditions of any environmental assessment
- a satisfactory monitoring and maintenance plan is submitted that identifies monitoring and maintenance obligations and includes the present value of the future costs associated with these activities
- the site holder has complied with the decommissioning requirements in The Mineral Industry Environmental Protection Regulations
- the site holder is eligible to receive release or exemption from any and all licences issued by the government of Saskatchewan or Canada
- the site holder is eligible for release of surface rights and does so on the site being accepted into the program
- the site holder owns the mineral rights, they are surrendered or transferred to the minister[368]

A site may be transferred if the responsible person accepts responsibility and enters into a written agreement acknowledging they are aware of and accept further monitoring and maintenance costs and provide a statement of financial capacity that demonstrates they have sufficient resources to cover long-term costs. The responsible person must also acquire the required licences, permits and authorizations[369].

The prescribed amounts deposited into the Institutional Control Monitoring and Maintenance Fund is the sum of the present value of future costs and an assurance based on the costs of dealing with a maximum failure event.

The amount to be deposited in the Institutional Control Unforeseen Events Fund is calculated as:

- 10 percent of the present value of future costs for monitoring and maintenance at a site without tailings or engineering structures
- 20 percent of the present value of future costs for monitoring and maintenance at a site with tailings and engineered structures[370]

The registration fee is $500.

The regulation provides a list of information to be included in the Institutional Control Registry. These include site identification information, documentation related to The Mineral Industry Environmental Protection Regulations, monitoring and maintenance obligations, reference to documents related to the release from licences, permits and other authorizations, notation to the location of documents the minister considers relevant, descriptions of the responsibilities of the government departments and closure plans[371]. There are few sites on the registry to date. The information available is informative and includes up-to-date inspection results.

The document *Post Closure Management of Decommissioned Mine/Mill Properties Located on Crown Land in Saskatchewan*[372] provides further details on the practical application of the program. Greater detail and factors included in the calculation of future values are provided. The monitoring and maintenance schedule is based on a 100 year timeframe. Inspections happen at five year intervals in the early years, but may be extended to 10, 25 or even 50 years as time goes on, depending upon the structures on and the condition of the site. Money from the funds may be used to reimburse the

government for administration of the program and actions taken to deliver the monitoring and maintenance plan. Additional information is provided on the website[373].

Sand and Gravel Operations

The Environmental Management and Protection Act, states that the Lieutenant Governor in Council may make regulations "prescribing the duties of any person conducting sand or gravel removal operations, or any other kind of operations that result in the destruction or disturbance of the surface of land, with respect to conservation of the soil and the reclamation of the surface of that land, and conferring powers on the minister relating to that soil conservation and reclamation" [374]. *Reclamation Guidelines for Sand and Gravel Operators*[375] outline expectations of operators. However, there is no indication of any related regulatory requirements.

Operations on Crown Land

Under Saskatchewan's Provincial Lands Act[376], where responsibility is jointly assigned to the Ministers of Environment and Agriculture, no person shall acquire a right, title or interest in provincial land except by way of a disposition, which includes a permit, license or lease, issued in accordance with the act or the regulations. As part of this disposition, the minister may require financial assurance.

The Ministry of the Environment under the Crown Resource Land Regulations regulates sand and gravel operations on Crown resource land[377]. Crown resource land may be disposed of for the purposes, in the manner, and on the terms and conditions set out in the regulations. This includes holders of a forest resource management licence who need such a disposition to establish a sand and gravel pit.

Under the regulation, the minister may require a resource land disposition holder to provide an updated restoration and reclamation plan to meet standards in place at the time of expiration or proposed termination of the disposition. The minister may require the disposition holder to file a financial assurance, surety bond or other security to ensure that all Crown resource land used or altered under that disposition is reclaimed and restored to a satisfactory condition. If the minister is not satisfied that the reclamation and restoration obligation is met, the security is forfeited to the Crown.

The regulation sets out rental rates related to dispositions for sand and gravel operations on Crown resource lands. For developed acres, the rent is set at $1,240 per hectare for 2020-2021 rising to $2,070 per hectare by 2022-2023 and thereafter. No rent is charged if the sand and gravel is for a public purpose[378].

The Provincial Lands Act or regulations do not mention royalties, but under the Quarry Regulations[379], there is a royalty of $0.15 per cubic yard (about $0.20 per cubic metre) on sand and gravel which are the property of the Crown. These regulations specify that the minister may issue royalty-free licenses to the ministry responsible for highways, a municipality or other public entity for road work or other public projects.

Management of sand and gravel operations on provincial agricultural lands fall under The Provincial Lands (Agriculture) Regulations[380]. The regulations require that a proposed lessee must have an approved development plan, to include, a plan for the reclamation and restoration of the quarrying site with details on how the excavation will be sloped and contoured and how the soil will be replaced and

the site revegetated[381]. The plan must be updated to current standards before the expiration or termination of the lease, and requires approval.

Annual rent under the regulations is $10 per acre (no rent charged to provincial ministries) and the royalty on sand and gravel is $0.20 per cubic metre except for government ministries and municipalities for whom there is no royalty.

The *Sand and Gravel Development Policy on Agricultural Crown Land*[382], grants priority access to sand and gravel on provincial agricultural lands for provincial highways and municipal road purposes. It also provides guidance on many practices related to sand and gravel operations and specifies various fees associated with an application.

The policy specifies that proposals to develop deposits will take into account environmental or other unique conditions pertaining to the site. The Ministry of Agriculture requires development plans which includes how surface soil will be removed and provide details on the quarrying operations, and plans for reclamation.

The policy adds that all sand and gravel development lease applications are referred to the Ministry of Environment for a review of environmental concerns. Clauses that address environmental and other concerns relating to the operation or reclamation of the lease may be added to the sand and gravel development lease document. These clauses are binding on the sand and gravel development lessee. Leases are for five years, but may extend to 21 years for the ministry responsible for highways or municipalities.

Under the policy, a detailed reclamation plan must be accompanied by a restoration cash deposit, letter of credit or bond in the amount of $2,500 for the first five acres and $500 for each additional acre or part acre. Performance bonds need to continue six months beyond the termination of the lease to allow a discovery period by the ministry. The bond is to be renewed 30 calendar days before expiry of the existing bond.

The Ministry of Highways and Infrastructure is not required to post a reclamation deposit. Cities, towns, villages, hamlets, rural municipalities and First Nations may provide an irrevocable letter of undertaking to reclaim the site to a condition satisfactory to the ministry, in lieu of a reclamation deposit.

<u>Operations on Private Land</u>

Operations on private lands are governed by regulations under The Planning and Development Act[383] and the Statements of Provincial Interest Regulations[384]. The regulations assist in meeting the province's sand and gravel interests, municipal planning documents and decisions by:

- ensuring that sand and gravel development is compatible with existing and planned land uses
- ensuring that sand and gravel development is operated with minimal disturbance to the environment and aquifers
- requiring that future reclamation of the sand and gravel development be addressed during the development permit approval stage
- including sand and gravel development as a permitted or discretionary land use in each rural municipality

The sand and gravel chapter of *The Planning Handbook, Companion Document to The Statements of Provincial Interest Regulations*[385], provides additional detail to municipalities regarding these four requirements. In particular, the handbook advises that municipal planning decisions should include:

- the operation and reclamation plan as a condition of development permit approval
- environmental protection and mitigation measures in the operation plan, reclamation plan and development permit conditions of approval
- a bond, letter of credit or other form of security ensuring the completion of a reclamation plan as a condition of approval
- a bond, letter of credit or other form of security ensuring exercise of environmental responsibility and prudence as a condition of approval

As set out in The Planning and Development Act[386], a zoning bylaw may require a letter of credit, performance bond or any other form of assurance the municipal council considers necessary to ensure that a development, including mining, is constructed and completed in accordance with the time frames and development standards required in the approval.

The Municipalities Regulation[387], under the act, sets a maximum fee of $0.137 per cubic metre of gravel that municipalities may charge for road maintenance. This maximum is adjusted annually based on the consumer price index.

Oil and Gas

The Oil and Gas Conservation Act[388] and The Oil and Gas Conservation Regulations[389] govern oil and gas operations in Saskatchewan. The minister is responsible for all aspects of oil and gas management including, the regulation of operations, conservation of oil resources and the protection of the environment, property and public safety with respect to oil and gas operations. The act sets out the administrative structure, licensing conditions and establishment of an orphan fund. The regulations set out specific requirements for the establishment, management and decommissioning of oil and gas facilities.

Decommissioning

On completion of abandonment of a well, decommissioning of a facility, or if the site has not been drilled and on which no facility has been constructed, the licensee or the operator shall:

- conduct an environmental site assessment in a manner specified by the minister
- decommission the well site to standards specified by the minister
- reclaim the well site to standards specified by the minister
- reclaim any area that is beyond the boundaries of the well site and that, in the opinion of the minister, has been damaged, contaminated or otherwise adversely affected by the operations of the well
- conduct a detailed site assessment as required by the minister

Flowlines are also abandoned when a well or facility is decommissioned. On completion of decommissioning activities, an application for acknowledgement of reclamation is submitted to the minister for acceptance and acknowledgment. Acknowledgement of reclamation does not relieve a

licensee, operator or working interest participant of their past, present or future environmental liability associated with the well or facility site[390].

If abandonment actions do not meet the standards set out in regulations or specified by the minister, the minister may require the licensee or operator to remedy the default or defect within a specified period. If a licensee or operator does not comply, the minister may take the necessary steps to carry out abandonment and reclamation. All costs and expenses incurred are a debt due to the Crown[391].

Security Deposit

The minister may specify relevant factors at any time to calculate the amount of a security deposit required. This may be done at the minister's initiative, or at the depositor's request. A security deposit may be required before a licence is issued or transferred, any time the licensee fails a licensee liability rating, or if the minister believes the operation will have an impact on property or the environment.

The Licensee Liability Rating is a ratio of a licensee's assets to their total liabilities. Asset value is the net production value. Liability is the total cost for future abandonment and site reclamation of all a licensee's wells and upstream facilities. A rating of less than 1.00 is a fail[392].

Security deposit assessments are undertaken monthly or prior to a transfer and a deposit is requested if the amount owed is greater than $10,000[393].

The deposit may be paid as a lump sum or in portions specified by the minister. On a depositor's written request, the minister may return all or part of the security deposit if the licensee has met all or some of the conditions and made any corrections required. The security deposit may be forfeited if the licensee fails to comply with the required conditions, cannot be located, is insolvent, is incapable of operating the facility or failed to submit the orphan levy within the specified time. The orphan levy is discussed below.

The minister may apply any or all of the forfeited security deposit to undertake decommissioning. If a third party undertakes the activities on behalf of the minister, payment for services comes from the deposit. If the security deposit does not cover the costs, the licensee is liable for the difference. The minister may use funds from the orphaned fund to cover the shortfall, recover the costs from the licensee at a later date and deposit monies back into the fund. If the costs are less than the deposit, the remaining funds would be returned on written request[394].

Orphan Fund

In the context of oil and gas facilities "orphan" means a well, facility associated with a flowline or a site if a person responsible does not exist, cannot be located or does not have the financial means to meet their obligations.

The minister, with advice from the fund advisory committee, determines the annual budget requirement to address orphan sites[395]. The annual budget is to be sufficient to cover anticipated costs for reclamation activities and provide a surplus for emergency or contingencies and non-budgeted expenditures. The minister may adjust the budget as required.

A first time applicant must pay a fee of $10,000, to be deposited in the orphan fund[396]. Each fiscal year thereafter, a licensee pays a levy representing their share of the annual budget to reclaim orphaned sites. The share is calculated as the licensee's liability for all their facilities and un-reclaimed sites in relation to the industry's total liability for all such sites.

The minister may use the funds to finance a variety of activities related to site decommissioning and reclamation and determine when the money is used. The minister is not required to consult with the advisory committee respecting the use of securities or materials forfeited[397].

Funds expended on reclamation, may be recovered from licensees, working interest participants, another party the minister considers responsible, or from proceeds of the sale of forfeited machinery, equipment or materials. The minimum amount to be retained in reserve in the fund is $2 million.

The fund advisory committee is appointed by the minister and made up of four members nominated by the oil and gas industry and two other people[398].

Accelerated Site Closure Program

In May 2020, the Government of Saskatchewan launched the Accelerated Site Closure Program[399] to access $400 million in federal funding for the abandonment and reclamation of up to 8,000 inactive oil and gas wells and facilities nominated by licensees. The program is overseen by the Ministry of Energy and Resources, administered by the Saskatchewan Research Council and scheduled to run until December 31, 2022.

2.2.11 Yukon

Contaminated Sites

Yukon contaminated sites are regulated under the Environment Act[400] and the Contaminated Sites Regulation[401].

Reporting Contamination

It is the responsibility of a person, who releases a contaminant in an amount or concentration that exceeds the allowable limits, to report it[402].

Designation

If the minister believes that a site is contaminated, the minister may designate it as a contaminated site. Notice is given to the affected parties and filed on the registry. Affected persons are given opportunity for comment, before a final determination is made. Change in land use, excavation, construction or dismantling of buildings cannot be undertaken without approval of the minister. To gain approval, an assessment must be provided along with a description of the proposed change and a restoration or rehabilitation plan. Restoration must comply with the approved plan[403].

If the minister believes that a contaminated site is causing or is likely to cause adverse effects on human health and the environment, the minister may order a responsible party to provide information, undertake investigations, establish a plan of restoration and carry out the restoration. If the land is restored or rehabilitated in accordance with the plan the minister issues a certificate of compliance. The certificate does not warrant the site is free of contamination[404].

The Contaminated Sites Regulation specifies that identification of contaminated sites is based on land use categories, generic standards and site specific factors[405]. Standards and strategies for restoration are provided as are instructions to carry out site assessments and restoration plans[406].

Remediation and Responsibility

If a person applies for a permit using risk based restoration standards the minister will determine if a technical review is required by external reviewers. Costs are borne by the applicant[407].

Prior to issuing an order for restoration or rehabilitation the minister may appoint persons to assist in determining responsible parties and their share of liability, taking into account:

- the condition of the contaminated site when the party
    - became owner or operator or ceased to owner or operator
    - had possession, charge and control of a contaminant or ceased to
- any activities and land use undertaken by a party while located at the site
- nature and quantity of contamination attributable to the party
- all measures taken by the party to prevent contamination or restore the site
- amount of contamination on the site or released from the site which is attributable to
    - a party
    - other parties or responsible parties
- a site assessment and restoration plan
- an estimate of the total cost of restoration
- an estimate of a party's share of the total cost and justification for the estimate
- names of other parties who might be responsible
- a statement describing a party's ability and plans to conduct and finance the restoration

The minister may take into account any or all advice in naming responsible parties and specifying the terms of the order.

The minister, prior to issuing an order, may appoint a mediator to determine the respective liabilities or responsible parties[408].

The minister may approve or adopt protocols for actions and procedures related to assessment, reporting and rendering of opinions. Only the protocols adopted by the minister, are used[409].

Public Registry

The minister must establish a contaminated sites registry[410]. The regulation sets out a list of contents to be contained in the registry[411].

2.2.12 Other Jurisdictions

North Dakota – Oil and Gas

Title 38, Mining and Oil and Gas, of the North Dakota Century Code[412] establishes the North Dakota Industrial Commission. The commission is empowered to regulate, make orders and adopt rules related to the oil and gas industry. The code requires:

- wells to be managed to protect oil and gas strata, prevent pollution of freshwater and prevent blowouts, cavings, seepages and fires
- surety bonds conditioned upon compliance with the code and rules and orders of the commission

- land associated with oil and gas facilities to be remediated as close as practical to its original condition[413]

The Commission's Oil and Gas Rules and Regulations provide more specifics regarding the reclamation of well sites or other oil or gas facilities[414] including requiring:

- reclamation within one year of plugging, permit expiring or decommissioning
- notice and a reclamation plan provided to the director and land owner for approval
- removal of equipment, waste, and debris
- purging and abandonment of pipelines
- removal of flow lines if buried less than three feet
- gravel removal, remediation and distribution of soils, revegetation, and reshaping site
- provision of site assessment if required by director, before and after reclamation

The rules and regulations also provide details regarding sureties[415] and require a surety bond be provided before well drilling is approved. Separate bonds, at set minimum values, are required for different facilities and activities associated with oil production. Bonds generally start at $50,000 USD per well with a cap of $100,000 for a multi-well operator unless the operator has more than six wells or facilities not meeting financial requirements. The commission can alter bond amounts. The commission may refuse to accept a bond or add wells if the operator or surety company has failed to comply with statutes, rules or orders. Bond conditions remain in effect until sites are fully reclaimed. If a principal does not comply, the bond could be forfeited. The regulation includes provisions ensuring the continuation of a bond or new bond when facilities are transferred.

The century code establishes the Abandoned Oil and Gas Well Plugging and Site Reclamation Fund[416]. Revenues to the fund include fees for permits and other services, forfeitures, federal contributions, donations, money received from the state gas impact fund, recovery from lawsuits, sale of equipment, money transferred from the cash bond fund, civil penalties and other sources. The fund is maintained as a special fund and monies are used solely for the prescribed purposes, including:

- plugging or abandoned wells and reclamation of their sites
- reclamation of land and water resources impacted by orphaned historic oil and gas development that was inadequately reclaimed
- restoration of land and water degraded by the adverse effects of oil and gas development

The commission must report on the fund to the government every two years.

The code provides for the creation of a cash bond fund[417]. The fund's revenues come from cash bond deposits held by the commission not to exceed a return of two percent of those cash deposits annually. Money in the fund may be used to defray costs of plugging abandoned oil and gas wells and reclaiming sites.

Western Australia - Mining

The Western Australia Department of Mines, Industry Regulation and Safety addresses the management and rehabilitation of abandoned mines through an Abandoned Mines Program[418]. The program was formally established following the release of the Government's Abandoned Mines Policy in January 2016, detailing a framework for the prioritization and subsequent rehabilitation and/or management of

abandoned mine sites. The policy requires that sites are prioritized with consideration to significant risks to the community and the environment, and that the potential value associated with a site is identified and protected.

Stakeholder engagement is a key aspect of the program and stakeholder input is sought for each project to ensure concerns and expectations are identified and addressed.

The program is funded through the Mining Rehabilitation Fund.

Under the state's Financial Management Act 2006[419], the government can set up special purpose accounts by specific legislation.

The Mining Rehabilitation Fund Act 2012[420] established the fund. Under the act, holders of mining tenements contribute an annual levy to the pooled fund. The levy calculation is set out in regulations[421]. The levy varies according to the rehabilitation liability category of different land uses or infrastructure that could make up a mine site. For example, tailings ponds are in a higher category, with a correspondingly higher levy rate, than sewage ponds which in turn are in a higher category than land disturbed by exploration operations. The act specifies that:

- Funds are to be spent for stated purposes, firstly for the rehabilitation of abandoned mine sites for which the levy is, or has been, paid, and any affected land relating to those sites.
- Investment income in the fund may be applied to fund the rehabilitation of abandoned mine sites other than those described and any affected land relating to those sites (e.g. historical abandoned mine sites).

According to the department[422], the introduction of the Mine Rehabilitation Fund ensures the Western Australian community does not pay for the rehabilitation of mining operations that are abandoned. The Mining Rehabilitation Fund was the state's first dedicated and perpetual fund for the rehabilitation and management of historical abandoned mine sites. The money in the fund is used to rehabilitate abandoned mines after all efforts to recover funds from the tenement holder/operator have been exhausted.

The levy has largely replaced the previous system of applying unconditional performance bonds against tenements as security for compliance with environmental obligations. However, bonds may still be imposed or retained in cases where the department considers there is a high risk that a tenement holder's rehabilitation liability could revert to the state.

Under the provisions of the Mining Rehabilitation Fund Act, the director general of the department is accountable for the management of the fund and reports on its management in the departmental annual report. The government considers and approves the projected revenue and expenditure for the fund through the state budget each year.

The department conducts compliance assessment of data submitted by companies to ensure the integrity of the information received and corresponding payments to the fund. Industry compliance appears to be high.

A Mining Rehabilitation Advisory Panel[423] provides advice to the department's director general on matters relating to the fund and the associated Abandoned Mines Program.

A 2018 review report[424] concluded that despite the program being in its infancy, there was strong stakeholder support for the Mining Rehabilitation Fund and that the fund is performing well against its stated objectives. A number of areas for potential improvement include actions to:

- review the contribution rate
- consider the number of Rehabilitation Liability Estimate categories
- review the reporting requirements for mining tenure with multiple holders
- review mine-site rehabilitation completion criteria under the Mining Act 1978

Queensland - Mining

The State of Queensland adopted a program where low and medium risk mine operators contribute to a rehabilitation fund rather than providing financial security. The contribution rate is higher for a medium risk operation and financial security is required from high-risk operations.

The Queensland Mineral and Energy Resources (Financial Provisioning) Act establishes a financing scheme addressing environmental impacts from resource activities and administers payments made for residual risks arising from resource activities[425]. The Scheme Manager takes into account a number of considerations and allocates mine operations to one of four risk categories: very low, low, moderate or high[426].

