The Mining Reclamation Regime in the Northwest Territories:

A Comparison with Selected Canadian and U.S. Jurisdictions

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Executive Summary

The legacy of mining in northern Canada is a mixed one. On the positive side, the industry has provided jobs and generated secondary economic activity, paid royalty and tax revenues, and helped meet global demand for mineral resources. On the negative side, the industry has produced many abandoned sites, created long term environmental threats, and foisted short and long-term cleanup responsibilities onto the public's shoulders. Much of this negative legacy results from old mines that were approved under prior regulatory eras, but mines that were and are being developed or continued under the so-called "modern" regulatory era have also contributed to this legacy.

There are likely several causes of the continuing negative legacy of northern mining. The purpose of this report is to assess one possible cause—the legal and policy regime for hard rock mining reclamation and security (the "reclamation regime," unless otherwise noted) in the Northwest Territories (NWT). The report makes this contribution by analysing the reclamation regime in the NWT and comparing that regime with hard rock reclamation regimes in four Canadian provinces—British Columbia, Manitoba, Ontario, and Saskatchewan—and six U.S. states—California, Colorado, Montana, New Mexico, South Dakota, and Washington. The focus of this report is on written legal instruments and generic policy documents. For practical reasons, these legal and policy sources were specifically identified at the outset. (The sources are listed in the report's terms of reference which is included in the report as Appendix B.)

To provide a conceptual framework for evaluating the NWT and other jurisdictions' reclamation regimes, the report starts by outlining components of an "ideal" reclamation regime (Chapter 2). Besides their use for evaluating the existing NWT regime, these ideal regime components can be used by legislators and other policy makers in any future effort to modify the reclamation regime in the NWT or other jurisdictions.

The report then describes the reclamation regimes in the NWT and the other ten Canadian and U.S. jurisdictions (Chapters 3 and 4, respectively). Finally, the report compares the NWT regime with the other ten regimes and, on the basis of this comparison, provides several recommendations for further research and for future legal and policy reform (Chapter 5).

Drawing from the analyses in Chapters 2 and 3, the Table in part 3.5 of the report provides a broad comparison of the ideal regime components with the reclamation regime in the NWT. This comparison is somewhat problematic because of the NWT regime's principal feature—the absence of a formal, unified, and express legal requirement for reclamation of (and security for) NWT mines. This feature itself provides an obvious basis for comparison with the ideal regime at a broad or macro level, but the feature makes it somewhat difficult to compare the two regimes at a more detailed level.

Notwithstanding this analytical challenge, the Table shows that the reclamation regime in the NWT falls short of the ideal regime in numerous respects. In fact, the term "regime" is somewhat misleading as applied to the reclamation of mines in the NWT, because of the poorly integrated nature of relevant legal sources and the virtual absence of provisions in those sources expressly requiring or even addressing reclamation. Although several generic policy documents specifically address reclamation, these documents do not significantly make up for this legal

shortfall, because of the documents' non-binding character, their ambiguous applicability and functional relation to each other, and their general lack of the kind of detailed prescriptions included in (or contemplated for) the ideal regime.

Viewed collectively, the reclamation regimes in the ten other Canadian and U.S. jurisdictions addressed in this report compare much more favourably with the ideal regime than the reclamation regime in the NWT. The regimes in those ten jurisdictions are broadly alike in having at least one legal instrument—statute and/or regulations—that specifically addresses mining reclamation. All ten jurisdictions do so from the standpoint of generally protecting all environmental media (i.e. air, water/hydrology, soils, plants and wildlife) and nine of the ten jurisdictions address reclamation of generally all facilities and structures at the relevant mine site.

Nine of the ten jurisdictions are also alike in generally requiring some form of regulatory approval prior to the commencement of mining operations, which approval is contingent or tied directly to an applicant's submission of two key products: a plan or plans that, in turn, either specifically include, or focus solely on, reclamation; and, security for reclamation work. The reclamation regime in the tenth jurisdiction—British Columbia—contains this basic framework as well, but is unique in the breadth of discretion it offers the mining regulator to essentially waive the reclamation and security requirements on a case-by-case basis. This uniqueness should not be overstated, however, because the other jurisdictions' regimes generally afford case-by-case exceptions, albeit, with respect to a narrower set of the regimes' requirements.

The regimes in all ten jurisdictions, except Ontario, are generally also alike in providing that reclamation plans and security, when required, must actually be approved by the relevant mining regulator before the commencement of mining operations. Ontario provides a slight variation on this approach by allowing mine proponents to self-certify their plans (including security) in lieu of submitting proposed plans for regulatory approval and by allowing proof of a good credit rating in lieu of posting security.

The regimes in the ten jurisdictions also generally address the core or basic components of the ideal regime outlined in Chapter 2—they have a reclamation target, and they spell out the general contents of reclamation plans (when required), the amount and form of security (when required), and the conditions for applying security and, alternatively, for refunding it.

The reclamation regime in the NWT has virtually none of the core features shared by these ten jurisdictions. Thus, while the other ten jurisdictions have considerable variations among themselves, they are generally alike when contrasted with the NWT regime and, as a group, the ten jurisdictions are also considerably closer than the NWT regime to the ideal regime outlined in Chapter 2.

The NWT's unique location on this spectrum suggests that the NWT's legal regime is at least a partial cause of the unwanted legacy of northern mining. Chapter 5 makes numerous recommendations for remedying this problem, starting with further research to determine how the generic regime's flaws are being manifested in government regulation and management of actual mines in the NWT. Besides recommending further research, Chapter 5 recommends several legal and policy reforms within the broader legal context established by the existing Land

Claim Agreements and—subject to future devolution—by the federal government's continuing ownership and control of many lands and other natural resources within the NWT's boundaries.

Chapter 5 presents the recommended reforms on a spectrum reflecting the magnitude or significance of change from the existing regime. The most far-reaching of the legal reforms recommended is the adoption of a new mining-specific statute that requires regulators to address mining reclamation in the context of all environmental media and all mine facilities and activities. The other categories of reforms on this spectrum are summarized below (and described in more detail in Chapter 5):

- Consolidate the water licencing and surface use permitting functions in the *Mackenzie Valley Resource Management Act*, *Territorial Lands Act*, and *NWT Waters Act* into a single legislative framework that enables regulators to impose a single reclamation requirement that addresses all environmental threats, both on-site and off-site, from all facilities and activities at a given mine.

- Amend each of those three statutes (and accompanying regulations) to better integrate decision-making functions between DIAND and the Boards and as between water licences, land use permits, and surface/mining leases, to provide for a more holistic or comprehensive and streamlined reclamation regime.

- Amend one or more of the three principal legislation-specific regimes discussed in Chapter 3 to enhance the reclamation-related provisions in those regime(s).

- Change the two existing generic reclamation policies in order to better integrate the policies between each other, and to make each of them better approximate the ideal regime.

Although there are wide variations among the spectrum of recommended reform approaches, they should all be accompanied by additional reforms aimed specifically at enhancing accountability and transparency in regulators' exercise of discretion in setting and enforcing reclamation requirements.

Chapter 1: Introduction

The legacy of mining in northern Canada is a mixed one. On the positive side, the industry has provided jobs and generated secondary economic activity, paid royalty and tax revenues, and helped meet global demand for mineral resources. On the negative side, the industry has produced many abandoned sites, created long term environmental threats, and foisted short and long-term cleanup responsibilities onto the public's shoulders. By one estimate, the public's cost of cleaning up and closing abandoned northern mine sites will exceed half a billion dollars. And the federal government is already spending millions annually in just a bare bones effort to fulfill the public's inherited cleanup responsibilities.[1]

Much of this negative legacy is the result of old mines that were approved under regulatory eras that have long been disavowed as being too lax. However, in the view of the Canadian Arctic Resources Committee (CARC) and others, the negative legacy also includes mines that were and are being developed or continued under the so-called "modern" regulatory era. Examples of the recent legacy include the "Cantung" tungsten mine owned and operated by North American Tungsten Corp. Located upstream of Nahanni National Park, in the south-western portion of the Northwest Territories (NWT), this mine first opened in 1962 and reopened in 2000 after lying dormant for 15 years. The reopening occurred without an inspection or an approved spill contingency plan (a fuel spill occurred in January 2001). In 2003, the mine owner abruptly ceased production again, sought creditor protection in the British Columbia courts, and apparently claimed a lack of sufficient funds to comply with its then-existing environmental monitoring requirements.[2]

While saying it lacked funds for monitoring, the company had posted $900,000 in security under its then-existing water licence. However, this amount was less than one-tenth of even the lower of two estimates—of $9.4 million and $49 million—of reclamation and related costs. These estimates were made in 2003 by two independent consultants hired by DIAND. The wide variance between the consultants' own estimates apparently resulted from the consultants' choice of different cleanup standards for costing purposes, in the absence of a single, clear, legally prescribed standard.

Notwithstanding the magnitude of both of these cost estimates, DIAND recommended that the required security for the Cantung mine be increased to only $2 million, to cover essentially short term care and maintenance. DIAND provided this estimate at a July 2003 public hearing on the Mackenzie Valley Land and Water Board's issuance of a new water licence for the mine.[3]

In late 2003, the Board issued a new, five-year water licence, the terms of which require the company to post an additional $7 million in security in phased payments through 2007.

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[1]Office of the Auditor General of Canada, Report of the Commissioner of the Environment and Sustainable Development to the House of Commons – Chapter 3 – Abandoned Mines in the North (2002) ("CESD Report") at 1.

[2]"CanTung Mine Files for Bankruptcy" *CBC Radio* (WebPosted 15 Jan. 2004).

[3]Transcript of July 29, 2003 MVLWB Public Hearing, Water Licence No. MV 2002L2-0019 (North American Tungsten Corp. Ltd.) at 102.

Under this schedule, the initial payment of $1.5 million was due within thirty days after the licence's effective date, which is listed as Nov. 30, 2003 in the actual licence document. The licence schedule required a second $1.5 million payment in December, 2004, a year after the licence's effective date. However, none of this security has been provided to date, apparently, due to a dispute over whether the water licence is in effect during the mine's continuing dormancy.

Although there was considerable public controversy over whether to issue the licence and over the licence's terms, to date the Board has still not released written reasons explaining its decision to issue the licence and the licence terms, including the required security amount.

An example of a more recently initiated problematic mine is the BHP Billiton "Ekati" diamond mine, which was approved in 1996. In July 2004 testimony, one of the key regulatory officials stated that the security posted for this mine—considered a flagship of the modern environmental regulatory era—was "woefully inadequate".[4] Although there are likely several, complex reasons for this inadequacy, at least one appears to be regulators' failure to timely increase the required security in light of updated mine plans and accompanying revised estimates of the scope and costs of required reclamation.

The Ptarmigan and Tom gold mines 20 km northeast of Yellowknife provide evidence of other kinds of regulatory shortfalls. Treminco Resources Ltd., later Elkhorn Mining Corp., operated the mines from the mid-1980s to the mid-1990s before halting production due to low gold prices and unsuccessful corporate investments. The now-inactive company walked away from the site, leaving abandoned buildings, waste and mine water that continues to flow into a nearby lake. Elkhorn was required to submit an abandonment and reclamation plan by 2000 but never provided the plan. The company did post $275,000 worth of security to cover cleanup costs—estimated in 1997 at $350,000—$30,000 of which regulators spent. However, the remaining $245,000 was lost because it was in the form of irrevocable letters of credit which expired in 2001 before they were renewed. Government-led cleanup was stalled by a long-running dispute between the Government of the Northwest Territories (GNWT) and Ottawa over which of those parties is responsible for the site—Ottawa once owned the site but transferred it to the GNWT in the 1970s.[5]

The "Giant" gold mine in Yellowknife is still another example of a problem mine in the modern regulatory era. In the course of producing gold, this mine has generated 237,000 tonnes of highly toxic arsenic trioxide dust that has begun seeping from its underground storage into

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[4]Transcript of July 7, 2004 MVLWB Public Hearing, Class 'A' Water License Renewal Application, MV2003L2-0013 (BHP Billiton Diamonds Inc.) at 108 (line 11).

[5]"Feds, N.W.T. secure minesite from easy access" *CBC Radio (Yellowknife)* (WebPosted 20 Dec. 2004) (http://north.cbc.ca/regional/servlet/View?filename=ptarmigan-mine-12202004); "Mine clean-up delay threatens environment" *CBC Radio (Yellowknife)* (WebPosted 27 Aug. 2004) (http://north.cbc.ca/regional/servlet/View?filename=aug27mine27082004); "Squabble stalls mine clean-ups in NWT" *CBC Radio (Yellowknife)* (WebPosted 23 May 2003) (http://north.cbc.ca/regional/servlet/View?filename=may23mine-dispute05232003); "Left for dead – Taxpayers could be out several hundred thousand dollars to clean up the Ptarmigan and Tom mine on the Ingraham Trail" *Yellowknifer (Northern News Service)* (20 Sept. 2002) (http://www.nnsl.com/frames/newspapers/2002-09/sep20_02pt.html); "Another mine, another costly mess for taxpayers" *CBC Radio (Yellowknife)* (WebPosted 9 Sept. 2002) (http://north.cbc.ca/regional/servlet/View?filename=se09ptarclan).

adjacent groundwater and threatening the environment and human health. Much of this waste was generated in the several decades immediately following the mine's commencement of production in 1948, but 10-13 tonnes were added daily in the last few decades of the 20th century. Thus, while the contamination problem has considerable historical roots, it also has a contemporary dimension. Royal Oak Mines, Ltd. acquired the mine in 1990 and operated it until the company went into receivership in April, 1999. The company was allowed to operate the mine without an approved plan for dealing with the toxic contamination and under a surface lease that required no security for cleanup and reclamation. Its water licence required a $400,000 bond, but that figure is less than the $750,000 incurred to date by the lead federal agency in assessing long term remediation options and the $3.6 million the federal government spends annually to try to contain the contamination. Cost estimates for long term remediation options range from $70 million to $1.7 billion but the likelihood those options will eliminate the need for expensive perpetual care is questionable.[6]

There are likely several causes of the continuing negative legacy of northern mining. Lack of resources for government oversight has been identified as one significant cause.[7] The purpose of this report is to assess another possible cause—the legal and policy regime for hard rock mining reclamation and security (collectively, "reclamation" unless otherwise noted) in the NWT. The report makes this contribution by analysing the reclamation regime in the NWT and comparing that regime with hard rock reclamation regimes in four Canadian provinces and six U.S. states.[8]

The focus of this report is on written legal sources and generic policy documents. These sources admittedly provide only one component of the overall regulatory framework—with project-by-project decision making providing another key component. However, the legal and generic policy sources are an important component that must be addressed in evaluating the root causes of the negative legacy of northern mining and potential tools for ameliorating that legacy.

To provide a conceptual framework for evaluating the NWT and other jurisdictions' reclamation regimes, the report starts with an outline of an "ideal" reclamation regime (Chapter 2). The report then describes the reclamation regimes in the NWT and the other ten Canadian and U.S. jurisdictions (Chapters 3 and 4, respectively). Finally, the report compares the NWT regime with the other ten regimes and, on the basis of this comparison, provides several recommendations for further research and for future legal and policy reform (Chapter 5). For practical reasons, the legal and policy sources assessed in this report were specifically identified

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[6]See Robert Repetto, *Silence is Golden, Leaden and Copper – Disclosure of material Environmental Information in the Hardrock Mining Industry* (Yale School of Forestry and Environmental Studies, 2004) at 66-68. Besides recounting the regulatory history of this mine, Repetto concludes that, before it went bankrupt, Royal Oak never reported a liability for the mine contamination in its financial disclosures to investors. *Ibid.* pp. 68-70.

[7]*CESD Report*, *supra* note 1 at 19.

[8]See James M. McElfish Jr., *et al.*, *Hard Rock Mining – State Approaches to Environmental Protection* (Environmental Law Institute, 1996) at 355 (noting that state laws provide a variety of regulatory examples not only for "national innovation, but [that] may serve an international constituency."). This report distinguishes "hard rock" minerals—which are metallic minerals and industrial minerals—from "soft rock," which are essentially minerals used for fuel (e.g. coal). *Ibid.* at 1.

by CARC at the outset.[9] Although these sources are not complete, they were identified by CARC as providing the primary or most important components of the legal and policy regimes in the jurisdictions covered in this report.

Unless otherwise noted, this report uses the term "reclamation" broadly as the restoration of an area used for, or affected by, mining to the area's pre-mining condition or to some other specified condition. For this report, "reclamation" includes restoration work that occurs before the cessation of commercial production, including "closure" activities which are intended to leave a mine site in a desired condition by the time commercial production ceases or shortly after that point. "Reclamation" also includes "post-closure" activities—i.e. work that occurs after the cessation of commercial production, including long term monitoring and treatment. For this report, "security" refers to financial instruments provided by the mining company as a guarantee for the costs of reclamation and other mining work (these instruments are often referred to as forms of "financial assurance").

[9]The sources are listed in the report's terms of reference which is included in Appendix B of this report.

Chapter 2: Conceptual Framework

2.1 Introduction

This chapter provides an outline of the components of an 'ideal' regime for hard rock mining reclamation and security. The components were developed primarily from the authors' professional experience and research from multiple jurisdictions.[10] Because the ideal regime was developed in the abstract, many of the ideal regime components are described in only rough terms, although several of the components are described in detail. Regardless of their varying level of detail, the ideal regime components collectively are intended to provide a conceptual basis for evaluating the existing reclamation regime in the NWT.

Besides their use for evaluating the existing NWT regime, the ideal regime components can be used by legislators and other policy makers in any future effort to modify the reclamation regime in the NWT or in other jurisdictions. The ideal regime components can serve this function, in part, by providing a comprehensive list of topics that should be considered in regime development, and also—with respect to those components identified in detail—by providing a model or template for actual regime components.

The ideal regime components are numerous. Those components that are the most relevant for purposes of this report fall into the following three categories:

1. The scope of lands and mines subject to the reclamation regime;

2. Reclamation planning; and

3. Security requirements.

Of course, when applied in a particular jurisdiction, the regime components in these four categories would operate, not in a vacuum, but in the context of a broader regime for legal and policy development and government decision-making. It is impracticable to identify the entire set of components of that broader regime context in this report. However, the following four additional categories of regime components have been identified to provide at least a partial picture of this broader context:

4. The integration of the reclamation regime with other legal regimes related directly and indirectly to mining.

5. The process for developing a jurisdiction-specific reclamation regime;

6. The format of a written text of a reclamation regime;

7. Principles and approaches to government decision-making; and,

8. Public participation and government accountability.

[10]The written sources reviewed specifically for this task are listed in Appendix C of this report.

The eight categories of regime components listed above are somewhat arbitrary in the sense that they overlap and are partly duplicative; other categories could be developed to group the same regime components.

The next part of this chapter provides an overview of the regime components in the eight ideal regime categories listed above. The regime components are also outlined in more detail in the table in Appendix D. To be clear, the "components" are viewed as requirements to be included in generic legal instruments, rather than simply as conditions to include in mine-specific regulatory approvals or agreements.

2.2 Overview of an Ideal Regime

1. The scope of lands and mines subject to the reclamation regime

The regime should apply to all types of mine-able lands within the jurisdiction (e.g. private, municipal, regional, federal). Besides applying to new, major producing mines (using all types of materials and production methods), the regime should apply—with modifications or phased implementation, as appropriate—to clearly defined sub-categories of: mineral exploration, small mines, and existing active and inactive mines.

2. Reclamation planning

The regime's core component is a requirement that mining companies prepare and adhere to reclamation plans as conditions for obtaining and maintaining approvals to operate. Reclamation planning should be phased, to correspond to various mining phases, with the initial plan required as part of the application for approval to operate. Periodic reviews and plan updates should also be required.

There should be clear reclamation objectives for use in designing and reviewing reclamation plans. These objectives should be tied to rationally derived land use objectives and comprehensive environmental quality standards and should not be subject to mine-specific feasibility or cost considerations.

Reclamation plans should include clear, enforceable deadlines for reclamation work that reflect a progressive reclamation approach. Plans should include several other required elements, starting with a description of all mine facilities and activities, an identification of all areas to be reclaimed (within and beyond the mine site), a description of all reclamation work, and baseline data and risk assessments. (See Appendix D for a more complete list of reclamation contents.)

Government approval of reclamation plans should occur in a regulatory, rather than a contractual, context, in conjunction with other relevant approvals and environmental assessments. Government decisions approving reclamation plans should also provide for periodic plan review and update and include other provisions (listed in Appendix D) to protect the public from liability for reclamation costs.

3. Security requirements

Mining companies should be required to provide security, in addition to reclamation plans, as a condition for obtaining approval to operate. The regime should list acceptable forms of security to ensure liquidity and availability of secured funds.

Security amounts should reflect: (1) the full cost of all required categories of reclamation work (including closure and post-closure activities)if completed by a third party in the event of default; and (2) the estimated economic value of natural resource damages and other economic costs. Costing methodologies should be rigorous and comprehensive.

Security should be provided before regulatory approvals are issued and the adequacy of posted security should be reviewed and updated periodically.

There should be clear criteria for governments' release, and mining companies' forfeiture, of security. These criteria should be tied, not only to companies' satisfaction of their plan and other regulatory requirements, but also to current assessments of companies' success in achieving prescribed reclamation objectives.

4. Integration of the reclamation regime with other legal regimes related directly and indirectly to mining

Decisions on whether to grant mineral tenures should reflect rough determinations of reclamation feasibility and costs and tenure instruments should make it clear that tenure rights are subject to reclamation requirements. Those requirements should be complemented by appropriate financial incentives and should not preclude common law and other legislative liabilities for environmental harm and other damages caused by mining operations.

5. The process for developing a jurisdiction-specific reclamation regime

The reclamation regime should be developed in a transparent process that includes public consultation. The process should be vested in a broader sustainability strategy for mineral production, processing, and consumption and should reflect consideration of the appropriateness of uniform, multi-jurisdictional reclamation regimes.

6. The format of a written text of a reclamation/security regime

The generic legal and policy instruments should be readable, understandable, and publicly accessible. The texts of multiple generic instruments should use clearly defined terms that are consistent among all regime instruments and with other generic legal and policy instruments related to mining.

7. Principles and approaches to government decision-making

Government decision-making should be transparent, consistent with broader sustainability principles, and adaptive. There should be a single decision-making agency or at least a plan for coordinating decisions of multiple agencies to ensure consistency, clear divisions of labour, and efficiency, and that there are no regulatory gaps. There should also be reasonable, meaningful limits on any delegations of regulatory discretion in adopting regulations and generic policies and in making mine-specific regulatory decisions.

8. Public participation and government accountability

Public participation should be available through a wide range of mechanisms (e.g. written comments, hearings, administrative appeals) and for every key decision-making stage (e.g. reclamation plan approval, review, and amendments). There should also be broad and timely public access to information regarding reclamation plans, security, monitoring, and related government decisions.

To further ensure accountability, there should be rigorous and flexible government enforcement tools and reasonable judicial oversight of regulatory decisions.

Chapter 3: Reclamation Standards in the NWT

3.1 Introduction

This chapter analyses the generic legal and policy instruments related to mining reclamation in the NWT and evaluates the regime comprised of all of these instruments in light of the ideal regime described in Chapter 2. The analysis covers the statutes, regulations, and policy documents listed in the original project terms of reference (Appendix B). These sources were chosen by CARC because they were believed to provide the principle components of the overall legal and policy regime for hard rock mine reclamation in the NWT.

For budgetary and practical reasons, the analysis does not address the broader legal and policy context for these legal and policy sources. This broader context includes other environmental protection statutes (e.g. the *Fisheries Act*, *Canadian Environmental Protection Act*, and *Species at Risk Act*[11]), the constitutional framework for mining in the NWT, and the on-the-ground, *ad hoc* decisions and practices of mine regulators.[12]

Parts 3.2 and 3.3 below analyze the federal and territorial legislative regimes, respectively. Part 3.4 analyzes generic policy documents potentially applicable at both federal and territorial levels. Finally, part 3.5 steps back from this focus on individual legislative regimes to assess the overall reclamation and security regime that results from the aggregation of the individual regimes.

3.2 The Federal Legislative Regimes

This part discusses the legal regimes for reclamation and security under each of the three federal statutes covered in this report—the *NWT Waters Act*, the *Mackenzie Valley Resource Management Act* and the *Territorial Lands Act*.[13] The regimes are analyzed in the order of their apparent actual use and importance by regulators for setting reclamation and security requirements for hard rock mines in the NWT. Each sub-part below starts with a discussion of the regime created by the relevant statute, then discusses how that regime has been expanded by the relevant regulation or regulations adopted under that statute, and then concludes with a brief assessment of the overall regime created by those two levels of legal instruments.

Before describing each of the three individual legislative regimes, it is useful to review their historic evolution.[14] That evolution has been dynamic, in the sense that it has involved

[11]R.S.C. 1985, c. F-14, S.C. 1999, c. 33, and S.C. 2002, c. 29, respectively.

[12]Another limitation of the analysis is that it was made in the abstract, rather than in the context of concrete factual circumstances. While abstract analysis is useful, concrete fact circumstances typically raise issues or perspectives that an abstract legal analysis cannot anticipate. For these and other reasons, this report does not purport to provide advice or a legal opinion on legal issues relating to reclamation and security in concrete factual settings.

[13]S.C. 1992, c. 39, S.C. 1998, c. 25, and R.S.C. 1985, c. T-7, respectively.

[14]This summary is based in considerable part on the historical overview provided in John Donhihee, ed., *Resource Development and the Mackenzie Valley Resource Management Act: The New Regime* (Calgary: Canadian Institute of Resources Law, 2000) at 45-57. See also Brian Gibson, "Water Management North of 60°N: The

Parliament's adoption of several new statutes and authorities to implement those statutes. But the evolution has also been relatively static, in the sense that the new statutes have not fundamentally changed the principal regulatory approaches for managing land and water uses.

For purposes of this paper, the legislative evolution consists essentially of two consecutive historical phases whose boundary is defined by Parliament's response to the federal government's settlement of two Aboriginal land claims through the Gwich'in Comprehensive Land Claim Agreement (1992), and the Sahtu Dene and Metis Comprehensive Land Claim Agreement (1993).[15] Before these Agreements, most NWT land outside established communities was owned by the federal government, and managed by the federal Department of Indian Affairs and Northern Development (DIAND), except national parks and other kinds of protected areas managed by Parks Canada or Environment Canada under other federal legislation. For lands managed by DIAND, surface uses were subject to the *Territorial Lands Act* (*TLA*) and regulations adopted under that statute. That Act, together with accompanying regulations, granted blanket rights for some uses—e.g. hunting, fishing, and trapping—and required permits or leases, both issued by DIAND, for other surface uses. In general, permits were granted for short terms and provided non-exclusive use rights, whereas leases provided long term, exclusive rights of use.

The *TLA* (and *Canada Mining Regulations* adopted under that Act) also provided a framework for acquiring hard rock mineral rights in the NWT, under which minerals were generally also owned by the federal government and once again managed by DIAND.

Another important statute prior to the land claims Agreements was the *Northern Inland Waters Act*[16] (*NIWA*) which governed the use of water and deposit of wastes into inland waters in both the NWT (including the area now within the boundary of Nunavut) and the Yukon Territory. The primary regulatory mechanism under *NIWA* was a water licence, which *NIWA* required for major water uses and deposits of waste into waters. Water licences were issued by territorial water Boards—including the NWT Water Board—subject to the DIAND Minister's approval. The Boards issued "Type B" water licences (for smaller operations) while they recommended "Type A" water licences to the DIAND Minister who either signed them or sent them back for reconsideration. Starting before the creation of Nunavut in 1999 and the federal government's devolution of resource management authority to the Yukon Territorial Government in 2003, *NIWA* evolved into separate water management statutes for each of the three territories, including the *NWT Waters Act*. Adopted in 1992, this Act strengthened somewhat *NIWA*'s basic licencing approach for water uses and waste disposals in the NWT.

Administration of Inland Waters" in T.D. Prowse & C.S.L. Ommaney, eds., *Northern Hydrology: Canadian Perspectives* (Ottawa: Environment Canada, 1990) at 227-239 (describing the early history of water management legislation in the NWT).

[15]These Agreements were preceded by a 1984 land claim agreement with the Inuvialuit, known as the "Inuvialuit Final Agreement," which created the 65,000 square kilometer "Inuvialuit Settlement Region". Although significant for political, social, and economic reasons, this earlier Agreement did not significantly affect the evolution of the resource management statutes addressed in this report and, thus, is not considered a historically defining event for purposes of this report.

[16]R.S.C. 1985, c. N-25, *repealed* 1992 c. 40, s. 52.

The Gwich'in and Sahtu/Metis land claim Agreements prompted Parliament's addition of a new statute—the *Mackenzie Valley Resource Management Act* (*MVRMA*)—to the legislative regime comprised of the *TLA* and *NWT Waters Act*. Under the Agreements, Ottawa retained ownership of both the surface and subsurface interests in roughly 82% of lands covered by the Agreements.[17] However, in the Agreements Ottawa committed to adopt new legislation establishing integrated land and water management regimes for these federally owned lands and to provide for considerable First Nations involvement in those regimes in large part through their members' participation in several new management Boards.

Parliament adopted the *MVRMA* to fulfill this commitment and also to create an integrated land and water management framework for the entire "Mackenzie Valley" region. Section 2 of the *MVRMA* defines this term broadly as essentially all land in the NWT—including all land covered by the two settlement Agreements—except land in the Inuvialuit Settlement Region (ISR) and in the NWT-portion of Wood Buffalo National Park. In a nutshell, the *MVRMA* establishes several management Boards that, collectively, are responsible for: overseeing environmental assessments for various projects in the Mackenzie Valley; conducting land use planning in the lands covered by the land claims Agreements; and issuing licences for water uses and waste deposits (collectively, "water licences" unless otherwise noted), and land use permits (for all surface interests still owned by the federal government other than lands in national parks).

While the *MVRMA* was an entirely new statute, it retained three key components of the then-existing legal regime—comprised of the *TLA* and *NWT Waters Act*—for managing land and water uses in the Mackenzie Valley. First, the *NWT Waters Act*'s water licence requirement still applies to uses of, and waste deposits, in waters in the Mackenzie Valley. However, the *MVRMA* transfers the water licencing function for these waters from the NWT Water Board to several "Land and Water Boards" created under the *MVRMA*. (The NWT Waters Board still conducts these licencing functions under the *NWT Waters Act* for uses of, and waste deposits in, inland waters in the Inuvialuit Settlement Region—i.e. in NWT inland waters that are outside of the Mackenzie Valley region.)