The act establishes a Financial Provisioning Fund (Scheme Fund), a cash surety account and a Residual Risks Fund.[427]

Resource operations whose risk is categorized as very low, low or moderate pay into the Scheme Fund at the annual rate of 0.5%, 1.0% or 2.75% respectively of estimated rehabilitation costs[428,429]. The government can use the fund to prevent or minimize environmental harm, or rehabilitate or restore the site for which funds have been paid or for the rehabilitation or remediation of abandoned sites conducted under provisions of mining or petroleum and gas legislation[430].

Resource operations in the high-risk category, and other operations under some circumstances, are required to provide and maintain financial security[431]. All or part of the security may be used to prevent or minimize environmental harm, or rehabilitate or restore the site for which security has been provided[432].

The Residual Risks Fund contains payments for environmental liabilities remaining on the site when the industry surrenders an authority granted under the Environmental Protection Act[433]. The fund is administered by the Scheme Manager under the Queensland Mineral and Energy Resources (Financial Provisioning) Act[434].

United States Department of the Interior - Mines

The United States federal government enacted a fee on coal mining in 1977 to address the hazards and environmental degradation posed by abandoned legacy mine sites. The Department of the Interior administers the abandoned mine program.

Title IV of the Surface Mining Control and Reclamation Act of 1977[435,436] created the Abandoned Mine Land Reclamation Program funded by a fee assessed on each ton of coal produced. The fee has been renewed many times and reduced over the years.

The Office of Surface Mining Reclamation and Enforcement manages the Abandoned Mine Land Fund[437]. The fund has collected almost $12 billion since 1977; about 80% of the funds have been allocated. Most of the funds were distributed to states and tribes as grants to reclaim abandoned coal and some other mine sites in their jurisdictions. Funds were primarily spent on construction, management of acid mine drainage, treatment systems and technical support in accordance with the purposes set forth in the act. Some funds may go to start-up and administrative costs[438].

An example of application of these funds is the Abandoned Mine Lands Reclamation Program in North Dakota, managed through an independent commission. The U.S. Department of the Interior approved the state program in 1981. Funding comes from the federal reclamation fee described above.

Funds are used to eliminate existing and potential public hazards resulting from abandoned surface and underground coal mines in North Dakota for which there is no continuing liability under state or federal law. The nature of this mission is not regulatory but service-oriented.

Goals are to:

- reclaim abandoned mine land sites found on the North Dakota Abandoned Mine Lands Inventory
- reclaim hazardous abandoned mine land sites not on the Inventory but discovered through exploratory drilling or public information
- reclaim emergency sites as the highest work priority and develop emergency reaction plans that will reduce the time taken to eliminate the imminent hazard[439]

2.3 Summary

Contaminated Sites

Jurisdictions across the country face similar situations in dealing with contaminated sites, especially historical contamination. The Canadian Council of Ministers of the Environment has provided guidance on liability and technical processes and standards. The technical standards are embraced fully by all jurisdictions and form the framework for the assessment and remediation of contaminated sites. The processes and standards are similar, with some local variation in their application. On liability principles, there is a wide range of application from almost full incorporation in Yukon, to a lesser degree in Ontario and British Columbia.

All jurisdictions surveyed incorporate contaminated site management into their environmental protection statute. Universally, the legislation enables the minister and in British Columbia and Alberta, the director to take action should it be required. Among the most important actions that can be taken are designation of sites, designation of responsible persons, and issuance of orders for investigation, remediation and reclamation.

All jurisdictions require a person who discovers contamination, or the site owner to report it to the governing agency. In most jurisdictions, the onus is upon the “owner” or “occupier” to take the appropriate action to address the contamination, which includes initial investigation to determine if further actions are needed. All jurisdictions require that a qualified professional undertake investigation and remedial action. Qualifications and processes for qualification are incorporated into statutes, regulations and referenced guidance documents.

All jurisdictions, in their statutes, have one descriptor for sites environmentally compromised by contaminants. Further classification of sites and delineation of impacts is done using detailed regulations, policy, protocols or guidance documents. Sites are addressed on a continuum based on the risk to human health and the environment, site conditions and land use classification.

Ontario, Québec and Saskatchewan do not designate sites. Their processes are closely linked to land use classifications and getting the properties back into a useful state. Newfoundland and Labrador, Prince Edward Island and Yukon, provide a preliminary designation for comment before making a final designation. In most cases, designation of sites is used sparingly and usually only as a last resort, after all other options have been tried and the site is an imminent danger to human health or the environment. Nova Scotia has not designated a site since their regulation came into effect in 2013.

In most jurisdictions, the minister or director establishes criteria, codes, protocols, manuals and guidance documents and makes them available to the public. A variety of documents is available in each jurisdiction. These include plain language instructions for landowners and detailed technical direction for site professionals. Each jurisdiction requires a registry be established and contain information regarding contaminated sites. Legislation in some jurisdictions provides great detail on the information to be included in the registry and how it is to be managed. Several jurisdictions incorporate the information into their land use registries.

The term “polluter pays” appears, as part of the statute objectives in Nova Scotia and Alberta but is not used otherwise. All jurisdictions incorporate the principle in determining responsible parties, but only as one factor considered. Several jurisdictions designate a polluter as a responsible person only if they are financially viable. One factor taken into consideration in Alberta is “whether a person dealing with the substance followed accepted industry standards and practice in effect at the time or complied with the requirements of applicable enactments in effect at the time”. This exempts past owners who followed the laws of the time from responsibility under current regulations.

Ontario, British Columbia and Québec cast a wide net to capture responsible parties. In doing so, a responsible party with the ability to pay is more likely to be found. Court challenges have caused some modification of this application. Other jurisdictions, such as Nova Scotia and Saskatchewan, take a narrow focus, starting with the landowner. Additional parties will be added only if hard evidence is provided and if they are financially viable.

Apportionment of responsibility is enabled and undertaken by the minister or director in only a few jurisdictions. New Brunswick, Newfoundland and Labrador, Québec and the Northwest Territories specifically state in their statutes that the minister or their delegated authorities will not undertake apportionment. It is considered a civil matter that should be resolved through a negotiated agreement between the parties or the courts. In contrast, in Yukon, the minister can be highly involved. In Alberta, Nova Scotia and Saskatchewan, apportionment can be done as part of an order for remediation. However, it is rarely, if ever done. Other avenues are encouraged to resolve differences. Guidance documents clearly state that apportionment is not usually done. The remaining jurisdictions do not specifically state they do not apportion, but their legislation has no enabling clause.

As noted, orders can be issued to responsible persons to undertake investigations, remediation and reclamation. In jurisdictions contacted orders were more regularly issued in the early years of the programs but are rarely issued now. If circumstances come to the point that an order is required, some

jurisdictions require preliminary notification and an opportunity to comment. Others have adopted a similar practice, where it may not be required in legislation. Contaminated site managers noted that sometimes this action is enough to spur voluntary compliance.

In most jurisdictions, responsibility for remediation of contaminated sites is joint and several. In British Columbia, responsibility is expanded to include "absolutely and retroactively". Caution was advised to ensure study of case law be done prior to making legislative changes in Manitoba. Recent cases have affected the application of apportionment practices.

Generally, director's orders or decisions may be appealed to the minister whose decision is final. Ministerial orders or decisions are generally appealed to a tribunal and those decisions are final. There is no automatic stay of a decision or order, in any jurisdiction, if it is under appeal. In most cases, tribunal and ministerial decisions can be appealed to the court only on matters of law or jurisdiction.

Orphaned sites are defined in British Columbia, Saskatchewan, Nova Scotia and Alberta. Other jurisdictions do not define orphaned sites but take responsibility for addressing remediation through other means. Few orphaned sites occur in jurisdictions that cast a wide net of responsible parties, or do not make parties responsible if they are not available or financially viable. In most jurisdictions, liability for orphaned sites has been booked and officials are required to obtain approval to undertake remediation of those sites through the appropriation process.

Some jurisdictions charge fees for certain actions, but in most cases they are minimal. British Columbia operates on a fee for service basis with a fee associated with every document to be filed or for government actions. These fees are significant.

Closure regarding site remediation is accomplished by way of approval of record of site documents, issuance of a certificate, acceptance of a declaration or issuance of a closure letter. In many jurisdictions, where there are on-going responsibilities for remediation, transfer of title must be accompanied by an agreement and sometimes a financial assurance. In Québec, the certificate with conditions is attached to the property title.

In related legislation, Alberta and Nova Scotia require operators of a wide variety of prescribed industrial activities to undertake reclamation of their sites and obtain a reclamation certificate. A security deposit is required for some of those activities.

British Columbia, Nova Scotia and Yukon, have established very informative contaminated site program websites containing protocols, guidance documents, slide presentations, and technical information as well as links to legislation.

In general, statutes set out the framework and general principles of a contaminated sites program and act as a fully supplied toolbox enabling actions that may be used in specific circumstances. Contaminated sites remediation programs either put the onus on the landowner to take all remedial actions, with limited technical involvement of the respective government agencies, or are moving in this direction. Operational requirements included in regulations and protocols, take a narrower approach to program application. The number of legislative tools used is limited, maximizing efficiency and focus on ensuring protection of human health and the environment and putting land back into a useful condition. In many jurisdictions, the person responsible for the contaminated site is independently responsible for reporting, enlisting a qualified professional to investigate, advising other affected parties, having the

qualified professional determine appropriate actions, preparing a remediation plan, implementing the plan and providing a final site condition report with the qualified professional's stamp, and relevant documentation.

Nova Scotia and Saskatchewan have taken two slightly different approaches, but both provide great flexibility and lower cost options for persons responsible for contaminated sites. Remediation efforts are closely tied to land use classifications and are often driven by land sales. In these processes, the sites that are a threat to human health and the environment are appropriately addressed; a variety of options is available for sites of low to moderate threat. In Nova Scotia's case, sites are managed entirely under a regulation with the act providing powers for the minister to use if necessary. In Saskatchewan, the environmental code provides options for landowners to take action, requiring minimal or no departmental involvement.

British Columbia is unique in having a cross-departmental contaminated sites committee for sites on Crown land. The committee is composed of ministries that have management of contaminated sites within their responsibilities with representation from Treasury Board to assist with the public accounting process and management of funds for orphaned and abandoned sites.

Mines

The panel surveyed three Canadian jurisdictions – British Columbia, Ontario and Saskatchewan – and found similarities and differences to their approaches in the regulation and management of environmental impacts at mine sites, including those for operating mines, closure requirements and post closure. In addition, the panel reviewed information from Australia and the Unites States. Orphaned and abandoned sites are addressed similarly in Canadian jurisdictions, with minor variation.

Different legislation is used, across jurisdictions, to regulate and address remediation, rehabilitation and reclamation of mine sites. In Ontario, environmental management and rehabilitation of mines is regulated under mining legislation. In Saskatchewan, environmental regulation governs mine site decommissioning and reclamation. In British Columbia, reclamation of permitted mines is regulated under mining legislation, but non-permitted historical mines are managed under environmental legislation.

All three jurisdictions require a closure plan and rehabilitation commitments, along with a financial assurance prior to commencing a mining operation. In British Columbia, the closure plan must address the reclamation of land, watercourses and conservation of heritage resources. In Saskatchewan, a mine cannot be closed until there is an approved decommissioning and reclamation plan. In Ontario, a progressive rehabilitation plan is part of a closure plan, but a rehabilitation plan may also be required whether a closure plan exists or not. In all jurisdictions, requirements are set out in regulations and binding codes of practice.

Assurances are calculated based on the estimated costs of reclamation or rehabilitation. In British Columbia, the assurance must be sufficient to perform the permit conditions and any other orders or directives of the inspector. In Ontario, the assurance must equal the estimate provided for rehabilitation costs. Saskatchewan requires an estimate for decommissioning and reclamation, acceptable to the minister, but does not prescribe a minimum requirement.

The security can be in the form of cash, government bonds, irrevocable letters of credit, bond of an insurer, guaranteed investment certificates and a few other forms. In Ontario, a proponent is deemed to have provided security if they meet a prescribed corporate financial test.

The securities are managed within government. Under Saskatchewan's mining regulations, the minister manages the security fund, with the assistance of advisors. In Ontario, any cash security is placed in a special purpose account managed by the Minister of Finance. In British Columbia, any cash security received is deposited into a separate account for that specific mine within the Mine Reclamation Fund, which is established by regulation.

Legislation requires closure plans and assurance amounts to be reviewed every five years in Saskatchewan and British Columbia. Ontario has no legislated review requirement.

Responsibility for management of orphaned and abandoned mine sites varies across the three provinces. In Ontario, the ministry responsible for mines manages orphaned and abandoned mine sites. In Saskatchewan, the environment ministry manages orphaned mine sites, but former uranium mine sites are managed by a Crown corporation. In British Columbia, the mines branch manages sites permitted under mining legislation but the ministry responsible for Crown land manages sites on Crown land that were in operation prior to the permitting requirement.

In all three jurisdictions, financial assurances generally have not covered remediation costs for abandoned sites. Government agencies are required to seek additional funds, over and above the assurance, for remediation through the province's appropriation process. British Columbia now publishes annually, for every major mine the reclamation liability, the surety provided, and the differential between the two. Funds are also sought through the appropriation process for orphaned sites as no financial assurances are available.

The auditors general involvement in all three jurisdictions led to the booking of orphaned and abandoned contaminated mine sites as liabilities where there is no financially viable responsible party.

Conditions for abandonment and for jurisdictions to accept a site after closure are not well defined, except in Saskatchewan. The other jurisdictions refer to surrender or abandonment in legislation but no formal procedures for acceptance by the government were found.

In Saskatchewan, the Institutional Control Program sets out a comprehensive set of conditions that must be met prior to a site being accepted by the government. A significant financial commitment is required to maintain on-going maintenance as well as additional funds to address unforeseen events. The work may be done by the government, with cost recovery from the funds provided or by third party managers.

Monies received are kept in a separate fund managed by the minister, who receives advice from appointed advisors. The fund is audited annually and the committee must also provide an annual financial report. A report on the program is made to the legislature every five years.

In the states of Western Australia and Queensland, financial assurances have largely been replaced by a levy on mining operations to backstop the reclamation of those operations. Investment income in the fund can be used to reclaim historical abandoned mine sites. In the United States, a federal levy on coal

mining production is used to fund states and tribes in the reclamation of abandoned coal and some other mine sites.

Sand and Gravel Operations

Alberta, British Columbia, Ontario, Québec and Saskatchewan require aggregate operations to rehabilitate or reclaim their sites, with few exceptions. The provinces do so under mining, environmental, municipal or Crown land legislation or in some combination. Ontario has a stand-alone statute.

Reclamation plans accompanied by financial assurance are required in all five provinces with a couple of jurisdictions exempting small pits on private land or aggregate destined for public projects. Some jurisdictions require periodic reviews of plans and financial assurance.

Specific requirements for reclamation are largely contained in regulations or in standards, criteria, guidelines or codes adopted by regulation, order-in-council or a director.

Orphan levies are not imposed except for Ontario where a small fee is required by legislation, for remediation of legacy sites. Alberta legislation provides for a surcharge affecting pits on public lands in part for rehabilitation of pits on public lands.

Where operations are governed by environmental or land use legislation, conditions related to the environment, pre-extraction and for rehabilitation, may also be imposed. British Columbia requires an environmental assessment of large operations extracting greater than 250,000 tonnes of material.

All five jurisdictions provide, to varying degrees, for municipal designation and regulation of aggregate operations. However, the role of municipalities in reclamation is more limited. Alberta recommends that municipalities require financial bonds for small pits. Ontario empowers municipalities to regulate reclamation in areas not covered by aggregate legislation. In Saskatchewan, local government regulates reclamation on private land and can require financial assurance. In Québec, regional municipalities by agreement with the province, manage more than half the aggregate authorizations on provincial lands.

Oil and Gas

The oil and gas industry in Alberta, British Columbia, Saskatchewan and North Dakota is governed by industry specific legislation, with some variations. The governing legislation requires approval to establish an operation, allows the imposition of securities and establishes conditions for operation, abandonment and reclamation of wells and facilities. In most cases, management of oil and gas resources is delegated to an administrative body outside government operations.

In Alberta, a corporation, the Alberta Energy Regulator, oversees the operation of the oil and gas industry including the abandonment and closure of facilities and remediation and reclamation of sites according to environmental legislation. In British Columbia, a three-person commission appointed by the minister and chaired by a deputy minister oversees oil and gas operations. In Saskatchewan, the responsible department manages the program. In North Dakota, a commission made up of elected officials, the North Dakota Industrial Commission, manages the industry.

Security deposits provide assurance that accidental spills, abandonment and reclamation will be undertaken even if the operation is no longer viable.

Saskatchewan establishes security deposits for licensees who fail a liability rating through a directive issued by ministerial order. The amount of the deposit is determined individually for each of those licensees and is the difference between their liabilities and their assets. Alberta has used a similar method, but indicated that it intends to amend the system to include additional factors.

In British Columbia, a commission collects and manages financial securities. The security requirement is set by regulation, at a minimum of $7,500 per permit as well as $50,000 per kilometer of pipeline on private land or $10,000 per kilometer on Crown land, the latter to a maximum of $150,000.

North Dakota requires a $50,000 USD security or cash bond for every oil or gas well and related facilities. The maximum is $100,000 USD unless a multi-well operator has more than six wells or facilities not meeting financial requirements. The commission holds these bonds.

In general, security deposits are less than estimated reclamation costs.

The regulators in Saskatchewan, Alberta and British Columbia all set a total orphan fund levy for each year based on how much remediation they are planning to undertake that year, although this may change in Alberta. Operators each pay a share of the levy based on their liabilities as a portion of total industry liabilities.

In Saskatchewan, the minister manages the Orphan Fund, which is separate from the consolidated revenue fund, with input from an appointed advisory board, the majority of whom are industry representatives. In Alberta, the Alberta Energy Regulator sets the levy and transfers the collected funds to the Orphan Well Association, a primarily industry-led entity, which manages the orphan fund. The provincial and federal governments have provided loans to the association, totalling over $500 million. In British Columbia, the commission collects and manages an orphan fund levy as well as managing the orphaned sites themselves. The commission sets the levy each year with Treasury Board approval. In Saskatchewan, the minister collects and manages the orphan fund levy, assisted by appointed advisors.

North Dakota established an Abandoned Oil and Gas Well Plugging and Site Reclamation Fund. The main source of revenue for the fund is fees collected; other sources include forfeited bonds and up to two percent per year from returns on cash bonds. The Industrial Commission holds and manages the fund.

Generally, the levies collected do not cover the costs of the rehabilitation of orphaned sites.

The federal government recently provided Alberta, British Columbia and Saskatchewan with a total of $1.7 billion for the remediation of oil and gas sites. In Alberta, the funds are managed by a government agency not the regulator and industry applies for grants from the fund. In British Columbia, a government agency manages the funding and the program. In Saskatchewan, a government agency oversees the program but implementation and fund disbursement is done through a Crown corporation.

Chapter 3: Manitoba

3.1 Introduction

The commission reviewed legislation and programs governing remediation of contaminated sites and rehabilitation of mine sites, aggregate operations and oil and gas facilities in Manitoba. Statutes, regulations and guidance documents were examined and clarification on program implementation was sought from program managers. Comparisons between Manitoba's approach to the topic areas and those of other jurisdictions are highlighted. Areas of interest or concern are addressed.

The terms of reference asked the commission to review and propose amendments and/or consolidation of current legislation governing contaminated sites to ensure there is consistency across government in how these sites are assessed from a risk perspective. Improvement in consistency in approach across legislation and programs addressing rehabilitation or remediation, including the management of sites for which a viable responsible party cannot be found, was an important consideration. The panel also kept in mind that rehabilitation or remediation should be commensurate with the risks posed by the site. Table 2 provides a summary of elements applied across programs.

The panel reviewed legislation and program implementation from a procedural viewpoint. Legal analysis of any interpretations, suggestions or recommendations regarding legislation has not been undertaken but should be done, prior to implementation of legislative amendments.

3.2 The Contaminated Sites Remediation Act

In Manitoba, The Contaminated Sites Remediation Act[440] is stand-alone legislation addressing contaminated sites. The act has been in force for almost 25 years. Although the act was amended in 2012 and 2014, many things have changed and an assessment of how the act applies in today's circumstances is appropriate.

The Contaminated Sites Remediation Act provides for remediation of contaminated sites and impacted sites, in accordance with the principles of sustainable development, in order to reduce or mitigate the risks of further damage to human health or the environment and, where practicable, to restore such sites to useful purposes. It also states it will provide this through:

- a system of identifying and registering contaminated and impacted sites
- a system to determine remedial measures and identifying persons responsible for implementation of those measures
- a fair and efficient process for apportioning responsibility for remediation that
    - applies the "polluter pays principle" taking into account various factors including factors that would not be relevant in determining civil liability
    - encourages persons responsible for remediation to negotiate apportionment of responsibility among themselves
    - combines in a specialist tribunal the knowledge and skill of persons experienced in environmental contamination and remediation and brings them to bear on the review of remediation plans and resolution of disputes relating to participation in and responsibility for remediation[441]

Table 2: Provincial Rehabilitation or Remediation Requirements for Development in Manitoba

Program or Activity	Rehabilitation Required	Rehabilitation Plan	Financial Assurance	Rehabilitation Levy	Closure Document	Abandoned and Legacy Site Levy	Standards Referenced
Contaminated Sites	Y	Y[i]	N	N	Y[ii]	N	Y
Mines	Y	Y	Y	N	N	N	N
Aggregate Quarry	N	N	N	Y	N	N	N
Other Quarries	Y	Y	Y	N	N	N	N
Oil and Gas Sites	Y	Y	Y	N	Y	Y	N
Peat	Y	Y	Y	N	N	N	Y
Other Licensed Industrial Activity[iii]	Y	Y	Y	N	N	N	Y
Other Non-Licensed Industrial Activity[iv]	N	N	N	N	N	N	N

[i] Surety is rarely required

[ii] Only one certificate of compliance has been issued. Letters are issued but are not referenced in legislation.