Second, the *MVRMA* usurped the *TLA*'s surface permit function for new surface uses in the Mackenzie Valley, but simply replaced it with a similar surface permitting regulatory approach administered by the Mackenzie Valley Land and Water Boards. Third, the *MVRMA* did not change the *TLA*'s lease program, except to provide that activities leased after April 2000 now required land use permits under the *MVRMA*. Thus, the *TLA* lease program continues to apply to all federal lands in the entire NWT (except in national parks and other protected areas).[18]

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[17]Together, the two Agreements cover roughly 337,000 square kilometers, or roughly 29% of all land in the NWT. The Agreements granted the Aboriginal parties both surface and subsurface ownership to roughly 6,000 square kilometers (1.8%) of the settlement lands. The Agreements transferred surface ownership, but not also subsurface rights, to roughly 56,000 square kilometers, or 17%, of these settlement lands. See Donihee, *supra* note 14 at 45-46 for a chart showing the total settlement areas and numeric proportions of each of these two categories of transfers.

[18]Like the Agreements with the Gwich'in and Sahtu/Metis, Ottawa retained surface and subsurface ownership of considerable land area in the Inuvialuit Settlement Region (ISR) (roughly 46%) under the 1984 Inuvialuit Final Agreement (IFA). John Donihee, "Integrative Mechanisms Emerging from Land Claims," in

In sum, the NWT land and water management programs have evolved considerably in the sense that new statutes have been enacted which have created new management boundaries (the Mackenzie Valley and the two settlement areas within that region) and new decision-making Boards. However, the core regulatory tools for land and water management—licences for water uses and waste deposits in water, permits for short term surface uses of federal lands, and leases for long term, exclusive surface uses of federal lands—have remained relatively constant in this legislative and management transition. The following parts of this chapter take a closer look at the legal and policy frameworks for these tools in the context of mining reclamation.

3.2.1 The Regime under the NWT Waters Act

3.2.1.1 The Act

The *NWT Waters Act* provides a legal framework for managing virtually all inland waters—including groundwater—in the NWT.[19] The heart of the *NWT Waters Act* consists of prohibitions against the "use" of water, and the "deposit of waste" directly or indirectly into water, except pursuant to a "licence" issued by the NWT Water Board or pursuant to Cabinet regulations exempting various activities from the licencing requirement.[20] The Act provides for plenary review by the DIAND Minister of the Board's issuance of any licences that are classified as "Type A" under Cabinet regulation, and of all other licences ("Type B") when issued following a public hearing (ss. 14(6) and 33(1)(c)).

Given the Act's broad definitions of these terms (s. 1), and the water dependent nature of mining operations, most if not all such operations likely require *Waters Act* licences for both water uses and waste deposits into water.[21]

Monique M. Ross and J. Owen Saunders, *eds.*, *Disposition of Natural Resources: Options and Issues for Northern Lands* (Calgary: Canadian Institute of Resources Law, 1997) at 255. However, unlike the Gwich'in and Sahtu/Metis Agreements, the IFA did not require a new resource management regime specifically for those federal settlement lands in the ISR. Thus, the IFA did not require an *MVRMA*-like legislative replacement for the *TLA* and *NWT Waters Act*, although the NWT Water Board has effectively become an Inuvialuit-specific regulatory Board, because its geographic jurisdiction is limited to the ISR. See *ibid.* at 248-52, 254-57 and Janet M. Keeping, *The Inuvialuit Final Agreement* (Calgary: Canadian Institute of Resources Law, 1989).

[19]*NWT Waters Act*, ss. 2 ("waters" definition) and 2.1 (applicability provisions). The Act is expressly inapplicable to the use of, or deposit of wastes in, waters in protected areas managed under the *National Parks Act* or the *Historic Sites and Monuments Act* (s. 2.1(1)). In addition, although s. 2.1(2) states that the Act's core regulatory provisions are inapplicable to the Mackenzie Valley, the Act indirectly applies to that region through the *MVRMA*, which adopts the *Water Act*'s licencing provisions by reference and empowers the Mackenzie Valley Land and Water Boards to implement them. For simplicity, this part will refer only to the NWT Water Board as the licence issuer under the Act.

[20]See *NWT Waters Act*, ss. 8(1), 9(1), and 33(m) and (n). These prohibitions technically apply only to waters in areas designated, in Cabinet regulations adopted under s. 33(1)(a)(i) of the Act, as "water management areas". However, the *NWT Waters Regulations*, SOR/93-303a designates all or virtually all water basins in the NWT as "water management areas" for purposes of the Act (s. 3 and Schedule 1 (printed in C. Gaz. 1993.II.2776)).

[21]The Act exempts several categories of water uses from the licencing requirement and authorizes Cabinet to adopt regulations establishing other exemptions (ss. 8, 9, and 33(1)(m)). However, these exempted categories are generally inapplicable to water uses for mining operations.

For their part, the regulations exempt certain sub-categories of "mining and milling operations" that are defined according to numeric limits for direct water use or diversion, or for the size of water bodies crossed or the amount of material withdrawn from a water body, *and* that also have "no potential for significant adverse environmental effects" and that "would not interfere with existing rights of other water users or waste depositors"[22] As for waste deposits, the regulations exempt only those deposits from "mining" (but not also "milling") that meet these two general tests and that do not go "direct[ly] or indirect[ly]" into *surface* waters.[23] However, because the waste deposit prohibition applies in the first instance only to waste deposits directly or indirectly into surface and ground-water, it is unclear what kinds of waste deposits might be covered by both the general waste deposit prohibition in section 9 of the Act and the regulations' exemption.

The Act contains numerous provisions that, together with the general prohibitions and licencing requirements in section 8 and 9, create a conventional regulatory/enforcement regime for managing water uses and waste deposits. For purposes of this paper, these provisions are most notable for their omission of any express reclamation requirement.

However, the Act is not completely silent on reclamation. Subsection 14(d) of the Act precludes the Board from issuing a licence unless the Board finds that the applicant's "financial responsibility … is adequate for … (iii) the satisfactory maintenance and *restoration* of the site in the event of any future closing or abandonment of" the "undertaking" that is "appurtenant" to the water use or waste deposit for which the licence is sought. Viewed by itself, this provision encourages reclamation but the provision's effectiveness is weakened by the absence of any express reclamation requirement or standard.

The Act also indirectly addresses reclamation by essentially imposing civil liability on a licencee for any costs incurred by the Minister to prevent or remedy harms remaining after the licencee's closure, or temporary or permanent abandonment, of a "work" related to the licencee's water use or waste deposit.[24] The prospect of this liability provides some encouragement to licencees to reclaim their sites to avoid creating the kind of harm that would warrant federal action in the first place. However, this inducement is hardly equivalent to requiring, at the outset, that licencees prepare and implement reclamation plans.

While the Act itself does not require reclamation, the Act grants the federal Cabinet broad discretion to adopt regulations implementing the Act. The Act also grants the DIAND Minister broad authority to adopt "policy directions" for the Board's issuance of water licences.

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[22]*NWT Waters Regulations*, ss. 5(1)(a), (b), and (c)(ii) and Schedule V, col. II (published in C. Gaz. 1993.II.2784).

[23]*Ibid.*

[24]More precisely, s. 39(1) provides that, where the Minister has "reasonable grounds" to believe that a "person has closed or abandoned … a work related to the use of waters or the deposit of waste," and a "danger to persons, property or the environment may result from the past operation of the work or from its closing or abandonment, the Minister may take "reasonable measures" to "prevent, counteract, mitigate or remedy any resulting adverse effect on persons, property or the environment. …" Subsection 39(2) then provides that the costs of any such measures are recoverable from any posted security or, if the security falls short of covering those costs, as a debt due Canada.

Both of these regulation- and policy-making powers arguably include implied authority to require reclamation either directly or indirectly through licence conditions. The Act also grants the Board considerable discretion to itself impose reclamation requirements as conditions in its water licences, subject to any guidance or restrictions set out in the regulations or Minister's policy directions.[25]

The Act also adopts by reference several standards or objectives for licencing decisions that may provide relevant and useful targets for any reclamation required either pursuant to Cabinet or Ministerial direction, or by the Board on its own initiative (ss. 15(3)-(5)). These standards include any applicable standards adopted under the *Canada Water Act*, R.S.C. 1985, c. C-11, or *Fisheries Act*, and any ambient water quality standards or effluent standards adopted in regulations under the *NWT Waters Act* itself. Besides cross-referencing other statutes, the *Waters Act* requires the Board to make all "reasonable efforts" to adopt licence conditions that "minimize any adverse effects" of the licenced activity on various other people, including licencees, water users, property owners, outfitters, and trappers (s. 15(2)). These objectives are likewise indirect targets for any reclamation required by the Board, but they hardly match the breadth of the reclamation objectives listed in part 2(c) of the ideal regime outlined in Chapter 2 and Appendix D (hereinafter, collectively "Chapter 2").[26]

More importantly, the Act's general management focus on water uses and water pollution arguably impliedly restricts the Cabinet, Minister, and Board's authority to require reclamation to only that reclamation work necessary to restore or protect water bodies (or, at most, aquatic ecosystems) from the effects of the licenced water uses and waste deposits. Because water is only one of several environmental media threatened by mine operations, and because mine activities that do not involve water "uses" and waste deposits may nevertheless affect waters, the *Waters Act* alone does not provide a holistic legal basis for requiring all the reclamation that may be necessary to protect all environmental components and public health and safety.[27]

The Act may also give the Board authority to require reclamation, for purposes of protecting all environmental media, of the facilities that are used by a mine to conduct the water uses or deposit the wastes that are licenced under the Act and of the upland areas occupied or affected by those facilities. However, this legislative authority is hardly clear. And this authority, together with the water-related reclamation authority, still does not provide the Board with a sufficient legal framework for requiring a holistic reclamation effort.

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[25]See *NWT Waters Act* ss. 13, 14, 15, 16, and 33. Notably, the Board's discretion in setting licence conditions expressly includes discretion to adopt conditions "relating to any future closing or abandonment" of the undertaking appurtenant to the licenced water use or waste deposit. Closure and post-closure reclamation come readily to mind as any such "related" conditions.

[26]Section 11 of the Act provides still another, indirect objective, by listing the Board's general "objects" as "provid[ing] for the conservation, development and utilization of waters in a manner that will provide the optimum benefit for all Canadians in general and, in particular, for … [local] residents" of the NWT. However, this broad, kitchen-sink type of objective is likely of little practical use as a specific target for reclamation.

[27]See MVLWB July 29, 2003 Hearing Transcript, *supra* note 3 at 108 (testimony of DIAND official that it is "very difficult to separate the land versus the water liabilities" for purposes of determining the appropriate amount of security to require in the water licence).

As with reclamation, the Act does not directly require the posting of security, but subsection 17(1) of the Act does expressly reference security as one of the conditions that the Board *may* include in its licences. That section gives Cabinet broad discretion, through the adoption of regulations, to set the parameters for the Board's requirement of security, in relation to the methodology for calculating security, the security amount, and the acceptable forms of security instruments.

The Act itself provides several additional components of a security regime. First, subsection 17(1) states that the Minister must hold any security required by the Board. Second, subsection 17(2) states that the Minister may apply the security in two circumstances: to compensate eligible persons who have been unsuccessful in recovering compensation from the licencee;[28] and, to reimburse Canada for any remedial action taken by the Minister under the Act (including under section 39 as discussed above). And third, subsection 17(5) requires the Minister to refund "forthwith" any portion of the security not required to cover the Minister's remedial costs, if the Minister is "satisfied" that an "appurtenant undertaking" has been permanently closed or permanently abandoned.

These provisions have three clear flaws. First, by linking the timing of the refund to closure or abandonment, they ignore the possibility that harms may become evident only after an extended period of post-closure maintenance and monitoring. Second, they do not afford the public any opportunity to participate in the Minister's refund decisions. And third, by vesting DIAND with authority to manage security required by the Water Board (through conditions in licences issued by the Board), these provisions bifurcate—between two government bodies—regulatory functions that are closely related. This bifurcation raises concerns that these functions will not be well coordinated. This functional bifurcation, together with the lack of opportunities for public input in DIAND's refund decisions, also increases the risks that key regulatory actions will simply fail to be taken at all or at least on a timely basis.[29]

3.2.1.2 The NWT Waters Regulations

With a few exceptions, the *Northwest Territories Waters Regulations* lack generic prescriptions for a reclamation and security regime, notwithstanding the considerable discretion that the *NWT Waters Act* gave Cabinet to adopt regulations to fulfill this role. Thus, the regulations largely fail to fill the reclamation and security void in the Act itself.

Although they don't require reclamation *per se*, the regulations require licence applicants to submit, as part of their application, "plans for the abandonment, or any temporary closing, of the proposed undertaking" that is "appurtenant" to the proposed water use or waste deposit (s. 6(2)(f)). These plans should logically include reclamation plans, but the regulations do not make this link clear, let alone provide the kind of comprehensive reclamation objectives and plan content requirements listed in Chapter 2. Even if this requirement expressly applied to

[28]Section 30 of the Act gives persons, who are "adversely affected" by an otherwise lawful water use or waste deposit, a right of "compensation" for that effect and an action in court to recover that compensation.

[29]Chapter 1 discussed at least one example of this kind of regulatory dysfunction—DIAND's failure to require the Elkhorn Mining Corp. to renew $245,000 worth of letters of credit the company had submitted as security for the Ptarmigan and Tom mines near Yellowknife.

reclamation, the requirement would address only one of the multiple phases of reclamation planning that are discussed in Chapter 2. The closest the regulations come to addressing other planning phases is in section 11, which requires a licencee to submit, in support of an application to cancel its licence, a written statement of the reason for cancellation and a description of the actual or proposed plan for abandoning the "appurtenant undertaking" prior to cancellation. This provision could be used by the Board to require reclamation, as a component of abandonment, but the provision lacks most of the reclamation components noted in Chapter 2.

The regulations contain several other requirements relating to the submission of information by licence applicants and by licencees.[30] These categories of information could be useful for reclamation planning purposes, but they fall far short of the reclamation plan contents, and information requirements for adaptive management, as outlined in Chapter 2.

As with the *NWT Waters Act*, the regulations address security somewhat more directly than reclamation. Like the *NWT Waters Act* itself, the regulations give the NWT Water Board *discretion* to adopt permit conditions requiring security (s. 12), but the regulations do not actually *require* the Board to impose this condition or even give any guidance on the kinds of circumstances when security should be required.

While completely deferring to the Board on this critical judgment, the regulations provide some direction on the nature of any security that the Board requires. First, the regulations list five acceptable forms of security.[31] These are generally liquid and not self-guaranteed instruments (including cash), so they are consistent with at least the core the ideal regime criteria listed in Chapter 2.

The regulations also give the Board wide discretion to determine the amount of security to require, provided that the total amount does not exceed the "aggregate cost" of: abandonment, on-site restoration, and any post-abandonment work (s. 12(1)). While the regulations impliedly allow the Board to require security that matches this aggregate figure, the regulations do not *require* the security to be this large. In addition, the aggregate fails to include amounts for all of the costs and liabilities listed in Chapter 2, including: costs of complying with environmental and public safety and health requirements during operations; off-site reclamation costs; natural resource damages; and costs of responding to unpredicted catastrophes.

As for costing methodologies, the regulations require none of the rigorous methodologies listed in Chapter 2, although they arguably give the Board implied discretion to use those methodologies. The regulations also expressly allow—but do not require—the Board to calculate security amounts by taking into account the licencee's ability to pay the costs itself and "past performance" in complying with the terms of any other water licence (s. 12(2)). These factors

[30]See *NWT Waters Regulations*, ss. 6(1) and Schedule III (printed in C. Gaz. 1993.II.2778-2779) (basic information required by the licence application form); 6(2)(a-c), (e), (f), and (h) (additional application information required), and 15(1) (annual reports on quantities of water used and on wastes deposited).

[31]*Ibid.* s. 12(3). These are: promissory notes guaranteed by a bank in Canada; certified cheques drawn on a bank in Canada; performance bonds approved by the Treasury Board; irrevocable letters of credit from a bank in Canada; and cash.

arguably open the door for the kind of "trust-me" approach that has left the public on the hook for reclamation expenses in the past.

Finally, the regulations do not state when any required security must be posted with the DIAND Minister or provide for any kind of periodic review of the adequacy of any posted security.

3.2.1.3 Summary of the NWT Waters Act Regime

The *NWT Waters Act* says little about security and even less about reclamation, but it contains considerable implied authority for the creation of a reclamation and security regime through regulations and *ad hoc* approval decisions. While granting this authority, the Act provides little guidance on the parameters of any such regime.

In addition, any such discretionary authority is jurisdictionally limited by the Act's narrow focus on water uses and waste deposits and works or undertakings appurtenant to those activities.

The *NWT Waters Regulations* fill these legislative gaps in only minor respects. The regulations require closure or abandonment planning, at the licence issuance and cancellation stages, but do not expressly include reclamation as a component of this planning effort.

Like the Act, the regulations leave it to the Board to decide whether to require security. However, the regulations provide several parameters for any security the Boards do require, although those parameters fall far short of the complete list of parameters in Chapter 2.

Given these limitations in the reclamation and security regime under the *NWT Waters Act*, it is somewhat surprising or alarming that this regime is apparently the principal legal mechanism (either directly, or indirectly through the *MVRMA*) for imposing reclamation and security requirements on mines in the NWT.

3.2.2 The Regime Under the MVRMA

3.2.2.1 The Act

As noted earlier, Parliament enacted the *MVRMA* to implement federal commitments, in land claim Agreements with the Gwich'in and with the Sahtu Dene and Metis, to establish an integrative framework for managing land and water uses in the "Mackenzie Valley". To carry out its ambitious purpose, the Act creates a multi-party and multi-region decision-making structure. The core of this structure is several sets of regional Land and Water Boards, some of whose decisions are subject to plenary review by the DIAND Minister. This structure is complex and somewhat ambiguous but the important point for this report is that the Act authorizes the Boards to conduct three types of land and water management functions:

- Land use planning in the two settlement areas;

- Granting approvals in the form of permits for surface land uses and licenses for water uses and waste deposits in water; and,

- Overseeing and reviewing environmental assessments.[32]

Like the *NWT Waters Act*, the *MVRMA* says nothing expressly about mining reclamation, but it provides considerable implied authority for the creation and implementation of a mining reclamation regime. This authority arises from each of the three regulatory functions listed above. The most direct authority stems from provisions: granting the federal Cabinet broad discretion to adopt regulations governing the Boards' management of land and water uses (s. 143); granting the Boards broad discretion to adopt "guidelines and policies" regarding land and water use approvals (s. 65); and impliedly granting the Boards wide discretion (subject to any regulations) in setting the terms and conditions of their land and water permits and licences, respectively (ss. 58-60 and 102(1)). This discretion arguably includes discretion to impose reclamation requirements in land and water approvals (in the form of permits and licences, respectively), both of which are generally required for mining projects.[33]

Using water licences as a tool for requiring reclamation raises the same jurisdictional uncertainties as those discussed above in connection with licences issued under the *NWT Waters Act*. By the same token, the use of land use permits to require reclamation may face similar jurisdictional hurdles with respect to water-related reclamation work.

The integration problems posed by *MVRMA*'s partitioning of land and water approvals for a single mine could be considerably ameliorated by the fact that a single Board is generally responsible for issuing both kinds of approvals, so the Board itself could try to coordinate the two approvals in order to provide a holistic reclamation framework. However, the potential for developing this kind of holistic framework has not been realized because the Boards apparently do not treat land use permits as significant tools for reclamation purposes.

While the *MVRMA* does not expressly require reclamation, the Act expressly refers to security, in several provisions that are similar to the security provisions in the *NWT Waters Act* discussed above and which, thus, have the same flaws as those discussed in connection with that Act. Subsection 71(1) of the *MVRMA* gives the permit-issuing Boards discretion to require the "posting of security" with the DIAND Minister as a condition for their issuance of land use permits under the Act. Besides not actually *compelling* the Boards to require the posting of security, the Act provides little guidance on the components of a security regime, except to say that the Boards' discretion is subject to any Cabinet regulations regarding the form and amount of any security and the conditions in which it may be released (ss. 71(1) and 90(h)). The Act also gives the DIAND Minister broad discretion in deciding, following any recommendation from a Board, when any portion or all of a permittee's posted security can be applied toward any costs incurred by the government in repairing any "damage to lands" caused by the permittee (s. 71(3)). The Act does limit the Minister's discretion at least by implying that security can only be used to remedy "damage" resulting from the permittee's "contravention of any provision of the

[32]See *MVRMA*, Parts 2, 3, and 5.

[33]In fact, *MVRMA* s. 59(2) makes it clear that the Land and Water Boards' jurisdiction over surface land uses includes those surface uses necessary to exercise subsurface rights.

regulations or a [land use] permit". In other words, the Act appears to intend to leave the public on the hook for any damage that the permitting officials did not foresee when they set their permit conditions.

The above discussion focused on the Land and Water Boards established under the *MVRMA* to issue water licences and land use permits. As noted at the outset of this part, however, the Act also provides for land use planning in the settlement regions and environmental assessments. The regional land use planning Boards can contribute to a reclamation regime through their broad authority to designate acceptable surface land uses and land use objectives (ss. 40 and 41). Under section 46 of the *MVRMA*, land and water use approvals under any legislation are subject to the land use plans.[34] Thus, any land use designations or objectives in those plans should serve as targets or objectives for any reclamation required by the Land and Water Boards' permits and licences. The Act itself provides several broad standards or objectives that should serve as additional targets for any reclamation required by the Land and Water Boards.[35]

Under section 62 of the *MVRMA*, the Land and Water Boards' approval authority is subject to the environmental assessment requirements in part 5. Like land use planning, environmental assessments can serve reclamation-related functions by providing analyses of environmental and health risks with and without reclamation measures and by generating recommendations—including those related to the adoption of reclamation techniques—for alleviating those risks.[36] Thus, the *MVRMA*'s environmental assessment provisions provide still another implied component for a reclamation framework adopted under that Act.

3.2.2.2 The Mackenzie Valley Land Use Regulations (MVLURs)

These regulations provide the broad parameters, beyond those set in the *MVRMA* itself, for the Land and Water Boards' issuance of surface land use permits and for the Boards' general oversight of surface land uses. The regulations apply broadly to "all uses of land" in the Mackenzie Valley, but exempt several categories of activities from their coverage (s. 2(1)). As relevant here, these exempted categories include "anything done in the course of prospecting, staking or locating a mineral claim," unless those activities require the use of equipment or material that exceed certain specified thresholds.[37]

While the regulations in general have broad coverage, the regulations require permits only for land uses that involve certain activities the size or duration of which exceed thresholds

[34]See also *ibid.* s. 61 (similar restriction specifically for Land and Water Boards' approvals under the *MVRMA*).

[35]See *MVRMA*, ss. 35 (general principles for land use planning), 58 (general objectives for Land and Water Boards' regulatory decisions), ss. 73-76 (Land and Water Boards' decisions subject to aboriginal water rights), and s. 115 (principles for environmental assessments conducted under Part 5).

[36]Several *MVRMA* sections provide for regulators' use of recommendations generated from environmental assessments for purposes of establishing approval terms and conditions. See *MVRMA*, ss. 117(3)(b), 118, 128(1)(b)(ii), 130(1)(b), 131(1) & (2), 134(2), and 135.

[37]See *MVLUR*, ss. 2(3) and (4).

specified in the regulations.[38] None of these listed activities expressly includes "mining". However, few if any mining operations would occur without at least one of the listed activities and, thus, the regulations require that most mining activities obtain surface land use permits.[39]

Although all or most mines likely need permits, the permit requirement itself arguably applies only to the set of "triggering" activities listed in section 4 of the regulations, which is likely only a small set of all possible mining activities. Thus, it might be argued that the permit conditions can likewise be aimed at ameliorating the effects of only the discrete set of permit "triggering" activities, and that permit approval decisions may also be concerned only with the acceptability of those effects.[40] If this interpretation is accurate, the utility of land use permits as tools for avoiding or remedying the entire suite of harms caused by all mining surface land uses may be quite limited.

This jurisdictional issue aside, the regulations contain several reclamation-like requirements for permittees (that are lacking in the *NWT Waters Regulations*) chief among which is the requirement to "restore the permit area to substantially the same condition as it was prior to the commencement of the operation" (s. 15). This requirement falls far short of the kinds of reclamation objectives listed in Chapter 2 in its breadth and detail. However, the regulations have several other, more narrowly focused reclamation-type requirements.[41] While useful additions to the general requirement in section 15, and certainly far more specific than the *NWT Waters Regulations*, these requirements still fail to capture the breadth and detail of the ideal reclamation objectives, and to address all the reclamation topics, listed in Chapter 2.

The regulations' core reclamation requirement in section 15 is flawed in several other respects. First, it applies on its face only after a permittee's "completi[on of] a land use operation," thus, implying that phased reclamation is unnecessary. Second, the requirement applies "[u]nless authorized by a permit" so the regulations give the permitting Boards wide discretion to waive the restoration requirement. Third, even when the requirement has not been waived, the regulations lack an adequate reclamation planning mechanism to ensure that the requirement is satisfied.

To be fair, the regulations are not completely silent on the subject of reclamation planning, because they require permit applicants to include information regarding the applicants' "[p]roposed restoration plans" with their applications. However, the context for this requirement

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[38]Under s. 4 of the regulations, these thresholds vary in nature and/or magnitude depending on whether the land uses occur within or outside the boundaries of a "local government".

[39]See also *MVLUR*, s. 18(a) (listing applicant eligibility requirements for permits for land use activities conducted "in the exercise of a right to search for, win or exploit minerals or natural resources").

[40]At one point, the regulations refer in broad terms to permit conditions regarding "the lands" (s. 26(1)(o)) but a contextual reading of that term strongly suggests that it refers only to the lands actually used in the "land use operation" which in turn is the permit-triggering activity. See *ibid.* ss. 26(1)(a) (referring to "the lands that may be used in the land use operation") and 1 (defining "land use operation" as "any use of land that requires a permit").

[41]Under these requirements, permittees must: replace excavated materials and level and compact the surface area used (s. 8); remove material deposited in a watercourse and restore the water channel and bed to their original alignment and cross-section (s. 9(2)); dispose waste from certain facilities (s. 14); and remove various structures (s. 16).

strongly suggests that it is not intended to be rigorous or to generate detailed information.[42] Although the regulations give the Boards authority to require additional information (s. 21), it seems unlikely they would use this authority to require the kind of comprehensive reclamation plan envisioned in Chapter 2, given the regulations' hand-waving approach to such plans in the first place.[43]

In addition, the restoration plan requirement in the regulations applies only to permit applications. The regulations have no requirement for the submission of revised or updated reclamation (or "restoration") plans at any later regulatory or mining stage.[44]

Although they do not require rigorous reclamation plans, the regulations give the Boards broad authority to set permit conditions, including conditions regarding "restoration" of the lands used (s. 26). This authority undoubtedly includes the discretion to require permittees to submit reclamation plans and for the Boards to say what subjects the plans must address. This regulatory approach thus leaves the responsibility on the shoulders of the Boards to ensure that an adequate reclamation framework exists and is properly enforced.

While making scant reference to reclamation (or restoration), the regulations have several provisions dealing expressly with security, chief among which are sections 26(l) and 32. Like the *MVRMA* itself (and the *NWT Waters Regulations*), these provisions give the Land and Water Boards *discretion* to adopt land use permit conditions requiring security, but the regulations do not actually *require* the Boards to impose this condition or even give any guidance on the kinds of circumstances when security should be required. However, the regulations provide some direction on the nature of any security that the Boards require by, first, specifying four acceptable forms of security.[45] These are generally liquid and not self-guaranteed instruments (including cash), so they are consistent with at least the core the criteria listed in Chapter 2. In contrast to the *NWT Waters Regulations*, the *MVRMA* land use regulations also allow the Boards to accept "any other form" of security that the Minister deems "satisfactory" (s. 32(4)(e)). While consistent with the discretion provided by the *MVRMA* itself, this Ministerial discretion opens the door for the Minister's acceptance of other types of instruments that do not meet the liquidity and other criteria listed in Chapter 2.

The regulations also give the Boards wide discretion to determine the amount of security to require, provided that the total amount does not exceed the same "aggregate cost" formula contained in the *NWT Waters Regulations*, namely, the aggregate of: abandonment, on-site

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[42]This context consists of s. 19(2) of the regulations, which requires that land use permits "be in the form, and provide the information, set out in Schedule 2." The form printed in that Schedule, in turn, includes a small box (roughly 1.5" long and going across the entire page width) where the information for the restoration "plans" are supposed to be provided. Instructions in the box allow refer to applicants' use of only a single "separate page" if needed to provide the required information. C. Gaz. 1998.II.2466.

[43]Subsection 22(2) of the regulations takes a much less cursory approach, by giving the Boards authority to conduct or request "further studies or investigations" and to refer the proposed land use for an environmental assessment under part 5 of the *MVRMA*.

[44]Sections 19(3) and 29 require the submission of "preliminary" and "final" plans, respectively, but the plans are not required to cover proposed and final designs for reclamation work.

[45]*MVLUR*, ss. 32(4)(a-d).

restoration, and any post-abandonment work (s. 32(1)). This formula thus has the same flaws as those discussed in part 3.2.1.2 above in connection with the *Waters Regulations*.

Also like the *Waters Regulations*, the regulations: require none of the rigorous methodologies listed in Chapter 2 (although they arguably give the Boards implied discretion to use those methodologies); and allow—but do not require—the Boards to calculate security amounts by taking into account the mining company's ability to pay the costs itself. Unlike the *Waters Regulations*, the regulations add an additional criterion for calculating the security amount: the risk and significance of environmental damage. The appropriateness of these criteria is questionable, at least if they are ever used as bases for *lowering* security below the total estimated reclamation cost. Potential environmental damage may be relatively low but still need to be prevented or mitigated through reclamation which may still be quite costly and thus an unfair burden on the public to bear.

Unlike the *Waters Regulations*, the *MVRMA* regulations also allow the Boards to consider any "prior" posting of security by the applicant with respect to the same land use and under any other federal legislation (s. 32(2)(c)). The Boards' consideration of this factor seems reasonable to avoid double counting in determining security amounts, but it may lead to problems if the "prior" security is not readily available, is not in an acceptable form, is of an unknown amount (as with security required by confidential *TLA* surface leases, discussed in part 3.2.3 below) or is deficient in some other respect.

Also unlike the *Waters Regulations*, the *MVRMA* regulations state that any required security must be posted before the permittee can begin its land use operations (s. 32(3)).[46] However, the regulations do not call for any periodic review of the security after it has been initially posted to make sure that it remains sufficient to cover all expected costs. As with security required under a water licence, the fact that DIAND holds and manages security required by a Board under a land use permit likely exacerbates the risk that there will be inadequate periodic reviews of security required by such permits.

In addition, the regulations do not specify when, in the permitting process before the commencement of operations, the Boards must determine the amount and type of security. If that determination occurs after a land use permit is issued, it may preclude or diminish the opportunities for public participation in the security determination and it may place undue pressure on a Board to reduce the required security if the mining company argues that a high security amount will jeopardize the company's ability to finance the permitted land use operation and thus to exercise its permitted land use "rights." In practice, the Boards apparently make these security-related decisions in conjunction with their issuance of land use permits rather than after issuing those permits, so the concerns noted above do not appear to be significant. However, the regulations or *MVRMA* should be amended to expressly codify this sound practice.

Finally, the regulations are silent on the process and conditions for DIAND's use of the security. However, they do address when DIAND must release the security to the permittee, which is only after the relevant Board issues a "letter of clearance" for the permitted land use (s.

[46]See also *MVLUR*, s. 38(3) (requiring that a prospective permit assignee provide new security before a Board can approve a permit assignment).

32(5)). Section 33 of the regulations, in turn, *requires* the Board to issue such a letter when the permittee has "complied" with all permit "conditions" and with the regulations. This approach is in stark contrast with the ideal regime in Chapter 2, which ties the release of security to findings that the relevant short and long term post-reclamation environmental objectives have been achieved. The permit-based criterion places the public at risk in the event that the work required by the permit conditions was itself insufficient to adequately restore the environment. In other words, the regulations may discourage an adaptive management approach to determining the work needed to fully reclaim the affected land.

3.2.2.3 Summary of the MVRMA Regime

The *MVRMA* says little about security and even less about reclamation, but it contains considerable implied and, in some respects, express authority for the creation of a reclamation and security regime through regulations, policies, and *ad hoc* approval decisions. While granting this authority, the Act provides little guidance on the parameters of any such regime. In addition, by creating separate approval mechanisms for land uses, and water uses and waste disposals in water, the Act may hinder the development of a holistic reclamation approach that addresses all mine facilities and all environmental media potentially affected by those facilities.

The *Mackenzie Valley Land Use Regulations* fill these legislative gaps only in minor respects. They include a broad reclamation standard, and several narrower standards, which are nevertheless incomplete and which are not accompanied by the kind of rigorous reclamation planning regime needed to ensure that the standards are achieved. Like the Act, the regulations leave it to the Land and Water Boards to decide whether to create this rigorous reclamation planning regime on an *ad hoc* basis through permit conditions.

The regulations have an even weaker approach to security than to reclamation in that they allow the Boards to forego requiring any security in the first instance. However, the regulations provide several parameters for any security the Boards do require, although those parameters are themselves problematic, when viewed in light of the ideal regime parameters noted in Chapter 2.

As summarized above, the *MVRMA* regime is similar to the *NWT Waters Act* regime which, as discussed above, the former actually adopts by reference for water licences issued under the *MVRMA*. There are several differences between these two regimes which create some potential for inconsistencies between the rules for reclamation and security for land use permits and water licences issued under the *MVRMA*. However, these inconsistencies are likely dwarfed by the Act and regulations' broader inattention to the kind of reclamation and security components listed in Chapter 2.

It appears that, in practice, *MVRMA/NWT Waters Act* water licences are one of the primary regulatory instruments for mines in the Mackenzie Valley, but *MVRMA* land use permits are relatively insignificant, at least, for new, large scale developments, and for activities approved under the *TLA* before April 2000 that are thus exempt from *MVRMA* permit requirements altogether.

3.2.3 The Territorial Lands Act Regime

3.2.3.1 The Territorial Lands Act (TLA)

This Act provides a general legislative framework for the federal government's management of "territorial lands". Section 2 of the Act defines "territorial lands" as all "lands" located in the NWT (and Nunavut) that are "vested in the Crown" or which are otherwise within Canada's power to "dispose". In practice, this scope encompasses essentially all of the NWT except private lands and lands transferred to the NWT and administered under the NWT's *Commissioner's Lands Act* (discussed in part 3.3.1 below).[47] Section 2 also defines the term "land" broadly as including "mines [and] minerals" and "all other interests in real property".

Two sections of the *TLA* arguably provide the core of the Act's legal framework for managing territorial lands. In order of their appearance in the Act, the first of these two sections authorizes the federal Cabinet to adopt regulations for the issuance of "permits" for the "use of the surface" of those territorial lands designated by Cabinet regulations as ecologically special "land management zones" under section 4 of the Act (s. 5(b)). Although the *TLA* limits the permit program to these specially designated zones, Cabinet regulations adopted under section 4 designate the entire NWT as a "land management zone" under the *TLA*, so the Act's geographic restriction has no practical effect.[48] On the other hand, to avoid duplication between the *MVRMA*'s land use permit program and the previously enacted land use permit scheme under the *TLA*, Cabinet regulations provide that the latter is inapplicable to "land use operations" in the "Mackenzie Valley" as that region is defined in the *MVRMA*.[49]

The second of the Act's core sections authorizes the federal Cabinet to sell, lease or otherwise "dispose" of territorial lands or certain interests in lands (s. 8). The relationship between this broad disposal authority and the land use permitting authority in subsection 5(b) is somewhat confusing, because a "permit" allowing surface land use might be considered a form of "disposal" under a broad interpretation of that term. However, this report treats section 8 "disposals" as distinct from land use permits issued under subsection 5(b). This interpretation is consistent, not only with the Act's separate textual references to "permits" and "disposals" but also with the Act's enforcement provisions. Subsection 7(1)(b) of the Act states that violations of the terms of permits issued under section 5 are punishable offences under the Act; the Act has no equivalent enforcement provision for violations of leases or other section 8 disposals. This omission suggests that the Act treats section 8 disposals as private contracts, which are generally enforceable only through private contract law or pursuant to any cancellation or other enforcement terms in the actual disposals, rather than as regulatory instruments.[50]

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[47]The Act also does not apply to National Parks or other protected areas within the NWT that are administered by another federal department. See *TLA*, s. 3(1) (limiting the Act's applicability to only those "territorial lands" that are "under the administration of the [DIAND] Minister").

[48]*Territorial Land Use Regulations*, C.R.C., c. 1524, s. 3.

[49]*Ibid.* s. 6(f).

[50]*E.g.* March 9, 2004 E-mail correspondence from Annette McRobert (DIAND) to Kevin O'Reilly (CARC) (DIAND official stating that a lease is a "contract between two parties"). See also, *e.g.* Lease No. 76 D/10-2-2 at 3-4 (*TLA* surface lease to BHB Diamonds Inc., providing DIAND with authority to terminate the lease if BHP fails to

Putting this key distinction aside (for the moment), the *TLA* generally grants Cabinet broad authority to decide whether to grant surface access to territorial lands through land use permits issued under section 5 or through disposals issued under section 8, and to decide the form of disposal instrument to use for section 8 disposals. However, this general authority is limited for dispositions of mineral interests. Subsection 15(a) states that any "grant" of territorial lands must reserve for the Crown all mineral interests, including the "right to work the mines and minerals" and to "enter on, use and occupy the lands" as necessary to perform that mining work.[51] While this section prohibits Ottawa from issuing "Grants" for mineral and accompanying access rights, section 12 of the *TLA* specifically allows the Cabinet to adopt regulations providing for the disposal of its reserved mineral and related surface access interests by "lease." This federal mineral leasing authority was not duplicated or supplanted by the *MVRMA*.

In short, the *TLA* impliedly authorizes Cabinet to grant mining companies rights of access to territorial lands in order to exercise leased mineral rights. Cabinet can grant these access rights either as part of a lease instrument that also grants mineral rights under section 12, or through a separate disposal of surface interests under section 8 (hereinafter "surface lease" which is the common form for such disposals), or through a land use permit issued under subsection 5(b).[52]

Cabinet's authority to grant surface access to those territorial lands within the "Mackenzie Valley" (as defined in the *MVRMA*) thus overlaps with the land use permitting authority that the *MVRMA* establishes for the Land and Water Boards established under that legislation. As noted above, Cabinet regulations have eliminated this overlap with respect to *TLA* land us permits. But there are no equivalent exemptions in *TLA* regulations for access rights granted in leases issued under section 8 of the *TLA*. This overlap could present a conflict if an *MVRMA* Board refused to issue a land use permit for any mining-related surface access which DIAND granted through a mineral or surface lease issued under the *TLA*.[53]

This conflict would at least be readily apparent with respect to any surface access rights expressly granted by DIAND in a section 8 surface or mining lease. However, the conflict may

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timely remedy any non-performance of a lease obligation). This general conclusion may be inapplicable to any disposal terms that mirror, or that incorporate by reference, or impliedly include, duties on disposal holders that are stated in either of the two sets of regulations establishing the disposal programs. See *TLA* s. 30(1) (providing a general offence provision for violations of regulations adopted under the *TLA*). However, few such regulation-based duties exist. But see *infra* part 3.2.3.2 (discussion of duties under the *Canada Mining Regulations* to obtain DIAND's approval for various activities and to remedy harmful pollution).

[51]Section 2 of the Act defines the term "grant" as essentially any disposition instrument that provides a "fee simple" or similar legal interest.

[52]A corollary to this conclusion is that ss. 8 and 12 collectively would appear to allow Cabinet to *sever* the Crown's reserved access rights from its reserved mineral rights in a mineral lease—i.e. by stating in a lease of mineral rights that the rights granted under the lease do *not* include accompanying surface access rights and that any such rights must be obtained under a separate disposition. But see, *e.g.* Lease No. 3482 at 1 (*TLA* mining lease granting BHP Diamonds Inc. broad rights to "search for, win and take all minerals" and without expressly severing surface access rights that may be implied from those broad rights).

[53]See *Canadian Parks and Wilderness Society* v. *Canada (Minister of Indian Affairs)*, (1995) 104 F.T.R. 241 at 247 (F.C.T.D.) (noting a similar conflict as one of several reasons for deciding that the *TLA* land use permit requirement was inapplicable to surface uses that were imbedded in mining rights issued under the *Yukon Quartz Mining Act*).

be less apparent, but ultimately equally troublesome, with respect to section 8 mining leases that say nothing expressly about surface access rights,[54] because these leases may be judicially interpreted to *impliedly* grant surface access rights as reasonably necessary to extract the leased minerals.[55]

Putting this potential conflict aside, the *TLA* impliedly gives Cabinet broad discretion to decide not only what interests to dispose and the form of any such disposition instrument (except for mineral interests which, again, may be disposed only by a "lease"), but also to set the terms of any such disposition on a case by case basis or through regulations adopted by Cabinet under the Act (ss. 8 and 23). Cabinet has similarly broad authority, through the adoption of regulations, to set the terms of land use permits (ss. 5(b) and 23).

The Act does not expressly require that the terms of these dispositions (commonly leases) or permits require reclamation and security (and the Act does not mention these topics in any other context).[56] But the Act's broad grant of discretionary authority to set approval terms for both land use permits and leases likely includes broad implied authority to require reclamation and security as part of any lease or permit for any access needed to exercise a mineral right granted under a *TLA* mining lease.

From a public policy standpoint, however, the apparent non-regulatory character of section 8 leases, as discussed above, may make them a less desirable instrument than section 5 permits for imposing reclamation conditions. This is because violations of regulatory instruments like permits may be more readily enforceable than violations of non-regulatory agreements. In addition, there is generally much more transparency and accountability associated with DIAND's issuance and oversight of the former than the latter. For example, DIAND generally treats section 8 surface leases as confidential information.[57] Thus, the public (and apparently even the regulatory Boards established under the *MVRMA*) cannot scrutinize the lease terms or DIAND's enforcement of those terms.

Besides authorizing Cabinet to establish land use permit and lease programs, the *TLA* provides a broad authorization for Cabinet to adopt regulations generally "respecting … the

[54]See, *e.g.*, *TLA* Mining Lease No. 3482, *supra* note 52.

[55]See Barton, Barry, *Canadian Law of Mining* (Canadian Institute of Resources Law, 1993) at 54-55 (citing *Borys* v. *C.P.R.*, [1953] A.C. 217 at 227-28 (P.C. Alta.)). The *Canada Mining Regulations* may indirectly limit any implied right of surface access granted in a mining lease, as discussed *infra* at part 3.2.3.2.

[56]However, s. 12 of the Act provides that Cabinet's mineral leasing regulations "shall provide for the protection of and compensation to the holders of surface rights." This restriction implies the need for a reclamation regime, to the extent that reclamation is needed to "protec[t]" surface rights holders, among other purposes.

[57]*E.g.* McRobert E-mail, *supra* note 50. This non-disclosure policy itself is not expressed in any publicly available policy document and was not generated through consultation with the public. When pressed for public disclosure of two *TLA* surface leases in a formal adjudication before the federal Information Commissioner under the *Access to Information Act*, R.S.C. 1985, c. A-1, DIAND released portions of the leases. *Pers. Comm.* with Kevin O'Reilly. However, the McRobert e-mail cited above suggests that DIAND has not agreed to change its general disclosure practice in light of its partial disclosure in this one instance.

protection, control and use" of territorial lands (s. 5(a)).[58] Although it does not specifically reference reclamation and security, this regulation-making power implicitly provides additional power to require reclamation and security for surface land uses above and beyond any disposition or permit requirements for those uses. However, Cabinet has not exercised this implied power.

3.2.3.2 Regulations under the TLA

This part discusses the three *TLA* regulations addressed in this paper—the *Territorial Land Use Regulations*, *Territorial Lands Regulations*, and *Canada Mining Regulations*.[59] The first of these sets of regulations govern the issuance of land use permits under the Act. The second and third sets govern the issuance of leases granting surface access and subsurface mineral rights, respectively.

3.2.3.2.1 The Territorial Land Use Regulations (TLURs)

The *TLURs* implement the land use permit component of the *TLA*'s overall land management framework by requiring various classes of permits for different kinds of "land use operations" and by authorizing DIAND to issue those permits (ss. 7-8).[60] Of the three sets of *TLA* regulations referenced above, the *TLURs* most directly address the subjects of reclamation and security, by generally mirroring the reclamation- and security-related provisions in the *MVRMA* land use regulations which were actually modeled on the *TLURs*. Thus, like the *MVRMA* regulations, the *TLURs* provide few bits of additional flesh on the bones of the reclamation and security regime created—or, more appropriately, impliedly authorized—by their enabling legislation.

There are a few exceptions to the general similarity between the land use regulations adopted under the *TLA* and *MVRMA* that are worth noting. One difference is that the former do not expressly refer to reclamation (or "restoration") as among the requirements that may be included in land use permit conditions. However, the breadth of the conditions, that subsection 31(1) of the *TLURs* expressly allows the permit writer (a DIAND "Engineer") to adopt, likely impliedly includes reclamation.

Another difference is that the list of acceptable forms of security instruments in subsection 36(3) of the *TLURs* does not include the catch-all provision, in subsection 32(4) of the *Mackenzie Valley Land Use Regulations*, for any "other form" of instrument approved by the Minister. To the extent this catch-all category opens the door for abuse, the former regulations are somewhat more consistent with the relevant criteria in Chapter 2 than the latter.

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[58]As with the land use permit authority, this catch-all management authority technically applies only to lands in designated "land management zones." As noted above, however, this limit has no practical effect because of Cabinet regulations designating the entire NWT as a land management zone for *TLA* purposes.

[59]C.R.C., c. 1525, C.R.C., c. 1524, and C.R.C., c. 1516, respectively.

[60]In light of this reference, s. 2 of the regulations defines "land use operations" circularly as any "work or undertaking on territorial lands that requires a permit".

Besides saying little about reclamation, the *TLURs* have limited geographic applicability. As noted above, they are inapplicable to land uses in the Mackenzie Valley and, thus, apply only in the Inuvialuit Settlement Region (ISR). The *TLURs* are also inapplicable to territorial lands whose surface rights DIAND has already granted under a *TLA* section 8 lease or under some other form of disposal (s. 6(c)).

Because the *TLA* requires land use permits only indirectly through Cabinet regulations establishing a permit program, the limited geographic applicability of the *TLURs* effectively limits the geographic applicability of land use permits. The first of these two limits makes sense to avoid duplication with land use permits required under the *MVRMA*. The second limit (as relevant to uses of territorial lands outside of the Mackenzie Valley) is more problematic, because it shifts the responsibility for addressing reclamation and security from the regulatory realm to the contract realm and thus engenders the enforceability, accountability, and transparency problems noted above. By way of comparison, the second of these two limits contrasts with the land use permit requirement under the *MVRMA* which (as noted above) applies even if a mining company has obtained a *TLA* lease for the same land use (for leases issued after April 2000).

Even for those geographic regions to which they are generally applicable, the *TLURs* are inapplicable to several types of land uses including, as relevant here, "prospecting, staking or locating a mineral claim" unless those activities require the use of equipment for which permits are required elsewhere in the regulations (s. 6(b)). Most mineral exploration and work necessary to establish mineral claims that would warrant reclamation likely falls within this 'claw back' provision.[61] However, because of the *TLURs*' two geographic limits discussed above, few mining activities in the NWT require land use permits under those regulations.

3.2.3.2.2 Territorial Lands Regulations (TLRs) and Canada Mining Regulations (CMRs)

As relevant here, the *TLRs* and *CMRs* collectively establish systems for DIAND's issuance of "leases" of interests in all territorial lands, including minerals. However, the text of those regulations is ambiguous as to their functional division of labour with respect to leasing interests in minerals, on the one hand, and rights of access to, and use of, surface and subsurface land as necessary to extract and produce those minerals, on the other hand. This confusion is evident, first, in the *TLRs* which generally authorize DIAND to "lease" (or "sell") "territorial lands". The regulations do not define "territorial lands" and so impliedly follow the *TLA*'s definition which includes minerals. Thus, at first blush, the *TLRs* appear to provide for the leasing of both minerals and accompanying surface access rights. However, section 12 of the *TLRs* states that "[e]very lease" issued under those regulations shall contain a clause reserving mineral rights (including rights to use land as necessary to access those minerals), like the reservation provided in subsection 15(a) of the *TLA*. Given this reservation, it appears that leases issued under the *TLRs* cannot logically be used to grant rights to the "minerals" portion of "territorial lands."

[61] In addition, the *Canada Mining Regulations* require prospecting permits, as discussed in the next part below.

In contrast with the *TLRs*, the *CMRs* more clearly authorize the issuance of lease-based mineral rights, but the *CMRs* do not state clearly whether those lease rights include the accompanying rights of surface land access and use that are included in the reserved rights referenced in the *TLRs* and the *TLA*.[62]

In one sense, the uncertain division of labour between the *TLRs* and *CMRs* with respect to managing surface rights for mining operations is unimportant, because neither set of regulations expressly requires that reclamation or security be included as a condition of a lease issued under either regulation. Nor do they even mention those topics as a *possible* lease condition.[63]

However, the division of labour may still be important because of the apparent or potential differences in DIAND's lease-issuing powers under the two regulations. The *TLRs* have no provision regarding the content of lease applications and *when*, or the circumstances in which, DIAND should issue a lease. Thus, the *TLRs* appear to give DIAND virtually unbridled discretion in deciding whether to issue a lease in the first instance and the criteria for making that decision. Under this interpretation, DIAND has implied authority to require an application for a lease under the *TLRs* to include a comprehensive reclamation plan and adequate security and to deny the application if DIAND is not satisfied that reclamation can be satisfactorily accomplished.

By contrast, the *CMRs* provide a detailed process for acquiring mineral claims and then state that DIAND "shall" issue a mining lease to a claim holder when the holder has satisfied several specific conditions (s. 58(2)). None of these conditions include the submission of an acceptable reclamation plan or security or any environmental assessment whatsoever. Thus, these regulations appear to preclude DIAND from even considering reclamation feasibility in the course of deciding whether to issue a mining lease.

A second difference is that the *TLRs* expressly grant DIAND broad authority to set lease terms and conditions (subject to the reservation discussed above and other constraints not relevant here) (s. 12). This authority likely includes implied authority to adopt lease conditions requiring reclamation and security.[64] The *CMRs* have no equivalent provision, but do have other provisions that may have similar effect.[65] Moreover, for practical reasons it is hard to imagine that DIAND lacks implied authority to set any lease terms and conditions beyond those stated in the *CMRs* themselves. On the other hand, given claim holders' automatic entitlement to a mining

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[62]See *CMRs*, s. 2(1) (defining a "claim" as a "plot of land" located or acquired pursuant to the regulations; and defining a "lease" as a lease of a recorded "claim" granted to the claim holder under s. 58).

[63]Subsection 29(3)(c) of the *CMRs* does require the posting of a "deposit" as a condition for DIAND's issuance of prospecting permits. However, the deposit is intended to cover the exploratory expenses that permittees are required to incur to maintain their permits, rather than the potential environmental costs of any unreclaimed land. See *CMRs*, ss. 29(3)(c) and 31(1).

[64]See *Curragh Resources Inc.* v. *Canada (Minister of Justice)*, [1992] 2 F.C. 243 (FCTD) (holding that DIAND had authority to require security under a *TLA* surface lease).

[65]See *CMRs*, s. 61(1) (providing that *TLA* mining leases may be in "such form" as the DIAND Minister determines, but also providing that those leases may contain such terms as prescribed, not by the Minister on a lease-specific basis, but by the *CMRs* or by applicable legislation). Section 72 is an exception, by providing arbitrators authority to set terms and conditions of access to surface lands, in the course of resolving disputes between mining rights holders and surface rights holders. See generally *CMRs*, ss. 70-72.

lease under section 58, it is hardly clear that this implied authority includes authority to impose burdensome reclamation and security conditions, because those automatic entitlements would be thwarted to the extent that any lessee could claim the conditions were economically impractical or infeasible.

Even if DIAND lacks authority to require reclamation and security as a condition in a mining lease issued under the *CMRs*, the regulations may give DIAND such authority outside of the lease context. Specifically, subsection 73(2)(b) of the *CMRs* prohibits any person from prospecting, performing "representation" work on a claim,[66] or "deposit[ing] earth, clay, stone or any mineral ore or mine tailings on any claim" except with DIAND's approval and "in accordance with such terms and conditions" as DIAND "may fix." This broad discretion arguably includes implied discretion to impose comprehensive reclamation and security requirements like many of those listed in Chapter 2, at least, for those sets of activities subject to this approval authority.[67]

It is unclear whether this provision applies to activities on a mining lease or only on a claim that has not yet been converted to a lease.[68] If the former, and given that the latter two of these three categories of activities likely occur at every mineral extraction and production site, this implied authority may be significant. However, this regulatory authority is still not as comprehensive as potentially necessary to the extent that it is limited to remedying the effects of only those activities that trigger the authority in the first place.

3.2.3.3 Overview of the TLA Regime

The *TLA* regime described above matches the pattern of the two prior legislative regimes in the sense that it generally provides Cabinet with discretion, but no legislative guidance on how, to establish a framework for requiring reclamation and security. However, the *TLA* differs substantially from the *NWT Waters Act* and *MVRMA* in allowing DIAND to establish this framework through a largely non-regulatory, contract type lease.

With a few exceptions, Cabinet regulations implementing the *TLA* generally pass the baton to DIAND to decide on a case-by-case basis whether and when to require reclamation and security. The regulations limit this discretion somewhat by precluding the application of land use

[66]Under ss. 2 and 38(1) of the *CMRs*, "representation work" generally includes exploratory work and the construction of roads or airstrips to gain access to a mining claim.

[67]Subsection 48(1)(a) of the *CMRs* may provide similar authority, by authorizing DIAND to "direct" a recorded claim holder to "carry out any mining work on the claim in a manner that does not interfere with or endanger the safety of the public, any public work, road or right-of-way, or any other mining property or recorded claim." However, this authority seems more focused on requiring a claim holder to conduct mining than on requiring the holder to reclaim any lands affected by mining. Similarly, s. 48(1)(b) of the *CMRs* authorizes DIAND to require the owner of any "abandoned mining work" to have it "filled in, fenced or otherwise made safe." While these actions may contribute to an overall reclamation effort, they hardly match the breadth of effort required for satisfactory reclamation.

[68]Subsection 73(2) specifically applies to the reference activities on a mining "claim," without specifying whether that includes a claim that has gone to a lease. In contrast, s. 73(1) imposes requirements on both claim holders and lessees. (Those requirements relate to the control of harmful pollution and, thus, provide supplemental, if indirect, components for an overall reclamation program.)

permits to land uses in the Mackenzie Valley and to surface uses covered by leases or other dispositions. These geographic limits appear to render *TLA* land use permits uncommon and, thus, an insignificant tool for establishing a reclamation and security framework for mines in the NWT. DIAND purportedly addresses reclamation and security through leases issued under section 8 of the *TLA*. Those few leases that have been publicly released (either by DIAND or by the mining company holding the lease) confirm this approach.[69] However, DIAND generally treats *TLA* surface leases for NWT mines as confidential, so its use of these leases to require and oversee reclamation and security is uncertain.

3.3 Reclamation under NWT Legislation

This part describes the legal regimes for reclamation under three NWT statutes—the *Commissioner's Land Act*, the *Environmental Protection Act*, and the *Mine Health and Safety Act*.[70]

3.3.1 Commissioner's Land Act (CLA) and Regulations

The *CLA* provides a bare bones legislative framework for the management of "Commissioner's lands." The scope of these lands is complex and ambiguous, but it appears to consist essentially of all lands—not including minerals—owned or controlled by the Government of the Northwest Territories (GNWT).[71] To date, the only hard rock mining that has occurred on Commissioner's Lands are mines in and around Yellowknife, so the Act has little practical application to hard rock mining outside of that city.

In addition, section 2 of the *CLA* makes it clear that Commissioner's Lands do not include "mines or minerals under or within such lands." This exclusion is consistent with the mineral reservation in the *TLA* (discussed in part 3.2.3.1 above), at least, for any "territorial lands" under the *TLA* that the GNWT acquired from the federal government.[72]

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[69]For example, the surface lease for BHP's Ekati diamond mine adopts by reference and requires BHP to implement, an "Environmental Agreement" made between BHP and DIAND. Lease No. 76 D/10-2-2, *supra* note 50 at ss. 1(f), 11, and 15. That Agreement, in turn, establishes a reclamation and security framework for the mining operation (Articles VIII and XIII).

[70]R.S.N.W.T. 1988, c. C-11, R.S.N.W.T. 1988, c. E-7, and S.N.W.T. 1994, c. 25, respectively.

[71]*CLA*, ss. 1 and 2. This scope is ambiguous and confusing in several respects. First, it includes lands "acquired" by the GNWT but is unclear as to whether those acquired lands need to remain under the GNWT's ownership in order to still be covered by the Act. *Ibid.* s. 2. Second, the set of "acquired" lands is limited to those acquisitions using "territorial funds" or by "tax sale proceedings". *Ibid.* ss. 2(a) and (d). It is unclear why the Act does not cover all land acquired by the GNWT, regardless of the means of acquisition (e.g. land transfers or land trades). Third, the scope of lands covered by the Act specifically includes "all roads, streets, lands and trails on *public lands*" (s. 2(c) (emphasis added). Yet, it is unclear whether the term "public lands" refers to *federal* public lands. If it does, then roads and trails built within, or to gain access to, mine sites on those public lands are subject to the *CLA* once they are built, even if the roads/trails were built pursuant to a *TLA* lease, or land use permit issued under the *TLA* or *MVRMA*.

[72]Regulations implementing the *CLA* provide that, unless otherwise stated in a disposition instrument, every sale or lease of Commissioner's lands is deemed to reserve mines and minerals and rights of access to those minerals. *Commissioner's Land Regulations*, R.R.N.W.T. 1990, c. C-13, s. 14. However, it is unclear whether this

Notably, the *CLA* does not expressly exclude from its coverage the interests in land that the *TLA* reserved from any "grant" of territorial land, for surface access to reserved minerals. Notwithstanding this omission, the *CLA* management framework—including any reclamation required pursuant to that framework—may be subject to or constrained by these reserved access rights.

Another notable feature of the *CLA*'s applicability provisions is their failure to state expressly whether the "lands" to which the Act applies include *waters* located on or running through those lands. This paper assumes that waters are excluded, given the *NWT Waters Act* and *MVRMA*'s combined applicability to all waters in the NWT. However, while the *CLA* may not grant the GNWT direct management authority with respect to waters on Commissioner's Lands, the GNWT—as owner or manager of Commissioner's lands—may nevertheless have special rights under those other two statutes with respect to water uses.

The *CLA's* management framework has two basic components, one of which is an authorization for the NWT Commissioner (hereinafter, "the GNWT") to adopt regulations "respecting the protection, control and use of Commissioner's land generally" (s. 12(b.4)). Although brief, this authorization on its face arguably includes implied authority for the GNWT to adopt regulations establishing a comprehensive reclamation and security program for surface lands affected by the exploration or production of (federally owned) minerals on Commissioner's lands. However, as noted above, the *TLA* reservations of rights in both minerals and surface access to those minerals may be a constraint on any such *CLA*-authorized reclamation program to the extent that the program is seen as impinging on those reserved rights. Similarly, the water rights and management frameworks under the *NWT Waters Act* and *MVRMA* may constrain the GNWT's implementation of any reclamation program under the *CLA*, at least, with respect to any reclamation work aimed at restoring or that otherwise affects waters.

At any rate, to date, the GNWT has not adopted a regulation-based reclamation or security program under this implied authority.

A second component of the *CLA*'s management framework is a set of provisions allowing the GNWT to authorize the disposition of Commissioner's lands and to adopt regulations setting out the parameters of a disposition system other than those few parameters listed in the Act itself (ss. 3, 4, 12, and 13). Although these *CLA* provisions are largely silent on the topics of mining reclamation and security,[73] they arguably provide the GNWT considerable implied authority to address those topics in generic disposition regulations and in setting terms and conditions in individual dispositions, subject to the regulations and any constraints provided by the *TLA* reserved mineral rights and water management frameworks, as discussed above.

Pursuant to this broad legislative authority, the *Commissioner's Land Regulations* authorize the Deputy Minister of the Department of Municipal and Community Affairs (or any other person authorized in writing by the Commissioner) to grant—by sale, lease, or other

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provision is referring to minerals reserved for the federal government under the *TLA* or minerals to which the GNWT itself has somehow gained rights.