[iii] Developments subject to Environment Act licenses since 1988; requirements may vary as they are specific to the project.

[iv] Developments which could degrade a site but do not require an Environment Act licence or predated licensing requirements.

The act applies to non-mining impacted and contaminated sites. By regulation, the act may be applied to sites or classes of sites to which The Oil and Gas Act, The Mines and Minerals Act or The Peatlands Stewardship Act applies[442].

Reporting Contamination

The act requires that an owner or occupier must notify the director when they become aware of contamination that exceeds the established standards and provide all reports or other documentation regarding the site[443].

If the director believes on reasonable grounds that a site is contaminated, the director may order one or more owners or occupiers to conduct an investigation, submit the results and any other records available. Following this, the director may ask for additional information[444].

The director may also enter into an agreement respecting an investigation with one or more parties that sets out the financial and other obligations of the parties and may require a security and any other conditions considered necessary[445].

Contaminated Sites

The act makes a distinction between sites environmentally impacted at two different levels, these being "contaminated" and "impacted". A description of each follows.

If the director determines that a site is contaminated at a level that poses a threat to human health or safety or to the environment, the director shall, by written order, designate the site as contaminated. The designation is to be attached to the property title, all affected parties are to be notified, along with the municipality, and the order is to be filed in the registry[446].

The director may, at any time and under any terms and conditions, require a responsible person to undertake an additional investigation of the contaminated site[447].

The director may, at any time before issuing a remediation order, order a responsible person to prepare and file a remediation plan containing information required by an order or regulation[448].

After receiving a plan, submitted voluntarily or by order and before issuing a remediation order, the director shall consult with the proponents of the plan and any other potentially responsible persons. The director may engage consultants to review the plan and provide advice and recommendations, refer the plan to the commission for advice and recommendations, place the plan in the registry and advise the public, advise potentially affected persons and make the plan available for public review and comment[449].

The process of review by the commission is outlined, including a public hearing if requested by the minister[450].

The director may issue a remediation order to a potentially responsible person that includes conditions to implement the approved plan. A remediation order:

- may restrict or prohibit the uses of the site or a product or substance derived from the site
- may require a person or persons named in the order to undertake remediation and may include:

    - monitoring, measuring, containing, removing, labeling, storing, destroying or otherwise disposing of a contaminant or contaminated materials
    - carrying out measures to prevent further contamination or to control or lessen the rate of introduction of contamination into the environment
    - constructing, installing, modifying, removing or destroying equipment, facility or thing
    - preparing and submitting plans, records or reports concerning contamination of the site, steps taken to remediate and the results of those steps
    - replacing, reconstructing, rehabilitating or doing any other restorative work on contaminated materials
    - providing a supply of potable water to those affected by the contamination
- may require a person or persons named in the order to:
    - contribute financially to the costs of remediation undertaken by the government
    - contribute materials, equipment or other property for remediation
    - provide security in a form or manner acceptable to the director and subject to any other conditions
- may specify the manner and schedule for remediation
- may include or incorporate by reference all or any part of remediation plan filed with the director[451]

Remediation orders can be appealed to the minister. The minister may make a decision or refer the appeal to the commission for a public hearing[452].

The director may, and shall if requested by a person responsible for remediation, determine the costs and shall send notice of the determination to each person who is responsible for remediation.[453] This determination can be appealed to the minister[454].

<u>Impacted Sites</u>

If the director determines that a site is contaminated at a level that may pose a threat to human health or safety or to the environment, they may, by written order, designate the site as an impacted site.

The designation order must be filed in the registry. The owner is notified and advised that they may apply to the director to determine responsibility for remediation[455]. The owner may apply if they believe they are not responsible for remediation or one or more other persons should also be responsible[456].

When an application is made:

- the owner of the impacted site is no longer required to prepare and file a remediation plan
- the determination of a potentially responsible person is made (as described later)

- apportionment of responsibility can also be determined (as described later)
- the director may order the preparation of a remediation plan[457]

Appeals regarding the determination of responsibility for remediation of an impacted site can be made to the minister. The minister's decision is binding and not subject to appeal or review[458].

A director's decision, which may include the determination of responsibility, can also be appealed to the Clean Environment Commission[459]. A commission decision is final and can be appealed to the courts only on matters of procedure and jurisdiction[460].

The owner of an impacted site must prepare and file a remediation plan with the director. The director will review the plan, may consult with others and may issue a remediation order to the owner. If an owner fails to file a plan, the director may issue an order. The remediation order is provided to the owner and filed in the registry.

The department can make emergency investigations or undertake remediation if there is an imminent threat to human health, safety or the environment and the responsible party cannot or is not taking appropriate action[461]. Costs of remediation are recoverable by the government[462].

Potentially Responsible Person

The director may designate potentially responsible persons for remediation of a contaminated site and, if requested by the owner, for an impacted site. The following persons may be held responsible:

- a person who is an owner or occupier of the site
- a person who was an owner or occupier at the time of contamination
- a person who owns, has possession or control of a contaminant at the site
- a person who owned, had possession, charge or control of a contaminant immediately before or at time of the release
- a creditor if they had a role in the contamination
- a director of a corporation who was a director or officer of the corporation at the time of release or by any act of omission, direction or authorization contaminated the site after November 19, 1996
- a person who acted as a principle and in the course of their duties contaminated the site
- a corporation or partnership if a director, officer, member or employee contaminated the site or directed, required or authorized an act of omission which resulted in contamination
- a person who contaminated the site or being in a position of influence and control of others that led to contamination
- a trustee, receiver, receiver manager who had control or in a position of influence over others that led to contamination
- a person who is in a class of responsible persons designated by regulation

Persons not responsible are:

- a person who was a director or officer and exercised due diligence
- a municipality that became owner of the site due to a tax arrears
- an authority within the meaning of The Expropriation Act
- a person who is owner or occupier of land and contamination is the result of migration from other land, contamination was present before they became owner or occupier or they were not aware or could not reasonably have been aware of the contamination at the time of becoming owner or occupier
- a creditor if they exercised due diligence and care of the site and its contaminants
- a person who lawfully transported a contaminant to the site and exercised due diligence

The director may also exempt a person as a minor contributor if they did not contaminate the site or made an insignificant contribution to the contamination and has not derived or cannot expect to derive economic benefit[463] from sale or remediation of the site.

The director shall consider the request, determine who is responsible and notify all potentially responsible persons in relation to the decision[464]. The director may also refer a request to the commission for advice and recommendations[465].

Requests may also be made to the director to include additional persons. If an apportionment hearing or decision has not been made, the request can be considered. The director shall advise all parties involved of the decisions[466].

<u>Apportionment</u>

In determining whether to approve any proposed apportionment agreement, in mediating the negotiations towards an apportionment agreement or in apportioning costs of remediation, the director, mediator or the commission, shall

- apply the principle that the primary responsibility for remediation of a contaminated site lies with the person or persons who contaminated it and that they should bear the responsibility for the remediation in proportion to their contribution to the contamination and
- take into account all other factors, which shall include:
    - where the person is a current or previous owner or occupier of the site
        - whether the site was contaminated when it was acquired
        - if it was contaminated whether the person knew it was, or ought to have known and whether the contamination was reflected in the purchase price
    - the effect remediation will have on fair market value or permitted uses of the site
    - whether the person disposed of an interest in the site knowing or suspecting contamination without disclosing to the acquirer

- whether the person took reasonable steps to prevent contamination
- whether the person handling the contaminant exercised due diligence
- whether the person complied with applicable laws, orders, licences or permits
- whether the person after becoming aware of contamination added to it
- actions taken by the person on becoming aware of contamination including steps to limit the contamination of the site and surrounding area and notification of authorities
- the value of the economic benefit derived from activities that resulted in contamination
- where the person was an employee, the degree of influence or control exercised by others
- the degree to which the person contributed to the contamination in relation to contributions of others
- the quantity and toxicity of any contaminant
- if contamination resulted from an Act of God, war, terrorism or sabotage and whether the person took reasonable steps afterwards to prevent, contain or minimize contamination[467]

The director may approve an apportionment agreement submitted to them that sets out the responsibilities of the parties involved. In consideration of approval of an agreement, the director may take into account the factors listed previously and whether any party will be unable or unwilling to satisfy their financial obligations, whether there is an acceptable remediation plan, whether the agreement provides for a security, whether one party is unduly burdened with responsibility or anything else the director considers relevant[468].

A mediator, if there is a joint request for mediation to the director, can facilitate an apportionment agreement. The parties may choose a mediator or the director may choose one. The parties bear the expense of mediation[469].

If no apportionment agreement is approved, a potentially responsible person may request the director refer the apportionment of responsibility to the commission for a decision. The director may also refer apportionment to the commission if no suitable agreement is provided within the specified time line[470].

A potentially responsible person may also request referral to the commission if they are unwilling to negotiate with the other persons[471].

The process for conducting the hearing by the commission is set out. Within 30 days after receipt of the referral, a date, time and place for the hearing must be set and the potentially responsible parties must be advised[472].

Within 60 days after the hearing the commission shall by written order, set out apportionment of responsibility, provide a copy of the order and decision to each party and file a copy of the order on the registry[473].

In making the order, the commission, guided by the factors listed previously, may assign all or any share of responsibility to any party and may leave all or any share unassigned[474].

The commission cannot by order quantify the costs or specify the conditions of remediation[475]. The commission's costs for conducting the hearing shall be included in the costs of remediation[476].

A trustee, receiver or receiver manager of a potentially responsible person is not personally liable unless they had some direct role in causing contamination[477].

Section 29 of the act provides that if a person who would not otherwise be responsible for remediation proposes to become an owner or occupier of a contaminated or impacted site or takes another course of action that could make them potentially responsible, the director may enter into an agreement with the person limiting their responsibility for contamination occurring before the person becomes owner or occupier. If the person is required, by agreement, to undertake remediation they can recover their costs from the lease or sale of the property before the government is reimbursed[478].

All persons who default in their obligations, under an order, regardless of any agreement are jointly and severally liable for all debts[479].

An approved apportionment agreement or order by the commission:

- limits the liability of each party for the costs of remediation to the share of those costs that is apportioned to the person
- extinguishes any right that a person might otherwise have under other legislation or common law to seek or obtain compensation or reimbursement from any other person for all or any part of the share of costs, unless there is an agreement between the parties
- except as outlined above, does not affect or modify a person's right to seek or obtain relief from other legislation or under common law, including, but not limited to, damages for injury or loss resulting from the contamination[480]

The act sets out methods of cost recovery by the government for actions required to protect human health, safety and the environment[481].

<u>Remediation</u>

Remediation of a designated site cannot be undertaken unless there has been an order issued or the director has authorized it. Remediation is to be carried out in accordance with the order or authorization[482].

In determining whether to issue a remediation order, the director shall consider relevant factors including:

- the risk to human health or the environment
- the current, permitted and planned use of the site and nearby properties
- the proximity of the site to residential areas or other areas regularly occupied by people and sensitive or significant area of the environment
- the physical site characteristics[483]

Once the site is remediated, on request of the person named in a remediation order and on payment of a fee, the director shall issue a certificate of compliance if:

- in the opinion of the director, remediation of the site has been substantially completed in accordance with the order
- any security required for the performance of continuing obligations under the order has been provided[484]

A person who has voluntarily undertaken remediation can also apply for a certificate and pay the fee. Certificates are filed in the registry[485].

The commission may, of its own motion or on the application of a party to an apportionment hearing or appeal to the commission, state a case in writing for the opinion of The Court of Appeal on a question of law or jurisdiction. There is no stay in proceeding, decision or order during this process[486].

Appeals may be made to the Court of Appeal by any party who participated in a hearing but only on matters of jurisdiction and procedure[487].

Registry

The director must establish and maintain a registry and ensure all information and documentation required under the act and regulations are filed in a timely manner. The director shall provide reasonable access to information in the registry and may impose fees in accordance with regulations for supplying information[488].

The director may establish, revise or adopt guidelines, consistent with the provisions of the act or the regulations that may be used for investigations or remediation of a site in determining:

- the levels and nature of substances that, when present, at, on or under a site constitute contamination of the site
- levels of contamination that require remediation
- levels or methods of remediation that may be required to restore a site to an acceptable level of contamination
- methods of investigating sites or of assessing risks to human health or the environment
- what constitutes an insignificant contribution to contamination of a site
- sensitive or significant areas of the environment

Any guidelines are not binding unless they are incorporated by reference, into an order made under the act[489]. Seven guideline documents and several information bulletins are available on the government website[490].

Rules of operation for the commission are provided. Included is that the chairperson may, with the approval of the minister, appoint one or more persons with specialized knowledge in contamination or remediation as members of a hearing panel[491].

Contaminated Sites Remediation Regulation

The Contaminated Sites Regulation sets out the standards used to determine the level of contamination as well as the method and format for submitting documents. The regulation also provides exemptions for expropriations under several acts and the method of cost recovery for commission hearings.

3.2.2 Stakeholder Discussion

The panel engaged with legal practitioners working in the field of environmental law with particular experience and insights on managing contaminated sites in Manitoba. During discussions, they provided some perspectives on current practices, improvements and changes to be considered.

In their opinion, the process for "contaminated" sites has worked well and should be retained. They felt that the same process used for assigning responsibility and apportionment for "impacted sites" is not working well. The current process stalls remediation actions and often takes a very long time for issues to be resolved. They urged that responsible parties be identified quickly, with liabilities determined after the fact.

They suggested that owners should be responsible for site assessment and remediation plans. At the same time, they cautioned that owners should not be saddled with extensive remediation. The focus should be on continuing land use or putting land back into use based on actual risk. They suggested that historical contamination, pre-1997 when the act came into effect, be treated differently than contamination since the mid-1990s. In their opinion, the real estate, legal profession and financial institutions are well aware of the act's implications and should exercise due diligence accordingly. A privately funded purchaser, may slip through the cracks, but in their opinion, that would be a rare occurrence.

Also highlighted was that casting a wide net approach, used in some other provinces, is fraught with pitfalls. Such an approach has pulled in parties that may have been only tangentially involved. They cautioned that, before considering any significant changes in this direction, case law be studied. They offered to identify parties that could assist in providing insight, including legal practitioners from other jurisdictions.

They reiterated that the focus should be on continuing use or putting land back into use. To encourage such actions, they recommended the government invest in, and provide incentives for rehabilitation to put land into use; Section 29 of the act could be applied. Under this provision, the director can wave liability if a purchaser or another party wishes to rehabilitate a site without taking the risk that they could be held responsible for the property, in perpetuity, for any contamination that may exist on the property, or might be identified in the future. Any such agreement would need careful crafting to protect all parties and the environment. In such a scenario, the government would become liable if additional contamination was discovered in future or if standards changed.

They recommended against applying The Contaminated Sites Remediation Act to mines and oil and gas sites, due to differences in the nature of sites addressed by the act and those related to mines and oil and gas operations.

3.2.3 Commission Comment

General

Manitoba is the only jurisdiction in Canada with a separate statute addressing contaminated sites. All other jurisdictions include contaminated sites in environmental legislation.

The Contaminated Sites Remediation Act includes most of the standard requirements contained in statutes of other jurisdictions. It allows the director to make most decisions – often it is the minister in other jurisdictions – including designating sites, designating responsible persons, issuing orders and recovering costs. The director may also enter into and approve agreements with parties to voluntarily undertake investigations and remediation, as in other jurisdictions. However, there are some major differences in requirements contained in Manitoba's act and their application in comparison to other jurisdictions.

Manitoba leans heavily on the polluter pays principle, making it the primary factor in determining responsibility. Other jurisdictions either mention this principle only in the objectives part of their statute or cite it as one factor among many in their considerations. Giving primacy to the principle results in increasing future responsibilities for Manitoba's government, as will be discussed later.

In the act, a distinction is made between two levels of contamination of sites; these are "contaminated" and "impacted". The distinction between the two is not directly related to any particular standard but is determined by the director based on whether the contamination "is" or "may be" posing a threat to human health or safety or to the environment. There is limited documentation explaining what factors are taken into consideration in coming to a determination. In discussion, program managers indicated a site is designated as contaminated if there is a known and real risk to human health or the environment. A site is designated as impacted if there is a viable pathway for a contaminant to pose a threat or a potential threat to human health, safety or the environment.

All other jurisdictions use only one term in their legislation, with a general definition that the site is degraded at some level by a contaminant, usually exceeding a standard. Distinction between the level of contamination and the associated risks are contained in regulations, protocols and guidance documents. These documents also include the standards and rationale for including a site in a particular category. Terms commonly used are "high", "moderate" and "low", and documentation outlines required actions for each category. The protocols can be varied as new scientific information becomes available. There are requirements in statutes that mandate the development of these standards, guidelines, protocols and codes, and they are legally binding. Manitoba's legislation enables the director to establish guidelines but any guidelines are not binding unless referenced in an order. Standards, codes, or regulations established by another government authority or recognized organization may be adopted by regulation, and some are. In Manitoba, guidance is provided by several information bulletins and guidelines; there is no single document that provides a complete program overview, outlining the responsibilities of the parties and rationale for actions and decision-making.

Reporting and Investigating Contamination

In Manitoba, the act requires an owner or occupier to report to the director any contamination exceeding an adopted standard. In many other jurisdictions, a site professional or qualified professional is also required to report.

In Manitoba, although recommended, the use of a site professional is not required by legislation. There also is no indication of what would qualify a person as a site professional. All other jurisdictions, in legislation, require the involvement of a site professional and set out the minimum requirements and conditions for qualification.

In Manitoba, the director determines whether a site is investigated, either through advice or by order. In most other jurisdictions, on reporting an exceedance, an owner or occupier is required to enlist a site professional to undertake an investigation, assessment and any remedial actions necessary as outlined in standards, protocols and guidelines. A minister or director has the ability to issue an order if the appropriate actions are not being undertaken.

Contaminated Sites

In Manitoba, if the director determines that a contaminated site poses a threat to human health, safety or the environment, the site shall be designated as contaminated. In statute, most other jurisdictions enable the minister or director to designate a site but do not require it. In these jurisdictions, conditions and circumstances that would lead to designation are outlined in policy and procedural documents. However, discussions with managers in other provinces, examination of reports and procedural reviews and scanning of guidance documents, reveal that designation is used sparingly and only in very serious cases. Managers indicated that it is used as a last resort only after everything possible is tried, there is no cooperation from the responsible parties and the site is of imminent danger to human health or the environment. They also indicated that as designation is often a ministerial decision, good justification must be provided along with confirmation that all options have been tried. In many jurisdictions, a preliminary designation is made, allowing for input from the affected parties, prior to a final decision. Four sites are currently designated as contaminated in Manitoba.

In Manitoba, once a contaminated site is designated, the director then consults with the proponents and others as needed. The director may issue an order for the preparation of a remediation plan. The director can refer the remediation plan to the commission for advice and recommendations. This has never been done, to the commission's knowledge and could put the commission in a potential conflict. The commission's mandate is to provide advice to the minister. Providing advice to the department puts the commission in conflict if later the minister requests the commission undertake a public hearing, after already providing an opinion, which may then become part of the evidence.

The director may and shall, if requested determine the costs of remediation and advise all involved. It is indicated later in the act that these estimates are not binding. The determination can be appealed to the minister.

This legislated provision was not found in any other jurisdiction. The service provider and the responsible parties negotiate the costs of remediation. The director has no input. The role of the director should be to ensure the outcome of remediation protects human health, safety or the environment.

Impacted Sites

In Manitoba, the director may designate a site as impacted if the contamination may pose a threat to human health, safety or the environment. The decision to designate is therefore discretionary. No published documentation outlines the criteria used to lead to designation. Program managers

explained that a site is designated as impacted if there is a viable pathway for a contaminant to pose a threat or a potential threat to human health, safety or the environment. Designation of an impacted site triggers the requirement for a remediation plan by the owner.

Although a number of jurisdictions designated sites in the early days of legislation, many of them no longer do so or do so sparingly; appropriate remediation occurs in other ways. Since 2017, it appears that Manitoba has designated a net additional 85 sites as impacted, for a current total of more than 350 sites. Designation and ensuing requirements entail considerable work for government staff and potentially responsible persons. The department advised that an estimated 90 percent of remediation is undertaken voluntarily. It is unclear why then such a large number of impacted sites required designation if responsible parties are cooperative.

The panel was also advised that designation is used, in part, to track sites in Manitoba. Most jurisdictions use designation as an enforcement tool rather than as a classification tool.