[73]The exception is s. 3(1.1), which allows the GNWT to grant leases for the establishment, operation and *restoration* of a quarry" on Commissioner's lands (emphasis added)).

disposition instrument—any interest in Commissioner's lands (ss. 1-9). With limited exceptions not relevant here, the regulations do not expressly require reclamation or the posting of security as a condition for any such disposition.[74] However, several provisions of the regulations require lease applicants to provide information that would be at least minimally useful for reclamation planning purposes.[75]

More importantly, subsection 10(1) of the regulations grants the Deputy Minister broad authority to determine what other information disposition applicants must provide, which authority arguably includes implied authority to require a reclamation plan and information for the Deputy Minister's calculation of security.[76] In addition, subsection 18(1) of the regulations gives the Deputy Minister broad authority to determine the "form" of any lease. This authority would appear to include implied authority to adopt reclamation and security requirements as lease conditions. Once again, however, any reclamation or security requirements imposed pursuant to this implied authority may be subject to or limited by *TLA* mineral rights reservations and water management decisions under the two water management statutes.

Finally, in addition to the three *CLA* management components discussed above, section 5 of the *CLA* grants NWT courts trespass-like enforcement authority with respect to any persons whose rights to use Commissioner's lands has been forfeited or who are otherwise wrongfully using those lands. This judicial authority includes ordering the removal of any "buildings or improvements" on the relevant lands and, perhaps impliedly, ordering the restoration of any lands where those structures were located. Whether targeted at restoration or just at removal, these judicial orders could at least be consistent with and support any broader reclamation effort, at least, for the limited circumstances in which the court's jurisdiction applies.

In sum, the *CLA* is silent on reclamation and security but provides implied authority for the GNWT to address those subjects through each of the three components of the Act's overall land management framework. The regulations do not exercise this authority directly but they appear to pass the opportunity to the Deputy Minister to address reclamation and security through disposition conditions.

Beyond these provisions granting the government discretion to require reclamation, subsection 9(c) of the regulations may impliedly *require* the Deputy Minister to at least *consider* the prospect for reclamation. That section prohibits the sale or lease of interests in Commissioner's Lands unless the Deputy Minister is "satisfied" that any such disposition is "fair and equitable and in accordance with the public interest." If a disposition is for purposes of gaining access to and using surface land for a mining operation, the Deputy Minister arguably

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[74]The exceptions relate primarily to quarrying leases. See *Commissioner's Land Regulations*, ss. 22-26 and 31. See also *ibid.* s. 20 (process for the government's recovery and sale of any structures not removed by the lessee when a lease is cancelled or expired).

[75]*Ibid.* ss. 11 (requiring a sketch of any unsurveyed land), 12(1) (requiring a statement of the intended use of the land and a description of the nature of intended improvements to the land), and 12(2) (requiring the submission of plans for fire safety and public health for any buildings or improvements with public access).

[76]See also s. 9(a) (prohibiting any disposition unless the DM is "satisfied" that the applicant has "discharged the obligations and performed the covenants and agreements that are required of him or her before the … disposal").

could not make a proper "public interest" determination without considering whether the applicant has prepared plans for restoration and the likelihood that those plans will be successfully implemented. Thus, this "public interest" determination may provide an implied requirement for the Deputy Minister to face reclamation (and security) issues in deciding whether to grant a disposition and in setting disposition terms

3.3.2 The NWT Environmental Protection Act Regime

The *Environmental Protection Act* (*EPA*) establishes regulatory frameworks for two specific categories of harms—"contaminant discharges" and "unsightly land"—and provides other, non-regulatory powers with respect to environmental protection in general. The Act is administered by the Minister of Resources, Wildlife and Economic Development (RWED) and by subordinate officials, including a "Chief Inspection Officer" and other RWED inspectors. The Act also gives the NWT Commissioner broad powers to adopt regulations to implement various provisions of the Act. As discussed below, all of these *EPA* components can contribute to an overall mine reclamation regime although their contribution to date has been limited.

This limitation stems at the outset from the Act's limited applicability. Although subsection 2.1(1) states that the Act applies to the "whole" of the NWT, subsection 2.1(2) then states that the Act is inapplicable to any "person who is authorized" by any federal or territorial legislation to "do those things that, but for such [legislation], are in contravention of" *EPA* or regulations adopted under *EPA*. Although the wording of this provision is confusing, it generally appears to be intended to exclude from the Act's coverage activities that are permitted under other statutes.[77] While this scope sounds simple, its application may be problematic in several respects. First, it requires potentially complex considerations of whether activities are in fact authorized by another statute and, if so, whether the authorization addresses the kinds of harms of concern under *EPA*. Yet, RWED staff may lack the legal or technical expertise to make these judgments and the regulator who is responsible for making it may not have done so. Second, the exemption implies that if an activity is subject to an approval under another statute but is violating the terms of the approval, it is then subject to the *EPA*. This doubling-up of *EPA* and the other legislation may create functional inconsistencies and inefficiencies, in part because RWED's role under *EPA* does not commence until the other legislative regime has already in effect 'broken down'. Rigorous enforcement of the approval terms under the other legislation—i.e. fixing the break in that regime—may be more expedient than applying *EPA* at that late stage. Perhaps for these reasons, RWED itself does not construe the Act as applying to an activity that is violating the terms of an approval issued under another statute.[78]

Jurisdictional limits aside, the core of the Act's provisions related to contaminant discharge provisions is a general prohibition of "discharges" of "contaminants" into the "environment," unless they are authorized by the Act or by regulations or orders issued under the

[77]A more literal reading of the provision suggests that it excludes only those activities that some other statute by its own terms excludes from coverage under *EPA*. Of course, this reading would render the provision meaningless, because the exemption would be duplicative of the other statutory exclusion to which it seems to refer.

[78]Oct. 29, 2004 letter from Emery Paquin, Director, RWED Environmental Protection Service, to Kevin O'Reilly, CARC (copy on file with author).

Act.[79] Besides the general discharge prohibition, the Act includes numerous other regulatory and enforcement provisions for preventing or remedying contaminant discharges, and for recovering the government's own costs of stopping or remedying those discharges.[80]

Several of these regulatory provisions establish a permit and licencing regime. These provisions give the GNWT broad discretion to decide both the scope of activities requiring either one of these two categories of approvals, and the approvals' terms and conditions.[81] If the GNWT required permits or licences for mines that discharged or risked discharging contaminants, this approval regime arguably could provide a legal basis for imposing reclamation and security requirements, at least, for purposes of preventing and controlling contaminant discharges. However, the GNWT apparently has never applied this approval regime to mining operations, or to any other activity for that matter.

Other than the *EPA*'s permit and licencing provisions, the Act gives the NWT Commissioner broad discretion to adopt regulations relating to the prevention, control, and cleanup of contaminant discharges (s. 34(1)), which discretion arguably could be used to establish reclamation requirements, at least, for purposes of preventing and controlling contaminants. However, to date, the Commissioner has used this regulation-making authority on only a limited basis, in establishing regulations relating to the management of used oil and waste fuel, and to contingency planning for contaminant spills.[82] Although the regulations do not establish a mine reclamation regime *per se*, their requirements likely apply to reclamation activities and appear to be appropriate components for a broader reclamation program, for those (few) mines subject to the regulations in the first place.

While *EPA* regulations could provide a generic reclamation regime, several of the Act's other contaminant enforcement provisions could provide a legal basis for the GNWT's *ad hoc* imposition of reclamation requirements, at least, for purposes of preventing or remedying contaminant discharges. Thus, for example, the GNWT's Chief Environmental Protection Officer may be able to require a mine to conduct reclamation as a condition of an "environmental protection order" issued under section 4 of the Act. Under that section, the Officer can issue such orders when the Officer deems them "necessary or advisable for the protection of the environment," and the Officer can include in the orders requirements to "install safeguards" to prevent contaminant discharges. Other *EPA* provisions, relating to inspections, monitoring, notice, remedial action, cost recovery, and judicial enforcement, could be used to complement or supplement any reclamation requirements imposed pursuant to an order issued under section 4.

Once again, however, because of the Act's limited general applicability, and also a GNWT policy of avoiding regulatory duplication, the GNWT does not apply the Act's

[79]Subsections 3(1) and (3)(a). Section 1 of the Act defines each of these terms broadly. There are several other exceptions to the general discharge prohibition that are likely of little relevance to mining-related discharges. See ss. 3(b)-(i).

[80]See, *e.g. EPA*, ss. 4 ("environmental protection orders"); 5 (duty to notify and take action to remedy a discharge); 6 (orders to cleanup discharges); 7 (orders to remedy harm caused by discharges).

[81]See *EPA*, ss. 10.1 – 10.13 and 34(m) and (n).

[82]See *Spill Contingency Planning and Reporting Regulations*, R-068-93, and *Used Oil and Waste Fuel Management Regulations*, R-064-2003.

contaminated sites provisions to mines that are authorized under legislation that provides similar remedial or regulatory authority.[83] Short of actually taking the lead in requiring reclamation to prevent or remedy contaminant discharges, the RWED staff provide ongoing advice to the lead regulators regarding their choice of appropriate contaminant control measures and their review of any contaminant monitoring records.

The other category of harm addressed by the *EPA* is "unsightly land," which the Act classifies vaguely as anything an inspector believes to be "unsightly" due to "litter or things placed on the ground" and based on "reasonable grounds and on comparison with land used for a similar purpose" (s. 9.1). The Act generally prohibits landowners or occupiers from creating such "unsightly land" (s. 9.2), and provides several regulatory and enforcement powers to prevent or abate these harms.[84]

These provisions for preventing and remedying "unsightly land" have apparently never been used to require mine reclamation. If applicable to any "unsightly" mines that are otherwise subject to the Act, they could provide some reclamation-related authority, at least with respect to "unsightly" aspects of mine sites, the elimination of which could provide incidental environmental or public health benefits. However, because the Act requires the determination of what land is "unsightly" to be based on a comparison with other land used for similar purposes, these provisions may not be applicable to mine sights that are in a normally unsettled state for similar mines. In addition, the vagueness and *ad hoc*, potentially subjective nature of the "unsightly" standard may be a legal hindrance to the provisions' application in any context, although further research is necessary to confirm this view.[85]

Besides the provisions relating to contaminant discharges and unsightly land, the *EPA* gives the RWED Minister broad powers to gather and disseminate information relating to the "protection or enhancement of the environment".[86] These powers can be used, either on a mine-specific or region-wide basis, to support RWED's capacity to advise other regulators in the adoption and implementation of reclamation requirements.

The Act also gives the RWED Minister broad environmental policy-making authority (s. 2.2(c)) although, presumably, any such "policy" is not legally binding, except to the extent it is either expressly adopted by reference in a legally binding instrument (e.g. regulation or permit) adopted under the *EPA* or another statute, or is used to determine whether any common law or legislative standard of care has been met.[87]

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[83]Oct 29, 2004 Paquin letter, *supra* note 78 at 2 (citing GNWT's *Policy on the Enforcement of Spill Contingency Planning and Reporting Regulations* (issued June 14, 1993)).

[84]See, *e.g. EPA*, ss. 9.3 (orders to improve unsightly conditions) and 10 (municipal by-laws defining and prohibiting unsightly land).

[85]See *e.g. R.* v. *Zundel*, [1992] 2 S.C.R. 731 (majority holding that legislation criminalizing false statements that harm or injure the "public interest" was too vague for Charter purposes).

[86]See *EPA*, ss. 2.2(a), (b), (d), and (e) and 2.4.

[87]See, *e.g. R.* v. *Berton*, [1998] N.W.T.J. No. 89 at 20, para. 79 (QL) (N.W.T. S.C.) (affirming sentence and convictions for violating cleanup guidelines incorporated in a cleanup order issued under the *EPA*). This authority

Apparently pursuant to this authority, the GNWT has adopted "guidelines" that provide a process for the assessment, remediation, and closure of contaminated sites including those on mining lands.[88] While the guidelines are not directly enforceable, RWED presumably uses them in applying its legal tools under the *EPA* for contaminant discharges. The guidelines also may be of use for RWED's determinations of whether other regulators are adequately addressing contaminant site cleanups at mines or other facilities that are licenced under other legislation. Because contaminated site cleanup is an obvious component of a comprehensive mine reclamation program, where any such sites exist, RWED's guidelines may thus be of use in designing and implementing this reclamation component. However, because the guidelines do not have a comprehensive reclamation focus, their use in designing overall reclamation plans may create inconsistencies with other reclamation components.[89]

A final *EPA* provision worth noting is subsection 2.3, which gives the RWED Minister authority to establish "boards, committees or other bodies" whose job is to "provide advice" relating to the "preservation, protection or enhancement" of the environment. These bodies arguably could be established on a Territorial, regional, or mine-specific basis to collect information and give advice on the adequacy of reclamation programs designed and implemented by regulators other than RWED.

In sum, the *EPA* can provide some, but likely relatively little, support for an overall reclamation and security regime. The Act's jurisdictional ambit is ambiguous or at most limited. And even for those mines to which the Act clearly applies, the Act's regulatory focus on "contaminants" and "unsightly land" addresses only a portion of all the possible harms to be addressed through reclamation. Similarly, the Act's general fact-finding, advisory, and policy-making functions do not make a complete reclamation and security regime, although they can facilitate RWED's input to reclamation programs designed and implemented by other regulators.

3.3.3 The Mine Health and Safety Act (MHSA) Regime

Collectively, the *MHSA* and accompanying *Mine Health and Safety Regulations* (*MHSR*), R-125-95, provide a broad regulatory framework for managing health and safety risks to employees and other people on mine sites and adjacent areas. The NWT Workers Compensation Board (WCB or Board) is charged with responsibility for implementing this legal framework. The WCB carries out this responsibility in large part through its Chief Inspector and several of the Inspector's staff, and pursuant to regulations adopted by the NWT Commissioner acting on the recommendations of the Minister responsible for the WCB.[90]

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extends to adopting "standards, guidelines and codes of practice," in addition to "policies". Whatever their differences, these tools are presumably all alike in lacking a self-enforcing legal character.

[88]GNWT, *Environmental Guidelines for Contaminated Site Remediation* (Nov. 2003).

[89]This report does not evaluate the guidelines' adequacy within the limited context of contaminated site remediation.

[90]See *MHSA*, ss. 1, 34, and 45.

Unlike the *EPA*, the *MHSA* generally applies to all mines in the NWT, whether or not they are subject to the control of another regulator under other legislation.[91]

The *MHSA* has the following several components for protecting health and safety:

- Duties and performance standards for mine owners, managers, supervisors, workers, and contractors, and for corporate directors and officers (ss. 2-3, 8-10, 15-17);

- Employment protections for mine employees who refuse to work for health and safety reasons and who might face discrimination for raising health and safety concerns (ss. 18-20);

- Broad powers to adopt regulations establishing detailed health and safety standards (s. 45);

- Requirements for the submission to the Chief Inspector of mine designs, plans, and other materials to demonstrate compliance with the regulations and general legislative standards (ss. 5-7); and,

- Broad authority to inspect mines, investigate potential health and safety hazards, and take administrative and judicial action to remedy such hazards (ss. 21, *et seq.*).

The *MHSA*'s regime for protecting health and safety has several implications for mine reclamation. First, the corporate and employee duties and health and safety standards generally apply just as much to reclamation-related activities as to other mining work.[92] By the same token, reclamation work does not satisfy the *MHSA* simply because it is conducted pursuant to another legislative regime. While it makes sense that reclamation work must meet the *MHSA* standards, this approach creates the potential that work intended to satisfy reclamation requirements under another legislative regime may be prohibited or restricted by the *WCB* if it violates any *MHSA* standard. Thus, there is a need to integrate mine oversight pursuant to the *MHSA* with the design and implementation of reclamation programs under other statutes.

The *MHSA* health and safety regime is linked to mine reclamation in the additional sense that much of the work required by the *MHSA* and accompanying regulations could be characterized as reclamation work—i.e. work designed to restore a mine site to some socially desired condition and for purposes that include protecting human health and safety.[93] The text of the *MHSA* facilitates the Act's reclamation-type function in two ways. First, it broadly defines the set of human beneficiaries of the Act's protections to include not only mine workers but other

[91]*Ibid.* s. 1 (defining "mine" and "minerals" broadly and without reference to whether they are subject to any other federal or territorial regulatory regime).

[92]See *e.g. MHSA*, s. 1 (defining "mine" to include a "place where mining activities such as … mine site reclamation are carried out").

[93]See *e.g.* DIAND, *Mine Site Reclamation Policy for the Northwest Territories* (2002) at 1 (listing "human health and safety" protection as one of several reclamation objectives).

people who visit active or inactive mine sites.[94] And second, the *MHSA* does not define or otherwise limit the concepts of "health" and "safety" or target a closed set of types of *threats* to health and safety. Thus, several of the threats addressed in the *MHSR*—e.g. air and soil pollution and hydrological disturbance—may have benefits for reclamation objectives related to environmental protection as well as those related to health and safety. Not surprisingly, several *MHSR* provisions relate specifically to reclamation.[95]

Of course, the reclamation-oriented character of the *MHSA* can support an overall, multi-legislative NWT-based reclamation regime, but it once again creates the potential for different regulators imposing conflicting reclamation-related requirements. This potential can be minimized by inter-agency coordination and by each agency requiring mining companies to ensure that their plan submissions are consistent with requirements imposed by the other agencies. However, further research is necessary to determine the extent to which the *MHSA* programs are integrated with the reclamation programs implemented by other regulators.

3.4 The Policy Regime

This part analyses the three generic, written sets of policy documents covered in this report. Two of these documents—the "Mine Site Reclamation Policy for the NWT" (MSR Policy) and the "Guidelines for Abandonment and Restoration Planning for Mines in the NWT" (ARP Guidelines)—expressly address reclamation of mines in the NWT. Part 3.4.1 below compares these two policies. Part 3.4.2 then analyses the third set of policies addressed in this report—the Standards and Guidelines adopted by the Canadian Council of Ministers of the Environment (CCME).

3.4.1 The MSR Policy and ARP Guidelines

As their names imply, the MSR Policy and ARP Guidelines each generally address reclamation of mines in the NWT, although the specific mines, regulatory approvals, and decision-makers to which these policy documents apply is somewhat uncertain. Part 3.4.1.1 below discusses those uncertainties and then highlights several other general aspects of the two policy documents. Parts 3.4.1.2 and 3.4.1.3 below then compare more specific aspects of the two documents, relating to reclamation and security, respectively.

3.4.1.1 Functions, Applicability, and Other General Features

A logical starting point for comparing the two policy documents is their statements of purpose. The ARP Guidelines, adopted jointly by DIAND and the NWT Water Board in 1990, state that they are intended to provide a "suitable structure" for developing abandonment and restoration plans for mines in the NWT.[96] The MSR Policy, which DIAND adopted in 2002, is

[94]See *e.g. MHSA*, s. 2(1) (defining a mine owner's responsibilities in relation to the mine's "employees and other persons at the mine.") and s. 1 (defining "mine" to include a "closed mine").

[95]See *MSHR*, ss. 1.123 (requiring submission of up-to-date mine plans within ninety days after the discontinuance of work at a mine) and 1.151 (requiring mine operators to adequately stabilize exposed slopes of waste dumps and impoundments before abandoning those structures).

[96]ARP Guidelines at i.

intended to provide a "template for the development and enhancement of operational procedures and processes required to ensure that [reclamation related] objectives are met" and to codify and clarify reclamation practices and requirements.[97] While expressed in different terms, the two policies' express purposes are quite similar. This similarity raises questions about the functional relationship between the two policies. These questions are answered clearly in relation to security because, as discussed below, of the two policy documents, only the MSR Policy addresses security. However, the functional relationship between the policies is unclear with respect to reclamation.

One would expect the MSR Policy, as the later of the two policy documents, to explain the documents' functional relationship. Unfortunately, the MSR Policy does not specifically reference the ARP Guidelines, although the Policy implies that it was not intended to supplant the Guidelines.[98]

The two policy documents' statements of their applicability provides few additional clues as to the two documents' functional relationship. The Guidelines were specifically intended to be used in setting reclamation requirements in the context of water licences issued by the NWT Water Board under *NIWA* and of land leases issued by DIAND under the *TLA*, although the regulators apparently hoped the Guidelines would be used by other regulators of NWT mines, as well.[99] These references make the Guidelines' current status unclear, in part, because the Guidelines have never been amended to reference the legislative and corresponding institutional changes engendered by the *NWT Waters Act* and *MVRMA*.[100]

In contrast with the ARP Guidelines, the MSR Policy was clearly intended to apply under the current legislative framework for regulating mines in the NWT, but specifically with reference to *DIAND*'s decision-making "in matters where DIAND has authority".[101] This authority presumably includes not only DIAND's direct approval authority under the *TLA*, but also DIAND's plenary authority over various land and water approval decisions of the Land and Water Boards under the *MVRMA*. In this context, the Policy states that it will "inform" those

[97]MSR Policy at 2.

[98]See *ibid.* at 3 (stating generally that it is not intended to replace "other federal policies concerning … environmental protection") and 7 (requiring that reclamation plans satisfy any specific standards or guidelines adopted by the Land and Water Boards). DIAND and the Mackenzie Valley Land and Water Board are both in the process of developing still additional policy documents which, at least in their current draft version, will supplement but not replace the 2002 MSR Policy. See DIAND, *Mine Reclamation Policies for the Northwest Territories and Nunavut* (June, 2004 Draft) at 1-2; MVLWB, *Discussion Paper – Security Deposits for Projects Permitted or Licensed by the Mackenzie Valley Land and Water Board* (16 Sept. 2004). Still another relevant document is *Mine Reclamation in Northwest Territories and Yukon*, published by DIAND in April 1992. However, this document serves more of an information function with respect to best practices, than an overall policy function, although the document can serve as policy when used by regulators as guides for setting reclamation requirements.

[99]ARP Guidelines at i and 1.

[100]As discussed in part 3.1 above, those acts collectively have replaced *NIWA* altogether as legislative sources for water licences and substituted the Land and Water Boards for the NWT Water Board as the water licencing authorities for the broadly defined "Mackenzie Valley" region. The *MVRMA* has likewise effectively replaced the *TLA* for purposes of the issuance of new surface permits in the Mackenzie Valley.

[101]MSR Policy at 2-3. The Policy also states that DIAND will use it in formulating positions it takes when it intervenes in proceedings held by other regulators. *Ibid.* at 3.

Boards of the DIAND Minister's "expectations in terms of their work and what the Minister will be looking for in the regulatory instruments submitted for the Minister's approval" (p. 4). If the Policy is not directly adopted and used by the Land and Water Boards in the first instance, its use for DIAND's review of those Boards' decisions could create confusion and uncertainty although this outcome does not appear to have ever resulted in practice. Of course, the lack of any confusion and uncertainty over the Policy's application to DIAND's review of Land and Water Board decisions may be due more to DIAND's lack of reference to or reliance on the Policy in that context than to any disagreement over the Policy's application in that context.

Although there is uncertainty as to the precise set of regulatory approval decisions, decision-makers, and mines to which both policy documents apply, both policies generally contemplate providing guidance for setting reclamation-related conditions for both water licences and land leases for any given mine. Under these circumstances, one would expect the policy documents to specify how these two types of approval instruments can be used concurrently to ensure that all reclamation-related regulatory functions are covered as efficiently and comprehensively as possible within the complex legislative framework discussed in part 3.2 above. Unfortunately, the ARP Guidelines eschew this task altogether. The MSR Policy takes on this task somewhat, by generally encouraging cooperation, coordination, and consultation among different regulators,[102] and by addressing the maximum security required for any mine, from the standpoints of security requirements imposed by all land- and water-related approval instruments for that mine.[103] However, these facets of the MSR Policy arguably take only a small step toward creating a functional division of labour that would ensure an efficient and comprehensive coverage of reclamation needs.

Another potential functional difference between the two policy documents relates to their application to existing mines. The ARP Guidelines lack any clear statement as to their application to existing mines. In contrast, the MSR Policy states expressly at the outset that it applies to "existing" as well as new mines (other than those existing mines that have been abandoned or are otherwise orphaned).[104] But the Policy later provides for a case-by-case assessment of how it should be applied to existing mines.[105] The default or starting point for this *ad hoc* assessment is confusing, however, because the Policy's core call for reclamation planning is made only in the context of "proposals" for new mines (p. 7). The Policy provides that the security for existing mines should be incrementally increased "as soon as possible" to achieve "100 per cent coverage," but then allows DIAND to forego this approach under vague circumstances discussed in more detail below (p. 12).

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[102]MSR Policy at 5-6 and 9.

[103]*Ibid.* at 9-10.

[104]*Ibid.* at 4; see also *ibid.* at 5 ("Adequate security should be provided to ensure the cost of reclamation … is born by the operator of the mine rather than the Crown."); *cf. ibid.* (stating that new mines "should be able to support the cost of reclamation" while existing mines will "also be held accountable for their reclamation liabilities").

[105]*Ibid.* at 12 (noting that the application of "certain aspects" of the Policy should "take into account the specific situation and issues of individual [existing] mines on a case by case basis.").

A final general basis for comparing the two policy documents is how they were adopted. The ARP Guidelines were drafted by a committee consisting of federal and territorial officials, together with two mining industry representatives, but with no representatives of Aboriginal or environmental organizations or of other public constituencies. Nor did the committee formally consult with non-mining representatives in the drafting process. The committee did solicit comments on a draft from a panel but, once again, the only non-governmental member of the panel was a representative from the mining industry. In addition, the Guidelines document itself shows no sign of review and approval from DIAND officials above the Regional Director of the Northern Affairs Program.[106] By contrast, the MSR Policy was approved at the Ministerial level of DIAND and purportedly resulted from a "broad-based consultation process" with representatives from Aboriginal groups, industry, Boards and territorial regulators, and other "stakeholders".[107] The higher approval level and more public nature of the adoption process for the MSR Policy suggests that, from a democratic standpoint, decision makers should give it greater weight than the ARP Guidelines, but there is no evidence decision makers have followed this approach.

3.4.1.2 Reclamation

The MSR Policy and ARP Guidelines are alike in their endorsement of reclamation, in general, and of progressive reclamation[108] and phased reclamation planning,[109] as particular reclamation approaches. However, several significant differences underlie these common approaches. These differences are reflected, at the outset, in terminology. The MSR Policy refers to planning for "reclamation" and "closure," while the ARP Guidelines address planning for "abandonment" and "restoration".[110] However, it is unclear whether these different terms have any significant practical differences.

3.4.1.2.1 Phased Planning

The two policy documents have fairly different approaches toward the timing of reclamation plan submissions. As for the first or initial planning phase, the MSR Policy appears to require the submission of a reclamation and closure plan as part of a regulatory approval

[106]ARP Guidelines at i.

[107]*MSR Policy*, "Message from the Minister of Indian Affairs and Northern Development" (unnumbered page preceding numbered text).

[108]The MSR Policy takes a somewhat more direct position favouring progressive reclamation than the Guidelines. Compare MSR Policy at 10 (part 3 relating to "Progressive Reclamation") and ARP Guidelines at 5-6 (identifying specific reclamation-related steps that can be taken during mining operations). However, the Policy also says that a plan should address progressive reclamation only to the extent that approach is "feasible" (p. 7). This ambiguous factor potentially opens the door to regulators' acceptance of a wide range of excuses to avoid progressive reclamation.

[109]See MSR Policy at 5 (plans required "at all times") and ARP Guidelines at 1 (requiring a planning approach "throughout the life" of a mining project) and 7 ("encourag[ing]" mine proponents to adopt a "phased" planning approach).

[110]See also ARP Guidelines at 7 (distinguishing "planned shutdown," "long term shutdown," and "final abandonment" scenarios). Both policies appear to contemplate a single plan covering reclamation and closure, and abandonment and restoration, respectively. MSR Policy at 5; ARP Guidelines at 7.

application, but the Policy is somewhat ambiguous on this timing.[111] The ARP Guidelines suggest that the first phase of abandonment and restoration plans will "normally" be required as part of an approval application or at least before an approval is granted. But the Guidelines do not take a hard a fast approach to this timing and, at any rate, apply this policy only with respect to water licences. The Guidelines take a more lenient approach toward land leases, allowing the submission of plans "soon after" such leases are issued.[112]

As described above, both the MSR Policy and ARP Guidelines fall short of the corresponding ideal regime component in Chapter 2 by failing to ensure that the initial plan is reviewed in conjunction with the initial mine approval decision and that the public has a full opportunity to review and comment on the plan.

The MSR Policy does not provide for formal planning phases following submission and approval of the initial plan but states, instead, that plan amendments will be required when revisions to other "mining plans require significant changes in reclamation requirements." The Policy does not address whether the public will be involved in considering any such changes and revisions, although the Policy states that in "many cases" these changes require an environmental screening and changes to regulatory approvals both of which steps may require public involvement. The Policy also states that the "most recent approved" plan will be the basis for "final decommissioning" although the Policy is not clear on what that term means and its practical (including legal) significance.[113]

In contrast, the ARP Guidelines contemplate a more formal and rigorous, two-phase planning approach for water licences after the initial planning phase. Under this approach, "interim" phase plans for mines requiring water licences will "normally" be required within two years after the licence issuance and updated annually, whereas land leases will establish *ad hoc* interim plan submission schedules for mines requiring those approvals. The Guidelines provide that the final phase plan will be required (apparently for both water licences and land leases) at least three years before the anticipated date of abandonment.[114]

As with the initial plan submissions, neither the MSR Policy nor the ARP Guidelines address whether the public will be given a chance to review and comment on the adequacy of interim and final plans.

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[111]MSR Policy at 5 (stating that every mine should "at all times" have a closure and reclamation plan), 7 (stating that all new mine "proposals" must include a reclamation and closure plan, and referring to closure planning "before development occurs").

[112]ARP Guidelines at 1, 7, and 8.

[113]See MSR Policy at 9 and 11; see also *ibid.* at 11 (referring to "decommissioning" as occurring "[n]ear the end of production when closure is anticipated" and stating that the Minister will provide a written acknowledgement of the Minister's satisfaction with the requirements of decommissioning and of the reclamation and closure plan); but see also *ibid.* (discussing the need for post-closure monitoring and assessments "[o]nce the reclamation work required by the plan is deemed completed").

[114]ARP Guidelines at 8.