Responsible Person

The list of potentially responsible persons for remediation of a site is similar to other jurisdictions. However, in Manitoba the owner of a designated site may apply to the director for determination of responsibility for remediation. Upon application, the requirement to file a remediation plan is stayed until there is a final decision on who might be responsible, and possibly, until there is apportionment of that responsibility. The time to resolution may be lengthy, especially if addition of parties is proposed. All these decisions are made without the benefit of completed investigations, a remediation plan or known costs. The department, legal practitioners and the commission have all identified this as a bottleneck in the process.

Other jurisdictions require the owner or responsible party to continue with filing and implementing any required actions, whether or not the party is pursuing other potentially responsible parties.

The director can also exempt a minor contributor, who the director considers not having a significant role in the contamination. Most other jurisdictions do not recognize a minor contributor.

The director can ask the commission for advice regarding responsible parties. This risks putting the commission in a compromised position, in the event that the director's decision regarding potentially responsible persons is appealed to the commission. The director will be party to any hearing on that appeal and the commission's advice may be brought into the proceedings as evidence.

If an owner or other directly affected person is not satisfied with a director's decision regarding responsibility, they can appeal, and any action on remediation remains stalled. In other jurisdictions, remediation proceeds whether or not there are disagreements over liability for costs of that remediation.

It does not appear that anyone is actually designated as a responsible person in the process as set out in Manitoba's act. The term "responsible person" is not included in Mantioba's statute without being qualified with the term "potentially". Rather, persons are named "potentially responsible persons", a term not seen in statutes in other jurisdictions. Alberta uses the designation "person responsible for a contaminated site". This term may be more applicable.

In conversation with managers in other jurisdictions, it was clear that unless there is very hard evidence that someone else should be responsible, the owner is considered the responsible person. Usually there is no more than two responsible persons, the current owner and possibly, a past owner or polluter if their contribution can be verified.

Holding the current or most recent owner or occupier responsible for remediation is also consistent with the approach of holding the current or most recent lease holder or operator responsible for rehabilitation under mining, oil and gas and peat legislation in Manitoba.

With passage of time, the existence and accessibility of the site registry and elevated awareness of the real estate industry, legal practitioners and financial institutions, anyone purchasing commercial or industrial properties, at least since the act's coming into force, should be aware of any contamination or potential for contamination.

Apportionment

Most jurisdictions enable the minister or director to apportion responsibility for the costs of remediation, through remediation orders, but use this provision sparingly. Guidance documents in some jurisdictions state that they usually will not apportion. Several statutes state that apportionment is a civil matter; the minister will not address it.

As noted previously, most jurisdictions do not make the polluter pays principle their primary factor in identifying a responsible party, or in apportionment. The primary responsible party, in most cases, is the owner. The person who polluted is one of many types of persons listed in the legislation who could be responsible for the site. If there is credible evidence to identify the polluter, their contributions can be verified and they are still financially viable, they will be included. Alberta also provides that those that followed the rules and laws at the time of contamination are not liable.

In the various ways that responsibility is apportioned in Manitoba, primary responsibility lies with the person who contaminated the site. This approach is consistent with the objectives of legislation and the Canadian Council of Ministers of the Environment (CCME) principles of the early 1990s. However, assigning responsibility primarily on this factor positions the province to take responsibility for an increasing proportion of contaminated sites.

The legislation has been in place for almost 25 years. Most contamination is historic, often on sites operating or formerly operating as gas stations. As years pass, fewer and fewer polluters can be traced or are financially viable. The department and legal practitioners both stated that the commercial real estate industry, the legal community and financial institutions are well aware of the obligations and responsibilities they hold in regard to the act and exercise due diligence when properties change ownership. Potential purchasers are aware they may be assuming liabilities.

With an ever-decreasing number of viable responsible parties, the primacy of the polluter pays principle should be re-assessed. No other jurisdiction gives primacy to the polluter pays principle although most list it as one consideration in apportioning responsibility. The remainder of the listed factors in Manitoba are comparable to those considered in other jurisdictions.

A potentially responsible person may request the director refer apportionment to the commission. Again, there could be a conflict as the director is a party to the hearing. If some shares are not

apportioned, the Manitoba government could, by default, have to assume some of the responsibility for remediation. It is more appropriate to have applications for apportionment come directly from an appellant to a tribunal.

All these decisions are rendered without knowing the costs involved as remedial activities are on hold during the apportionment process. This may result, as corroborated by legal professionals, in extensive discussion, disagreement and litigation over responsibility for remediation, when financial impact may be small.

The act clearly states that the commission may leave shares for remediation costs unassigned, which results in the government being responsible for this proportion of costs if the site is remediated.

Most jurisdictions state that responsible persons are "jointly" responsible, that is any one of the responsible persons can be held liable for all of the remediation costs if others cannot be found or are unable to pay. Manitoba is the only jurisdiction where this liability appears to be strictly "several", that is each person's liability is limited to the portion of the contamination for which they are responsible. The portion of costs for those who cannot pay then falls to the government.

British Columbia has a similar apportionment process to Manitoba's. However, the panel understands that the applicability of relevant sections of their act, related to apportionment and minor contributors, has been restricted by the courts. Further study of case law and legal implications need to be undertaken to determine if the apportionment process is still appropriate for Manitoba. Almost all jurisdictions now avoid actively involving themselves in apportionment, leaving responsible parties free to pursue civil remedy. The Manitoba government could continue to offer access to mediation or to a tribunal to minimize costs for the parties.

Liabilities

Responsibility for unpaid debts owing the province is joint and several in Manitoba, as in other places. Cost recovery measures are standard, as used in other jurisdictions; however, the department indicated policy is lacking to assist in implementing recovery procedures.

Certificates can be requested on closure when a site is satisfactorily remediated to the applicable standard. The department indicated that only one certificate has ever been issued. Closure letters are now used on completion of remediation indicating the on-going liability for a particular site. This procedure, if permanently adopted, should be recognized in legislation and explained in guidance documents.

The current act does not address or include conditions for transfer of responsibility for rehabilitation, on transfer of property title. This is not an issue if the polluter pays principle continues to be a primary consideration, as the responsible person may not be the current owner. Potential implications of amending legislation to mirror that of other jurisdictions will need further consideration. The department will need assurance that legislation can require a new owner to undertake or continue remediation. Transfer of responsibility requires further investigation by legal experts to determine the best process for Manitoba.

Section 29 of the act provides some flexibility for the government to proactively enter into agreements with a prospective owner or occupier of a contaminated or impacted site for remediation of the site,

should the government consider it is in the public interest to become involved. Liability for past contamination may be waived for the prospective owner under a negotiated agreement. Remediation costs may be recovered by the party from sale of the property prior to the government recovering its costs. This process allows a property to be remediated and put back into use and potentially avoids large or on-going expenditures by the government. Greater use of this provision may encourage brownfield development. To the commission's knowledge, this clause has never been used. Legal implications of using this clause should be investigated thoroughly prior to further consideration.

Site Professional

In Manitoba, use of a site professional for site investigations and remediation is recommended in information bulletins, but is not required by legislation. There is also no indication of the minimum requirements for such a professional, or who might qualify.

In other jurisdictions, there are legislated requirements, including financial insurance, and responsibilities for qualified professionals in the various steps involved in reporting contamination, investigating, remediating sites, and certifying results. Comprehensive guidance documents are also available to provide direction on what is required. This approach reduces the obligations and workload for government staff while still ensuring that remediation, relative to the risks, is being appropriately planned, undertaken and supervised.

Concern was raised that site professionals might recommend a plan to the owner that was more elaborate than necessary to address the level of risk involved. To address this potential issue, the department should advise owners that they can seek a second opinion. The department should periodically meet with site professionals to discuss this issue and other process matters that arise.

Registry

The contaminated sites registry is well established in Manitoba. It provides basic information and is frequently used. Some improvements could be undertaken, and the panel was advised that some are in progress.

Clean Environment Commission

The commission's role is to hear evidence, make a decision and issue an order setting out the division of responsibility between parties. On most other matters dealt with by the commission, the commission plays an advisory role to the minister and is not involved in regulatory matters. This puts the commission in a potential conflict, as previously described.

The commission is capable of performing the role of a tribunal should the government wish to offer this option as a less costly alternative to the courts. However, applications should come directly from appellants, rather than through the director, thereby avoiding potential conflict.

Funding

The terms of reference suggest the commission may explore options to replace the existing remediation funds with a more flexible and longer-term fund that would draw from a variety of sources, for example administrative penalties, application fees, securities, and/or grants.

Saskatchewan has such a fund to assist with site remediation not under government management. The government encourages municipalities to apply for funding to rehabilitate orphaned sites. Most of Saskatchewan's funding comes from fines for releasing a contaminant.

The panel understands that currently, in Manitoba, few fees or penalties are levied, and no securities are collected. The application and current level of fees should be reviewed to ensure they are reflective of the actual administrative costs for the processing documents, reviewing applications and other administrative functions. Such fees and fines could be deposited into a remediation fund, and assist in the remediation of orphaned sites. However, the estimated annual amount would still be short of the funds needed to address sites currently under government management.

If the principles for allocating responsibility for remediation are modified, fewer sites will fall to government responsibility.

3.3 The Mines and Minerals Act

3.3.1 Mines

The Mines and Minerals Act of 1992 required mine operators to assume liability for mines that were no longer in operation. Prior to 1992, the government assumed these liabilities. In 1999, the Mine Closure Regulation instituted requirements related to the content of closure plans and financial security.

The act[492] outlines the administrative processes for mining in Manitoba. It includes the obligations of the government and the obligations and requirements of proponents, operators, permittees, lessees and licensees for various mining related activities. Payment of fees, deposits, cash payments, securities and royalties are required depending upon the activity.

Mineral lessees must abide by the conditions set out in The Mineral Disposition and Mineral Lease Regulation[493]. The regulation requires a plan, which must be kept current and be kept at the mine office that outlines the physical attributes of the site. This includes such features as the boundaries, lakes, streams, roads, railways, shafts, rock dumps and tailings disposals. The chief mining engineer may request additional plans to further understanding of the site. Operators of advanced exploration, mines and non-aggregate quarries are required to provide closure plans in accordance with regulations[494].

Should the government be required to take any management actions, costs related to those actions are recoverable and may include the seizure and sale of assets, forfeiture of securities, or a lien. The operator continues to be liable for any outstanding obligations, including rehabilitation[495].

<u>Rehabilitation</u>

A proponent (operator of a project) is required to institute and carry out a program for the protection of the environment and for rehabilitation of the project site as set out in an approved closure plan. Included in the plan is the requirement for progressive rehabilitation to be undertaken and to continue even if mining operations shut down, temporarily or permanently. An annual report is required on rehabilitation work for the previous year. Closure plans may be revised by the proponent, and approved or amended by the director as needed[496].

The director may issue an order for rehabilitation if rehabilitation is not being or not likely to be performed according to the closure plan. If the government takes rehabilitation actions, the required security may be used to recover costs[497].

A closure plan is to contain:

- contact and legal land description information
- surface rights, mineral rights or mineral access rights held by the proponent
- previous use of the site
- description of previous disturbance or activity that may have resulted in contamination
- current conditions and activities on site and security measure employed
- plan showing the location and use of machinery, equipment, buildings and other structures
- plan of the site drawn to scale with mineral rights boundaries and areas that will be subject to disturbance, alteration or contamination
- mining and milling processes and planned production levels
- expected life of the project
- nature, location and expected size of tailing storage areas, including structure and treatment systems
- dams and other drainage control structures and details of watercourses
- crown pillars and mine openings
- assessment of the effect of all mine openings on the stability of surface areas, on and adjacent
- description and schedule of any development work that could cause disturbance or hazard
- nature and location of systems for treatment, management or disposal of waste and storage of petroleum products, chemicals, hazardous and toxic substances
- expected conditions of and uses for the project site following permanent closure and rehabilitation
- stages by which the project will be temporarily or permanently closed,s including a schedule of practices and procedures for progressive rehabilitation for the life of the project
- monitoring to be carried out during the life of the project and at each closure stage

The closure plan is to include a schedule of estimated capital costs and operating costs of carrying out, in accordance with the plan, closure of the site, rehabilitation, monitoring and site management after closure. A professional engineer, a geologist employed on the project, a certified accountant or a director or officer of the corporation, must certify the costs. The security filed with the plan must be specified in the plan and in a form and amount acceptable to the director.

Where the director determines that a closure plan is not adequate to properly rehabilitate a project site, the director may request the proponent to submit a revised plan[498]. There is no mandatory requirement for periodic reviews of plans.

If an operation is suspended, the proponent or operator must take measures to prevent personal injury and damage to property or to the environment,while the operation is in suspension. An annual report on the on-going rehabilitation work is required during the time of suspension.

Before an operation is permanently closed, the proponent or operator must take protective measures that include:

- capping of shafts and openings to the surface
- sealing of entries to the project to prevent unauthorized access
- stabilization and securing of openings to the surface that could create a hazard

- dismantling of all buildings and structures and removal from the site
- removal of all machinery, equipment and storage tanks
- removal of all concrete structures, foundations and slabs or covering with overburden
- removal of all petroleum products, chemicals and waste from the site
- rehabilitation of all landfills and other waste management sites
- testing of soil around petroleum, chemical waste management sites for contamination and appropriate action
- management of tailings or waste impoundments to ensure stability
- breaching of tailings or water control structures where necessary for safety
- restoring watercourses to their original course or to new courses where they will be sustainable
- removal or preparation of roads, railways, airstrips and paths to promote re-vegetation

When closure is complete, the proponent or operator must submit to the director an evaluation of long-term stability, signed and sealed by a professional engineer. The director may require additional or amended closure actions if the director is of the opinion that the measure is unsafe or impracticable, would adversely affect the environment, or is inconsistent with a land use control measure set out in legislation.

An operator remains liable for rehabilitation on permanent closure or abandonment of a mine[499] and the lessee remains responsible after the expiry, surrender or cancellation of a mineral lease[500]. Where the security provided does not cover the costs incurred for rehabilitation and action is required by the government, the costs not recovered are a debt due to the Crown.

Environmental Licensing

Major mining operations are also subject to environmental assessment under The Environment Act[501] and require an environmental licence. An environmental report is submitted to Manitoba Conservation and Climate with an application for a licence. An environmental licence must be acquired prior to the project being approved by the Director of Mines. The licencing conditions are project specific, and as required under the act, must address water quality as set out in The Water Protection Act[502]. As part of the process, the closure plan is reviewed by Conservation and Climate. The proponent or operator must also advise of any operational alterations and seek approval. When an operation is to be suspended or abandoned, the department must also be advised and the closure plan reviewed to ensure protection of human health and the environment.

The Contaminated Sites and Remediation Act excludes sites regulated by The Mines and Minerals Act. However, under a regulation making provision of The Contaminated Sites Remediation Act, it is possible to apply the act to mine sites[503] although the panel understands this has never been done.

Manitoba-First Nations Mineral Development Action Plan

Recently, the government developed a provincial mineral development protocol with First Nations under the Manitoba-First Nations Mineral Development Action Plan. The objective is to establish a clear pathway forward on mineral development by establishing a respectful and productive protocol for Crown-Indigenous consultations. This is to improve certainty for all parties and better prepare First Nation communities to understand and be actively involved in all phases of, and ultimately benefit from, mineral development[504].

The protocol not only includes the licensing and permitting of new activities but also addresses the impacts of historical mining projects. The main theme arising is an early and more substantial information exchange process, so that both parties may come to a common understanding of issues and concerns. It is stated that "Successful early engagement between industry and First Nations will ensure First Nations fully understand the proposed project and will inform industry of potential impacts, potential mitigation and accommodation measures and that this information will then form the basis of the Crown-Aboriginal consultation process required for the level of activity proposed by the project."

Mine Rehabilitation Fund

The Mines and Minerals Act establishes the Mine Rehabilitation Fund, where monies received as security are deposited. The Minister of Finance deposits the receipts in mine rehabilitation reserve accounts established under the consolidated revenue fund and maintains these receipts in the names of the contributing projects. Investment earnings are deposited in the account.

The minister may authorize disbursements from the fund to cover costs of rehabilitation undertaken by the director or to refund a proponent where the money is no longer needed as a security for rehabilitation[505].

Orphaned and Abandoned Mines

Until recently, Manitoba Agriculture and Resource Development was responsible for the environmental management and remediation of orphaned and abandoned mine sites. This responsibility was transferred to Manitoba Conservation and Climate in 2019.

Orphaned or abandoned mines are mines for which the owner cannot be found or is financially unable or unwilling to carry out site rehabilitation.[506] Manitoba does not include the term "orphaned" as part of legislation.

Prior to enactment of requirements for closure plans and financial assurances in 1992, the government assumed the responsibility for the remediation costs for surrendered mine site leases. The Orphaned/Abandoned Mine Site Rehabilitation Program, established in 2000, addresses public safety and environmental health concerns associated with abandoned and orphaned mine sites[507].

Between 2005 and 2007, a condition and hazard assessment of orphaned and abandoned sites was undertaken. Thirty-one high hazard sites, 51 medium hazard and 49 low hazard[508] sites were identified and added to a list of eight high priority sites previously categorized. Action plans were developed and implemented, with priority on the 39 highest risk sites. In the intervening years, rehabilitation work was completed on many sites but continues on others.

A 2007 auditor general's report on contaminated sites noted that, "Our audit of environmental liabilities did not address liabilities for mines…". However, many general recommendations would have been applicable to mine sites, in particular: "We recommend that all entities and municipalities follow PSA (Public Sector Accounting) standards for reporting and disclosing contaminated sites in their financial statements[509].

The department indicated that an environmental liability account, established in 2005, keeps a record of government liabilities for assessment and rehabilitation of orphan and abandoned mine sites[510]. Estimated liabilities continue to be included in the province's financial statements. The

Orphaned/Abandoned Mine Site Rehabilitation Program has a line item of $1.5 million in the annual budget for the accretion and inflation costs related to those liabilities.

The department must seek approval, through the government's expenditure approval process, each year it proposes to undertake rehabilitation activities. Rehabilitation resulting from these expenditures reduces outstanding liability on the government's books.

The commission understands that up until March 31, 2019, a total of $257 million had been spent, under the Orphaned/Abandoned Mine Site Rehabilitation Program, to rehabilitate known orphan and abandoned mine sites. As of March 31st, 2019, an $85 million liability remained on the province's books, often referenced as an environmental liability account. On February 19th, 2020, the Manitoba government announced an additional investment of over $103 million for the clean up and monitoring of contaminated orphaned and abandoned mine sites throughout the province[511].

Under the Manitoba-First Nations Mineral Development Action Plan, the province committed to work with Indigenous communities to engage local stakeholders in active involvement in rehabilitation of historic mine sites as an act of reconciliation[512].

3.3.2 Stakeholder Discussion

The commission engaged with the Mining Association of Manitoba Incorporated (MAMI) regarding mining environmental liabilities and their application in Manitoba. MAMI stated that the requirements for closure plans and financial assurance were appropriate, as public accountability is important.

Requirements for addressing environmental liability were compared between Saskatchewan and Manitoba. Both provinces require closure plans and assurances, however in Saskatchewan there is a mandated five-year review period for both the plan and the assurance. In Manitoba, there is no required review period, and time between reviews has been lengthy. Encouragement to institute a five-year mandatory review period was provided.

A regular schedule for inspections and review of environmental licences was urged. In this way, potential issues can be addressed on an on-going basis rather than when they become major problems in the future. The re-issuance or amendment of environmental licences should be considered when operational changes occur, such as a change in standards or technology.

Saskatchewan's Institutional Control Program[513] is considered to work well on Crown lands where there is a permit or lease. There is a predictive procedure for dismantling a site with a mechanism built in for unforeseen circumstances and future costs. The closure plan must predict costs for 50-100 years in the future, depending upon the types of structures addressed. Funds are provided to government, earmarked and set aside, collecting interest until they are needed. There are regular on-going inspections at set intervals to identify any potential problems.

Acid rock drainage is a major environmental impact from mining activities and is of global concern. Some mitigating actions can be applied, but they come with other environmental consequences. Management is site specific and the most appropriate methods available that are not cost prohibitive or publicly unacceptable will be used. Climate change may influence the way environmental liabilities, especially tailings, may be handled.

In summary, review of closure plans and assurances should occur more frequently and be prescribed in legislation. Closer monitoring of environmental licences should also be undertaken. It was noted that Manitoba may not have the same capacity as Saskatchewan to administer a comprehensive closure program, but practical steps should be taken in that direction.

3.3.3 Commission Comment

General

Manitoba's mining legislation is similar to those in other jurisdictions. Major actions are addressed, mainly requirements for attaining authorization to undertake a mining related activity, the work required and financial requirements to retain that authorization. The legislation is limited in expressly addressing environmental and social impacts. Even though operators are required to address environmental liabilities, the publicly available information and guidance are not very robust in outlining the expectations of an operator.

Discussions with staff provided clarification and insight into the implementation of the mines program. Many actions taken are best practices and mirror those of other jurisdictions, but they are not readily available to the public and are not recognized in the legislative system. For example, guidelines for preparation of closure plans include minimal information and are not binding[514]. In contrast, other jurisdictions reviewed have detailed regulations and codes of practice providing comprehensive direction on many components of a plan. In addition, the panel heard that the department reviews securities and closure plans every five years. Although a good practice, it appears to be a discretionary decision governed by policy and not referenced in any legislative or public information materials. A plain language description of the steps required to receive a mine project approval and basic inspection and monitoring requirements would be beneficial to the public's understanding.

Public Participation

Public participation in resource management is an important aspect of a transparent and accountable process. In other jurisdictions, public and Indigenous engagement is either required and/or provisions are included in legislation to allow managers to require public notification and participation before a major project is established, modified or closed. Active community input may also be sought in rehabilitation planning. Early public involvement establishes a common understanding of a project and allows input to avoid issues that may be problematic later in the process or operation. The department advised that they are active in involving the community in establishing or managing a mining project. Early and on-going community engagement is sought and the First Nations protocol is now used as a tool in the process. Although a very positive step, the process is not referenced in the legislated requirements or explained in the available public information.

Environmental Legislation

Environmental assessment is required for major mine developments under The Environment Act, however, this requirement is not referenced in mining guidance materials. The public is invited to participate in the environmental assessment process, but this usually occurs only after most major development decisions have been made. Conditions imposed through licensing are additional to the mining legislation requirements. Continued coordination of the two processes should be encouraged and requirements for basic environmental information could be considered for inclusion in mine

planning directives. Environmental licences should also be reviewed at regular intervals to ensure that the conditions are still applicable and identify where alterations may be required should standards change. Five-year intervals were suggested by industry.

Operating and Closure Plans

Mining legislation makes the operator responsible for care of the site before, during and post mining operations. Currently, there is a requirement for an operating plan that largely addresses safety requirements. Environmental impacts receive minimal attention. Although safety is of prime importance, environmental factors should receive greater emphasis. Even though each operation is different, basic minimum requirements are common to all operations. A closure plan, including rehabilitation activities, is required. Some minimal non-binding guidelines are available that would benefit from additional details on closure and rehabilitation. Inclusion of options and directions regarding acid rock management would be a positive step. In addition, to address the operation and closure, consideration for sub-plans to address specific issues that may cross over the operating stage, closure and post closure, could be required. Consideration could be given to including some major environmental elements, such as an overriding environmental management system or plan.

Decommissioning or the removal of physical structures as a closure activity could be addressed separately from rehabilitation. Monitoring of a number of factors must occur during operation, during closure and post closure. Rehabilitation should be progressive, as required, so it would occur during operation, at closure and post closure. Separate sub-plans for each of these activities may make it easier to monitor compliance and make adjustments as needed on an on-going basis.

Assurances

The process for determining the appropriate level of assurances and payment schedules and keeping them up to date is currently unavailable in public information sources, as are inspection requirements. The department advised that the Chief Mining Engineer reviews the rehabilitation plan and associated costs when approving a closure plan. The company submits the plan and cost, usually prepared by a qualified third party. The Chief Mining Engineer determines if the actions are appropriate and the cost estimates reasonable. The level of assurance must match the costs and schedule. Guidelines are available to provide direction on financial assurance acceptable to the Director of Mines relating to mine closure rehabilitation costs. The guidelines indicate the forms of securities accepted, corporate financial tests and other relevant information. These guidelines are not binding[515].

The first step in setting appropriate assurance levels is the estimation of rehabilitation costs. The estimation should be carried out by technically qualified professionals, preferably by a third party. Once the director is satisfied with the cost estimate, the level of financial security should be set based on this estimate and on government policy. In at least one jurisdiction, the estimated rehabilitation costs, the required assurance and the difference are publicly available for every mine.

The panel notes that where the level of assurance is less than the estimated remediation costs, it means that the government is implicitly accepting that it is in the public interest for the government to be potentially liable for a portion of the remediation costs in the event that an operator cannot or does not rehabilitate.

The panel understands the department undertakes five-year reviews, although they are not required by legislation. The panel also heard that it has been some time since assurances have been reviewed.

Plans and assurances need to be reviewed regularly to ensure they cover the required actions. A timetable for review should be included in legislation. Five-year intervals appear to be appropriate, perhaps more frequently when closure is imminent or when financial difficulties are indicated.

The department considers the legislative framework to be adequate to manage securities, but the level of securities has been insufficient to address required actions. The panel understands these securities are being updated.

Post Closure

Legislation addresses the long-term commitments after closure, making the operator liable for rehabilitation after the mine is closed and the lessee responsible after surrender or expiry of the lease. However, the conditions that may be applied for the long-term are not clear. Processes and basic conditions should be prescriptive and set out in guidelines or policy and procedures. The specific responsibilities of the parties and how funding requirements are assessed, how they will be maintained, how and when they are reviewed and updated, how they will be disbursed, and what happens when a company disappears, requires further detail. In documentation reviewed, it was suggested that estimated rehabilitation and long-term maintenance costing be done by a third party, to ensure they reflect the true costs. The panel was advised that the proponent provides the estimate for the assurance. Although the legislation sets out a list of people who can provide a cost estimate, it is not clear how that estimate is determined. There is no legislated requirement for a schedule for inspections, plan review or review of assurance. Five-year intervals are common, but any rules or legislation should allow flexibility to adapt to particular situations.

Having a consistent process, an independent assessment and regular review and updates will help in the successful long-term management of mine sites and limit future government liability. Examination of the Institutional Control Program in Saskatchewan should be undertaken. Although the legislative environment is different, Manitoba may be able to adopt some of the processes and procedures. Of particular interest is the provision of two separate accounts, one for on-going maintenance and one for unforeseen events. Adoption of such a system would further protect the government from financing emergency actions.

Orphaned and Abandoned Mine Sites

The Orphaned/Abandoned Mines Site Rehabilitation Program is similar to those implemented in other jurisdictions. The sites managed under these programs are largely historical sites that were in operation prior to the imposition of rehabilitation responsibilities on lessees and operators, and environmental restrictions. Orphaned sites are not defined in legislation for any jurisdiction reviewed.

Manitoba's program has undertaken difficult and on-going actions to address orphaned and abandoned mine sites. The inventory, classification and prioritization of sites were necessary and are positive steps. Many sites are rehabilitated, several others are undergoing rehabilitation and a number will require management long into the future.

Although there is much information available on site location and costs of rehabilitation, there is no published information on the process for identifying, classifying and remediating or rehabilitating such sites. Greater clarity and formalization of policies, procedures and processes would be beneficial to the public's understanding of how the program works. A reference to the standards used to determine actions, and an outline of the decision making process to determine priorities would be helpful.

Financial management for orphaned and abandoned sites in Manitoba is similar to other Canadian jurisdictions examined. No Canadian jurisdiction has a dedicated fund; all seek approval for expenditures through the appropriation process.

Some Australian jurisdictions have adopted levies on mine facilities and infrastructure, instead of assurances for operations judged to be of low to medium financial risk. Financial assurance can still be required from operations where there is a high financial risk. The industry is much larger in those jurisdictions than in Manitoba. A similar approach in Manitoba would likely raise only a portion of the funds needed to rehabilitate orphaned and abandoned sites. It also entails the government evaluating risk rather than the financial industry which is experienced at doing so.

The U.S. Department of the Interior applies a levy to production tonnage from operating coal mines. The resulting levy fund can be accessed by states and tribes to rehabilitate abandoned coal mine sites. A levy on production may be more difficult to apply to a non-coal mining sector which entails extraction, concentration, smelting and refining, some of which occurs outside of Manitoba. If a production levy could be applied, the resulting revenues from a small number of operating mines would likely raise only a small portion of the rehabilitation costs in Manitoba.

Funding solutions are limited for orphaned and abandoned mine sites. A program with contributions from industry would be of some benefit but it appears on-going government funding will be required. Dedicating fees, royalties and penalties could contribute to rehabilitation and would assist in offsetting rehabilitation costs for orphaned and abandoned mines, albeit in a modest way. Additional funding recently announced by the Manitoba government for these sites will be helpful in addressing outstanding liabilities.

The level of assurances, fees, royalties and any contemplated levies should be reassessed on a regular cycle. The reassessment should include the estimated long-term costs of rehabilitation, the environmental consequences of existing sources of contamination and the impact on potential mine investment.

The panel observed that in Manitoba, both the regulation and management of contamination on orphaned and abandoned mine sites rests within the same government program. Other jurisdictions have sought to avoid potential conflict of interest, by adding some separation between those two functions, either through separate programs, different departments, or by moving management of the sites to an independent agency. Consideration should be given to the potential consequences and risks of conflicting roles on the management of contamination on orphaned and abandoned mine sites.

Under the Contaminated Sites Remediation Act, the government is able, by regulation, to bring specific mine sites under the provisions of the Act. The government could evaluate, on a case-by-case basis, where there might be a benefit in doing so. For example, previous owners could be held responsible for remediation of contamination on a particular mine site.

3.3.4 Aggregate Quarry

The Mines and Minerals Act facilitates the issuance of quarry permits and quarry leases for the exploration, mining and production of quarry minerals on Crown land and requires the registration of quarries on private land. Aggregates including sand, gravel, shale, crushed stone and crushed rock are considered quarry minerals. The Quarry Minerals Regulation sets out the conditions for operation, fees, royalties and other payments due for quarry permits and quarry leases[516].

Operations on Crown Land

Authorization is required for the production of quarry minerals that are property of the Crown[517]. Crown quarry mineral removed by, or on behalf of, a public agency and used for a public purpose is exempt from payment of the royalties[518]. The royalties are currently set at $0.50 per tonne[519].

A casual quarry permit allows a permittee to mine and produce quarry mineral for a term of three years. Renewals are on one-year terms at the discretion of the director. Following expiration, surrender or cancellation of the permit, a statement of the quantity removed is required along with payment of a royalty and a rehabilitation levy (discussed later)[520].

A quarry exploration permit allows a permittee to explore for a quarry mineral, including sand and gravel and other forms of aggregate. The permit is valid for three years and restricts activities to the specified area. A cash deposit of $1,000 or $25 per hectare, whichever is greater, is required. Each year, the permit holder must report on all work performed. When the approved expenditures for work carried out are less than those prescribed, a cash payment may be made in the amount equal to the deficiency. When more work beyond the approved expenditures is carried out, credit is carried over to the succeeding year. If the permittee does not meet the requirements, the permit lapses and the cash deposit equivalent to the deficiency is forfeited. The deposit is refunded if a permit is not issued, it is the end of the term of the permit and all conditions have been met or upon surrender of the permit[521].

A quarry lease gives the lessee exclusive rights to the Crown quarry mineral specified in the lease area and mineral access rights subject to surface access restrictions. Leases are for 10-year terms at which time they may be renewed for another 10 years, subject to compliance during the previous tenure and at the discretion of the minister[522]. Application for a quarry lease must include a land rental payment of $27 per hectare per year. The size of the lease area cannot be more than 70 hectares. Annually, a statement of the total quantity of quarry mineral produced, a royalty payment, a rehabilitation levy payment and an annual rent payment are required[523].

A surface lease is also required at a cost of $7 per hectare but not less than $144[524].

All aggregate extraction activity on Crown land, authorized under a permit or lease, requires a Crown lands work permit authorizing activity on the surface of the Crown parcel[525].

Operations on Private Land

Aggregate quarries on private lands must be registered. An annual return is required as is payment of the rehabilitation levy[526]. Operators of aggregate quarries on private land are not required to file a closure plan or provide a security.

Operating Conditions

The quarry minerals regulation sets out operating conditions that address clearing of the site, stockpiling soil and overburden, screening, erosion and weed control, waste and drainage, setbacks, blasting, noise, dust, groundwater protection and burning[527].

Under legislation, site rehabilitation is not a requirement for aggregate quarry operations, unlike requirements for non-aggregate quarries. Aggregate quarry operators are not required to provide closure plans, rehabilitation plans or financial assurances. Aggregate quarries do not require an environmental review or environmental licence; an associated processing plant may require one.

Municipal Role in Rehabilitation of Aggregate Operations

Provincial Legislation

The Planning Act[528] empowers municipalities and planning districts to regulate land use within their boundaries. The Provincial Planning Regulation under the act establishes the Provincial Land Use Policies used by the province to guide the preparation and provincial approval of local development plans.

The land use policies address mineral resources, including aggregate. One of the policies addresses rehabilitation, stating that, "if extraction of minerals, oil or natural gas ceases on land, the surface of which was prime agricultural land before the extraction began, the land must be rehabilitated to the same average soil quality for agriculture as is found on the surrounding lands"[529].

The act[530] requires municipalities to provide Manitoba Municipal Relations with a 60-day notice of a public hearing for any conditional use applications to establish or expand an aggregate extraction operation. During that period, the department coordinates an interdepartmental technical review of the conditional use application to provide municipal councils with information to assist in their review and decision-making. Members of the Technical Review Committee (TRC), represent:

- Manitoba Agriculture and Resource Development
    - Soils
    - Land Use and Resource Tenure (Mines)
    - Crown Lands

- Manitoba Conservation and Climate
    - Drainage and Water Rights Licensing

- Manitoba Sport Culture and Heritage
    - Historic Resources

- Manitoba Infrastructure
    - Highway Planning and Design
    - Water Management and Planning Standards

Committee comments are summarized and analyzed in a planning report, which is presented to the council as part of the public record for the scheduled conditional use hearing.

Under The Municipal Act, a municipality may in a bylaw, provide for a system of licences, permits or approvals, including providing for the posting of a bond or other security to ensure compliance with a term or condition[531].

Municipal Bylaws

Some municipalities have adopted strong rehabilitation requirements for aggregate operations through their development plans and zoning bylaws. The Rural Municipalities of Springfield and Rockwood, home to some large aggregate quarry operations, include a number of provisions related to those operations, including rehabilitation of the site, in their respective zoning bylaws[532,533] pursuant to policies in their development plans[534,535].

In both municipalities, owners or operators of aggregate operations are required, as part of their development permit applications, to submit rehabilitation plans showing intended staging for progressive rehabilitation. As a condition of approval, owners or operators are required to carry out progressive rehabilitation.

Conditions of approval also oblige owners or operators, prior to commencing operations, to submit a bond of indemnity or letter of credit as set under a separate bylaw. In the case of Rockwood, the zoning bylaw explicitly states that such a bond or letter of credit shall be retained in effect until such time as the aggregate extraction operation owner/operator has completed all obligations pursuant to the development agreement, including the rehabilitation of the area.

The zoning bylaws also address the payment of fees to the municipality. In the case of Rockwood, the bylaw details three fees: Aggregate Mining Fees, Aggregate Transporting Fees and Quarrying fees.

The South Interlake Planning District, which encompasses Rockwood and neighbouring municipalities, also includes two broader aggregate mineral policies in its development plan. Individual operators are required to coordinate their plans for rehabilitation and shaping of their respective properties to achieve maximum recovery of arable farmland and leave the post mining landscape in a condition which is safe, environmentally stable, and compatible with the adjoining lands. To encourage progressive rehabilitation of unused post-mining lands, a financial penalty may be incorporated into a development agreement as a function of the area of derelict land and the length of time since mining was discontinued on the property[536].

Rehabilitation

Under provincial mining legislation, aggregate casual quarry permittees and aggregate quarry leaseholders are not required to rehabilitate their operational area, nor are landowners.

In place of rehabilitation requirements, the act requires the operator of an aggregate quarry to remit a quarry mineral rehabilitation levy each year[537]. The levy is set out in regulation and is currently $0.12 per tonne[538]. The levy applies to operations on private and Crown resources[539]. This requirement does not apply to Manitoba Hydro[540].

The Quarry Rehabilitation Reserve Account, established under the consolidated revenue fund, and administered by the minister, receives these funds. The minister may enter into agreements with persons to rehabilitate land on which the quarry is located and pay for costs associated with

rehabilitation including government expenses for administration of the program. Expenditure commitments do not lapse with the fiscal year[541].

Responsibility for rehabilitation of depleted aggregate quarries on private lands resides with the landowner. To assist landowners with this responsibility, the Quarry Rehabilitation on Private Land Program was introduced in 2020. It replaced the Pit and Quarry Rehabilitation Program, suspended in 2019, while the auditor general conducted a review of the program[542]. The revised program offers a total of $6.6 million to landowners in 2020[543], funded by the rehabilitation levy.

Landowners may apply for up to $250,000 to rehabilitate depleted aggregate quarries on their properties. Funds may be used for a single small site or to contribute to on-going progressive rehabilitation. Funds are to be used mainly for safety and nuisance related activities such as embankment sloping, spreading overburden and soil and seeding. Agricultural lands may be returned to their previous uses. Environmental enhancement is not an objective of the program.

3.3.5 Stakeholder Discussion

The panel engaged with representatives of the Association of Manitoba Municipalities (AMM) and the Manitoba Heavy Construction Association (MHCA) regarding rehabilitation of aggregate extraction sites.

Manitoba Heavy Construction Association

MHCA provided a history of the current levy, management of the fund and ongoing discussions with government. In 1990, at the urging of industry, the levy became part of legislation to address rehabilitation of aggregate sites, in response to public concerns. The levy was to be reviewed every five years; it has not been reviewed or increased in some time.

The association commented that in their view the levy system has been successful in undertaking rehabilitation, making operators responsible and addressing concerns of landowners, municipalities and the public. The levy system provides funding for responsible landowners and operators to undertake appropriate actions and provides a financial backstop should an operator be unwilling or unable to undertake rehabilitation. In other jurisdictions, they have observed that larger operators are generally responsible and follow through with rehabilitation as required, but some smaller operators may not. In these instances, there is no recourse for the landowner, as no funds are available to undertake rehabilitation.

MHCA noted that in recent years, the association, AMM and representatives from the Rural Municipalities of Hanover, Rockwood, Rosser and Springfield have been part of an advisory committee along with representatives of government departments. The association considers the committee approach successful in providing advice on rehabilitation standards and processes.

MHCA stressed that the levy needs review and an increase to finance the rehabilitation requirements. Also of concern is that rehabilitation standards need regular review and upgrading.

Under the current system, the association emphasized that there is joint responsibility between the landowner, the municipality and the operator to be aware of the responsibilities, be aware of the program and monitor success of rehabilitation work on an on-going basis. The landowner applies to the fund and determines who will do the work. For operators there is certainty that funds are available for the purpose. The amount of funds received is not dependent upon the amount remitted.

Employing consistent progressive rehabilitation standards is favourable for landowners, operators and the community. For larger operations, progressive rehabilitation is a good business practice and it may be required as a condition of a development agreement with a municipality. Large operations may finance the rehabilitation in whole or in part without levy funds.

MHCA representatives stated that they and their members are supportive of rehabilitation and are proactive in progressively rehabilitating their sites. The association is supportive of collaboration with other organizations, such as conservation organizations, to add value to a site through rehabilitation.

The association supports the requirement for rehabilitation plans, at least for larger operations, as part of the approval process. Incorporation of rehabilitation standards as a legislated requirement is acceptable.

The association stated that in their opinion, standards would best be developed and reviewed at regular intervals with input from an advisory committee. Also suggested was that such a committee should provide advice on legislative changes as well.

Association of Manitoba Municipalities

Association members provided a perspective for all municipalities as well as specific experience with the Rural Municipality (RM) of Hanover.

The municipal role in aggregate management, as described by AMM representatives, is limited to issuing conditional use permits, charging road maintenance fees and a fee to bridge the difference between taxes on property assessed as farmland rather than as commercial or industrial land.

The RM of Hanover has not included rehabilitation as part of a conditional use permit, but other municipalities have. The municipality has not seen a rehabilitation plan be part of an application and, in their opinion, overall details are sparse. Overall, the municipality is satisfied with pit rehabilitation in their municipality.

The Planning Act requires a technical committee review for new aggregate lease applications. In some cases, applicants may hire a consultant to provide a technical report. Provision of these reports and the committee assessment are helpful to the municipality in determining whether to issue a conditional use permit and if so, the conditions to include. A rehabilitation plan may also assist in decision-making, and imposition of conditions.

It was noted that the advisory committee, described previously, recommended an increase in the rehabilitation levy.

3.3.6 Commission Comment

Industry, municipalities and government officials all expressed a very strong commitment to rehabilitate aggregate quarry sites, although each has concerns and suggestions related to the effective regulation and management.

Management of aggregate resources in Manitoba is different from all other jurisdictions reviewed. All others require submission and implementation of closure plans which include rehabilitation or reclamation, accompanied by financial assurance, at least for larger operations on both public and private lands. All jurisdictions have specific requirements in regulation or referenced guidance

documents on operational and rehabilitation requirements. Small operations may be exempt from some or all of these requirements. Several jurisdictions require that attention be paid to the environment, requiring pre-extraction environmental surveys or involvement of environmental agencies in determining rehabilitation outcomes.

Manitoba has neither the requirement for a closure plan nor the option of imposing a security for aggregate quarries. Some operating conditions are set out in regulation, but there is little guidance on rehabilitation. Some municipalities have imposed their own requirements for rehabilitation plans and securities.

Lack of a requirement for remediation plans for aggregate quarries is inconsistent with legislated requirements in the mining sector and other industries. Closure plans, including rehabilitation backed by financial assurance are required for mining operations and non-aggregate quarries. Site rehabilitation and performance deposits are required for oil and gas operations. All aggregate quarry sites should be required to be rehabilitated.