3.4.1.2.2 Plan Objectives

Both policies list or adopt by reference narrative reclamation objectives that are generally consistent with those listed in Chapter 2, although the policies appear to provide more room for those objectives to be watered down by site-specific factors related to costs or feasibility.[115] Both policies also provide ambiguous signals with respect to the acceptability of reclamation plans that result in post-operating conditions that require long term care and maintenance.[116]

Besides including its own narrative objective, the MSR Policy adopts by reference any specific standards or guidelines adopted by Land and Water Boards (p. 7), but there do not appear to be any such Board-adopted generic products relating directly or indirectly to reclamation other than the ARP Guidelines themselves. The MSR Policy also refers, in the context of reclamation plan contents, to "acceptable standards" for surface reclamation and "accepted [water quality] standards" for any drainages from the site (p. 7).

3.4.1.2.3 Contents of Plans or Plan Approval Decisions

The ARP Guidelines provide different content requirements for each of the three plan phases. Five of the seven subjects listed in the Guidelines for the initial phase are simply "commitments"—in an unspecified form—to achieve various general objectives (p. 7). The remaining two subjects are: a "determination of the risk/hazard potential of proposed tailing sites during both operation and abandonment" and an "estimate" of the acid generating potential of the "tailings" (p. 7). However, the Guidelines do not explain the depth or rigor of analysis required for each of these subjects and these subjects together comprise only a relatively small part of the scope of planning subjects listed in Chapter 2. The Guidelines' list of required subjects for the Final Phase plan is similarly brief and non-detailed (p. 8). However, the Guidelines call for considerably more information to be included in, or submitted in conjunction with, the Interim Phase plan (pp. 7-8), although this scope and detail still falls far short of the scope and detail of subjects specifically listed in Chapter 2.[117]

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[115]For example, the MSR Policy adopts the 1994 Whitehorse Mining Initiative objective of returning mine sites to self-sustaining ecosystems "wherever practicable" (p. 5). The ARP Guidelines state that reclamation should aim to "return affected areas to a state compatible with the original undisturbed conditions, *giving due consideration to practical factors including economics,* aesthetics, future productivity, and future uses" (p. 1; emphasis added). This is one of four general objectives listed in the Guidelines (p. 1), but it is unclear how it relates to the other three, because they all overlap somewhat in subject but none of the other three make express allowance for economic considerations.

[116]The MSR Policy states that "[s]ome mines are anticipated to require long-term care and maintenance after closure" (p. 11), thus implying that this status does not preclude regulators' acceptance of those mines' reclamation plans or operating approvals. The ARP Guidelines list, as an objective—to "ensure" that the "requirement for long-term maintenance and monitoring is *minimized*" (p. 1; emphasis added)—but the Guidelines later require that restoration plans include "evidence that the restoration treatments will meet the intent of these guidelines *without the need for long term maintenance and monitoring*" (p. 7; emphasis added).

[117]Although these content requirements appear to apply in the contexts of both water licences and land leases, the Guidelines state at an earlier point that the "general content" of restoration plans required by land leases will be "outlined" in the lease conditions (p. 1).

As noted above, the MSR Policy's phased planning approach focuses on periodic plan amendments rather than distinct plans for different planning phases. Consistent with this approach, the MSR Policy refers to the content of a single or general plan. According to the Policy, this plan should list the "detailed measures" required for the reclamation, closure and decommissioning of the mine and the Policy lists numerous mine activities or facilities as among those to be included in this discussion (pp. 7-8). The Policy also identifies nine other topics that the Plan should address. These content requirements match several of those in Chapter 2, but generally lack the breadth and detail of the content specifications in that report.

Finally, both policies make it clear that post-closure monitoring may be necessary, but neither policy is clear about the process for making this determination and for making any such monitoring a regulatory requirement.[118]

3.4.1.3 Security

This is the one area where there is no overlap between the policies because the ARP Guidelines are completely silent on the topic, whereas the MSR Policy generally addresses all of the components (identified in Chapter 2) of an ideal security regime. The Policy starts by stating that security "should be provided" and that regulators should generally require security as conditions for their approval decisions.[119] However, the Policy adds that there "may be circumstances where security requirements may be more appropriately dealt with through agreement" rather than, presumably, through regulation. The Policy's silence on the kinds of such "circumstances" and on the nature of any such non-regulatory "agreements" opens the door for a 'backroom' style approach that lacks transparency and public accountability.

3.4.1.3.1 Security Instruments

Rather than list specific forms of acceptable security instruments, the MSR Policy states that, at least for new mines, they must be "readily convertible to cash". The Policy then lists three other criteria for choosing security instruments, again, apparently only for new mines and without defining criteria for acceptable security for existing mines. The listed criteria are generally consistent with the criteria listed in Chapter 2, although not as comprehensive.[120] The Policy also allows the consideration of "new or innovative" types of security, provided they meet the listed criteria (p. 9).

3.4.1.3.2 Scope of Costs

As for the scope of work covered by the security, the Policy states that the total security in place at any given time for new mines should be equal to the "total outstanding reclamation

[118]The MSR Policy states that the duration of any such monitoring will be determined at the time of closure (p. 11). The ARP Guidelines simply state that a monitoring program "should proceed" and be a "joint effort" between the mine operator and the regulator (p. 9).

[119]MSR Policy at 5-6.

[120]For example, the Policy criteria do not expressly forbid self-assured instruments. However, this requirement may be implicit in the Policy's express criterion that security must "remain beyond the control of the mining company, or its creditors in the event of insolvency."

liability of the mine site" including, apparently, liability for "closure-related activities" and "post-closure" (pp. 9-10). By generally referencing "reclamation," this formula does not specifically include each of the work categories listed in Chapter 2, but those categories may be implicit in the general "reclamation" category.[121]

For existing mines, the Policy urges that security be increased incrementally up to "100 per cent coverage" (presumably, of outstanding reclamation liabilities, as for new mines) "as soon as possible" but no later than the "forecast life of the mine" (p. 12). Without more detail, this approach may lead to gross inconsistencies between the levels of security in place over time and the corresponding levels of reclamation liabilities during the same period. The incremental approach also presumes that an existing mining operation will remain financially viable throughout its forecasted life, which presumption is inconsistent with the logic for security in the first place. In addition, the Policy allows regulators to relax even this incremental approach (as well as the Policy's other security-related provisions) for existing mines who demonstrate that they are "financially incapable" of providing the requisite security and only when the DIAND Minister is also satisfied that a relaxed approach is still in the "public's best interests". Given the breadth of this loophole, the MSR Policy does not really come to grips with the extent to which security should be required for existing mines.

The MSR Policy appears to sanction a "phased" or iterative approach toward calculating security amounts by implying that the security required to be posted at the beginning of each "work year" need cover only the outstanding reclamation liabilities expected *for that year* rather than for the mine's entire life. However, this interpretation is not entirely clear.[122] In addition, the Policy lacks a clear process for making these annual determinations.

The Policy lists several other principles for determining security amounts,[123] but this list generally does not provide the detail and rigor of the costing methodologies listed in Chapter 2.

3.4.1.3.3 Timing Issues

As for timing, the MSR Policy appears to imply that security should be provided at least before each year or other time period to which the security applies. But the Policy never makes this rule clear, or state that security should be provided before the relevant regulatory approval takes effect or at least before mining operations commence.

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[121]The Policy sends conflicting signals on whether post-closure activities should be counted for costing purposes. Compare MSR Policy at 8 (reclamation plans should include cost estimates of all the "work required to reclaim the mine, *for each year of the proposed operating life*" (emphasis added) but not, apparently, for post-closure work) and *ibid*. at 5 ("Adequate security should be provided to ensure the cost of reclamation, including shutdown, closure and *post-closure*, is born by the operator of the mine" (emphasis added)).

[122]At one point, the Policy states that the total security required "at any time during the life of the mine" should cover the "total outstanding reclamation liability … (*calculated at the beginning of the work year, to be sufficient to cover the highest liability over that time period*)" (p. 10). However, at several other points, the Policy refers to security as needing to equal the mine's "total reclamation cost" or "outstanding liability," but without expressly qualifying those costs or liabilities in terms of annual work years (p. 10).

[123]See *ibid*. at 6 (cost estimates should be based on costs of work done by independent contractors rather than by the mine operator; cost estimates should include "contingency factors"; cost methods "should be the RECLAIM or some other appropriate model.").

As for periodic reviews, the MSR Policy provides for regulators' "timely" grant of credit for progressive reclamation (p. 10). However, the Policy does not address the need for periodic reviews of posted security amounts for other purposes, namely, to make sure that they match the latest estimates of reclamation work required and accompanying costs.

The MSR Policy provides few details with respect to the process and timing of forfeiture of posted security, stating only that DIAND will use its powers under the *NWT Waters Act* to recover any costs DIAND has incurred in actions to "safeguard human health and safety and the environment" at any mines that have been abandoned by a bankruptcy receiver or trustee. This approach is unduly narrow in several respects. First, as discussed in parts 3.2.2.1 and 3.2.3.1 above, the *MVRMA* and *TLA* provide legislative authority for requiring security (to the extent of their applicability) in addition to the authority provided under the *NWT Waters Act*. It is unclear why the MSR Policy refers to only the third of these three statutes, because DIAND can presumably use security collected under that Act to recover the costs of only those actions that are related to reclaiming or protecting water and aquatic ecosystems.

A second unduly narrow aspect of the Policy's forfeiture position is that the *NWT Waters Act*, as well as the other two statutes, appears to give DIAND authority to apply any security posted under those Acts in non-bankruptcy and non-abandonment circumstances as well as under the abandonment-bankruptcy scenario referenced in the Policy. The wide range of circumstances warranting forfeiture of security listed in Chapter 2 suggests that the Policy's focus on abandonment in bankruptcy is unduly narrow from a policy, as well as a legal, standpoint.

Finally, the Policy says almost nothing about when DIAND must release security and the process for releasing it, except to indicate that the Minister can hold back an "appropriate" portion to cover "future" post-closure needs. The term "appropriate" is problematic, because it does not necessarily require the Minister to retain enough security to cover all expected post-closure costs (assuming that amount exists to be retained in the first place). The Policy also requires DIAND to provide "timely" "credit" for any progressive reclamation work and, presumably, to also act "timely" in granting any reductions in security that are warranted by such credits. While "timeliness" itself is a worthy feature, this 'tit-for-tat' approach is problematic to the extent that it fails to consider security amounts needed for long term reclamation and post-closure monitoring and maintenance. The approach also appears to lack any accompanying opportunities for public consultation on whether security should be released.

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The above analysis of the MSR Policy and ARP Guidelines suggests that they provide only a weak generic, written regime for reclamation and security for mines in the NWT. Besides their non-binding legal character, their applicability is uncertain and at any rate, likely not universal, and they fail to chart a clear, efficient, and comprehensive functional path through the complicated jurisdictional maze created by the applicable statutes and regulations. On the other hand, the policies collectively set a general course that, if followed, would be consistent with at least the general approach toward reclamation and security in the ideal regime outlined in Chapter 2, although the NWT policies fall short of that regime in many respects.

3.4.2 CCME Standards and Guidelines

As its name implies, the CCME is comprised of environment ministers from the federal government and all Canadian provinces and territories. As such, it is the principal Canadian forum for inter-jurisdictional environmental cooperation and harmonization.

One of the CCME's primary products is the "Canadian Environmental Quality Guidelines" (EQGs), which the CCME touts as a comprehensive "reference guide" for environmental managers.[124] The EQGs include scientific protocols for environmental data gathering and analysis, but their chief component consists of ambient environmental quality standards for air, water (as supplied for drinking, and as used for recreation, aesthetics, and agriculture, and with respect to freshwater and marine aquatic life), soil, marine and freshwater sediment, and tissue residues for wildlife that consume aquatic biota. EQGs are expressed as numeric criteria or narrative statements for a wide range of anthropogenic pollutants and for changes in several physical parameters (e.g. water pH and temperature, and algae).[125]

The EQGs have several distinguishing features for purposes of this report. First, the EQGs are supposedly intended to identify ambient environmental levels of the relevant pollutant or physical parameters that preclude long term "observable adverse effects" to the relevant physical parameters, on atmospheric, aquatic, and terrestrial ecosystems.[126] To fulfill this purpose, EQGs are purportedly established without regard to socio-economic or technical factors—i.e. to the social and private costs of achieving them.[127] As such, the *concept* of EQGs is consistent with the concept of the narrative reclamation planning targets listed in Chapter 2. However, several other features of EQGs limit their use as reclamation targets.

One of these features is their apparent incomplete scope. The pollutants and physical parameters for which EQGs have been set were chosen from priorities set by the CCME[128] and, while extensive, they do not purport to cover all relevant pollutants and physical parameters or, in other words, to provide a truly holistic benchmark for environmental quality and public health. Thus, at best, the EQGs provide (potentially numerous) parameter-specific components for an overall reclamation target, but they do not establish the overall target itself.

Another key feature is that, although they are intended to promote national consistency, the EQGs were derived from factors that are not all nationally common. Because site-specific factors may vary considerably from those used in setting the EQGs, they are intended more as

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[124]CCME, *Canadian Environmental Quality Guidelines*, www.ccme.ca/publications/can_guidelines.html (26 May 2004 update).

[125]CCME, *Summary of Existing Canadian Environmental Quality Guidelines – Summary Table* (Dec. 2003).

[126]CCME, *Introduction* at 2; *ibid*. at 1 (EQGs aim to achieve "negligible risk to biota, their functions, or any interactions that are integral to sustaining the health of ecosystems and the designated resource uses they support.").

[127]CCME, *Canada-Wide Standards – General Information* (www.ccme.ca/initiatives/standards.html?category_id=45).

[128]CCME, *Canadian Environmental Quality Guidelines – Introduction*, at 1.

nationally consistent starting points for setting local ambient environmental quality standards than as directly applicable national standards.[129] Thus, while EQGs can provide a useful starting point for setting NWT-specific reclamation standards, the EQGs themselves are not automatically usable for that purpose.

The EQGs are not self-implementing in the additional respects that they are not legislatively mandated[130] and the CCME members have made no formal policy-level commitment to honor them. Thus, their use (even as a starting point for deriving local standards) depends entirely on the whim of individual regulatory departments or on any Cabinet-level policies guiding departmental decisions.[131] To date, neither DIAND nor the Land and Water Boards have developed generic EQGs (either on an NWT-wide or region-specific basis) using the CCME's EQGs as a template. Regulators apparently consider the EQGs on an *ad hoc* basis in establishing conditions for individual water licences, but they have no generic formula or protocol for these licence-specific considerations.

The CCME's other major product is Canada-Wide Standards (CWSs). These generally have several components: numeric pollutant targets (expressed as reduction percentages or ambient environmental quality levels); timelines for achieving those targets; an "initial set" of actions needed by each jurisdiction to achieve them; and, a "reporting protocol" to track the jurisdictions' progress.[132] CWSs inclusion of jurisdictions' commitments to take follow up actions distinguishes them from EQGs, although the commitments are generally not legally

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[129]*E.g.* CCME, *Summary: Canadian Environmental Quality Guidelines* ("Environmental conditions across Canada vary widely, therefore users of EQGs will usually need to consider local conditions and alter these guidelines appropriately.") and *ibid.* (noting that the aquatic life guidelines are "not species-specific therefore they … need to be adjusted for the particular location" and that the "appropriateness of the soil guidelines needs to be adjusted to the specific location, as they are generic in nature"); see also CCME, *Introduction* at 1, 2 (starting point for setting local standards).

[130]The closest there is to a legislative mandate is s. 54(1)(b) of the *Canadian Environmental Protection Act* (*CEPA*), S.C. 1999, c. 33, which provides that the federal Environment Minister "shall" adopt "environmental quality guidelines" as part of the Minister's general environmental protection responsibility. While purporting to require the Environment Minister to adopt EQGs, the significance of this requirement is debatable in part because the Act does not define or clarify the scope and nature of such EQGs. See *ibid.* s. 54(2) (specifying broad subjects that guidelines can cover). In addition, s. 54(1)(b) states that these guidelines should consist of "recommend[ed]" parameters of environmental quality, suggesting that Parliament did not intend the guidelines themselves to be mandatory. The Act also does not clarify how these products relate to the EQGs adopted by the CCME members. See also *Oceans Act*, S.C. 1996, c. 31, s. 32(d) (providing the relevant Minister discretion to adopt "marine environmental quality guidelines").

[131]See CCME, *Summary* ("The legislative authority for the implementation of EQGs lies within the province or territory, with the exception of federal lands.") and CCME, *Introduction* at 2 ("The general effectiveness and endorsement of … [EQGs' functional] uses … are dependent on initiatives at the local, national, and international levels."); see also CCME, *Canada-Wide Standards – General Information* (www.ccme.ca/initiatives/standards.html?category_id=45) (noting the lack of commitment to achieve EQGs).

[132]*Ibid.*

binding so they are of debatable significance.[133] In addition, at least one of the CWSs eschewed committing to specific follow up actions altogether.[134]

CWSs are distinguishable from EQGs in the additional sense that the former can reflect considerations of compliance costs, which factor is supposedly absent from EQG determinations, as discussed above. For this reason, in concept, CWSs would appear to be less functionally suitable for the kind of reclamation targets listed in Chapter 2 than EQGs, although the setting of those 'ideal' targets may include some considerations of compliance costs as well.

CWSs differ from EQGs in several other key respects. First, where the EQGs address numerous pollutants (and a few physical parameters) regardless of their anthropocentric source, the CWSs adopted to date have set targets for only a handful of pollutants (or pollutant parameters)—benzene, mercury (in air emissions), dioxins and furans, particulate matter and ground level ozone, and petroleum hydrocarbons in soil.[135] Hard rock mining operations in the NWT may pose a risk of emitting several or all of these pollutants/parameters but, at best, the parameters relate to only a small portion of the pollutants (and environmental harms more generally) that need to be addressed in the reclamation of a hard rock mining operation. In addition, to date, the list of actions the CCME members have committed to take for all but one of these CWSs have focused on non-mining categories of sources of those pollutants.[136] The exception, a CWS for soil contaminated with petroleum hydrocarbons, may have direct relevance to the reclamation of any hard rock mine that has such soil contamination.[137]

In sum, the CCME Guidelines and Standards collectively provide useful tools for regulators to consider in crafting various aspects of reclamation requirements for individual NWT mines. But these tools are narrowly focused and they haven't been used to develop generic, enforceable targets for mine reclamation even within their limited areas of focus.

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[133]See David R. Boyd, *Unnatural Law – Rethinking Canadian Environmental Law and Policy* (Vancouver: UBC Press, 2003) at 106 (noting that the use of the word "standards" in the term "Canad-wide Standards" is "misleading," because the CWSs are not enforceable).

[134]See CCME, *Canada-Wide Standard for Petroleum Hydrocarbons in Soil* at 7 (noting that, because contaminated sites were intra-jurisdictional concerns, "specific measures … to meet this CWS will be at the discretion of each jurisdiction," although the jurisdictions agreed to at least "review current programs and tools and, as required, develop and activate jurisdictional implementation plans to integrate the CWS or ensure equal or better protection.").

[135]See CCME, *Canada-Wide Standards – General Information*. The CCME does not appear to intend to expand this coverage in the near future. CCME, *Business Plan 2004/05 to 2006/07*.

[136]See generally CCME, *Canada-wide Standards – General Information* (links to individual CWSs listing implementation actions) (http://www.ccme.ca/initiatives/standards.html?category_id=45 (Aug. 18, 2004 update). One of these categories—waste incinerators that emit dioxins and furans—may apply to those mines that propose to incinerate portions of their wastes on-site. See CCME, *Canada-wide Standards for Dioxins and Furans* (endorsed April 30-May 1, 2001) (www.ccme.ca/assets/pdf/d_and_f_standard_e.pdf).

[137]This CWS consists essentially of methodologies for choosing among various numeric criteria for use as targets for remedying sites contaminated with petroleum hydrocarbons. See CCME, *Canada-wide Standards for Petroleum Hydrocarbons (PHC) in Soil* (endorsed April 30-May 1, 2001) (http://www.ccme.ca/assets/pdf/phcs_in_soil_standard_e.pdf).

3.5 Summary of the Reclamation Regime in the NWT

For purposes of this report, the legal regime for hard rock mining reclamation in the NWT consists primarily of federal statutes (and accompanying regulations) providing for the licencing of water uses and waste deposits in water under the *NWT Waters Act* and the *MVRMA* ("water licencing" for short), and for the leasing of surface land uses under the *TLA*. Land use permits (issued under the *MVRMA* and the *TLA*) might also provide a useful tool for requiring reclamation, but their application has been limited considerably by regulations. For this and possibly additional reasons, permits have apparently not been used to require broad-scale reclamation, at least, for large mines or other major surface developments. Land use planning and environmental assessments, authorized under the *MVRMA* for the Mackenzie Valley, can both enhance the utility of the water licencing and land leasing tools for reclamation purposes, although the land use planning tool has apparently provided little service in this regard to date.

As summarized above, the legal regime for hard rock mining in the NWT has several distinguishing features. The first and most prominent feature is that the relevant (federal) statutes are almost completely devoid of any express references to reclamation and contain only slightly more, but still scant, provisions regarding security. The statutes do provide government with considerable implied authority to establish generic reclamation requirements in regulations but, like the statutes, the regulations adopted to date are themselves largely silent on reclamation and security, preferring instead to provide implied authority to DIAND and the various resource management Boards to establish a reclamation regime largely through the issuance of individual leases and licences and, to some extent, through generic non-binding policy documents (discussed in more detail below).

A second notable feature of the statutory regime for hard rock mining reclamation in the NWT is that, rather than being focused on mining *per se*, it is oriented toward, and fragmented according to, different environmental components (water and land surface), different geographic regions (within and outside of the Mackenzie Valley; and within and outside of the two settlement areas within the Mackenzie Valley), and different regulatory decision-makers (e.g. the NWT Waters Board, the Mackenzie Valley Land and Water Board, and DIAND). The authority of these decision-makers is, in turn, determined in part by the environmental media of concern (water or land), in part by geographic boundaries, and in part by the type of activity requiring approval (i.e. Board licences require DIAND's approval for some activities but not for others).

As summarized above and described in more detail in the preceding parts of this chapter, how does the regime for reclamation of hard rock mines in the NWT compare with the ideal regime? This comparison cannot be made in a quantitative sense. Even a qualitative comparison is problematic, for several reasons, one of which is that the scope of ideal regime components requires consideration of legal and policy sources that are beyond the scope of research conducted for this report. Another reason results from the NWT regime's principal feature—the absence of a formal, unified, and express legal requirement for reclamation of (and security for) NWT mines. This feature itself provides an obvious basis for comparison with the ideal regime at a broad or macro level, but the feature makes it difficult to compare the two regimes at a more detailed level. Nevertheless, the following table provides a narrative comparison using the eight ideal regime categories listed in Chapter 2. (Once again, Appendix D provides a more detailed list of the ideal regime components summarized in the following table.)

1. The scope of lands and mines subject to the reclamation regime	
Ideal Regime • Applies to all types of mine-able lands within the jurisdiction (e.g. private, municipal, regional, federal) • Applies to all new, major producing mines (using all types of materials and production methods) • Applies—with modifications or phased implementation, as appropriate—to clearly defined sub-categories of: mineral exploration, small mines, and existing active and inactive mines	*NWT Regime* • No formal reclamation regime in the NWT • Several statutes and regulations that form the *de facto* legal framework for reclamation collectively apply throughout the NWT (except National Parks and other specially designated federal lands) • NWT regime different for federal and territorial government owned lands • Two reclamation mining policies (only one covers both reclamation and security), one is expressly inapplicable to mining exploration and the other is ambiguous • Both policy documents are ambiguous as to their applicability to existing mines and do not apply to abandoned mines.
2. Reclamation planning	
Ideal Regime • Requires companies to prepare and adhere to reclamation plans as a condition for obtaining and maintaining an approvals to operate • Phased planning subject to periodic reviews and updates • Clear reclamation objectives for use in designing and reviewing reclamation plans • Objectives tied to rationally derived (including comprehensive environmental quality standards) and not subject to mine-specific feasibility or cost considerations	*NWT Regime* • No legal requirement for reclamation plans as a condition for obtaining and maintaining an approval to operate a mine • No significant legal guidance on the objectives, scope, content, timing, and updating of any reclamation plans on a mine-specific basis • Two policy documents generally call for reclamation planning, but they are not enforceable and their applicability is ambiguous • Two policies provide some direction on the generic reclamation regime created by the statutes and

• Plans include clear, enforceable deadlines that reflect a progressive reclamation approach • Plans include a description of all mine facilities and activities, identification of all areas to be reclaimed (within and beyond the mine site), a description of all reclamation work, and baseline data and risk assessments (see Appendix D for a more complete list of reclamation contents) • Approval of reclamation plans occurs in a regulatory, context, in conjunction with other relevant approvals and environmental assessments • Decisions approving reclamation plans protect the public from liability for reclamation costs	regulations although policies fall far short of the detail contemplated in the ideal regime
3. Security requirements	
Ideal Regime • Security, in addition to reclamation plans, as a condition for obtaining approval to operate • Acceptable forms of security to ensure liquidity and availability of secured funds should be set out clearly • Security amounts reflect full cost of all required categories of reclamation work (including post-closure activities) and the estimated economic value of natural resource damages and other economic costs • Rigorous and comprehensive costing methodologies • Security amounts reviewed and updated periodically • Clear criteria for release and forfeiture of security tied to plan implementation, other regulatory requirements, and success in achieving prescribed reclamation objectives	*NWT Regime* • No legal requirement for security as a condition for obtaining approval to operate a mine, but provisions regarding any security that regulators require on an *ad hoc* basis • Little legal direction on form of security, calculation of security; or processes for release and forfeiture of security • Policy fills this legislative gap somewhat but is not legally binding, has uncertain applicability, and allows security to be handled by agreement rather than through regulatory channels in circumstances that are also ambiguous • Policy addresses each of the ideal regime components with respect to security but generally does so through provisions that fall short of the breadth and rigour of those components

4. Integration of the reclamation regime with other legal regimes related directly and indirectly to mining	
Ideal Regime • Tenure rights subject to reclamation requirements • Reclamation requirements complemented by appropriate financial incentives and should not preclude liabilities for environmental harm and other damages caused by mining operations	*NWT Regime* • Tenure rights not expressly subject to reclamation requirements • Uncoordinated reclamation requirements from separate land and water management regimes
5. The process for developing a jurisdiction-specific reclamation regime	
Ideal Regime • Regime developed in a transparent process that includes public consultation • Process and products vested in a broader sustainability strategy for mineral production, processing, and consumption that reflect consideration of the appropriateness of uniform, multi-jurisdictional reclamation regimes	*NWT Regime* • Separate land and water management regimes developed using standard regulatory and policy processes, improved somewhat through land claims agreements and implementation
6. The format of a written text of a reclamation/security regime	
Ideal Regime • Readable, understandable, and publicly accessible legal and policy instruments • Clearly defined terms that are consistent among all regime instruments	*NWT Regime* • Reclamation legislation is difficult to read because it is scattered among several statutes and accompanying sets of regulations • Legal sources not well integrated and do not use consistent mining-related terminology
7. Principles and approaches to government decision-making	
Ideal Regime • Transparent decision-making, consistent with broader	*NWT Regime* • Overall resource management regime in the NWT is

sustainability principles, and adaptive • A single decision-making agency or at least a plan for coordinating decisions of multiple agencies to ensure consistency, clear divisions of labour, and efficiency, and no regulatory gaps • Reasonable, meaningful limits on any delegations of regulatory discretion in adopting regulations and generic policies and in making mine-specific regulatory decisions	intended to be integrated but the subject matter, geographic, and institutional divisions present at least the appearance of a disjointed regime • Questions about regulators' ability to adopt holistic reclamation approaches and the consistency of the *ad hoc* development, implementation, and enforcement of reclamation requirements • Uncertainties as to the division of responsibilities between DIAND and the co-management boards for setting and implementing reclamation policy (e.g. water licences and surface land leases) • Practice of treating surface leases as confidential prevents a holistic reclamation approach • Two reclamation policies do not remedy this legal fragmentation and do not clarify how they relate to each other • Policies contain little direction to ensure consistency in the development, implementation, and enforcement of reclamation requirements • Significant responsibility for establishing reclamation requirements rests with government officials and boards responsible for issuing mine-specific approvals with few legal limits on the scope of their discretion
8. Public participation and government accountability	
Ideal Regime • Public participation through a wide range of mechanisms (e.g. written comments, hearings, administrative appeals) and for every key decision-making stage (e.g. reclamation plan approval, review, and amendments) • Broad and timely public access to information	*NWT Regime* • Legal provisions for public participation lacking • Reclamation-related decisions can be made outside of regulatory approvals and do not expressly require public participation • Reclamation regime and policy fails to ensure sufficient public access to *TLA* leases

regarding reclamation plans, security, monitoring, and related government decisions • Rigorous and flexible government enforcement tools and reasonable judicial oversight of regulatory decisions	

Chapter 4: Reclamation Standards in Selected Canadian Provinces and U.S. States

4.1 Introduction

This chapter describes the legal regimes for hard rock mining reclamation in four Canadian provinces—British Columbia, Manitoba, Ontario, and Saskatchewan—and in six states in the U.S.—California, Colorado, Montana, New Mexico, South Dakota, and Washington. As with the NWT analysis in Chapter 3, a selective approach to legal sources was used in assessing the relevant Canadian and U.S. regimes. Thus, the descriptions below are not intended to capture the entire scope of the regimes in each of the provinces and states assessed, nor the actual implementation of these regimes for specific mines.

The Canadian and U.S. legal sources that were reviewed are listed in Appendix B, respectively, and were identified by CARC in its terms of reference for this research project. The US sources were chosen largely by the selection of best legal practices found in a study that reviewed hard rock financial security regimes in the western US.[138] CARC chose the Canadian legal and policy sources based on a preliminary identification of the most detailed sources from among a broader set of sources recommended to CARC by representatives of government, industry, and NGOs.

For each source, the analysis attempted to identify and describe the core provisions and overall reclamation regime structure. However, the analysis of U.S. sources paid particular attention to the provisions relating to one or more topics that were identified in the project terms of reference. These topics are identified with the list of U.S. sources in Appendix B.

Parts 4.2 and 4.3 of this chapter address the Canadian and U.S. sources, respectively. Part 4.4 then provides a comparative analysis of the sources described in the previous two parts.