In place of such requirements, the province imposes a rehabilitation levy on aggregate quarry operators. The levy program, managed by the government, is considered to be successful by industry, although some updating and changes are required. There is little public information on the program, how it works, how it is managed, annual financial statements or the number of sites rehabilitated. Oversight was an issue with the previous program and the auditor general highlighted some of these difficulties in a May 2020 report. The new program is restricted to private lands although the levy is collected on Crown resources as well.

Ontario imposes a small levy on aggregate resources to address legacy sites. The levy is deposited into a trust fund managed by an industry run corporation, which uses monies from the fund to prioritize, plan and address the rehabilitation of abandoned or legacy aggregate extraction sites, with the consent of the landowner. Annual and five year reporting is required.

In Manitoba, there are few legislated standards to be met; most are safety standards, and conditions to receive funding are few. The panel understands the department, is planning an inventory of abandoned and legacy sites and a determination of site status, including rehabilitation status, and safety and environmental risks. The department has also recognized that sites on Crown land have been neglected. Actions in this regard are also in the planning stage. Any such program on Crown land should include a lead role for the government agency with authority over management of such lands (e.g. Parks, Wildlife, Agricultural Crown Lands, Forestry) to develop authorizing conditions and rehabilitation outcomes. In other reviews undertaken by the commission, First Nations and others have advised that large Manitoba Hydro aggregate quarry sites remain on the landscape with minimal rehabilitation for the last 50 years.

New leases or expanding operations on private lands are now subject to a Technical Review Committee (TRC) assessment. This positive step will assist the government and municipalities in making informed decisions and imposing appropriate conditions. Rehabilitation of aggregate quarry sites is voluntary, unless imposed by the municipality.

The steps in issuing an authorization are legislated requirements. Guidelines that specify minimum technical requirements, including rehabilitation, should be referenced in legislation. Such guidelines should be publicly available, describe the steps in the review process and include the role, make-up and

terms of reference for the technical review committee. The peatland program (described later) could serve as a model, making operators responsible for long-term planning, harvest and recovery with supporting guidelines and an advisory committee.

Management of aggregate operations requires a more robust approach similar to other jurisdictions and some municipalities. Ecological factors should also play a role in consideration of operating conditions and rehabilitation outcomes. Pre-extraction environmental information should be part of the TRC assessment. The committee may require additional expertise to address fish, wildlife, ecological and forestry issues.

Closure plans, rehabilitation plans and securities should be required, at least for leased and larger operations. Those involved should be encouraged to collaborate with conservation agencies and organizations and others to establish landscaping compatible with the surroundings.

Closure plan and security requirements will not likely burden larger operations as these elements are already part of good business practices and required by some municipalities. Smaller operators may find more difficulty complying with these conditions; however, it would encourage them to be more responsible during excavation operations if they are also directly responsible for rehabilitation costs. Requirements for small and on-farm operations should be more limited and commensurate with the level of impact on the landscape.

If a requirement for closure plans and a security are to be considered, the implications of financial and logistical burdens on industry should be undertaken to find an appropriate phase-in period. Operators who have been in business for many years without being required to rehabilitate would not have factored such requirements into their planning and costing. A process for addressing current operators will need careful consideration to mitigate potential negative and short-term effects on these operations.

Developing practical guidelines and standards will require the input of industry, municipal officials, Indigenous representatives and government agencies. These standards should be developed in consultation with municipalities and the industry and be adopted into legislation with a requirement for review every five years.

The panel observed that exemptions from requirements can result in the landscape remaining in a disturbed state or the public later paying for rehabilitation. The panel urges government to be cautious about exempting operations.

Abandoned and legacy sites need to be addressed. The department's proposed site inventory will determine the number of sites and their relative risk to safety and the environment. The results will inform the timeline for action and the funding needed. A program for rehabilitation can then be developed, including the method of financing and management responsibilities. Retention of the existing levy is one financing option.

In summary, a requirement for closure plans and financial securities for an aggregate lease or for registration of operations on private land would result in more certainty around rehabilitation. Regular inspections will assist in ensuring rehabilitation is progressive. Operating and rehabilitation guidelines and standards enabled by legislation and developed in collaboration with industry and municipalities will improve rehabilitation outcomes. A program to address abandoned and legacy sites is needed.

Rehabilitation of Manitoba Hydro's large aggregate quarry sites, with community participation, would contribute to reconciliation and benefit the environment.

3.4 The Oil and Gas Act

Oil and Gas production is governed by The Oil and Gas Act[544] and associated regulations. The act sets out the administrative structure and requirements. The department administers the program rather than an independent body, as in some other jurisdictions.

Authorizations

The act establishes several categories of licences and leases for exploration and testing, drilling and operating a well and construction of pipelines. The act provides right of access to oil and gas, but access to properties must be obtained under *The Surface Rights Act*[545]. Activities must take place within a specified period. Leases are issued for five-year periods and may be renewed for one year. A maximum of five renewals is allowed[546].

The director may require an operator of a well or oil and gas facility to develop and file an environmental protection plan[547]. A performance security is required prior to issuance or transfer of a licence or permit[548]. The director may refuse to issue a well licence if it is determined that drilling might cause significant adverse impact on the environment or significantly impair use of the surrounding land[549].

The minister may require abandonment, if the pipeline, well or facility is no longer required or presents a hazard or potential hazard to public safety or the environment[550].

In the case of spills, operators must mitigate or eliminate any danger to life, health, the environment or property and take steps to rehabilitate any land affected by the spill. An inspector may specify the type of work required[551].

Oil and gas operations are not subject to environmental licensing. However, they must adhere to applicable environmental regulations such as those addressing discharge of water and air quality.

Abandoned Sites

No person shall abandon a well or battery without the director's approval[552]. An operator who abandons a well or battery must rehabilitate the site of the well or battery in accordance with the regulations and surface access restrictions.

Where a licence or permit is cancelled, or the well or oil and gas facility is abandoned, the licence or permit holder may apply for a Certificate of Abandonment. The licensee or permittee continues to be liable for the costs of any repair or rehabilitation required on the site for six years after the Certificate of Abandonment is issued[553].

Performance Deposit and Levy

The Drilling and Production Regulations require two kinds of rehabilitation-related payments as part of an application for a well licence or a battery operating permit[554], a performance deposit applicable to the applicant's facilities and a levy for the abandonment fund.

The regulations set the performance deposits at $7,500 per well or battery up to a maximum between $15,000 and $60,000 per license holder, depending on the recent net revenue stream from those facilities. The higher the net revenue the lower the maximum deposit[555]. Where a licence or permit holder is out of compliance with the act, the minister may use all or a part of the holder's performance deposit to defray costs arising in relation to:

- abandonment of a well or oil and gas facility
- rehabilitating the site on which a well or oil and gas facility has been established
- any adverse impact on property or the environment resulting or that might result, in the opinion of the minister, from a well, oil and gas facility

Where a licence or permit holder abandons the well or oil and gas facility, rehabilitates the affected land in compliance with legislation, and obtains a Certificate of Abandonment, the portion of any performance deposit in excess of the prescribed amount shall be refunded. Where the person who provided the deposit cannot be found, the director shall pay the performance deposit into the Abandonment Fund Reserve Account (described later)[556].

A non-refundable levy is required to transfer a well licence or to apply for a well licence or battery permit and annually for inactive wells or batteries [557]. The levy is set out in the regulations[558] as follows:

- $50 to transfer a well licence
- $250 with an application for a well licence or a battery
- an annual levy for classes of inactive wells and batteries
  - Class 1 . . . . . $150 per well (not operated for 5 years or less)
  - Class 2 . . . . . $500 per well (not operated for over 5 but less than 10 years)
  - Class 3 . . . . . $1000 per well (not operated for 10 years or more)
  - Class 4 . . . . . $500 per inactive battery.

Amounts paid and interest earned on those amounts, are deposited in the Abandonment Fund Reserve Account established under the consolidated revenue fund. The minister may, after applying any available performance deposit, make expenditures from the account:

- to address cost of seizure
- for the rehabilitation of the site of a spill or an abandoned well or oil and gas facility
- to defray costs arising from an adverse impact on property or the environment resulting or that might result from a well, oil and gas facility, or geophysical operation.

Expenditure commitments do not lapse at the end of the fiscal year in which they were committed.

The minister may also "authorize the director to enter into agreements for and on behalf of the government for the purpose of seizure" [559].

3.4.1 Stakeholder Discussions

The panel engaged with a major operator in Manitoba and member of Explorers and Producers Association of Canada. That entity also made a presentation on behalf of a second major operator. Representatives stressed that a responsible company takes its stewardship responsibilities seriously, often going above and beyond regulated requirements.

They indicated internal spill reporting and management is comprehensive and as a result, very little is lost to the environment.

The company has an active corporate program to address inactive wells and uses an environmental risk matrix and economic analysis. The important considerations are the proximity to water bodies and residences. Reclamation specialists undertake restoration activities in consultation with scientific authorities and government managers, to provide environmentally compatible or enhanced sites where practical and possible. Sites on agricultural lands are restored to their former uses, or as preferred by the landowner. It was stressed that the other major company working in the area has a similar system.

Industry representatives noted that inspection delays can delay restoration completion as these activities are seasonally dependent. Suggestions on speeding up the process included declarations by company professionals, use of satellite imagery to confirm restoration along with landowner declarations that the results are satisfactory. They suggested that where on-site inspections are not done, audits could be undertaken from time to time to ensure that companies are in compliance.

The industry representative discussed Manitoba's performance securities and suggested that they do not have the intended effect when refunded prematurely. Under The Oil and Gas Act the government may use the security to rehabilitate a site where the operator is non-compliant but may also refund the security to a non-compliant operator who transfers their licence to another operator. The impression is that this does not provide an incentive for an operator to properly abandon or restore a site. The industry representatives recommended that the deposit should be held until the operator has no more licences in the province. The maximum security deposit of $60,000 does not cover the cost of restoring even one well site.

The industry representative stressed the importance of enforcing rules in a fair and consistent manner, holding all operators to the same standard. They suggested that enforcement is sometimes delayed until a well from a smaller company is transferred to a larger operation that is better poised to absorb the cost of reclamation.

Alberta, Saskatchewan and British Columbia all use a licensee liability rating system. A downside of this approach is that the value of assets are highly variable with changing economic situations, especially fluctuating oil prices. Performance security systems are under review.

Rather than the licensee liability rating system, North Dakota requires a large up-front cash deposit. However, this approach reduces the number of entrants and likely, the number of wells. It does not take into account the life cycle or end of life scenario.

Inactive well levies are substantially lower in Manitoba than in other jurisdictions. Industry acknowledged this is an area that may need some adjustment.

In Manitoba, the lower incidence of orphaned wells can be attributed to a better price to cost ratio and a consolidation of ownership in companies with progressive views. Two companies operate most of Manitoba's industry in comparison to 70 percent of Saskatchewan's industry being operated by small companies. In Alberta, a number of factors compound the issue.

It was conveyed that levies going into the abandonment fund could also be adjusted to better represent the true cost of reclamation. Industry representatives expressed concern that by their estimates, a large

number of companies possess well licences, but a smaller number are actively producing. In their opinion, inspectors have difficulty tracking down the responsible entities; they consider the regulations to be weak. It was projected that this may result in a larger number of abandoned wells than recorded by the province. Representatives suggested that support, from the recent federal program, could accelerate rehabilitation and help to address the abandoned wells of non-producing companies.

If higher fees and levies were imposed in Manitoba, concern was expressed regarding the effect on smaller operators. It was suggested the government undertake a risk management assessment to determine a preferred course of action to balance the environmental, economic and social impacts in the oil and gas industry in Manitoba prior to making changes to fees.

3.4.2 Commission Comment

Manitoba's oil industry is relatively stable considering current market conditions. There are few orphaned or abandoned sites under government control. The method of calculating operator liability and security appears to be more successful in managing abandoned sites than in other jurisdictions.

Even though the industry is doing relatively well, improvements could be considered. Manitoba Agriculture and Resource Development addressed a concern relayed by the industry representatives, about idle or potentially abandoned wells in small operator control. Government officials advised that the current number of companies operating in Manitoba is in the mid-40s, with most having active sites. Few orphaned or abandoned facilities are under the government's management. Two facilities, including 22 wells are considered orphaned. The department acknowledged this might increase under current market conditions. However, the potential total number is not currently considered to be a significant portion of Manitoba's industry.

The department acknowledged that the performance deposit (financial assurance) cap of $60,000 per licence holder is below the estimated actual cost of $50,000 to $100,000 for rehabilitating one well, if there are no surface problems.

Although the industry in Manitoba has been able to withstand current industry stressor, it is not immune to the impact of those factors. The current level of deposits together with the levy has been sufficient in Manitoba up until now. The panel understands the levy fund currently stands at about $2 million and grows by about $500,000 per year. This fund will be substantially reduced by rehabilitating wells already in the process of being seized.

The department advised there are currently 1,100-1,200 inactive wells in the province. Depending upon markets, prices and other factors, if the government were required to seize even a small percentage of these inactive wells, the fund could be insufficient.

This scenario has occurred in the other jurisdictions examined. In those jurisdictions, federal programs have assisted landowners to abandon inactive sites on their property. Also, in one jurisdiction, governments have made substantial loans to the entity responsible for rehabilitating orphan wells.

In consideration of future industry uncertainties, an increase in rehabilitation-related payments is warranted. Further analysis should be undertaken to ensure that deposits, levies and potential value of seized assets are balanced against the cost to government of abandonment and rehabilitation. Depending on the results of such an analysis, adjustments could be made accordingly.

Also conveyed by the department was that operators are not released from their obligations and performance deposits until such time as all their leases and facilities have been surrendered, abandoned and rehabilitated.

Tightening the regulatory environment or raising fees may force smaller operators out of business. If changes are contemplated, a risk analysis should be undertaken as part of an evaluation of options, to determine the effect of these actions on the industry and the economy.

More flexibility for inspections and approval of abandonment and rehabilitation activities is under consideration by the department.

The oil and gas industry in Manitoba is small and appears to be responsible; formal and stricter guidelines for operation and rehabilitation do not appear to be necessary. However, review and evaluation of performance should be undertaken regularly to ensure that participants are adhering to current rules and regulations and are employing best practices. Evaluation should also be undertaken to ensure deposits and levies taken together cover the costs of abandonment and rehabilitation of seized sites to the extent possible.

As the oil and gas industry faces uncertain prices and markets, policies and legislation need to be flexible enough to enable the government to be proactive in anticipating and preparing for sometimes sudden and significant fluctuations in the industry.

3.5 The Peatlands Stewardship Act

The Peatlands Stewardship Act[560] came into force in 2015, removing management responsibility from The Mines and Minerals Act. The Peatlands Stewardship Regulation[561] provides specifics on permitting, licensing and plans. The Peatlands Practices Committee Regulation[562] establishes a committee that develops guidelines and performance indicators for the management and recovery of Crown peatlands. The program is supported by three guides: one setting out licensing requirements[563], one setting out the contents of peatland management plans[564] and the third setting out requirements for peatland recovery plans[565].

The purpose of the act is to:

- protect and conserve Crown peatlands
- regulate commercial development of peat on Crown peatlands to ensure it is carried out in a sustainable manner
- ensure the recovery of Crown peatlands takes place

Six principles are set out that address the ecological value, climate impacts and economic implications of maintaining peatlands.

The minister may recommend to the Lieutenant Governor in Council the designation of a significant peatland to restrict commercial development.

A permit is required to explore peat deposits and a licence is required to harvest peat from Crown peatlands. A prospective licensee must provide:

- a summary of exploration work
- a proposed management plan that includes the prescribed content

- a proposed recovery plan that includes the prescribed content
- and any other prescribed information or requested by the director
- payment of the prescribed fee

A licence is valid for 15 years. The licensee must also provide a security and pay an annual land reservation charge and royalties.

The licence holder must also comply with other enactments. They must allow access to others that have been granted access for mineral and oil and gas rights.

Peatlands must be recovered according to the approved recovery plan. If there is non-compliance, the director may issue an order and may use the security if the government must take action. If the costs exceed the security they become a debt to the government.

A licence may be surrendered if all fees, charges and royalties have been paid and the recovery plan has been implemented to the satisfaction of the director.

The act enables the Lieutenant Governor to enter into agreements.

The minister may request information from other parts of government to:

- prepare and maintain an inventory of peatlands in Manitoba
- determine how different activities and practices enhance, maintain or degrade peatlands
- determine how peatlands may be recovered
- and further the purposes of the act

The Lieutenant Governor may make regulations that incorporate or adopt by reference, all or part of a code or standard from any government authority or by any association or other body of persons.

The peatlands regulation sets out the application process and requirements for exploration permits and harvest licences.

To acquire a harvest licence a peatland management plan must be approved. In addition to the requirements for the geographic locations, harvest schedule, and processing facilities are protocols in case of fire and if species at risk, heritage sites or cultural features are discovered. The plan must also include environmental, social and economic objectives that will be sought in carrying out harvesting operations and the manner and method of communication with Indigenous and local communities in implementing the management plan.

The recovery plan must include baseline information and address harvesting activities. It must include a description of the type of recovery activities, a closure plan to remove structures, drainage works and access, protocols addressing donor sites, performance measures and indicators used to assess recovery and timelines. In addition, the plan is required to outline the manner and methods of engagement of local and Indigenous communities in the recovery.

When an application is received, the director must post on a government website a summary of the application and a notice for public comment and time period of not less than 30 days.

An applicant must provide the application fee and have liability insurance of at least $2 million. They must also provide a land reservation charge of $6.50 per hectare. A security in the amount of $1,500

per hectare must also be paid. An annual report is required as well as a more comprehensive report at five year intervals including an assessment of the impacts and outcomes of harvesting and including any necessary amendments to the plan.

There is no indication where the funds are held, and by which agency of government or how they will be dispersed.

An environmental licence is also required.

The guides provide step-by-step instructions and the specific content required in each application, plan and report.

3.5.1 Commission Comment

This is a modern comprehensive process. The act is enabling, the regulation outlines the basic requirements including the amount of fees and charges, and the guidelines outline the specific information required. Built into the requirements are public engagement and the addressing of environmental and cultural impacts. This legislation is relatively new and has not been thoroughly tested as to efficacy.

3.6 Conclusions

Concluding comments addressing overall legislation and program management and specific conclusions for each program area follow. The commission thanks all those who provided information to help in understanding the programs and processes.

Manitoba's legislation and industry practices for remediation, rehabilitation or recovery, financial securities and funding orphaned and abandoned sites are similar to those in other jurisdictions. However, some gaps in legislation, policy and program implementation require address to ensure lands are put back into use and public liabilities are minimized.

There are inconsistencies in Manitoba's legislated requirements and programs for remediation, rehabilitation or recovery of sites across industrial sectors. Other jurisdictions provide consistency through legislation by listing industrial and commercial activities that have a potential to impact the environment and require operators to rehabilitate or reclaim their sites as well as provide an assurance. Manitoba's requirements for rehabilitation, remediation or recovery should be as consistent as possible across sectors while allowing for some flexibility in their application.

Management and funding of orphaned and legacy sites also varies across sectors. Programs should strive to minimize the occurrence of such sites and be consistent in management approaches across sectors.

Variations also exist in requirements for financial securities in mining, quarrying, oil and gas, peat and other commercial and industrial sectors governed by environmental legislation. Requirements for and management of financial assurance and levies to backstop rehabilitation, remediation or site recovery, should be as consistent as possible across sectors. Although a single fund to manage levies, securities and public liabilities for all program areas may not be feasible as there is an expectation that funds be spent on the purpose for which they were collected, fund management should be as consistent as possible.

Published public information and operator guidance was lacking in all program areas except in peat management. Guidelines, protocols, policies, procedures and publicly available explanatory materials are scarce or incomplete. Where guidelines are available, they are usually not binding and there is a gap in explaining how legislation and policy are applied. Improvement in this area will provide better direction to operators, make expectations clear and improve public understanding of the programs. Opportunities for public engagement in program planning should be clear and easily accessed.

A number of components in contaminated sites legislation and programming, particularly related to owner or occupant responsibility and the role of a site professional, differ from those in other jurisdictions and from other sectors in Manitoba. An efficient and expedient process for identification of risk and follow-up remedial actions is required. The goal of the program should be to manage risk to human health, safety or the environment and to put land back into a useful purpose.

Mines legislation is straightforward, clear and consistent with other jurisdictions but supporting and publicly available information needs improvement to explain how legislation is applied. Many actions undertaken by the regulator and operators are good practices but are not acknowledged or referenced in legislation, guidance materials or other public information. Areas needing improvement include updating and consistently applying requirements, acknowledgement of public engagement in programming, formalizing policies, procedures and guidelines and detailed post closure responsibilities.

Orphaned and abandoned mine site management is consistent with programs in other jurisdictions. These sites will be difficult to address without sustained funding. Formalization of policies and procedures will enhance understanding of site management.

Aggregate quarry management in Manitoba differs from all other jurisdictions reviewed as well as from requirements for other mining activities in the province. Aggregate program management should be consistent with other activities within the same industry. The program requires enhancement to ensure that operators are responsible for putting land back into a sustainable and proper use in the most efficient and effective way possible and limiting public liabilities.

Oil and gas programming has been successful in addressing environmental issues. However, with uncertain times in the industry, proactive steps to monitor and identify potential negative economic impacts and take preventative action to limit future environmental impacts and public liabilities are needed.

Comprehensive programming for peatland management is relatively recent. Legislation is comprehensive, clear, and supported by planning and management requirements as well as by guidance documents. It will take some time to determine whether this approach is effective in peatland recovery.

Chapter 4: Options, Recommendations and Suggestions

4.1 Introduction

The review of statutes in jurisdictions across Canada and elsewhere demonstrated that statutes are primarily enabling mechanisms. The details and the weight of application of regulatory requirements lie in comprehensive regulations, or codes and standards referenced in legislation and in guidance documents. Comprehensive and complete plain language explanations are required to inform and guide the public. In addition, consistency of requirements and application is required throughout government.

Following are recommendations, suggestions and options for legislative, policy and procedural changes, to address issues identified in Chapter 3.

The panel reviewed legislation and program implementation from a procedural perspective. Legal and risk analysis of any interpretations, suggestions or recommendations has not been undertaken but should be done, prior to considering legislative amendments.

4.2 General Principles

The commission suggests that some general principles guide regulation and management of sites adversely affected by development. These are:

- It is more effective to prevent adverse environmental effects, rather than try to manage them later.
- Environmental costs should largely be borne by those whose activities create those costs and the polluter pays principle should remain an important consideration.
- Site owners or operators should be required to minimize adverse effects and to rehabilitate and remediate their sites.
- Rehabilitation and remediation requirements should be proportional to the health, safety or environmental risks posed.
- Rehabilitation and remediation should facilitate returning sites to a productive and sustainable purpose, compatible with the surroundings.
- Policies and procedures should be flexible to address a variety of circumstances.
- Financial securities, fees, levies, penalties, and other financial instruments should be reflective of actual costs.
- Costs to the public should be minimized and tied to public benefit.
- The process governing rehabilitation or remediation of sites should be effective and efficient.

4.3 Contaminated Sites

As all parties involved in this review indicated, the status quo for management of contaminated sites is not efficient for government, for responsible persons or for the protection of human health, safety or the environment. The current act and its strict application does not allow flexibility for the department or the responsible persons to modify the process, and often impedes progress on reaching the desired outcomes in a timely manner.

<u>Site Professional</u>

In most jurisdictions, site professionals are referenced in legislation and certification requirements are outlined in a regulation, or in a protocol or similar document referenced in legislation. In those

jurisdictions, the site professional determines exceedances, determines the risk associated with those exceedances, recommends a remediation plan, supervises implementation of that plan and signs off on the results. In Manitoba, specialists perform many of these same functions, but their role is less formal and their qualifications are not codified.

The commission recommends an enhanced role for site professionals, who are essential to the site remediation process. To ensure that all standards and protocols are met, legislation should require owners and occupiers to enlist the services of a site professional to undertake or supervise all investigations and remedial actions on a site. Required reports or documents must be certified by a site professional to be accepted by the director.

As this profession requires specialized knowledge and carries a great deal of responsibility, proof of competence should be legally required to perform the prescribed actions. Requirement for certification should be included in legislation; specific requirements could be included in regulation or referenced guidance documents. Site professionals should be required to be members in good standing in a professional association such as Engineers Geoscientists Manitoba and have a minimum number of years of experience in site remediation along with liability insurance reflective of the current professional standards and requirements.

RECOMMENDATION 1: The commission recommends legislation require certification of site professionals who undertake or supervise site remediation.

Reporting Contamination

When contamination is discovered on a site, most jurisdictions require the site professional to report the exceedance of a standard, as well as requiring the owner or occupier to do so. Given that exceedance of a standard is a technical determination, a competent professional must make this determination.

RECOMMENDATION 2: The commission recommends legislation require a site professional as well as the site owner or occupier be responsible for reporting contamination in exceedance of a standard.

Site Classification and Responsibilities

In the current process under which the director designates sites as “contaminated “ or “impacted” and designates “potentially responsible persons” a great deal of time and resources can be spent issuing orders to designate and revoke designations. This, as well as issues to be discussed later, result in procedural actions that delay remediation of a site.

The commission recommends a distinction between contamination risk levels not be included in the statute and that on reporting an exceedance, the owner or occupier be automatically responsible for site remediation. Designation of sites or responsible persons would no longer be required.

Distinction between risk levels would be incorporated into regulations or in such documents as protocols or codes, referenced in legislation. The owner or occupier, on reporting an exceedance, would be required to engage a site professional to undertake appropriate investigation to determine the level of risk, and thereby classify the site, based on the relevant standards and the results of their investigation. The site professional and owner or occupier would be collectively responsible to take any further actions required to remediate the site.

A system of classifying sites as being of high, moderate or low risk to human health or to the environment could be incorporated in regulations or codes, protocols or guidelines referenced in legislation. When an exceedance is reported, the site professional would classify the site into the appropriate risk category, if enough is known. If a determination cannot be made at the time of reporting, then the site professional, after undertaking an assessment would determine the appropriate categorization. The director would have a short time to review, comment or request further investigation should they believe that to be necessary. However, this rarely occurs in jurisdictions that use this approach. Owners or occupiers would also have the option of pursuing other responsible persons for costs of remediation.

Given it has been almost 25 years since reporting of contamination has been required and since the implementation of a site registry, most prospective owners ought to be aware of possible contamination on industrial and commercial sites.

The success of the process depends on the obligations of the owner or occupier, the site professional and the department being clearly stated in the statute and regulations.

Currently site designations are used to track sites. As it is important that sites be tracked, an alternate system will need to be put in place.

RECOMMENDATION 3: The commission recommends legislation require, upon the reporting of an exceedance of a standard, the owner or occupier to be responsible for site remediation and to engage a site professional to characterize the contamination, classify the site according to risk, undertake or supervise subsequent steps in the process and certify the results.

Role of the Director

If, as recommended, responsibility for reporting contamination, site investigation and classification, and planning and remediation is shifted to the owner or occupier along with requiring a site professional to manage the process, the role of the director becomes one of an overseer. The director ensures the effectiveness of the process and intervening when necessary to protect human health, safety or the environment if those responsible are not doing so.

The director would retain the power to order any actions that may be required. The director would also retain the authority to order an owner to engage a site professional to investigate should they become aware of possible contamination and the owner is not investigating. Under certain circumstances, such as when the contamination has migrated from off site, the director would be able to order a responsible person other than the owner or occupier to take action to remediate a site. The director would be able to order additional investigations or remedial actions, place restrictions on a title, require public consultation and require a security. The director could also take remedial actions and recover costs from responsible persons but only where those responsible are not acting and the risk to human health or the environment is high. The director would also retain the ability to recommend a hearing to the minister.

RECOMMENDATION 4: The commission recommends the director retain the ability to issue orders, especially for high-risk sites, where the owner or occupier is not acting.

Remediation

Remediation should result in land returning to a productive use. A range of options is available depending upon the risk level of a site, the current and projected use of a site, available technology and the objectives and financial ability of the responsible person. The risk level will also dictate the urgency of actions. Guidance should provide actions commensurate with risk. The process should also be open to alternate solutions and innovation that result in the desired outcomes.

A high-risk site requires immediate action, with short time-lines to characterize the contamination and to develop and implement a remediation plan. A reporting schedule should be included.

Lower risk sites may be afforded longer time-lines for action and a range of options that could be implemented. Such options, for example, could include leaving contamination in the ground and monitoring the site.

Currently, the director must approve a remediation plan. The director should retain the ability to review a plan at the time of submission and, whenever the director has reason to believe that there has been a change in the risk level. A short-time frame should be prescribed for the director to review the initial plan, provide advice or request changes. The director would also retain the ability to issue an order or take remedial action if there is an imminent threat to human health, safety or the environment.

As recommended, remediation plans are the responsibility of the owner or occupier and are prepared by a site professional who also supervises the remediation to ensure compliance with the plan.

The site professional should be able to propose innovative solutions not necessarily outlined in protocols or guidance documents as long as they can demonstrate that the recommended solution would result in the desired outcome.

RECOMMENDATION 5: The commission recommends remedial actions be commensurate with level of risk and be outlined in a code, protocol or guidance document referenced in legislation.

Allocation of Liability for Costs

Currently, the director is responsible for naming those potentially responsible and for apportioning liability for costs for contaminated sites and, on request, for impacted sites. Few other governments take on this responsibility. Should the owner or occupier feel that other parties are also responsible, they can so advise those other parties and determine liability for incurred costs amongst themselves, through agreement, mediation, a tribunal, or the courts.

The act should continue to provide a list of the types of persons potentially responsible for costs and a set of factors to consider in allocating that responsibility, as do many jurisdictions. However, the director should not enter into the allocation discussion between parties, other than by offering access to mediation or commenting on a voluntary agreement to ensure the appropriate remedial actions.

If the statute requires the owner to take responsibility, then liability for costs is a matter for the owner to address outside the remediation process and after the remediation has been undertaken. It is important that there be an avenue for the owner to include others if the owner deems someone else should be held partly or wholly liable for costs, but that case should be made to a mediator, a tribunal or

the courts, not to the regulator. The process of determining liability for costs should not delay the remediation process.

RECOMMENDATION 6: The commission recommends legislation provide site owners or occupiers with options to pursue other responsible persons for remediation costs through agreement, mediation, a tribunal or the courts after remediation has occurred.

Polluter Pays, Joint Liability and Unassigned Shares

Currently in Manitoba, the "polluter pays" principle is the primary factor for the director, the commission or the courts to consider in apportioning responsibility for remediation. This is not the case in other jurisdictions where responsibility for contaminating a site is one factor on the list to consider in determining liability, but not the primary one. Continuing the primacy of this principle will, over time, expose the government, and thereby the public, to increasing liability. Original polluters are less likely to be found or be financially viable. In the case of corporations, they may have been dissolved. The principle should however be retained in legislation and be an important factor for consideration in recovery of remediation costs incurred by the owner or occupier.

RECOMMENDATION 7: The commission recommends the polluter pays principle be retained in legislation as an important principle and an important factor to consider in the recovery of costs incurred by the owner or occupier in remediating a site affected by contaminants.

Although not specifically stated in current legislation, the overall framework of the act suggests that responsibility for costs of remediation in Manitoba is "several", meaning that each person who contaminated a site bears responsibility for costs of remediation in proportion to their contribution to the contamination. In the case where the commission is apportioning responsibility, the act goes further in providing specifically that the commission may leave all or any share of the responsibility unassigned to any party. Unassigned shares when coupled with making the polluter primarily responsible for the costs of remediation, and with several liability means that, over time, the public will be responsible for a larger and larger share of those costs. Such costs should not be borne by the public except where there is a serious and imminent threat to the human health, safety or the environment, or where the government makes a proactive decision to participate in returning a site to a productive purpose.

In most jurisdictions, liability for remediation costs among responsible persons is "joint and several". Manitoba's legislation should clarify that responsibility is joint and several, so that responsible persons cover all of the costs of remediation. The panel was advised by legal practitioners that legal analysis should be undertaken before a change in legislation is finalized given the legal complexities and case history involved.

RECOMMENDATION 8: The commission recommends legislation make responsible persons jointly and severally liable for all costs of remediation with no provision for unassigned shares, subject to guidance from legal professionals.

Situations will arise where the government makes a deliberate decision that it is in the public interest to accept some of the costs or risks associated with returning a site that has been contaminated to a productive use.

RECOMMENDATION 9: The commission recommends legislation continue to enable a waiver of liability for a prospective owner to remediate a site should the government decide that it is in the public interest to share the costs of remediation or assume some of the associated risks.

Standards and Guidelines

Although the current act enables the director to develop guidelines, they are not binding unless included in an order. Standards, codes or protocols in other jurisdiction may be adopted by regulation or referenced in legislation. Guidance documents should be comprehensive, provide specific plain language guidance for owners, technical advice for professionals and options for meeting the prescribed standards. These requirements should be binding with built in flexibility for the director to vary them if needed and allow for innovative solutions from site professionals to protect human health, safety and the environment.

RECOMMENDATION 10: The commission recommends legislation require and enable codes of practice, protocols or guidelines to be approved by either the minister or the director as judged appropriate by the government, and that they be publicly accessible.

Closure

The act currently enables the issuance of closure certificates on a voluntary basis. Program managers indicated that only one certificate has ever been issued. The current practice is to issue closure letters once a site has been satisfactorily remediated. These letters serve as the official closure document for most purposes, but are not referenced in legislation.

A publicly accessible document certifying that a site has been remediated to the standards for the uses allowed and any remaining contamination is managed and monitored should be required in legislation. Specifics on the type of document, the requirements to certify closure and related liabilities should be included in referenced codes, protocols and guidelines.

RECOMMENDATION 11: The commission recommends legislation require, on satisfactory completion of remediation, the issuance of publicly accessible documentation certifying that standards have been met and any remaining contamination is managed and monitored to prevent adverse impacts on human health or the environment.

Transfer of Responsibility

If in a revised process the owner or occupier is automatically responsible for a site, then on transfer of title, the responsibilities for site remediation of a new owner must be established. The department will need assurance that remediation will continue, as required. Clarification of any on-going liabilities on behalf of the seller will also be required. There are several models for transfer of responsibility from other jurisdictions. These include a requirement for a declaration from a new owner, with or without a financial security, registration of restrictions on a title, and approval of transfer and land use by the director. An appropriate solution can be selected and incorporated in legislation following legal analysis.

RECOMMENDATION 12: The commission recommends legislation include a process for transfer of responsibility for site remediation with transfer of ownership, subject to guidance from legal professionals.

Role of the Clean Environment Commission

Currently, under the act, the director may seek advice of the commission on certain matters. The commission could become compromised if it is providing advice to the department and subsequently is asked by the minister to provide advice, undertake a hearing or act as a tribunal in relation to an appeal, an allocation of liability or some other part of the process. The director should be able to seek advice from professionals outside the department. The commission must not be involved in departmental decisions.

If responsibility for addressing contaminants is borne by the site owner or occupier and the site professional, there are likely to be fewer decisions and orders from the director that result in appeals. Director's decisions should be appealed directly to the minister, with the minister's decision being final. The minister is able to refer any matter to the Clean Environment Commission for review and advice should they choose to do so.

If any appeals of decisions or orders are to continue coming to the commission, then application should come directly from the appellant rather than through the director. To simplify the cost recovery process, a standard fee could be charged for a hearing application. The parties involved can then determine amongst themselves how much each of them will contribute, rather than the commission having to calculate relative amounts.

The commission should determine their procedures, members of a panel and use of subject matter experts as required and as outlined in the general provisions of The Environment Act applicable to the commission. Should the minister request a hearing on a remediation plan or any other matter, the cost of that hearing would be recoverable from the proponents.

Elsewhere in this report, the panel has recommended that the owner or occupier of a site have recourse to a tribunal to recover costs of remediation from other responsible parties. The commission is capable of performing this role should the government wish it to do so.

RECOMMENDATION 13: The commission recommends any advisory role for the Clean Environment Commission in contaminated sites management be consistent with its legislated mandate of providing advice to the minister.

Conclusion

If the recommended path for implementation of a contaminated sites program is taken, in the short-term the proposed changes will require significant time from those involved in administering the process. However, in the long-term the burden on departmental resources and public liability should be significantly eased and result in a more efficient and effective process for all parties involved.

4.4 Mines

Of the sectors examined, legacy mining sites present the greatest environmental and financial challenges. Although legislation in the 1990s in Manitoba, and similarly elsewhere, greatly improved the situation, all governments struggle to address sites abandoned and orphaned before modern requirements were enacted.

The panel found few innovative solutions in this sector but a few recommendations and options for further consideration are provided.

Regular Updates of Financial Assurance

The jurisdictions examined have required financial assurance from operating mines to backstop remediation for many years now, as has Manitoba. The current level of assurances does not cover the rehabilitation costs. Rehabilitation costs should be reviewed on a regular basis and the financial assurance be adjusted as needed, based on government policy. The estimated liabilities and assurance values should be publicly available. The government has begun to update financial assurances after not doing so for many years.

Policy and procedures on how rehabilitation costs are calculated, how the costs are verified and when they should be reviewed, is absent in Manitoba. Such guidance should be prepared, and reviewed on a regular basis. Contents should include variables to consider in estimating rehabilitation costs and a verification process for these costs. A five-year review cycle was recommended by industry and is implemented in other jurisdictions.

RECOMMENDATION 14: The commission recommends legislation require the review of estimated rehabilitation costs and financial assurances for mines, at least every five years.

RECOMMENDATION 15: The commission recommends the Manitoba government produce a guide or protocol on the calculation and review of rehabilitation costs and financial assurances for mines and that the guide be updated regularly.

Maintenance of Closed Mines

Saskatchewan has a legislated program, with voluntary participation, for the ongoing management of closed mines. Former mine operators must meet strict conditions and provide funds for ongoing care and maintenance and financial assurance to address unforeseen events. Manitoba's legislation clearly states that operators are responsible for their sites after closure, however there are no formal policies, programs or guidance on what that entails; nor any indication of what happens when an operator does not honour their obligations after closure. The Manitoba government should be wary of taking back sites without a structured and consistent plan with financial backing.

RECOMMENDATION 16: The commission recommends a formal process for care of mine sites post closure be included in regulation referencing implemented policies, procedures or guidelines and that these documents be made available to the public.

RECOMMENDATION 17: The commission recommends legislation require financial commitments from mine owners to address on-going maintenance and unforeseen events for closed mines.

Funding Rehabilitation of Orphaned and Abandoned Mines

The other Canadian jurisdictions examined address orphan mine sites in a similar manner to Manitoba: They book sites as liabilities and request funding to reclaim, remediate or rehabilitate on an annual basis through their expenditure approval process.

The panel does not have recommendations for implementation of expedited rehabilitation of orphaned sites. However, approaches used in other sectors in Canada and for mine sites in other countries could be examined and undergo further financial and economic analysis. Although all of these practices are in

use to address the environmental consequences of orphaned and abandoned sites, there would likely be measurable impacts on Manitoba's relatively small mining industry.

OPTION 1.1: Levy on Operating Mines

A small levy on production from operating mines to pay for the rehabilitation of orphaned mine sites could be considered.

This approach is applied by the U.S. Department of Interior to the coal mining sector. It is also used in the aggregate sector in Ontario, where the levy is deposited into a trust fund and the fund and associated rehabilitation activities are managed by an industry-led board.

A small amount of funds could be raised to permit some annual rehabilitation of orphaned mine sites. A levy on production might be more difficult to administer to operations involving concentration, smelting and refining, some of which occurs outside the province, than in the coal mining or aggregate sectors.

OPTION 1.2: Levy on Reclamation Liabilities

Consideration could be given to setting an annual budget for the remediation of orphaned mine sites and setting a levy on rehabilitation liabilities to cover a portion or the entire budget. The levy would be assessed on total rehabilitation liabilities across all leased mining sites. Each lessee would pay their share of the levy based on their share of the total liabilities.
This is similar to the method used in the oil and gas sector by Saskatchewan, British Columbia and Alberta, where it is under review.

OPTION 1.3: Levy on Inactive sites

Levies would be assessed on operators of inactive mines, and on former lease holders who have surrendered their leases but remain responsible for rehabilitation of the mineral lands or the cost of rehabilitating the lands, to contribute to rehabilitation of orphaned and abandoned mine sites.

This method is used in the oil and gas sector in Manitoba. The variability of rehabilitation costs among oil and gas well sites is small compared to the variability among mine sites. To address this, the levy in the mining sector could be based on estimated rehabilitation costs of the inactive leases.

OPTION 1.4: Dedicate Royalties and Fees to Rehabilitation

Consideration could be given to dedicating royalties and fees from mining operations, or a portion of those, to the rehabilitation of orphaned mine sites. This means that revenue to the government from the mining sector would be used to address associated costs assumed by the public, that is, the costs of addressing the environmental and safety impacts of orphaned, and largely legacy, mining operations.

Given the income from annual royalties and the large outstanding liabilities associated with orphaned mine sites, the process of rehabilitation of those sites would be a lengthy one if this were the only source of funding.

OPTION 1.5: Replace Financial Assurance with Levies; Dedicate Investment Revenue to Orphaned Sites

Another option is the replacement of existing financial assurance requirements with an annual levy system to create a pooled fund to backstop participating mines' responsibility to rehabilitate. Investment income from the fund would be directed to orphaned and abandoned mine sites.

Different levies could be set for different classes of infrastructure or land use on a mine site. The levy would vary based on the relative rehabilitation liabilities associated with each class of infrastructure or land use. The annual levy on a tailings pond for example, would be higher than on a sewage lagoon or a road.

The levy would be deposited into a pooled fund to backstop the participating mining companies' responsibility to rehabilitate. The investment revenues associated with the fund would be directed to the rehabilitation of orphaned sites.

Western Australia recently adopted this program. In that case, the government manages the fund; it could also be managed through a trust. The ability to require financial assurance is retained in cases where the government concludes that there is a significant risk that a particular operator will not be able to meet their obligations. The State of Queensland has adopted a similar program, but only for low- to medium-risk sites.

The trend in recent decades, at least in Canada, across the sectors examined, has been to move to a strong financial assurance model. Under this model, risk is managed by financial institutions with experience in evaluating risk. In moving to a levy model, the government would be evaluating risk.