4.2 Canadian Provincial Reclamation Regimes

This part addresses reclamation regimes in four Canadian provinces: British Columbia, Manitoba, Ontario, and Saskatchewan. The legal and policy sources reviewed are provincial, rather than federal, because Canadian provinces generally take the lead in directly managing mining operations within their borders and that management function is typically viewed as including reclamation. Of course, this is an overly simplified picture of the federal/provincial division of labour which is both constitutionally and legislatively complex and which still provides considerable room for federal environmental regulation of provincial mines.[139]

[138]James R. Kuipers, *Hard Rock Reclamation Bonding Practices in the Western United States* (National Wildlife Federation, 2000).

[139]See, *e.g.* Barton, *supra* note 55 at 1-27.

4.2.1 British Columbia

The B.C. *Mines Act*, R.S.B.C. 1996, c. 293, provides a mining-specific regulatory framework for the protection of public health and safety and the environment. The Act applies broadly to all "mines" during all phases between exploration and abandonment and including closure and reclamation.[140] The Act is administered by the province's Ministry of Energy and Mines including, in particular, the Ministry's Chief Inspector of Mines and other inspectors appointed by that official, and to a minor degree through regulations adopted by the provincial Cabinet.

The Act's core provision requires mine owners and operators to obtain a "permit" from the Chief Inspector or Minister before "starting any work in, on or about" a mine (s. 10(1)).[141] The Act bolsters this requirement by clarifying that permits must be held, that no work can occur except pursuant to a permit, and that permit conditions must be satisfied (s. 10(9)). The permit application must include a "plan" that describes the "proposed work" and that details a "program for the conservation of cultural heritage resources and for the protection and reclamation of the land, watercourses and cultural heritage resources affected by the mine" (s. 10). The Act provides no other detail on the content of a required reclamation plan, except to say that the plan must include any material required by regulations adopted under the Act or by the province's mine, health, safety and reclamation code adopted under the Act (s. 10(1)).

The Act gives the B.C. Cabinet broad authority to adopt regulations to implement the Act and specifically including regulations addressing mine closure and abandonment, permitting, and environmental protection standards (s. 38). Cabinet regulations are also expressly allowed to adopt codes or standards adopted by national or international "standards associations". To date, the Cabinet has exercised these regulation-making powers very sparingly, apparently preferring to defer to the code adopted under the *Mines Act* as the primary non-statutory source of rules for reclamation.

Section 34 of the Act provides for the adoption of the code by a committee established by the Minister. That section requires that the Chief Inspector chair the committee and otherwise gives the Minister blanket discretion to chose the other committee members. The code must address "all aspects" of reclamation "in the operation of a mine". The code takes effect only when approved by the provincial Cabinet and is trumped by the regulations if it is inconsistent with the regulations. (The code's provisions are discussed below.)

Although the Act's permit requirement applies on its face to all mines covered under the Act, the Chief Inspector has broad discretion to waive the permit requirement when the Chief Inspector is "satisfied" that a permit is not "necessary" given the "nature of the proposed work" (s. 10(2)). The Chief Inspector has similarly wide discretion to grant variances, on application, from any requirement of the regulations or the Code (s. 13).

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[140] *Mines Act*, s. 2; see also *ibid*. s. 1 (broad definition of "mines").

[141] The Minister is also authorized, under s. 11, to exercise the Chief Inspector's permit issuing powers when the Minister deems it "necessary … in the public interest" to do so.

The Act also gives the Chief Inspector wide discretion to decide whether to issue and revise a section 10 permit and to include any conditions the Inspector deems "necessary" in a new or revised permit (ss. 10(3), (6) and (7)). This discretion includes deciding whether to require security as a permit condition and the acceptable form of security (ss. 10(4) and (5)). However, the Act appears to contemplate the imposition of two different security requirements, but is not clear on the relationship between them and on the scope of the Chief Inspector's discretion to decide the security amounts.[142] The Act also gives the Chief Inspector wide discretion to decide when to use the posted security and when to return it to the permittee.[143]

Besides requiring permits and associated plans and security, the Act imposes a general duty on mine owners, agents, managers, supervisors, and employees, to take all "reasonable" steps to comply with the Act, and any orders issued under it, or relevant provisions of the regulations or code (s. 24).

Several provisions of the Act collectively give the Chief Inspector broad enforcement and remedial powers with respect to unfulfilled permit conditions and reclamation obligations, and environmental and health hazards, including powers to order mine officials to comply with permit terms or reclamation plan provisions, to suspend operations or close a mine altogether, and to cancel a permit.[144]

Other notable provisions of the *Mines Act* provide for public participation—through appeals (by "adversely affected" persons) of various regulatory decisions (s. 33), and participation on regional and province-wide advisory committees that can address reclamation and other environment, health, and safety issues (ss. 9, 34)—and remedies for employer discrimination against actions taken by employees to comply with the Act (ss. 14 and 19).

While the reclamation and security provisions of the B.C. *Mines Act* are relatively short on detail, the opposite is true of the 200-plus page *Mine, Health, Safety and Reclamation Code for Mines in British Columbia* ("*Code*"), established under, and adopted by reference in, the Act and applicable to all mines in the province (s. 1). As its name implies, the *Code*'s purposes are to protect the health and safety of mine employees and the public from risks posed by mine activities and, specifically as relevant here, to "protect and reclaim the land and watercourses

[142]Under s. 10(4), the Chief Inspector can require security for purposes of reclamation and protection or remediation of damage to waters and cultural heritage resources. Security required under that subsection can be in any amount determined by the Chief Inspector. Subsection 10(5) also gives the Chief Inspector discretion to require security, in an amount "satisfactory" to the Chief Inspector, but "so that" the amount, together with any security provided under s. 10(4), will cover all work needed to fulfill permit conditions related to the functions listed in s. 10(4) or orders or directions issued to enforce those permit conditions.

[143]*Mines Act*, ss. 10(8) (authorizing the Chief Inspector to use all or part of the security to pay for work required when the reclamation has not been performed and completed, or permit conditions fulfilled, to the Chief Inspector's "satisfaction") and 12 (4) (allowing the Minister to refund the security if the Chief Inspector believes it is no longer "required" for reclamation and environmental protection).

[144]See *ibid.* ss. 10(8) (remedies if reclamation not being done satisfactorily or permit conditions not being fulfilled), 15 (inspection and remediation powers), 17 (inspection and remediation powers for abandoned mines), 18 (power to order mine officials to provide an engineering report regarding hazards or dangerous occurrences being investigated), 35 (power to issue and seek judicial enforcement of compliance orders), and 37 (offences and penalties).

affected by mining."[145] Of the *Code*'s twelve multi-provisioned "sections," sections 9 and 10—relating to mineral "exploration activities" and reclamation and closure—are most relevant for purposes of this report.[146]

Code subsections 9.4–9.12 list numerous detailed environmental performance requirements for exploration activities that indirectly relate to reclamation or, in at least one instance, are designed to facilitate reclamation.[147] However, subsection 9.13.1 directly addresses reclamation in the context of exploration activities, by generally requiring reclamation within one year after exploration ceases and by providing performance standards relating to pits and trenches, noxious weeds, erosion, and revegetation. That subsection also requires mining companies to report the "results" of their completed reclamation work to a Mines Branch inspector.

Section 10 of the *Code* addresses environmental performance and reclamation of mine operations. Subsection 10.1.4 provides an expanded, detailed list of the application and related plan components required in the *Mines Act* for obtaining permits required under section 10 of the Act. This expanded list includes detailed environmental baseline information, and plans for predicting, preventing, and mitigating acid mine drainage. The *Code* adopts somewhat of a phased approach toward reclamation planning, by requiring the initial permit application to include "operational" reclamation plans covering the first five years of operations and a "conceptual final" reclamation plan covering abandonment, closure, and post-closure maintenance (ss. 10.1.4(6) and (7)).

Code section 10 also includes facility design standards (s. 10.1), one of which is specifically aimed at facilitating reclamation,[148] and performance standards and related procedural or substantive requirements for operations (s. 10.5) and closure (s. 10.6), many of which standards and other requirements relate closely to reclamation. Subsection 10.7 addresses reclamation directly, in part, by requiring mine officials to conduct reclamation according to various standards listed in that subsection (s. 10.7.1). These standards relate to land and water stability (s. 10.7.6), revegetation (s. 10.7.8), topography (s. 10.7.9), waste disposal (ss. 10.7.10 and 10.7.28), drainage and productivity of watercourses (10.7.12), open pits (10.7.13 – 10.7.16), impoundments (10.7.17 – 10.7.18), removal or other handling of various structures, spillways, and openings (10.7.10, 10.7.11, 10.7.13-10.7.24), and metal uptake by plants and animals (s. 10.7.27).

Section 10 provides several other features of a reclamation regime, including:

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[145]*Code*, Purpose statement (first page of unnumbered pages downloaded from: http://www.em.gov.bc.ca/mining/Healsafe/mineereg.htm).

[146]Section 9 of the *Code* defines "exploration activities" broadly as activities undertaken in the "search for and development of" coal and non-placer minerals, but excluding prospecting with hand tools and several other listed activities.

[147]See *Code* s. 9.6.1 (requiring exploration to minimize soil loss so that the site can be "reasonably reclaimed to support appropriate self-sustaining vegetation.").

[148]See *ibid.* s. 10.1.7 (waste dump designs to allow appropriate recontouring).

- A general requirement that reclamation achieve post-mining land uses approved by the Chief Inspector (s. 10.7.4);

- An exemption for land disturbed before the enactment of provincial reclamation legislation (s. 10.7.2);

- Requirements, to be imposed on a case-by-case basis, for monitoring metals uptake in plants (s. 10.7.25) and reclamation success more generally (s. 10.7.30); for the conduct of ecological risk assessments (s. 10.7.26); and for the implementation of "remediation strategies" to achieve applicable provincial water quality standards (s. 10.7.29); and

- Provisions for inter-governmental coordination and advisory committee consultation in reviewing applications for *Mines Act* permits (ss. 10.3 and 10.4).

As is generally the case in all jurisdictions with a mining statue that specifically addresses reclamation, other local and national environmental statutes indirectly supplement the legal regime for reclamation in B.C. One such statute is the provincial *Environmental Management Act*, S.B.C. 2003, c. 53, which provides a broad legal framework for regulating air and water pollution and for remediation of contaminated sites. This framework includes provisions generally designating a wide range of "persons" as "absolutely, retroactively and jointly and separately" liable for remedying contaminated sites (Part 4, Division 3, ss. 45-47).

The provincial Cabinet adopted the *Contaminated Sites Regulation*, B.C. Reg. 375/96, pursuant to the *Waste Management Act*, one of the several environmental statutes that were consolidated in the *Environmental Management Act*, to provide a detailed, proactive regulatory regime for identifying and remediating contaminated sites. As relevant here, that regulation requires companies to submit "site profiles" to the provincial government in connection with various industrial operations listed in the regulations, including asbestos, coal, and non-ferrous metal mining, and mine tailings disposal (ss. 3, 4 and Schedule 2).

Where site profiles are required, the regulations include detailed provisions specifying the content of those site profiles and government procedures for reviewing and publicizing site profiles. Under the regulations, the primary function of these profiles is to enable the government to determine, according to standards provided in the regulations, whether the site is "contaminated". For such sites, the regulations provide for the submission and government approval of "remediation plans" which must be designed to achieve environmental quality standards listed in the regulations for remediated soils and which must follow procedures specified in the regulations for handling contaminated soils that are removed from the site. The regulations also include detailed provisions addressing various parties' liabilities for contaminated site remediation.

However, Part 5 of the *Environmental Management Act* lists several categories of mines that are deemed "not responsible" for remediation (or otherwise not subject to a remediation order), including mines that are permitted under the *Mines Act*, unless a remediation order is requested by the Chief Inspector of Mines, issuance of the order was agreed to in a dispute resolution process, or the land and water use at the site has formally changed from the use approved in the *Mines Act* permit. These exemptions, especially the exemption for mines

permitted under the *Mines Act*, substantially narrow the range of situations in which a remediation plan might be required for a mining site, or in which the site would be made the subject of a remediation order.

4.2.2 Manitoba

The Manitoba *Mines and Minerals Act* (*MMA*), C.C.S.M., c. M162, is a comprehensive mining statute that establishes multiple mining-related regulatory or management regimes including those for acquiring licences for prospecting and exploration, long term mineral rights, surface rights, and mineral production leases, and for pooling mineral rights and charging and collecting mineral production royalties. Part 14 of the Act is of particular interest here, because that part addresses mine reclamation and security.[149] The Act generally applies to all mining within the province of hard rock minerals and other non-living matter except several substances including oil and gas. However, certain of the Act's regimes—not including the reclamation regime in part 14—apply only to minerals owned by the Crown.[150] The Act is implemented by the provincial Department of Industry, Economic Development and Mines (Manitoba Mines). The Act's reclamation provisions are implemented by the Mines Branch of the Department's Minerals Division.[151]

As relevant to hard rock mining, the core provision of Part 14 is subsection 188(1), which requires "proponents" of mining "projects" to develop and implement a "program" for "protection of the environment" and for "rehabilitation" of the project site.[152] Subsection 1(1) of the Act defines "rehabilitation" broadly as actions taken to protect the environment from mine operation, minimize impacts on adjacent lands and public safety hazards, and to leave the site in a condition that is "compatible with adjoining land uses" and conforms to applicable land use planning requirements and terms of any applicable licence issued under the province's *Environment Act*.[153]

Under subsection 188(1), the environmental protection and rehabilitation program must be established through a "closure plan" approved by the Director of the Mines Branch.[154] The Act does not spell out the required plan contents in detail, but it does state that the plan should include the provision of security to the province and a description of the planned rehabilitation

[149]Part 15 relates indirectly to reclamation, by providing performance standards and liability rules with respect to the protection of public health and safety from active and inactive mines.

[150]See *MMA*, ss. 3(1) (general applicability) and 3(3) (non-applicability of specified parts to privately owned minerals).

[151]See *ibid.* ss. 6, 7-10 (authorization to provincial Cabinet to make various administrative assignments); see also http://www.gov.mb.ca/itm/mrd/mines/index.html (web information showing actual assignments).

[152]As relevant here, the Act treats "project" as synonymous with a "mine," which the Act defines broadly, and includes an "advanced exploration project" for purposes of Part 14. See *MMA*, s. 1(1) (definitions of "project," "mine," and "advanced exploration project"). Under s. 1(1), the "proponent" of a project is the person who operates or proposes to operate the project.

[153]C.C.S.M., c. E125. Sections 10-12 of this statute require licences for several classes of environmentally harmful or threatening "developments".

[154]See also *MMA*, ss. 74(2) and 111 (requiring approved closure plans before the commencement of advanced exploration, and operations under a mining lease, respectively).

"practices and procedures".[155] The Act also requires that the plan adopt a "progressive rehabilitation" approach which essentially involves reclamation during mine operations and after operations have been discontinued or closed (ss. 187 and 189(1)). To help ensure this progressive reclamation approach, the Act requires mine proponents to submit reports every year from the commencement of the project, on the status of reclamation conducted in the prior twelve months (s. 190). These reports also facilitate an adaptive management approach, which is further promoted by provisions of the Act allowing proponents to submit proposed closure plan revisions, and allowing the Director to require such revisions in the first instance (s. 191).

Part 14 of the Act states that the security provided as part of a closure is "for performance of rehabilitation work" (s. 1(1)). This provision implies that the security amount must be equal to the total cost of reclamation, but this interpretation is not certain. Under Part 14, the Mines Director can use the security, following the issuance of an order and notice to the mine proponent, to fund reclamation work when the Director has "reasonable and probable grounds" to believe that the reclamation provisions of a closure plan are not being, or are unlikely to be, complied with (s. 193). Part 14 also requires the Director to reduce the required security under specified circumstances (s. 194).

While Part 14 sets out only the bare bones aspects of the reclamation regime required under that Part, section 230 of the Act gives the provincial Cabinet broad discretion to adopt regulations relating to a broad range of mining subjects, expressly and impliedly including reclamation and security. Presumably adopted pursuant to this power, the *Mine Closure Regulation*, R. 67/99, fulfills this function in several key respects. Chief among the regulation's twenty-plus sections is section 9, which lists twenty-three mandatory components of closure plans required under Part 14 of the Act. Several of these components are essentially descriptions of pre-mining land uses and land conditions, mining phases, activities, and facilities, and of waste management. Other components include an assessment of the effect of mine openings on surface stability, and descriptions of monitoring programs before and during closure and of procedures proposed to determine compliance with the closure plan before and during closure. In another section, the regulations require closure plans to also include a certified schedule of estimated costs for the work necessary to carry out closure, reclamation, and post-closure monitoring and site management (s. 18). However, section 19 of the regulations states that the amount of security must be "acceptable" to the Director, so the regulations do not make it clear that the security amount must be equivalent to the total of all such estimated costs. That section also provides the Director with broad discretion to decide the acceptable form of the security instrument.

Another notable provision of the regulations is subsection 10(1), which clarifies that the annual status report required by the Act should include an "evaluation" of whether the approved closure plan is "adequate" to "properly rehabilitate" the mine site. Other notable sections of the regulations provide detailed performance requirements for project suspensions (s. 14) and permanent closures (s. 15).

[155] *MMA*, ss. 1(1) and 189(1).

4.2.3 Ontario

The Ontario *Mining Act*, R.S.O. 1990, c. M.14, addresses a wide range of mining-related topics, including reclamation (part VII). Other topics covered include the acquisition of mineral rights (part II and V), oil and gas development (part IV), taxation of mining lands (part XIII), and various administrative, institutional, and enforcement matters (parts I, VI, and XII). The Act is generally administered by the Ontario Ministry of Northern Development and Mines; Part VII is administered specifically by the "Director of Rehabilitation" within that Ministry.[156] In addition, subsection 176(2) of the Act gives the Ontario Cabinet broad discretion to adopt regulations fulfilling one or more of fourteen listed functions in the implementation of Part VII. These functions include prescribing the form and content of closure plans and prescribing rehabilitation standards.

Part VII—entitled "rehabilitation of mining lands"—generally applies to a wide range of underground and surface hard rock-mining related activities.[157] The core provisions of Part VII are subsections 140(1) and 141(1) which prohibit mine "proponents"[158] from commencing (or recommencing) "advanced exploration" and "mine production,"[159] respectively, without first: giving notice to the Director and the public (in forms and times prescribed under the Act); filing a "closure plan" with the Director with a certification that the plan complies with all applicable requirements; and receiving the Director's written acknowledgement of receipt of that plan. Section 143 then makes it clear that proponents must actually "comply" with plans that have been certified and filed pursuant to these provisions.

Subsections 140(4) and 141(3) give the Director 45 days, from receipt of a certified closure plan, to either acknowledge receipt (in writing) or to return the plan for refilling because it does not "sufficiently address all of the prescribed reporting requirements" for a certified closure plan. This provision is hardly clear as to the extent that the Director can review the technical merits of a filed plan. But its reference to the Director's function as simply "acknowledging receipt," and its provision of a relatively short time for the Director to perform that function, both suggest that the Director's review is more cursory than if the Director was charged with deciding whether to actually "approve" the filed plan.[160]

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[156]*Mining Act*, ss. 1 (definitions of "Minister" and "Ministry"), 139(1) (definition of "Director" by cross-reference to ss. 153(2)), and 153(2) (authorization to appoint Directors of Rehabilitation).

[157]See *ibid.* s. 139(2) (application of Part VII) and ss. 1(1) and 139(1) (miscellaneous definitions).

[158]Subsection 139(1) defines "proponent" as the holder of an unpatented mining claim or licence of occupation or an "owner" as defined in s. 1 of the Act.

[159]Under s. 139(1), "advanced exploration" involves excavation and the extraction of an amount of materials above a quantity prescribed in the regulations. That section defines "mine production" as the production of minerals for "immediate sale" or "stockpiling for future sale," as well as the development of a mine for those purposes.

[160]See CCSG Associates, *Financial Options for the Remediation of Mine Sites: A Preliminary Study* (Mining Watch Canada, 2001) at 40 (noting that prior versions of the Act actually required the Director's *approval* of closure plans).

Besides requiring closure plans for advanced exploration and mine production, the Act gives the Director authority to order the filing of a certified closure plan for "any lands on which a mine hazard exists."[161]

Subsection 142(1) allows proponents to submit a "proposed" closure plan for the Director's actual "approval," instead of filing a self-"certified" plan under sections 140, 141, or 147.[162] Under subsection 142(4), a proponent who submits a proposed plan must pay the estimated cost of the Director's review of the plan. Subsections 142(5) and (6) allow proponents to convert approved plans to certified plans and vice versa, respectively.

The Act defines a "closure plan" as a plan to "rehabilitate" a mine site or "mine hazard" and includes the provision of security (s. 139(1)).[163] The Act gives the Director discretion to require changes or amendments to closure plans (ss. 143(2) and (3)) and lists several parameters for the security component of closure plans, including the forms and general amount of required security, processes for reducing the security and changing the form, and the government's use of security to conduct its own reclamation (s. 145).[164]

While Part VII focuses considerably on closure plans, one of its provisions requires mine proponents to take "reasonable" steps to "progressively rehabilitate" their sites regardless of whether they have filed a closure plan (s. 139.1). The Act defines "progressive rehabilitation" broadly as rehabilitation "done continually and sequentially during the entire period that a project or mine hazard exists" (s. 139(1)). Besides imposing this duty, the Act requires proponents to take all "practicable" steps "forthwith" to "eliminate and ameliorate" a mine hazard that is likely to cause an "immediate and dangerous adverse effect" (s. 148(1)).

Part VII gives the Ministry considerable authority to inspect mines, to require mining companies to remedy hazards and fulfill their closure plan commitments, and to take remedial

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[161]*Mining Act, s.* 147(1). Under that subsection, the order can be issued to the mine "proponent" or to any previous holder of an unpatented mining claim on the relevant lands, but the section exempts proponents or claim holders for hazards that they essentially inherited and did not exacerbate.

[162]The prohibitions in both those sections are expressly inapplicable to proponents that are "subject to a closure plan," thus confirming that they don't need to submit a "certified" plan if they follow the process under s. 142. In addition, s. 142(7) makes it clear that the remaining provisions in part VII relating to certified closure plans apply equally to approved closure plans.

Subsection 142(2) prohibits proponents that have submitted proposed plans in lieu of self-certified plans from proceeding with their projects until the Director has approved their proposed plans and provided the requisite public notice.

[163]Section 1 defines "mine hazard" broadly as any mine feature or disturbance that has not been rehabilitated pursuant to standards prescribed under the Act.

[164]See also s. 153.2 (listing circumstances when the government can "realize" posted security) and CCSG, *supra* note 160 at 33 -34 (raising public policy concerns about mining companies' ability to self-certify closure costs, to provide self-assured security under the Act, and to preclude public disclosure of security amounts).

action themselves and recover their costs from mining companies or from their posted security.[165]

Pursuant to its authority under section 176 of the Act (discussed above), the Ontario Cabinet has adopted extensive regulations relating to mine development and closure under Part VII of the Act.[166] Among their more notable provisions is subsection 4(1), which generally requires that persons conducting mine rehabilitation comply with the "Mine Rehabilitation Code of Ontario".[167] The Code, which is included as a schedule to the regulations, is a roughly forty page list of detailed performance standards relating to the protection of public safety and the environment from risks and hazards posed by various mine features. Besides adopting the standards in the Code, the regulations include additional detailed performance standards and duties in connection with the temporary suspension of mines (s. 22), the rendering of mines inactive (s. 23), and the closing out of mines (s. 24).[168]

The regulations also include a roughly ten-page list of numerous, detailed provisions setting out the required contents of closure plans (ss. 11-12 and Schedule 2). These provisions generally require information relating to the mine operations, pre- and post-site conditions, the nature and cost of proposed rehabilitation, and monitoring. The regulations adopt detailed requirements even as to the form of "certification" required for closure plans submitted under the Act (s. 12(2)).

Still another notable feature of the regulations are several provisions that essentially allow mine proponents to submit proof of good credit ratings in lieu of cash, bonds, or other security instruments, to satisfy the Act's requirement that closure plans include security sufficient to cover reclamation costs (ss. 14-20).

4.2.4 Saskatchewan

The *Mineral Industry Environmental Protection Regulations* (*MEPRs*), c. E-10.2, Reg.7, were adopted in 1996 under Saskatchewan's omnibus pollution control legislation—the *Environmental Management and Protection Act*, S.S. 1983-84, c. E-10.2. While most of this statute's provisions relate to pollution control, subsection 81(1)(x) authorizes the provincial Cabinet to adopt regulations regarding the closure, abandonment, decommissioning, and reclamation of a wide range of mining activities. This provision specifically mentions reclamation planning and security as among the topics that can be covered in those regulations.

Pursuant to this broad legislative grant of authority, the regulations prohibit the operation or permanent closure of mines, mills, and mining-related "pollutant control facilities" without a

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[165]See *Mining Act*,. ss. 146(2)-(10), 147(2), 148(2), 149, 149.1, 151, and 153.2(3). But see CCSG, *supra* note 160 at 33 (noting that the most recent amendments to the Act removed a requirement that companies annually report their progress in implementing their closure plans).

[166]*Mine Development and Closure under Part VII of the Act*, O. Reg. 240/00.

[167]Subsection 4(2) of the regulations allows exemptions from Code standards under specified circumstances.

[168]As with the Code standards, the regulations allow for site-specific exemptions from these other performance standards (s. 26).

government approved "decommissioning and reclamation plan" (D/R Plan) and posting of adequate security (referred to as an "assurance fund").[169] The regulations do not state the required content of a D/R Plan except to say that it must include a schedule, and be accompanied by: a description of the methods and schedules for monitoring environmental conditions during and after decommissioning and reclamation; an estimate of the costs of decommissioning, reclamation, and monitoring; and proposals relating to security (s. 14(2)).[170] The regulations also list maximum effluent concentrations for any approved discharges of several metals and other pollutants, but give the Minister discretion to set more stringent limits and limits for other pollutants in an approval condition (s. 30 and Appendix).

The regulations give the Minister broad discretion to decide the amount and type of required security and security-related approval conditions (ss. 15(1) and (2)).[171] The regulations also address the circumstances when the security can be defaulted and how it can be used by the Minister (s. 19), the circumstances and process for refunding unused security (ss. 20 and 22), and the operator's liability when the security is insufficient to cover the public's reclamation costs (s. 21).

Besides requiring government approvals of decommissioning and reclamation plans, the regulations require additional approvals specifically for the construction, operation, and temporary closure of "pollutant control facilities" (ss. 2(m), 5-9, and 10-11). The regulations also include performance standards for various exploration activities (ss. 23-24).

4.3 U.S. Sources

This part reviews the hard rock mine reclamation regimes in six western states in the U.S. While the U.S. Congress has considerable constitutional authority to legislate in the fields of environmental protection and human health and safety, in practice, state legislation is the predominant tool for addressing reclamation of hard rock mines on state lands and is even generally significant with respect to managing hard rock mines on federal lands.[172] Thus, state reclamation regimes are an appropriate subject for this comparative analysis of the NWT reclamation regime.

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[169]See *MEPRs*, s. 12; see also *ibid.* ss. 2(g), (h), and (m) (broad definitions of "mill," "mines," and "pollutant control facility," respectively) and 2(d) and (n) (broad definitions of "decommission" and "reclaim," respectively).

[170]Subsection 25(1) of the regulations gives the Minister broad discretion to require an applicant to submit whatever additional information the Minister deems necessary.

[171]Subsection 15(1) lists several specific forms of security instruments as well as any other form that is acceptable to the Minister. Subsection 15(1)(g) states that the security can be a combination of financial instruments plus an "agreement" for "staged" decommissioning and reclamation. This provision was likely intended simply to allow a phased security approach but a more literal reading of the provision might suggest that it allows work commitments to be *substituted* for security, at least, when those commitments are broken down in phases.

[172]See, *e.g.* McElfish, *et al.*, *supra* note 5 at 1-7 (summary of federal/state division of labour with respect to mine reclamation) and 355 ("The activity in the states shows … that the real environmental action is not federal. Attention will still need to be paid to state law regardless of how the [relevant federal agencies] carry out their congressionally mandated responsibilities."). This division of labour is different for coal mines, which states generally manage but pursuant to legal regimes adopted pursuant to, and approved under, a federal legislative management regime. See, *e.g.*, *ibid.* at 351.

4.3.1 California

The *Surface Mining and Reclamation Act* (*SMRA*), Cal. Pub. Res. Code, Div. 2, Ch. 9, s. 2710, *et seq.*, is a comprehensive legislative regime for the reclamation of "surface mining operations" in California.[173] The Act's core provision is section 2770, which prohibits the conduct of surface mining operations without a permit and an approved reclamation plan and financial assurance for reclamation.[174] The Act also requires the submission of "interim management plans" following the "idl[ing]" of an active surface mining operation and provides follow up steps to ensure that those plans do not remain in effect indefinitely (s. 2770(h)).

The Act contains numerous, detailed provisions regarding the objectives for and content of reclamation plans and requires the adoption of regulations specifying additional "minimum, verifiable" state-wide standards relating to numerous aspects, including: "Wildlife habitat," "Backfilling, regarding, slope stability, and recontouring," "Revegetation," "Stream protection," and "Tailing and mine waste management" (ss. 2711-2712, 2770, 2772, 2773, 2773.3, and 2777). The Act has similarly detailed provisions regarding the types and scope of required financial assurance (s. 2773).

The Act also provides for a complex, vertically and horizontally layered institutional structure that includes local governments, regional and state-wide regulatory boards, and a state-wide resource management agency. The Act's decision-making structure is also multi-layered, involving administrative and judicial appeals and *ad hoc* regulatory decisions subject to and guided by regional "ordinances" and state-wide regulations implementing the Act (ss. 2770(e), 2774, 2774.4, and 2775). The Act contains provisions linking mine approvals to land use planning (ss. 2761-2764), providing citizens with rights to appeal various decisions and government inactions to the Board (s.2770(c)), and containing special requirements for mines occurring in or affecting certain areas (ss. 2770.6, 2772.5, 2772.6, 2773.3).

The Act has several provisions, besides that discussed above regarding reclamation standards, that directly or indirectly reference topsoil, recontouring, revegetation, water quality, and wildlife habitat. These provisions:

- Require the adoption of state-wide regulations establishing "state policy" regarding the conduct of surface mining operations, including "measures to be employed" by regulators in setting requirements for "grading, backfilling, resoiling, revegetation, soil compaction" and for "soil erosion control, water quality and watershed control, waste disposal, and flood control" (s. 2756);

[173]Section 2735 defines that phrase broadly as "all, or any part of, the process involved in the mining of minerals on mined lands by removing overburden and mining directly from the mineral deposits, open-pit mining of minerals naturally exposed, mining by the auger method, dredging and quarrying, or surface work incident to an underground mine." The definition also specifically includes the "production and disposal of mining waste" and prospecting and exploration activities.

[174]For this chapter, all references to legislative section numbers in U.S. statutes will be to the numbers used in the codified versions of those statutes.

- Impose special procedural and substantive requirements to protect ground water quality from surface mining operations located within the area managed by the "San Gabriel Basin Water Quality Authority" (s. 2770); and,

- Call for a multi-agency task force to assess the effectiveness of planned restoration activities in the "Cache Creek" region and to make recommendations regarding several topics, including: flood control, stream bank and channel erosion control, slope stability, and vegetation and revegetation (s. 2773.2).

The California Mining and Geology Board (MGB) adopted the *Reclamation Regulations* to satisfy its regulation-making duties under *SMRA*.[175] The regulations include geographic designations for land use planning purposes (Article 2), and decision-making and appeal procedures for several categories of decisions authorized or required by the Act (Articles 4, 5, 6, 7, 12, and 14). The regulations also include a detailed statement of objectives for, and list required elements of, reclamation plans (Article 1, s. 3502) and several provisions relating to security (Article 11).

For purposes of this report, the regulations (s. 3505) include a variety of "minimum acceptable practices," several of which relate to surface mining operations generally but could be applicable to reclamation work. Several other practices relate specifically to reclamation, including practices regarding grading, revegetation, and resoiling.

Most importantly, Article 9 of the regulations contains numerous "reclamation standards" covering a wide variety of subjects (either directly, or indirectly by cross-referencing other standards) including standards for: wildlife habitat (s. 3703); backfilling, regarding, slope stability, and recontouring (s. 3704 and 3704.1); revegetation (s. 3705); drainage, diversion structures, waterways, and erosion control (s. 3706); stream protection, including surface and groundwater (s. 3710); topsoil (s. 3711); and tailing and mine waste management (s. 3712).

4.3.2 Colorado

The *Colorado Mined Land Reclamation Act* (*CMLRA*), Col. Rev. S.A., Title 34, Art. 32, provides a comprehensive legislative framework for the reclamation of new and many existing mining operations in Colorado. The Act generally applies to a wide range of activities associated with the surface and subsurface development and extraction of hard rock and other minerals (but excluding coal and oil and gas).[176] The principal regulatory authorities under the Act are a Mined Land Reclamation Board and an Office of Mined Land Reclamation, both of which are in the

[175]Besides adopting these regulations, the Mining and Geology Board has adopted several sets of "guidelines" relating to a variety of topics, including the approval of financial assurances, the adoption of local "ordinances"; the conduct of surface mine inspections; the development of interim management plans for "idle" mines; the evaluation of seismic hazards, and the submission of reclamation plans by operators of small mines in non-environmentally sensitive areas. See generally MGB, *State Mining and Geolgoy Board Guidelines* (http://www.consrv.ca.gov/SMGB/guidelines.htm).

[176]See *CMLRA*, ss. 103(7) and (8) (definitions of "mineral" and "mining operation").

State's Department of Natural Resources (DNR).[177] (For brevity, both entities will be referenced in this part collectively as DNR, unless otherwise noted.)

The Act's primary provision is section 109, which generally requires proponents of new mining operations to obtain a "reclamation permit" from DNR before commencing their operations. The Act includes several provisions specifying the general process for issuing permits (ss. 112 and 115) and the content of permit applications (s. 112). Those applications must include a reclamation plan the content of which itself is specified in the Act and generally includes a description of the affected area, the mining operation and its phases, and all reclamation activities and their timing (s. 112(3)). The reclamation plan must also include a discussion of how the operator plans to meet the reclamation requirements in section 116. That section, besides generally requiring mine operators to comply with their approved reclamation plans and to file annual reclamation status reports, lists several "general requirements" for the content and implementation of reclamation plans. These requirements relate to the construction of water impoundments, the handling of "[a]cid-forming or toxic-producing material", refuse disposal, revegetation, topsoil removal and replacement, hydrologic disturbances, off-site area protection, and erosion and air and water pollution control.

The Act has several transitional provisions for applying this core permit requirement to existing mines (ss. 109(3), (4), and (5)). And the Act has a somewhat watered down permit requirement for small mines (deemed "limited impact operations") (s. 110) and, on the other hand, somewhat more rigorous permit requirements for "designated mining operations" which are those operations that generally either use toxic or acidic chemicals in their extraction process or that expose or disturb acid- or toxic-forming substances. These more rigorous requirements consist primarily of the submission of an "environmental protection plan" in addition to a reclamation plan and to fulfilling the other core permit requirements.[178]

Besides generally requiring permits with reclamation plans, the Act requires mine proponents to submit warranties of performance and security (termed "financial warranties") (s. 117). Chief among the Act's other provisions are those setting out several legislative objectives and policies (s. 102), providing for extensive public participation in DNR decisions under the Act (ss. 107, 112(10), 114, and 115), and providing for penalties and injunctive relief for mines that operate without permits or that violate their permits or other requirements under the Act (ss. 123, 124).

Finally, the Act creates an "emergency response cash fund" for use by DNR in conducting "emergency responses" or in performing "emergency reclamation activities" on mining operations subject to the Act (s. 122(3)(a)). The Act defines an "emergency" as any event to which DNR is entitled to respond under subsection 124.5 (s. 122(3)(b)). That section, in turn, authorizes DNR to respond in two broad sets of circumstances—when unauthorized conduct

[177] *Ibid.* ss. 103(2), 8.5, and 104-108.

[178] *Ibid.* ss. 103(3.5), 112.5, and 116.5. The Act's permit requirements are inapplicable to prospecting, but the Act at least requires that prospectors provide DNR with "notice" of their activities both before entering on the land to be prospecting and following the completion of their prospecting activities. The notice must include information on several subjects including reclamation measures and must be followed by the provision of security in the amount of either $2,000 (U.S.) per acre of disturbed land or an amount determined by DNR. *Ibid.* s. 113.

poses an "immediate, undue, and unwarranted risk of serious harm to persons or property or to the environment," and when a permittee fails or refuses to respond to an order requiring "corrective actions" with respect to various containment or control facilities or to address any permit provision or other legal requirement intended to protect human health, property, or the environment.

As for the sources of the emergency fund, the Act allows the Board to "accept grants and donations" to the fund.[179] The Act provides an additional source for the fund, by allowing the Colorado General Assembly to appropriate to the fund an amount equal to the civil penalties collected under section 123, when the Assembly determines that the existing fund has insufficient cash to "adequately respond to an emergency" (s. 122(3)(a)(III)).

Under the Act, DNR can recover any money expended from the fund through a civil action against any owner, operator, or permittee who DNR "reasonably believes" to have "necessitated" the emergency response (s. 122(3)(c)). This provision makes it clear that DNR bears the burden of proving all elements of its civil claim and that, in such action, the court can apportion costs among several parties on an equitable, joint and individual basis.

4.3.3 Montana

The *Montana Metal Mine Reclamation Act* (*MMRA*), Mont. C. 82-4-301 – 390, provides still another U.S. example of a comprehensive state legislative framework for reclamation and security. The Act applies broadly to the exploration for and mining (from both surface and subsurface facilities) of a wide range of minerals (excluding coal, oil and gas, and several other non-hard rock minerals).[180] The State's Department of Environmental Quality (DEQ) is the primary agency responsible for implementing the Act (s. 312) and has fulfilled this duty, in part, by adopting regulations that add considerable details to the Act's comprehensive, detailed provisions.[181]

The Act's core provision is subsection 335(1) which prohibits the conduct of a wide range of mining activities without a DEQ permit.[182] The Act prohibits DEQ from issuing a permit to any person who essentially has a record of non-compliance with the MMRSA or who has violated a reclamation or pollution requirement of any other state and not adequately remedied the violation (ss. 335(8) and (9)). The Act supplements this eligibility requirement by generally prohibiting any person from conducting "mining or exploration activities" if the person

[179] *Ibid.* s. 122(3)(a)(I). Under that section, any such contributions must be transmitted to the state treasurer who then credits the contributed amount to the fund.

[180] See *MMRA*, ss. 301 and 302 (statements of legislative intent and purpose) and 303(8) and (9) (definitions of "mineral" and "mining").

[181] *Rules and Regulations Governing the Montana Hard Rock Mining Reclamation Act* ("MMRA Regulations"), Mont. Reg. 17.24.101.

[182] Under that section, the permit requirement applies specifically to "mining, ore processing, or reprocessing of tailings or waste material, [and the] construct[ion] or operat[ion of] a hard-rock mill, use [of] cyanide ore-processing reagents or other metal leaching solvents or reagents, or [the] disturb[ance of] land in anticipation of those activities …."

has previously forfeited a reclamation bond or had a surety financed or conducted reclamation on the person's behalf (s. 360).[183]

Beyond setting these basic eligibility requirements, the Act requires applicants to submit a proposed reclamation plan, as well as several other plans and factual information, as part of the permit application (s. 335(4)). These other plans include a plan for "completion" of the mining operation, a plan showing the safety and stability of all required impoundment structures, a plan to monitor for "accidental discharges of objectionable materials, and a remedial "action plan" to control and mitigate surface and ground water pollution.

The *MMRA* also lists numerous specific components of the reclamation plans required under subsection 335(4). These components include a statement of the proposed post-mining use of the land, a reclamation time schedule, and procedures for addressing revegetation, waste disposal, water diversions, and erosion.[184] Besides specifying the reclamation plan components, the *MMRA* generally requires that reclamation be conducted simultaneously with mining operations and completed within two years after completion or abandonment of operations and lists several additional requirements relating to specific aspects of reclamation (s. 336).

The Act expressly links its core permit requirement, not only to the submission and implementation of an adequate reclamation plan, but also to the permittee's posting of adequate security.[185] Section 338 of the Act provides the general parameters for the overall security regime. Among other things, this section provides that the security amount should be no less than $200 for each acre of disturbed land but also no less than the estimated cost to the State of ensuring compliance with the Act and with the air and water quality requirements under the State's environmental legislation.[186] Regulations flesh this requirement out by stating that the costs should be estimated using "current machinery production handbooks and publications or other documented costs". [187] The regulations also provide that the costs should include:

- Estimated costs to DEQ for "additional design work, applicable public contracting requirements or the need to bring personnel and equipment to the operating area after its abandonment by the operator";

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[183]Under that section, any such person may nevertheless apply for an operating permit if the person reimburses DEQ for its remedial expenses, pays whatever penalties it owes (both with interest) and demonstrates essentially that the problems that engendered DEQ's remedial steps have been cured.

[184]*Ibid.* s. 303(14) (reclamation plan components listed as part of the legislative definition of a "reclamation plan").

[185]Subsection 338(1) states that a permit "applicant" must provide the security, thus, implying that it is a pre-condition for obtaining a permit, although this interpretation is not entirely clear. Subsection 338(3)(c) also provides that a permit is suspended "by operation of law" (i.e. automatically) if a permittee fails to post security in an amount, or according to the deadlines provided in the Act and the permittee must cease its activities until it provides adequate security.

[186]Subsection 338(6) qualifies this requirement somewhat, by stating that costs should cover only those activities, including occurrences and contingencies, that are "reasonably foreseeable."

[187]*MMRA Regulations*, s. 140(1)(a).

- Additional costs based on "factors of cost changes during the preceding five years for the types of activities associated with the reclamation to be performed"; and

- Additional estimated costs to DEQ for managing, operating, and maintaining the site "upon temporary or permanent operator insolvency or abandonment," until the security can be fully liquidated.[188]

The Act also requires annual reviews of the adequacy of the posted security and a comprehensive review every five years (s. 338(3(a)). The Act provides that the security should generally be in the form of a bond payable to the State "with surety satisfactory to" DEQ, but that section allows the use of cash and other instruments in lieu of a bond (s. 338(1)).

The Act contains several other provisions that bolster the permit regime by, among other things, requiring the submission of annual status reports (s. 339), requiring annual government inspections and authorizing the government to take follow up enforcement and remedial actions for various problems that its inspections uncover (ss. 341 and 361).[189] These include "any necessary actions for required reclamation of the disturbed lands (s. 341(6)). The Act also enables citizens to commence legal actions challenging DEQ decisions and seeking to compel DEQ to take enforcement action (ss. 349 and 354). And the Act provides land owners with rights of action directly against mining companies for damages to water supplies (s. 355).

The Act modifies this overall permit regime to varying degrees for several different categories of mining activities. The simplest of these modifications is an outright prohibition on open-pit gold and silver mines (commenced after 1998) that use "heap leaching or vat leaching with cyanide ore-processing reagents" (s. 390). The Act exempts another sub-category of mining activities—mines on federal lands within the state's boundaries—from the Act's requirements if a state regulatory board determines that those mines are subject to federally-imposed reclamation controls that are "substantially equal to or greater than those imposed" by the *MMRA* (s. 309). The Act also provides somewhat less stringent regulatory regimes than the permit regime described above, for exploration activities and for "small miners". However, like the permit regime discussed above, both of these regimes include requirements relating to reclamation and security (ss. 305, 331, and 332). By the same token, the Act provides a somewhat more rigorous regime for "large scale" mines than the permit regime discussed above, by requiring those mines to submit an "impact plan" in additional to complying with the regular requirements for other mines (s. 335(5)).

Finally, the Act provides for the creation of a special financial account to cover otherwise non-reimbursable costs incurred by the State of "implementing legally required reclamation, operation, and maintenance" (ss. 311-315). The Act authorizes DEQ to conduct or authorize "investigations, research, experiments, and demonstrations in reclamation" (s. 322), but the Act's provisions creating the special account do not appear to allow DEQ to use money from this account to finance that research.

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[188] *Ibid.* s. 140(b)-(d).

[189] The Act bolsters these monitoring requirements by requiring miner operators to adopt a water quality or quantity monitoring program, subject to DEQ's approval, when DEQ finds that there is a "great potential that surface or subsurface water quality and quantity may be adversely affected" by the operation. *MMRA*, s. 355(2)(b).

4.3.4 New Mexico

The *New Mexico Mining Act* (*NMMA*), N.M.S.A. 69-36, provides another U.S. state model for a comprehensive legislative regime for reclamation and security. The Act generally applies to existing and new hard rock mineral exploration and production operations.[190] The Act is implemented, in part, by a seven-member "mining commission" whose primary duty is to adopt regulations covering a wide variety of topics mandated in the Act (ss. 6 and 8). Those regulations are implemented, in turn, by the Director of the Mining and Minerals Division of the State's Department of Energy, Minerals, and Natural Resources (DEMNR) who also has enforcement and administrative authority (s. 9(A)). The Commission has plenary authority to review the Director's permit decisions, enforcement orders, and penalty assessments under the administrative appeal provisions discussed further below.

The heart of the Act is a permit requirement for all new and existing hard rock mining operations and for exploration activities (ss. 7(A)(2) and (C), 11 and 12). The Act gives the Commission discretion to adopt regulations providing the parameters of the permit regime, but the Act limits that discretion in numerous respects by, among other things, compelling the Commission to adopt those permitting regulations (s. 7(A) and (C)), and by specifying numerous components that must be included in the regulations, including:

- The length of permits and permit renewals (s. 7(C));
- The circumstances for granting permit modifications (s. 7(D));
- Performance requirements for new mining operations (s. 7(H));
- The content of permit applications for new mines (s. 7(I));
- The provision of public notice and rights to hearings on various permitting decisions (s. 7(K));
- Less stringent permit requirements for mines that have "minimal impact on the environment" (s. 7(L));
- Annual fees equal to the estimated costs of various regulatory actions under the Act (s. 7(M);
- A "continuing process" for the Commission's review of its regulations (s. 7(N));
- Integration of the permitting process with other environmental regulatory requirements (s. 7(P));

[190]See *NMMA*, ss. 3(G) and (H) (definitions "mineral" and "mining").

- Requiring the posting of security as a pre-condition to the Director's issuance of a permit and providing general requirements regarding the amount, form, and release of security (s. 7(Q) and (R));[191] and,

- Requiring periodic inspections and various enforcement and remedial actions under specified circumstances (s. 7(S)).

The second provision listed above, specifying the content of permit applications required by regulations, is itself a detailed, ten-part list several portions of which collectively require a description of mining activities, schedules, and structures, pre-mining baseline information including pre-mining vegetation and habitat. Another part requires a determination of the "probable" on- and off-site "hydrological consequences" of the operation and related reclamation work (s. 7(I)(6)).[192] Other parts of this list require disclosure of the ownership and controlling interests in the mining operation and of all U.S.-based mining operations owned, operated, or controlled by the applicant (or persons or entities that directly control the applicant), or by the owner or operator of the mining operation for which a *NMMA* permit is being sought. The applicant must also provide contact information for regulatory agencies that oversee any such U.S. mines so that the Director can obtain a compliance history for those mines (ss. 7(I)(1) and (2)).

Most importantly for purposes of this report, the ten-part list requires that permit applications include a reclamation plan. The Act specifically requires reclamation plans to include a "detailed description" of the post-mining land use and how the plan will achieve that use (s. 7(I)(9)) and the Act provides a definition of "reclamation" itself (s. 3(K)), but the Act otherwise leaves it to the regulations to flesh out the reclamation plan requirement.

Besides specifying much of the content of commission regulations, the Act provides several additional parameters of the permitting regime. Among the more notable of these parameters is a requirement that the Director, before deciding whether to issue a permit for a new mine, must review at least twelve months of "baseline data" (s. 9(F)) and prepare (either through the Director's own staff or a "third party" funded by the applicant) an "environmental evaluation" of the proposed mine's impacts (s. 9(G)). The Act also provides express criteria for deciding whether to issue permits, including a finding that the planned reclamation is "economically and technically feasible" and that the mining operation, after closure, can meet all requirements of the Act and of other laws "without perpetual care" (ss. 12(B)(3) and (4)).

The Act is particularly unique among the U.S. state statutes reviewed for its process for transitioning existing mines into the regulatory regime for new mines. While too extensive and

[191]Pursuant to this provision, the Mining Commission has adopted a comprehensive regulatory regime for security. See New Mexico Admin. Code 19.10, Part 12 – Financial Assurance Requirements. The Commission's regulations address, among other things: the area to be covered by the required security (s. 1202); the acceptable forms of security (ss. 1203, 1207-1209); the period in which the security must be provided (s. 1204); the method for calculating the security amount (ss. 1205-1206); the conditions and process for releasing the security (s. 1210); and the circumstances when security may be forfeited (s. 1211).

[192]This provision uses "hydrologic consequences" broadly to include surface and ground water quantity and quality and, even more specifically, to include "dissolved and suspended solids under seasonal flow conditions".

complex to describe in detail here, this transition process involves multiple stages that consist essentially of: site assessments (s. 5), the release of pre-existing reclamation requirements (s. 7(U)), "stand by status" permits (s. 7(E)), close out plans (s. 7(F)),[193] and regular operating permits with associated reclamation plans (s. 11).

The Act provides numerous opportunities for public participation at several key decision-making stages. One of these opportunities arises from a requirement that the Governor appoint two citizens (and alternates for each citizen) to the seven-member mining commission (s. 6(A)(6)). Several other opportunities arise in connection with the Commission's adoption of regulations. The Act requires the mining commission to hold a public hearing before adopting regulations (s. 8(A)). And the Act gives the public a right to recommend or propose that the commission adopt, repeal, or amend regulations. Under this provision, the commission may hold a public hearing on any such public proposal but, if the commission opts to forego a hearing, that decision is subject to judicial review (ss. 8(B) and 16). The Act further provides that, whenever the commission holds a public hearing (i.e. in connection with its adoption of regulations or its consideration of a public proposal to adopt, repeal or amend regulations), the commission must provide advance public notice and give "interested persons" a "reasonable opportunity" to "submit arguments and to examine witnesses" (s. 8(C) and (D)).

Besides providing for public hearings in connection with commission regulations, the Act requires the commission to adopt regulations requiring the provision of public notice and opportunity for "interested persons" to submit written or oral statements and evidence, and to cross-examine witnesses, in hearings on any permit-related application including applications for variances and for the release of security (s. 7(K)).[194] The Act then gives "adversely affected" persons a right to petition the commission to hold a hearing to review various final regulatory decisions made by the Director, including decisions to issue or deny an operating permit (s. 15). Citizens affected by "final actions" and "rules" of the Commission can, in turn, file judicial appeals of those Commission actions or decisions (s. 16).

Still other opportunities for public participation arise from the Act's "citizen suits" provision, which provides several civil actions to any person with an "interest that is or may be adversely affected". One of these actions is to compel the State's environment department, the commission, or the DEMNR, to perform any non-discretionary duty under the Act. Adversely affected persons may also sue those agencies to remedy any other violation they commit of the Act or of an enforceable decision made under the Act. Those citizens can also sue mining companies to remedy violations of the Act or regulatory decisions adopted under the Act (s. 14).

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[193]DEMNR has adopted detailed, non-binding guidelines on the process for completing and the format and content of closeout plans required by this provision and by accompanying commission regulations. *Mining Act Reclamation Program – Closeout Guidelines* (http://www.emnrd.state.nm.us/Mining/marp/closeout/default.htm). The Guidelines specifically address twelve numbered subject areas to be covered in coloseout plans, including: hydrology, soils, wildlife, erosion control, acid rock drainage, and revegetation. As to the latter, the guidelines suggest that closeout plans describe and survey vegetation, and describe the revegetation potential and methodology and standards for measuring revegetation success. Still other closeout plan components recommended by the the Guidelines are: determinations of "past and current water quality problems" and "watershed inventories". *Ibid.* (unnumbered web pages).

[194]Subsection 7(L) of the Act allows the commission to adopt regulations precluding this notice and hearing requirement for mines that have "minimal impact on the environment".

And the Act states expressly that it is not intended to preclude the public from enforcing rights provided by any other legislation or common law (s. 20).

Finally, the Act provides still another opportunity for public participation by requiring the Director to create an "advisory committee" whose members are supposed to "balance" the interests of various stakeholders, including "environmental groups" and "other persons" who will be affected by the Act (s. 9(C)).

4.3.5 South Dakota

South Dakota's *Mined Land Reclamation Act* (*SDMLRA*), S.D. Codified Laws, 45-6B-1 – 45-6B-106, provides a comprehensive, 110-plus-section legislative framework for reclamation and security that generally fits the U.S. state model reflected in the state regimes discussed in parts 4.3.1 – 4.3.4 above. The Act is implemented by the State's Board of Minerals and Environment (BME) and Department of Environment and Natural Resources (DENR). The Act contains a core permit requirement for new mining operations, the Board's approval of which is contingent upon the applicant's submission of a reclamation plan and post-closure plan,[195] and on the Board's adherence to several consultation and public participation processes.[196] The Act contains detailed specifications on the content of permit applications, including specifically the content of the reclamation and post-closure plans that must be included with those applications (ss. 5-7, 10, 33.1, 35, 91, and 92). Among the more notable of these requirements is a provision that post-closure plans must describe the work "necessary to ensure the continued effectiveness of reclamation" including: tailings treatment to "ensure continued neutralization or immobilization of any parameters of concern; post-closure monitoring, inspection and maintenance; and steps for "maintaining the final cover and controlling erosion and fugitive dust" (s. 91). The Act specifically requires a thirty-year post-closure period, but gives the Board discretion to shorten or lengthen that period as warranted by site-specific circumstances (s. 91).

The Act also specifies the acceptable grounds for the Board's issuance and denial of permit applications (ss. 32-33). One of these provisions prohibits the Board's issuance of a permit for an operation proposed on "unsuitable land." The Act states that land is "unsuitable" if, among other things, reclamation pursuant to the Act is not "physically or economically feasible," "[s]ubstantial deposition of sediment" in water bodies, or water pollution, cannot "feasibly be prevented," the affected land is "special, exception, critical, or unique" and "satisfactory mitigation is not possible", the operation will cause the "loss or reduction of long-range productivity of aquifer, public and domestic water wells, watershed lands, aquifer recharge areas,

[195]The Act includes several, detailed transition provisions for existing mines and various modified requirements for small scale mining operations (ss. 8, 9, 20.1, 33.2, 54-64, and 78).

[196]*SDMLRA*, ss. 11-13, and 44 (consultations with other state agencies and surface owners) and 16, 28, and 30 (public notice of and opportunity to object to permit applications; application hearings). Board permits are also conditioned on the Board's determination that the proposed mine has obtained all applicable local government permits and complied with all other local government requirements. The Act specifically allows local governments to adopt regulatory requirements for mining operations that are not inconsistent with or that do not conflict with the Act (s. 4).

or significant agricultural areas", or the operation would "jeopardize threatened or endangered species of wildlife" (ss. 33(1)-(5)).[197]

Besides detailing the content of permit applications and associated plans, the Act authorizes the Board to adopt rules setting out reclamation and related permit requirements, but the Act itself lists several performance requirements relating, among other things, to grading, waste disposal, revegetation, topsoil removal and handling, hydrological disturbances, and the prevention of slides and subsidence (ss. 37-43 and 81). The Act also includes reclamation performance standards for different types of post-mining land uses (ss. 45-46).

The Act also requires the submission of security, in an amount to be determined by the BME (but generally covering reclamation and post-closure work), before the permit can be issued. The Act contains several, detailed provisions regarding the methods and process for calculating security, the acceptable types of security instruments, the timing of the release of security, and forfeiture of security (ss. 20, 21-27, 66-68).

The Act includes specific provisions for assessing and managing the cumulative effects of large-scale gold and silver mining around the entire state and in the Black Hills region, in particular (ss. 93-99, and 82, 83.1, 87, 89, and 90).

While the Act has considerable detail, state regulations adopted pursuant to the Act contain substantial additional provisions fleshing out the parameters of an overall legal regime for reclamation and security.[198] Among other things, these provisions address permitting procedures (Chapters 1, 3, 4) and the content of permit applications (Chapter 2). The regulations also include detailed reclamation performance standards (Chapters 5, 7, and 8) and a process for determining the acceptable post-mining land use for reclamation purposes (Chapter 6).

4.3.6 Washington

The Washington *Surface Mining Act* (*SMA*), Rev. Code of Washington, 78.44, provides a comprehensive regulatory regime for the reclamation of "surface mines." The Act defines "surface mines" broadly as covering surface and sub-surface mineral extraction that causes a surface disturbance above various thresholds specified in the Act.[199]

The Act gives specific attention to the regulatory division of labour between the state and local governments. Under the Act, the Department of Natural Resources (DNR) has "exclusive" authority to "regulate surface mine reclamation". Local governments may not require separate

[197]See also *SDMLRA*,ss. 33.3-33.8 (additional provisions defining "special, exception, critical, or unique land," establishing statewide and *ad hoc* processes for identifying those lands, appealing special lands identifications, and providing regulatory options when such lands are implicated).

[198]*Mined Land Reclamation*, S.D. Administrative Code, Article 74:29, Chapters 1-10.

[199]*SMA*, s. 31(11); see also *ibid.* s. 280 (stating that the Act applies to "[s]urface disturbances" from "underground metals mining and miling" operations proposed after June 30, 1999).

reclamation plans, but they may "zone surface mines" and otherwise regulate surface mine operations through ordinances.[200]

The Act's core provision is a requirement that (non-grand fathered) surface mines obtain a "reclamation permit" from DNR. The Act provides only bare bones specifications on the content of permit applications but also cross-references additional information required by Washington's *State Environmental Policy Act* (RCW 43.21C).[201] However, the Act also makes DNR's issuance of a "reclamation permit" contingent on the applicant's submission of an acceptable reclamation plan and security (ss. 87 and 91). The Act requires that reclamation plans include maps showing existing topographic contours and post-reclamation contours that are "appropriate to the subsequent use of the land" and that otherwise satisfy applicable reclamation standards. The Act also expressly requires several other components of reclamation plans, including: a statement of the proposed post-mining land use; descriptions of the minerals to be mined, the mining methods and phases and a schedule for progressive reclamation consistent with those phases, and additional information required by DNR relating to a wide variety of topics, including specifically revegetation, topsoil conservation, erosion and drainage control, slope stability, and "rehabilitation of topography" (s. 91).

Besides listing several required components of reclamation plans, the Act lists several reclamation performance standards, including several detailed standards relating to the reclamation of surface-mined slopes and floors and to the final topography of mined areas.[202] The Act contains particularly detailed and numerous standards related to revegetation, including a statement of the general purposes and timing of revegetation, lists of vegetation types for different regions of the state, and authorizations for DNR to require essentially extra efforts to ensure revegetation success in areas where the need for revegetation is "critical" and "conditions are harsh.[203] The Act also specifically allows DNR to refuse to release a reclamation permit or security instrument until it determines that "effective revegetation" has begun (s. 11(7)(f)).

The Act also provides several parameters for the security regime, including those relating to the types of acceptable security instruments, the amount of security, when security may be released, and the avoidance of duplicative security required by multiple regulators (s. 87).

Where the *SMA* is focused on reclamation, the State's *Metals Mining and Milling Operations Act* addresses the operations of all "metals mining and milling operations."[204] In a

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[200]*Ibid.*s. 50. This provision also allows DNR to delegate its enforcement authority to local governments. *Ibid.*

[201]*SMA*, ss. 82-83.

[202]*Ibid.* ss. 141(4)(a)(i)-(vi) (standards for all slopes), (b) (standards for slopes in consolidated materials), (c)(i)-(iv) (standards for artificial waterbodies), (d) (final topography), and (e) (mine floors).

[203]*Ibid.* ss. 141(7)(a)-(c); see also ss. 131 (stating, as a "basic objective" of reclamation, to reestablish vegetative cover on a "continuing basis"), 141(4)(f) (standards for replacing or restoring topsoil to promote "effective revegetation"), and 141(7) (requiring revegetation "as appropriate" for slope stabilization and for several other listed purposes).

[204]Rev. Code of Washington, 78.56. Subsection 20(1) of the Act defines this category as a mining operation that extracts precious or base metal ore from the earth and processes the ore by "treatment or concentration in a milling facility."

nutshell, this Act includes provisions for controlling and remedying pollution from tailings facilities, and requiring environmental impact statements for proposed operations and security covering work needed to satisfy the Act's requirements. The Act also imposed a moratorium, but only until 1996, on heap leach operations and a permanent prohibition on metals mining using "in situ extraction" which the Act defines as a two-step process of dissolving metals from their "natural place in the geological setting" and then "retrieving" the solutions for metals recovery (ss. 20(4) and 160(a) and (b)).

4.4 Comparison of Canadian Provincial and U.S. State Reclamation Regimes

The following tables provide a comparative overview of the ten jurisdictions in a summary table format.