4.5 Aggregate Quarries

Manitoba's framework for regulating the rehabilitation of aggregate quarries is significantly different from the other five jurisdictions reviewed. Practices of other jurisdictions, if adopted, would improve the framework in Manitoba.

Responsibility for Rehabilitation

Manitoba uses a levy system managed by government to effect the rehabilitation of aggregate quarries. Landowners may apply to the associated fund to rehabilitate sites. In other jurisdictions, in some Manitoba municipalities, and for all other mining operations in Manitoba operators are required to submit and implement rehabilitation plans, backstopped by financial assurance.

The levy system was proposed 30 years ago by an industry that was, and still is, very supportive of enhancing rehabilitation and of increasing the levy to do so. For rural landowners with small aggregate quarry sites on their land, the levy has been helpful in rehabilitating those sites.

As noted previously, all other jurisdictions reviewed require operators or landowners to reclaim or rehabilitate aggregate quarry sites. Two Manitoba municipalities examined require progressive rehabilitation by operators. As with other operations regulated under the Mines and Minerals Act, rehabilitation should be required for all aggregate quarries.

Two options for rehabilitation of aggregate quarries are considered:

OPTION 2.1: All Aggregate Quarry Operations

Operators be required to rehabilitate all aggregate quarry sites, provide a rehabilitation plan and provide financial assurance sufficient to cover estimated rehabilitation costs on Crown land or on private land.

OPTION 2.2: Large and Small Aggregate Quarry Operations

a. Operators be required to rehabilitate leased sites on Crown land and larger sites on private land, provide a rehabilitation plan, and financial assurance sufficient to cover estimated rehabilitation costs.

b. Operators on sites governed by casual quarry permits and small aggregate operations on private land may be required to provide a rehabilitation plan with or without an assurance, should conditions require it and at the discretion of the director. Alternately, the government could assume responsibility for rehabilitation of aggregate operations under a casual quarry permit on Crown land and require landowners to be responsible for rehabilitation of small aggregate operations on private land.

The government assuming responsibility for remediation may be especially applicable on Crown land where permittees do not have exclusive rights to use a quarry. On private land the landowner and the operator can often be the same person or corporation. Where they are different on small sites, the landowner, through an agreement, could require the operator to rehabilitate.

RECOMMENDATION 18: The commission recommends legislation require aggregate quarry lessees on Crown land and operators of large aggregate quarries on private land to submit and implement rehabilitation plans backed by financial assurance.

RECOMMENDATION 19: The commission recommends legislation provide the government with the option to assume responsibility for rehabilitation of aggregate quarries under a casual quarry permit on Crown land and to require the landowner to be responsible for rehabilitation of small operations on private land.

Plans and financial assurances should be reviewed regularly.

The commission is recommending a departure from the current approach to rehabilitation of aggregate quarry sites. Should the government decide to make changes, municipalities and the industry should be engaged prior to implementation and progressive rehabilitation requirements should be phased in for long-time operators to allow adaptation to new requirements.

NOTE: Large and small operations can be described in different ways. Some jurisdictions use surface area to describe large and small operations with differing cut-off points in different jurisdictions. At least one jurisdiction makes no such differentiation. The industry in Manitoba describes size based on the tonnage of minerals extracted. In Manitoba, the department should determine the method of classification and the cut-off, should it choose to distinguish between large and small operations.

Rehabilitation Levies

Legislation should retain a rehabilitation levy for sites where operators are not required to rehabilitate as described previously. The levy on small sites would continue to fund the Quarry Rehabilitation on Private Land Program available to landowners for the rehabilitation of those small sites.

RECOMMENDATION 20: The commission recommends that a levy be retained on aggregate quarry sites where the operator is not required to rehabilitate and that the Quarry Rehabilitation on Private Land Program continue to be available to owners of those sites.

Blending of financial assurance and levy systems, with their application determined by the government based on the size of the operation or the nature of the tenure, should be evaluated for effectiveness and the financial implications for government, the industry, and the end users of the product to determine the optimal combination.

Where the levy is retained, it should be reviewed periodically to ensure that it is reflective of the costs of rehabilitation. The province should consider adjusting the levy annually based on the consumer price index, as is done in some other provinces.

Abandoned and Legacy Sites

It is important to continue to have funding available to address abandoned and legacy sites, sites where no landowner or operator is responsible. The industry also believes that such sites should be addressed as they affect the industry's reputation.

Ontario specifically addresses legacy sites through a small levy collected into a trust fund which supports a rehabilitation program, and has been managed by an industry-led board since the late 1990s. Alberta uses a similar model to address orphaned oil and gas sites.

The government is planning to undertake an inventory of abandoned aggregate operation sites. This is a good first step, and one which preceded the launching of the legacy site program in Ontario.

Once the magnitude of the legacy site issue is determined, consideration should be given to retaining a portion of the rehabilitation levy to address the rehabilitation of abandoned and legacy sites in Manitoba.

Government faces financial management and reporting challenges when fees are collected in one year to be spent sometime in the future for sites that were abandoned years or even decades before. The government could consider flowing levy funds to an independent party to manage the funds and undertake rehabilitation. A trust managed mainly by industry, as in Ontario, provides one model. If such an arrangement is made, the management and operating conditions and reporting requirements should be set out in legislation. The independent party could include community, agricultural and conservation groups and Indigenous representation in addition to industry.

Code of Practice or Guidelines

Most jurisdictions have a formal rehabilitation code or guidelines. Such a code or guidelines should detail requirements for progressive rehabilitation on larger sites and acceptable end uses, taking into account factors such as location, safety, surface and ground water quality, habitat, surrounding land uses, and community concerns. In some jurisdictions, the code specifies the involvement of other

interested government agencies such as those responsible for agriculture or wildlife. Operators should be encouraged to involve or seek partnerships with local communities and with organizations promoting agriculture, habitat enhancement, conservation and recreation. Existing guidance documents from other jurisdictions can be used as a resource in developing guides for Manitoba. Industry, municipal and Indigenous participation should be included in preparation of the guidance materials.

RECOMMENDATION 21: The commission recommends legislation reference a code or guidelines setting out criteria for good practices for rehabilitation of aggregate quarries and acceptable end uses of rehabilitated sites.

Exemptions

When operators of aggregate operations or the site owners are granted exemptions based on intended use of the resource or for other reasons, it results in sites not being rehabilitated or eventually rehabilitated at the public's expense, often in the future. The cost is shifted from the consumer of the product to the general public.

The province should undertake an assessment of the current and future implications of any exemptions from requirements to rehabilitate aggregate quarries before exemptions are considered. Exemptions should be limited to exceptional circumstances where the government concludes that the benefits of any contemplated exemption are in the public interest and outweigh future government liabilities.

Municipal Role

In some jurisdictions examined, municipalities regulate the rehabilitation of aggregate operations.

Currently, using provisions of planning and municipal legislation, some municipalities in Manitoba require operators to plan and implement progressive rehabilitation and to provide financial assurance to backstop those responsibilities. To the extent that the provincial government and the municipalities are satisfied with this approach, municipalities should be encouraged to continue in this way, and similar provisions in provincial regulations be waived for an operator, to avoid duplication. The government could consider providing municipalities with the option of collecting the levy for small sites on private land where the municipality is interested in funding rehabilitation rather than leaving it to an agreement between the operator and the landowner.

RECOMMENDATION 22: The commission recommends legislation continue to enable municipalities to require aggregate quarry operators to submit and implement rehabilitation plans backed by financial assurance for aggregate quarries on private land.

RECOMMENDATION 23: The commission recommends legislation enable a waiver of provincial requirements for rehabilitation plans and financial assurance for aggregate quarry operators where municipalities have established such requirements in bylaws.

Conclusion

The commission recognizes that undertaking rehabilitation and providing financial assurance entails a cost ultimately borne by the users of sand and gravel. However, remediation and financial assurance is already a municipal requirement and therefore already a cost for some large operations. To the extent

that the cost of rehabilitation is not borne by the users of the product, it will be borne by the general public or the quarry sites will not be rehabilitated.

4.6 Oil and Gas

Regulation practices for rehabilitation of oil and gas sites in Manitoba are more economically and environmentally efficient than in the four jurisdictions reviewed, at least in the current circumstances. However, there are over a 1,000 inactive sites in the province, some of which are likely to need government assistance in being appropriately abandoned and rehabilitated. Recommendations related to financial security and funds for orphaned sites for site rehabilitation follow.

Performance Deposits and Abandonment Fund Levy

The Manitoba government uses two financial instruments to raise funds for situations when it has to rehabilitate acquired oil and gas facilities: a performance deposit and a non-refundable levy on inactive sites for the Abandonment Fund. The department advised that these two instruments should be considered together when evaluating the adequacy of these funds. Up to now, the instruments have been adequate to meet requirements; the Abandonment Fund has maintained a positive balance.

Legislation does not specify factors to be taken into account in reviewing the performance deposit. However, in the annual review of the Abandonment Fund levy, the regulations require the director to consider the account balance and anticipated deposits to and expenditures from the account.

The current fund balance will be significantly reduced to appropriately abandon and rehabilitate inactive sites which the department is in the process of acquiring. The annual increase in the fund will be sufficient to rehabilitate only a very small number of well sites a year, even after available performance deposits are used.

Given the current industry status and future uncertainties regarding inactive sites, fund expenditures are likely to increase. To prepare for this change, there should be an increase in the performance deposit and/or levy. Industry noted the current levy is low when compared to other jurisdictions and that there may be room for some adjustment.

At the same time, increases in the deposit or levy could impact some operators' decisions on maintaining inactive sites resulting in the government acquiring more of these sites. A risk assessment should be undertaken to determine how much of an increase is appropriate.

RECOMMENDATION 24: The commission recommends an increase in the oil and gas performance deposit and/or the abandonment fund levy, following a government risk assessment to determine the appropriate size of the increase.

The deposit and levy should be reviewed on a regular cycle.

The current method for calculating deposits and levies in Manitoba seems to be less affected by wide fluctuations in the value of assets in comparison to methods used in other western provinces. The current method should be retained but the government should monitor the ongoing review of asset and liability rating systems in other jurisdictions to determine if any of the outcomes of those reviews are applicable to Manitoba.

Management of a fund where revenues accrue in one year for expenditures which may not occur until several years into the future, presents a financial management and reporting challenge for government. In Alberta, a similar fund and activities are managed by an independent body. Consideration could be given to independent management of collected levy funds and the appropriate abandonment of inactive sites acquired by the government.

Proactive Rehabilitation of Inactive Sites

There are an estimated 1,100 to 1,200 inactive wells in Manitoba. If due to future uncertainties, the number of sites acquired by government rises, as has occurred in other jurisdictions, there will be serious future cost implications for the government. It is advisable to offer landowners the opportunity to appropriately abandon inactive sites proactively, as is being done through a federally-funded program in the other western provinces, thereby defraying future costs.

Conclusion

The Manitoba government and the industry have done a good job of managing the rehabilitation of abandoned oil and gas sites. However, given current uncertainties, it would be prudent to revise the assurance and/or orphan levy requirements to provide for potential future liabilities.

4.7 Concluding Comments

Manitobans have benefitted from economic development of many types. At the same time, the landscape is sometimes adversely impacted by that development. Restoring sites to useful and sustainable purposes benefits future landowners, communities and the public at large. Over the last 30 years, Manitoba, other Canadian jurisdictions and governments around the world, have taken many positive steps to reduce and address environmental degradation, including contamination of developed sites. Legislation and targeted programs have played a role in these improvements.

Maximum effort should be made to prevent or minimize adverse environmental impacts. Where sites are or become degraded, site clean up can be done effectively by holding the site operator, owner or occupier responsible for remediation and rehabilitation, with the assistance of qualified professionals. Wherever possible, other responsible parties should be held liable for sharing the costs of remediation or rehabilitation. Industry and the public should share the responsibility for abandoned and legacy sites.

With this model in mind, the commission recommends legislative and procedural improvements and makes other suggestions broadening requirements to remediate and rehabilitate sites, clarifying the role of the operator, owner or occupier and other responsible parties in addressing contamination, and enhancing and updating financial instruments to backstop the costs of rehabilitating sites, including legacy sites.

These steps, and others included in the report, should result in more consistency across programs, fewer costs being borne by the public and more effective rehabilitation and remediation of sites impacted by development.

4.8 Recommendations

Contaminated Sites

1. The commission recommends legislation require certification of site professionals who undertake or supervise site remediation.

2. The commission recommends legislation require a site professional as well as the site owner or occupier be responsible for reporting contamination in exceedance of a standard.

3. The commission recommends legislation require, upon the reporting of an exceedance of a standard, the owner or occupier to be responsible for site remediation and to engage a site professional to characterize the contamination, classify the site according to risk, undertake or supervise subsequent steps in the process and certify the results.

4. The commission recommends the director retain the ability to issue orders, especially for high-risk sites, where the owner or occupier is not acting.

5. The commission recommends remedial actions be commensurate with level of risk and be outlined in a code, protocol or guidance document referenced in legislation.

6. The commission recommends legislation provide site owners or occupiers with options to pursue other responsible persons for remediation costs through agreement, mediation, a tribunal or the courts after remediation has occurred.

7. The commission recommends the polluter pays principle be retained in legislation as an important principle and an important factor to consider in the recovery of costs incurred by the owner or occupier in remediating a site affected by contaminants.

8. The commission recommends legislation make responsible persons jointly and severally liable for all costs of remediation with no provision for unassigned shares, subject to guidance from legal professionals.

9. The commission recommends legislation continue to enable a waiver of liability for a prospective owner to remediate a site should the government decide that it is in the public interest to share the costs of remediation or assume some of the associated risks.

10. The commission recommends legislation require and enable codes of practice, protocols or guidelines to be approved by either the minister or the director as judged appropriate by the government, and that they be publicly accessible.

11. The commission recommends legislation require, on satisfactory completion of remediation, the issuance of publicly accessible documentation certifying that standards have been met and any remaining contamination is managed and monitored to prevent adverse impacts on human health or the environment.

12. The commission recommends legislation include a process for transfer of responsibility for site remediation with transfer of ownership, subject to guidance from legal professionals.

13. The commission recommends any advisory role for the Clean Environment Commission in contaminated sites management be consistent with its legislated mandate of providing advice to the minister.

Mines

14. The commission recommends legislation require the review of estimated rehabilitation costs and financial assurances for mines, at least every five years.

15. The commission recommends the Manitoba government produce a guide or protocol on the calculation and review of rehabilitation costs and financial assurances for mines and that the guide be updated regularly.

16. The commission recommends a formal process for care of mine sites post closure be included in regulation referencing implemented policies, procedures or guidelines and that these documents be made available to the public.

17. The commission recommends legislation require financial commitments from mine owners to address on-going maintenance and unforeseen events for closed mines.

Aggregate Quarries

18. The commission recommends legislation require aggregate quarry lessees on Crown land and operators of large aggregate quarries on private land to submit and implement rehabilitation plans backed by financial assurance.

19. The commission recommends legislation provide the government with the option to assume responsibility for rehabilitation of aggregate quarries under a casual quarry permit on Crown land and to require the landowner to be responsible for rehabilitation of small operations on private land.

20. The commission recommends that a levy be retained on aggregate quarry sites where the operator is not required to rehabilitate and that the Quarry Rehabilitation on Private Land Program continue to be available to owners of those sites.

21. The commission recommends legislation reference a code or guidelines setting out criteria for good practices for rehabilitation of aggregate quarries and acceptable end uses of rehabilitated sites.

22. The commission recommends legislation continue to enable municipalities to require aggregate quarry operators to submit and implement rehabilitation plans backed by financial assurance for aggregate quarries on private land.

23. The commission recommends legislation enable a waiver of provincial requirements for rehabilitation plans and financial assurance for aggregate quarry operators where municipalities have established such requirements in bylaws.

Oil and Gas

24. The commission recommends an increase in the oil and gas performance deposit and/or the abandonment fund levy, following a government risk assessment to determine the appropriate size of the increase.

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MINISTER OF
CONSERVATION AND CLIMATE

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Serge Scrafield
Chair
Clean Environment Commission
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Dear Serge Scrafield:

In November 2019, the Orphaned and Abandoned Mine Site Rehabilitation (OAM) Program was transferred to the department of Conservation and Climate from the former department of Growth Enterprise and Trade, to support mandate and policy alignment with other similar programs managed by the department. The department was also tasked with a 100 day action item to review the OAM portfolio to ensure a more rapid pace of remediation efforts, while ensuring that all instances in which the private sector can be held accountable for remediation efforts are identified and actioned.

In October 2019, the Clean Environment Commission completed a review of the regulation and management of contaminated mine sites in three other Canadian provinces: Ontario, Saskatchewan and British Columbia, and a final report of their findings was submitted and reviewed by staff. The research was conducted pursuant to section 6(3) of *The Environment Act* to provide Manitoba with a synopsis of legal provisions and management approaches by those other jurisdictions.

Pursuant to Section 6(a) of *The Environment Act*, I hereby request that the Clean Environment Commission conduct an in-depth review to support the development of a policy options paper and recommendations on a polluters pay approach to environmental liabilities for Manitoba. The focus will be on sites under both the Orphaned and Abandoned Mine Site Rehabilitation Program and the Contaminated Sites Environmental Liabilities Program. Enclosed is the Terms of Reference specifying the scope of the policy options paper for submission by September 30, 2020 with an interim report due on July 31, 2020.

Warm regards,

Sarah Guillemard
Minister

Terms of Reference
Clean Environment Commission
Polluters Pay Policy Options Paper

Background

The Orphaned and Abandoned Mine Site Rehabilitation (OAM) Program holds significant environmental and financial liability for the Government of Manitoba. While progress has been made since the program's creation in 2001/02, considerable work is required to reduce Manitoba's liabilities and ensure appropriate cost containment and management for all projects.

Decommissioning of mines falls under the authority of *The Mines and Minerals Act* and Regulations. The Act was amended in 1993 to ensure mine proponents maintained responsibility for sites through site closure plans to avoid financial liability for the Province. Prior to this amendment, Manitoba assumed responsibility for the remediation of sites that posed a risk to health and the environment, and for which there was no financially-viable or responsible party.

To advance Manitoba's 100 day action item to review the OAM portfolio to ensure a more rapid pace of remediation efforts and hold polluters accountable, the department is requesting that the Clean Environment Commission develop options and recommendations on how Manitoba can hold polluters accountable while balancing economic growth within the province.

In addition, the Contaminated Sites Environmental Remediation Program also holds a number of financial liabilities for contaminated sites across Manitoba. While the program does take steps to hold the polluter accountable, a review is required to determine if enhancements can be made to increase success.

Focus

The focus of the policy paper is to identify options to implement a coordinated polluter pays approach (policy, program, and legislative regime) across both the OAM and Contaminated Sites Environmental Remediation Programs. This approach must take a whole of government approach into consideration to ensure a balanced approach when it comes to protecting the environment while still facilitating economic growth. Options are to include implementation/procedural steps for a polluter pays approach to remediate orphaned and abandoned mines, including other contaminated sites. The approach proposed by the department in the future will take into account best practices across Canada.

Terms of Reference

Pursuant to Section 6(a) of *The Environment Act*, the Minister has determined the following Terms of Reference for the Commission to carry out this project:

- Review and propose amendments and/or consolidation of the current legislation governing contaminated sites to ensure there is consistency across government in how these sites are assessed from a risk perspective.
- Identify options for the development of an appropriate risk-based approach towards the identification, classification and management of all contaminated sites in Manitoba, including but not limited to, abandoned mines, abandoned oil and gas wells, quarries, and any other industrial activity that resulted in contamination.

- Uphold the general concept of 'polluter pays' and the appropriate apportionment of responsibility amongst responsible parties; but explore added flexibility to allow for joint and/or several liability when certain criteria are met.
- Reduce the liability of Manitoba associated with abandoned mine sites and other contaminated sites by providing recommendations for an updated funding structure to defray costs on behalf of Manitobans. This may include exploring options to replace the existing Environmental Remediation Fund or other similar funds (e.g. Abandonment and Reclamation Fund under *The Oil and Gas Act*), with a more flexible and longer-term fund that would draw from a variety of sources (e.g. administrative penalties, application fees, securities, and/or grants).

CEC Activities

To complete the work outlined above, the Commission will undertake the following activities:

- Complete further research and analysis of regulatory regimes that apply a polluters pay approach to contaminated sites in other jurisdictions, including consultation with other jurisdictions to better understand best practices, and adaptability in Manitoba.
- Seek input from department staff across government, industry representatives (e.g. engineers, service professionals, technicians, and legal experts) regarding regulations, regulatory processes, and best practices for remediating contaminated sites.
- Provide insight gained by the Commission through its involvement in the existing contaminated site process.

Deliverables

Upon completion of the review, Clean Environment Commission staff will provide the Minister with the results of the review, along with options and recommendations for regulatory and procedural improvements. The Commission is asked to submit an interim report by July 31, 2020 addressing any matters which could require legislative amendments. The final policy options paper is due **September 30, 2020**.

The Commission may, at any time, request that the Minister of Conservation and Climate review or clarify these Terms of Reference.

May 11, 2020

APPENDIX II: Contacts

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Peggy Evans	British Columbia Environment and Climate Change Strategy
Crystal Eyjolfson	Manitoba Conservation and Climate
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