Jurisdiction	Core Features	Other Notable Features
Canada		
British Columbia *Mines Act*	Requires permit for mining activity; permit application must include a plan that covers several topics including reclamation	* Legis. requires adoption of provincial health, safety, and reclamation code and requires reclamation plans to satisfy the code. Code includes detailed components of reclamation plan and reclamation performance standards, including a phased reclamation approach. * Mine regulator has broad discretion to waive permit—including reclamation plan—requirements and to decide whether to require security.
Manitoba *Mines and Minerals Act* (Part 14)	Requires "closure plan" that provides a "program" for environmental protection and reclamation and security.	* Legis. requirement for "progressive" reclamation. * Regulations list 23 components of closure plans, including monitoring programs before and during closure
Ontario *Mining Act* (Part VII)	Requires "closure plan" either as a self-certified submission or a proposed submission for the province's approval; plan must include security.	* General legis. requirement that mine proponents take "reasonable steps" to achieve progressive reclamation. * Regulations include detailed requirements for the content of closure plans and numerous performance standards. * Security requirement can be satisfied by proof of a good credit rating.
Saskatchewan *Mineral Industry*	Requires approved "decommissioning and	* Regulations list bare-bones required content of plans and give the regulator

Environmental Protection Regulations	reclamation plan" and security.	broad discretion to determine the amount and type of security.

United States		
California *Surface Mining Reclamation Act* and regulations	Requires permit, with an approved reclamation plan and security, for the conduct of surface mine operations.	* Numerous, detailed provisions in legis. and regulations re objectives for and content of reclamation plans; * Legis. requires regulations to adopted detailed reclamation standards. Standards in regulations cover numerous topics.
Colorado *Colorado Mined Land Reclamation Act*	Requires "reclamation permit" and security before commencing new mining operations. Permit application must include a reclamation plan.	* Legis. requirements relating to the handling of acid-forming or toxic producing material and several other topics; * Environmental protection plan required for hazardous mines; * Numerous opportunities for public participation.
Montana *Montana Metal Mine Reclamation Act*	Requires mining permit; application must include several plans, including a reclamation plan and an "impact plan" (for large mines), and security.	* Legis. Prohibits open-pit gold and silver mines using cyanide leaching; * Legis. has rigorous permit eligibility requirements; * Legis. requires reclamation concurrent with operations; * Legis. requires annual review of adequacy of security and comprehensive review every five years; * Regulations have detailed provisions for calculating reclamation costs
New Mexico *New Mexico Mining Act*	Requires mining permit and security; permit application must include a reclamation plan.	* Legis. requires the adoption of regulations addressing numerous topics, and consistent with numerous parameters, specified in the legis. * Legis. precludes permit for any mine that requires "perpetual care". * Detailed, complex transition process for applying core requirements to existing mines. * Numerous opportunities for public participation.
South Dakota *Mined Land Reclamation Act*	Requires permit for new mines; permit issuance is contingent on approved reclamation plan and post-closure plan and	* Detailed legis. provisions on the content of reclamation and post-closure plans. * Legis. prohibits issuance of permits for mining on various categories of

	security.	"unsuitable land," including land where reclamation is not physically or economically feasible, where water pollution cannot feasibly be prevented, and where other significant environmental effects will occur; * Legis. includes reclamation requirements and performance standards and requires adoption of regulations setting out additional reclamation requirements. * Special legis. procedures for assessing and managing the cumulative effects of mining in the Black Hills region.
Washington *Surface Mining Act*	Requires "reclamation permit" for new surface mines, the issuance of which is contingent on an approved reclamation plan and security.	* Detailed legis. requirements for the content of reclamation plans and legis. performance requirements for reclamation, especially related to revegetation.
Metals Mining and Milling Operations Act	Requires EISs, security, and provides framework for controlling pollution from tailings facilities.	* Moratorium (until 1996) on heap leach operations and permanent prohibition of mining based on "in situ extraction".

As the tables suggest, the reclamation regimes in the ten jurisdictions reviewed in Chapter 3 are broadly alike in having at least one legal instrument—statute and/or regulations—that specifically addresses mining reclamation. All ten jurisdictions do so from the standpoint of generally protecting all environmental media (i.e. air, water/hydrology, soils, plants and wildlife) and nine of the ten jurisdictions address reclamation of generally all facilities and structures at the relevant mine site (the exception—Saskatchewan's *Mineral Industry Environmental Protection Regulations*—address reclamation of only "pollutant control facilities").

Nine of the ten jurisdictions are also alike in generally requiring some form of regulatory approval prior to the commencement of mining operations, which approval is contingent or tied directly to an applicant's submission of two key products: a plan or plans that, in turn, either specifically include, or focus solely on, reclamation; and, security for reclamation work. The reclamation regime in the tenth jurisdiction—British Columbia—contains this basic framework as well, but is unique in the breadth of discretion it offers the mining regulator to essentially waive the reclamation and security requirements on a case-by-case basis. This uniqueness should not be overstated, however, because the other jurisdictions' regimes generally afford case-by-case exceptions, albeit, with respect to a narrower set of the regimes' requirements.

The regimes in nine of the ten jurisdictions are generally alike in providing that reclamation plans and security, when required, must actually be approved by the relevant mining regulator before the commencement of mining operations. The regime in the tenth jurisdiction—Ontario—provides a slight variation on this approach by allowing mine proponents to self-certify

their plans (including security) in lieu of submitting proposed plans for regulatory approval and by allowing proof of a good credit rating in lieu of posting security.

The regimes in the ten jurisdictions also generally address the core or basic components of the ideal regime outlined in Chapter 2. These components are: a reclamation target, the general contents of reclamation plans (when required), the amount and form of security (when required), and the conditions for applying security and, alternatively, for refunding it.

From a narrower analytical lens, the common characteristics noted above are underlain by numerous differences. Chief among these differences are the type of narrative target or set of targets for reclamation and reclamation performance standards, the level of detail of many of the regimes' other features (and corresponding scope of discretion provided to mining regulators), and the type of legal instrument where the bulk of regime detail can be found (legislation, regulation, or non-legal document adopted by reference in a legal instrument). Other notable differences among the regimes include:

- The scope of mines covered in the regimes (with respect to surface and subsurface activities and different mining phases);
- The regimes' application—by phases or other approaches—to pre-existing mines;
- The extent of variations in requirements for different types of mines covered in each regime;
- The regimes' extent of integration with local land use planning, and jurisdiction-wide environmental regulatory programs;
- The express application of reclamation requirements to areas adjacent to, but outside of, mine sites;
- The scope and variety of opportunities for public participation;
- The departmental identity of the chief mine regulator (natural resources versus environmental protection departments);
- The extent of linkage of plans required for reclamation and other mine phases (e.g. closure and abandonment); and,
- The range of non-reclamation topics covered (e.g. royalties, mineral tenure) in the same legal instruments as those covering mine reclamation.

As between the two countries, the six U.S. states' legal regimes were as a whole generally more detailed and complex than the four Canadian provincial regimes and, accordingly, provided more constraints on regulators' discretion and, in turn, likely more public accountability. The accountability provided by these state regimes was generally enhanced by the opportunities for public participation in the state regimes—including citizens' suits—which were generally more extensive than in the Canadian provincial regimes. However, further

research is necessary to determine whether other, non-mining specific legal sources in those provinces provide additional opportunities for public participation in decisions under the mining reclamation laws.

Chapter 5: Comparison and Recommendations

5.1 Introduction

The two previous chapters of this report have provided detailed analyses of individual legislative regimes for reclamation in the NWT and ten other Canadian and U.S. jurisdictions. This chapter steps back from the focus on individual legislative regimes by providing a broad comparison of the overall regime in the NWT, on the one hand, with those in the ten other jurisdictions, on the other. The groundwork for this broad brush comparison is the summaries of the overall reclamation regime in the NWT and of the Canadian provincial and U.S. state reclamation regimes, in parts 3.5 and 4.4 above, respectively. After making a broad-brush comparison of the NWT regime with those in the other ten jurisdictions, this chapter concludes with several recommendations for further research and legal and policy reform.

5.2 The NWT Regime from a Comparative Perspective

From a broad perspective, the ten jurisdictions assessed in Chapter 4 generally share several prominent regime components. These are: a legal instrument (typically starting with a statute) that expressly addresses mining reclamation throughout the jurisdiction and from the holistic standpoint of all surface facilities and all environmental media at a specific mine site. They also generally expressly require reclamation planning as either a condition for receiving and maintaining a regulatory approval, or as a stand alone regulatory pre-condition, for conducting mining operations. Finally, they include numerous details—albeit to widely varying degrees—on the content and target of reclamation plans, on reclamation performance standards, and on the amount and nature of security. The locations of these ten jurisdictions in both Canada and the U.S. makes their similarities even more significant, because they transcend fundamental differences between the two countries' legal (and accompanying socio-economic) systems.

The legal regime for hard rock mining reclamation in the NWT has virtually none of the core features shared by these ten jurisdictions. Thus, while the other ten jurisdictions have considerable variations among themselves, they are generally alike when contrasted with the NWT regime. As a group, the ten jurisdictions are also considerably closer than the NWT regime to the ideal regime outlined in Chapter 2.

What accounts for the stark contrast between the reclamation regimes in the NWT and the other ten jurisdictions? At least one likely factor is contrasting views on the extent to which reclamation regimes should be spelled out in generic legal or policy texts as opposed to being left to regulators' exercise of discretion in managing individual projects. The recent controversial evolution of British Columbia's *Forest Practices Code*, from the adoption of comprehensive detailed requirements to their replacement with more general "results-based" standards, suggests that the differences of opinion on this issue run deep and that the prevailing view has a pendulum-like quality.[205] Notwithstanding this quality, the ten legal regimes for mining

[205] *Forest Practices Code of British Columbia Act*, R.S.B.C. 1996, c. 159; see also *Forest and Range Practices Act*, S.B.C. 2002, c. 69. For different views on the propriety of the "results-based" approach, compare, *e.g.* Sierra Legal Defence Fund and Forest Watch of B.C., *Who's Minding Our Forests? – Deregulation of the forest industry in British Columbia* (May 2002) (criticizing the shift to results-based standards) and B.C. Ministry of

reclamation analyzed in Chapter 4 suggest that the NWT's approach lags far behind the state-of-the-art.

The NWT's unique location at the far end of this spectrum, and its poor comparison with the ideal regime suggests that the NWT's legal regime is at least a partial cause of the unwanted northern mining legacy referenced in Chapter 1. However, further research is necessary to determine how well the reclamation regime is working *in practice*—i.e. to determine the extent to which regulators' design and implementation of reclamation standards for specific NWT mines makes up for the gaps in the generic legal and policy regime. The initiation of a comprehensive "environmental audit" for the Mackenzie Valley region, as required by part 6 of the *MVRMA* might provide a good context for conducting this research.

At any rate, the following are several recommendations of more specific subjects for this further research:

- A compilation of the security required in all mining-related water licences, land use permits, and surface/mining leases (if possible) and a comparison of those security amounts with documented reclamation liability cost assessments;

- A comparison of reclamation plan requirements in all mining-related water licences issued to date;

- A selective audit of water licence inspection reports for compliance with reclamation plans and other reclamation-related licence requirements;

- A study of whether and how reclamation liability is disclosed by companies to their shareholders or pursuant to securities requirements; and,

- Case studies to identify lessons to be learned from some of the mine closures in the NWT.

5.3 Recommendations for Reform of the NWT's Generic Reclamation Regime

Assuming the regulators' actual mine-specific application of the NWT reclamation regime does not make up for the regime's generic deficiencies, reform of the generic regime for mining reclamation in the NWT is likely warranted. The ideal regime outlined in Chapter 2 provides a good starting point for any such reform effort. But that ideal regime cannot be automatically superimposed on the NWT to accomplish the necessary reform, in part, because many components of the ideal regime need to be further developed, but also because any reform

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Forests, *Backgrounder – What is Results-Based Forest Management?* (Jan. 2004), www.for.gov.bc.ca/code/backgrounders/whatis.pdf) at 1 (claiming that a results-based approach will "achieve high quality forest management" by "encourage[ing] innovation" while "hold[ing] industry responsible for outcomes"). See also Candace Parsons, "Professional reliance under a results-based code" (July/Augu. 2003) *Forum* at 18 (introduction to several articles in B.C. professional foresters journal about the challenges for foresters of implementing results-based standards in a transparent, accountable fashion, and otherwise effective fashion), and Boyd, *supra* note 133 at 139-141 (discussion of evolution of B.C.'s forest practices legislation).

must be consistent with the NWT's broader legal context. One of the principal components of this broader context is the land claims Agreements which, in practical terms, require that land and water management functions must be divided horizontally on a region by region basis through co-management bodies.

Another key component of the broader legal context is the NWT's status as a territory rather than as a province. This status means that the NWT has less complete ownership of, and hence constitutional authority to manage, its natural resources than provinces. Devolution will give the NWT more province-like resource management powers but, until devolution occurs, there must also be a vertical division of decision-making authority, as between the federal government and the horizontally-divided regional management Boards.

These two factors may limit some options for reclamation reform, but they still appear to allow considerable reform to bring the NWT's regime more in line with the ideal regime in Chapter 2, although any such reform would no doubt be easier if done in conjunction with devolution.

The approaches to reform can be viewed in a spectrum according to essentially the degree or magnitude of legislative change involved, although all of the legislative reforms contemplate greater legal guides to regulators' currently wide degree of discretion in establishing reclamation requirements on a project-by-project basis.

The most far-reaching reform would be to follow the approach taken in the ten other jurisdictions reviewed in this report of adopting a new mining-specific statute that requires regulators to address mining reclamation in the context of all environmental media and all mine facilities and activities, while also providing for sufficient coordination and integration with legislative regimes for regulating other (non-mining) activities on the same land base.[206]

Short of adopting a mining-specific regulatory regime, the water licencing and surface use permitting functions in the *MVRMA*, *TLA*, and *NWT Waters Act* collectively should be consolidated in a single legislative framework that enables regulators to impose a single reclamation requirement that addresses all environmental threats, both on-site and off-site, from all facilities and activities at a given mine.

An even less drastic approach would be to amend those three statutes (and accompanying regulations) to at least better integrate decision-making functions between DIAND and the Boards and as between water licences, land use permits, and surface/mining leases, to provide for a more holistic or comprehensive and streamlined reclamation regime. While this approach may involve a smaller regime change from the *status quo* than the previous approach mentioned above, the actual legislative drafting necessary to implement this approach may be far more complex than the drafting necessary to effectuate the previous approach. Thus, this approach

[206]For some perspective, this proposed consolidation is likely several magnitudes less complex than that necessary to effectuate a recent proposal, by a council of environment ministers from members of the European Union, of a harmonized, generic rules for preventing and remedying environmental harms from mining operations in the entire European Union. Those proposed rules include mandatory closure planning and security. See Joe Kirwin, "EU Members Agree for First Time to Adopt Harmonized Regulations for Mining Industry" (Oct. 18, 2004) *BNA*.

may be much more difficult to achieve than the previous one even if it involves a smaller degree of overall regime change.

Continuing on the spectrum of diminishing magnitude of reforms, other reform approaches would be to amend one or more of the legislation-specific reclamation regimes discussed in Chapter 3 to enhance the reclamation-related provisions in those regime(s). While this approach might substantially improve the existing overall reclamation regime in the NWT, it would necessarily fail to address the integration problems discussed in Chapter 3 that plague the existing regime. At any rate, the following table lists the specific reforms that should be made to each legislative regime under a legislation-specific reform approach. Each reform stems directly or indirectly from problems noted in the analysis of the NWT regime in Chapter 3.

Reforms Specific to the NWT Waters Act and NWT Waters Regulations

- Expressly require reclamation and security as a condition for the issuance of all water licences, pursuant to the scope and terms set out in the ideal regime, including:
  - Expressly require reclamation requirements to address: (1) risks to water resources within and beyond the mine site from all licenced works and undertakings and all other mine-related activities; (2) all other environmental, public health and safety risks from works and undertakings licenced under the Act; and,
  - Delete provision in s. 12 of regulations allowing regulators to consider mining companies' ability to pay as a factor in calculating security.
- Change division of labour between DIAND and Boards (subject to applicable legal constraints arising outside of the Act) to:
  - Ensure appropriate consistency in reclamation requirements between Type A and B licences;
  - Give the Boards and DIAND joint authority with respect to security-related decisions following the initial decision to require security; and,
  - Give the Boards and DIAND equal authority to take remedial action if a licencee is not adequately reclaiming a mine site.
- Require public notice and opportunity to comment on decisions to release security.
- Clarify that DIAND can hold security after closure and abandonment if there are remaining, significant risks of future harm.
- Clarify application of waste deposit exemption in regulations.

Reforms Specific to the *MVRMA* and Regulations

- Expressly require reclamation and security as a condition for the issuance of all water licences *and* land use permits, pursuant to the scope and terms set out in the ideal regime (App. D).
- Expressly require Boards to require reclamation that addresses: (1) risks to water resources within and beyond the mine site from all licenced works and undertakings and all other mine-related activities; (2) all other environmental, public health and safety risks from works and undertakings licenced or permitted under the Act.
- Expand scope of activities subject to land use permit requirements so that a permit is required for, and covers, all surface activities at a mine site, or at least clarify that a land use permit for a triggering activity can require reclamation of the entire area affected by all activities at a mine site.
- Change division of labour between DIAND and Boards to:
  - Ensure appropriate consistency in reclamation requirements between licences and permits and between different types of each of the two approval categories licences; and,
  - Give the Boards and DIAND joint authority (subject to external legal constraints) with respect to security-related decisions following the initial decision to require security;
- Give the Boards and DIAND equal authority to take remedial action if a licencee is not adequately reclaiming a mine site.
- Require public notice and opportunity to comment on decisions to release security.
- Delete MVRMA requirement that security is limited to damage foreseeable at the time a permit is issued.
- Require land use planning not just for the settlement areas, but for all areas in the Mackenzie Valley.
- Delete provision of the regulations allowing DIAND to accept any form of "satisfactory" security other than the listed forms or provide clear legislative guidance for determining what other forms are "satisfactory".
- Narrow provision of the regulations allowing Boards to consider prior security in setting new security requirements, to clarify that any such security may be considered only if: (1) its amount and status are publicly disclosed; and, (2) it is in an acceptable form, is readily available, and is otherwise comparable to the new security.
- Require periodic review of security to ensure its adequacy.
- Require that security be posted as a condition for an approval to take effect rather than simply before mining operations commence.
- Amend Act and change regulations to provide that security may be released only when short and long term reclamation objectives have been achieved rather than simply when all approval conditions have been met.

Reforms Specific to the *TLA* and Accompanying Regulations
• Change circular definition in s. 2 of *TLURs*, of "land use operations" requiring a permit. • Change Act and *TLURs* so that regulatory-type land use permits are required for all surface uses subject to the Act and regulations, whether or not the uses are authorized by a lease issued under s. 8 of the Act. • Expressly require reclamation and security as a condition for DIAND's issuance of a land use permits, pursuant to the scope and terms set out in the ideal regime. In the alternative, require reclamation and security as a condition for DIAND's grant of rights to surface access and use, whether in a surface lease or mining lease, pursuant to the scope and terms set out in the ideal regime. • Require public disclosure of all lease conditions relating to reclamation and security and related environmental protection requirements. • Clarify that mining leases do not include any implied access rights or automatic entitlement to any such rights.
Reforms Specific to the *CLA*
• Clarify scope of "commissioner's lands" with respect to roads, trails etc. on "public lands". • Expressly require reclamation and security as a condition for the issuance of a disposition of Commissioner's lands for mining purposes, pursuant to the scope and terms set out in the ideal regime. • Expressly require reclamation and security for all mining activities on Commissioner's Lands, whether or not such activities are covered by a specific disposition.
Reforms Specific to the *EPA*
• Clarify the Act's applicability to mines that are regulated under other legislation.

Of course, an even less drastic reform approach than those discussed above would be to forego legislative changes altogether and to focus instead on changes to generic policies. Ideally, this policy-focused reform approach should still endeavour to integrate the two primary policy documents discussed in Chapter 3. The following table lists recommended reforms to achieve this integration:

Coordinated Reforms of the ARP Guidelines and MSR Policy

• Consolidate content of both policy documents into a single policy that requires phased reclamation planning and security that is as consistent as possible with the ideal regime.
• Short of consolidating both policy documents, change both documents to:
  ➢ Clarify their functional relationships and relative applicability to various approval decisions and to new/existing mines;
  ➢ Resolve inconsistent terminology with respect to restoration, closure, abandonment, and reclamation; and,
  ➢ Ensure that the reclamation regime provided by the policies collectively is as consistent as possible with the ideal regime.
• Add to either a single, consolidated policy or to the two separate policies a protocol for rationalizing the water licencing and surface use approval functions in order to facilitate a holistic reclamation approach.

If the two policy documents cannot be integrated, each document should at least be modified to better approximate the ideal regime. The following table lists recommendations for this document-specific reform approach:

Reforms Specific to the ARP Guidelines
• Clarify that the Guidelines apply to approvals issued under the *NWT Waters Act* & *MVRMA*. • Clarify Guidelines' application to *existing* mines. • Add provisions requiring security comparable to security components of the ideal regime. • Eliminate or minimize regulators' discretion to water down reclamation plan objectives and to allow post-reclamation conditions that require long term care and maintenance. • Clarify that the initial reclamation plan must be approved in conjunction with the underlying mine approval decision. • Clarify that the public must be consulted in conjunction with each new phased plan and any plan amendments and clarify required content of each phased plan. • Ensure that Guidelines' reclamation provisions match the relevant ideal regime components. • Clarify process and public role in determining when post-closure monitoring will be required and how it will be required. • Convert the Guidelines to legally binding regulations.

Reforms Specific to the MSR Policy

- Clarify that Policy applies to DIAND's review of Boards' decisions as well as to those Boards' decisions in the first instance (whether or not they are subject to DIAND's review).
- Clarify Policy's application to existing mines and give DIAND much narrower, more specific discretion to waive graduated security requirement for existing mines.
- Clarify that the initial reclamation plan must be approved in conjunction with the underlying mine approval decision.
- Clarify requirement for phased planning, that the public must be consulted on each phased plan and on any plan amendments, and required plan contents.
- Eliminate or minimize regulators' discretion to water down reclamation plan objectives and to allow post-reclamation conditions that require long term care and maintenance.
- Clarify when security should be handled by regulation or by agreement and narrow latter circumstances.
- Clarify acceptable security instruments for existing mines.
- Clarify scope of relevant activities for purposes of determining security amount.
- Clarify whether a phased approach can be used and, if yes, provide clear process for decision-making in a phased approach.
- Adopt clearer and more rigorous and comprehensive costing methodologies.
- Clarify that security must be posted before an applicable approval takes effect.
- Require periodic reviews of posted security to make sure it is adequate.
- Clarify the process for, and timing of, forfeiture of posted security, including: (1) add *TLA* & *MVRMA* to the *NWT Waters Act* as legislative sources of recovery; and, (2) expand forfeiture circumstances beyond abandonment in bankruptcy.
- Clarify and narrow circumstances for release of security and require public consultation in security release decision.
- Convert the Policy to legally binding regulations.
- Clarify process and public role in determining when post-closure monitoring will be required and how it will be required.

Notwithstanding the wide variations among the spectrum of reform approaches listed above, they should all be accompanied by additional reforms aimed specifically at enhancing accountability and transparency in regulators' exercise of discretion in setting and enforcing reclamation requirements. The confidentiality of reclamation and security provisions in *TLA* leases is perhaps the most egregious, but not the only, example of the need for this reform. Part 8 of the ideal regime in Chapter 2 provides a template for this aspect of reform. Chief among those ideal regime components are processes for public consultation in—and public access to information regarding—the development of initial and subsequent reclamation plans, the adequacy of companies' performance of their reclamation obligations, and in government decisions regarding the establishment, amendment, release, and forfeiture of security.

Appendix A: Acronyms

Jurisdictions, Government Agencies, and Non-Governmental Organizations	
BC	British Columbia
BME	Board of Minerals and Environment (South Dakota)
CARC	Canadian Arctic Resources Institute
CCME	Canadian Council of Ministers of the Environment
CIRL	Canadian Institute of Resources Law
DIAND	Indian Affairs and Northern Development
DEMNR	Department of Energy, Minerals, and Natural Resources (New Mexico)
DENR	Department of Environment and Natural Resources (South Dakota)
DEQ	Department of Environmental Quality (Montana)
DNR	Department of Natural Resources (Colorado; Washington)
GNWT	Government of the Northwest Territories
ISR	Inuvialuit Settlement Region
MGB	Mining and Geology Board (California)
MVLWB	Mackenzie Valley Land and Water Board
NWT	Northwest Territories
RWED	Department of Resources, Wildlife and Economic Development (NWT)
WCB	Workers Compensation Board (NWT)
Legislation, Other Legal Instruments, and Policies	
CEPA	Canadian Environmental Protection Act
CLA	Commissioner's Land Act (NWT)
CMLRA	Colorado Mined Land Reclamation Act
CMRs	Canada Mining Regulations (CMRs)

CWSs	Canada Wide Standards (CCME)
EPA	Environmental Protection Act (NWT)
EQGs	Environmental Quality Guidelines (CCME)
IFA	Inuvialuit Final Agreement
MEPRs	Mineral Industry Environmental Protection Regulations (Sask.)
MMRA	Montana Metal Mine Reclamation Act
MVLUR	Mackenzie Valley Land Use Regulations
MVRMA	Mackenzie Valley Resource Management Act
NIWA	Northern Inland Waters Act
NMMA	New Mexico Mining Act
SDMLRA	Mined Land Reclamation Act (South Dakota)
SMA	Surface Mining Act (Washington)
SMRA	Surface Mining and Reclamation Act (California)
TLA	Territorial Lands Act
TLRs	Territorial Lands Regulations
TLURs	Territorial Land Use Regulations

Appendix B: Project Terms of Reference

Project Description (Purpose, Scope, and Methodology)

This project aims to facilitate the improvement of mining reclamation in the NWT, by surveying and reviewing legal requirements for mining reclamation in other jurisdictions that can serve as a benchmark or model for the NWT's development of a revised reclamation framework. The project is divided into the following four phases:

Phase 1

This phase will identify the components of an ideal legal regime for mine reclamation. These components can then serve as criteria for evaluating legal regimes for mine reclamation. Examples of such components are:

- Clarity of purpose and application of sustainability principles for reclamation. For example, no-net loss of habitat, return of an area to a self-sustaining state, full-cost accounting, or restoration of ecological productivity and diversity;

- Scope of mining activities covered by reclamation requirements, from initial mineral exploration activities, to advanced exploration, commercial production (small and large operators) and coverage of abandoned or orphan sites;

- Planning requirements for reclamation, including an initial plan and regular review;

- Security held by government to guard against insolvency or a transfer or liability to the public purse. Some consideration might be given to the form of security, independence of estimates, methodologies for calculation, liability framework, or other matters;

- Inspection and enforcement requirements including the authority of designated officials, compliance tools, or mandatory scheduling and reporting of results;

- Post-closure requirements that may relate to monitoring, environmental quality standards (ambient air and water quality, soil contamination), soil salvage, contouring, revegetation, or habitat restoration;

- Coordination with other orders of government (provincial/state/territorial, Aboriginal, municipal) on reclamation planning;

- Temporary closure and emergency response requirements that are clearly defined and enable the protection of public safety and the environment;

- Public participation in reclamation activities including applicability of environmental assessment, design and review of plans, disclosure of monitoring and inspection results, bonding or security amounts, citizen complaint procedures, or other steps in the process; and

- Research related to reclamation that may be funded through levies, volunteer contributions or other legislated or regulated approaches.

The research for this phase will involve a review of relevant literature related primarily to mining reclamation requirements. We will also consult (by telephone or e-mail) with knowledgeable regulators, mining/environmental professionals, public interest organizations, and academics.

Phase 2

This phase will use the criteria identified in phase 1 to evaluate the legal regime for mining reclamation in the NWT. The following legal sources will be reviewed for purposes of this evaluation:

- Northwest Territories Waters Act
- Northwest Territories Waters Regulations
- Territorial Lands Act
- Territorial Lands Regulations
- Territorial Land Use Regulations
- Canada Mining Regulations
- Mackenzie Valley Resource Management Act
- Mackenzie Valley Land Use Regulations
- Commissioner's Land Act
- Commissioner's Lands Regulations
- Environmental Protection Act
- Mine Health and Safety Act
- Mine Health and Safety Regulations

The following non-legal sources will also be reviewed:

- Mine Site Reclamation Policy for the NWT
- Guidelines for Abandonment and Restoration Planning for the Mines in the Northwest Territories
- 1990 Draft Guideline on Liabilities and Contingent Liabilities related to Federal Contaminated Sites [**Note from authors** – This document provides criteria for categorizing and accounting for different types of federal liabilities associated with contaminated sites. The document was deemed too tangential to warrant discussion in this report.]
- Guideline for Contaminated Site Remediation, pursuant to GNWT Environmental Protection Act
- Canadian Council of Ministers of the Environment Standards and Guidelines

In addition, we will contact people with experience in NWT mining reclamation to obtain information on how the NWT legal reclamation regime is being implemented in practice.

Phase 3

This phase will involve an evaluation of the legal regimes for mining reclamation in six states in the U.S.: California, Colorado, Montana, New Mexico, South Dakota, and Washington. These states have been identified as each having one or more components of legal regimes for mine reclamation that are the best in the western U.S. Thus, rather than consider the states' overall legal regime for mine reclamation, this study will focus on the states' highly rated components. The identification of these components is from a 2000 study for the National Wildlife Foundation: *Hardrock Reclamation Bonding Practices in the Western United States*. The following is a list of the relevant regime components for each of the six states that will be considered and the relevant legislative and regulatory source of each component:

- California (topsoil, recontouring, revegetation, water quality and wildlife habitat rehabilitation)
    - Surface Mining and Reclamation Act
    - State Mining and Geology Board Reclamation Regulations
    - State Mining and Geology Board Guidelines
- **Colorado** (topsoil, water quality, emergency funds)
    - Colorado Mined Land Reclamation Act
- **Montana** (technical reviews of reclamation liability, research fund)
    - Metal Mine Reclamation
    - Reclamation Rules
- **New Mexico** (public participation, prohibition on perpetual care, revegetation, water quality)
    - New Mexico Mining Act
    - Financial Assurance Requirements
    - Close Out Plan Guidelines
- **South Dakota** (post-closure monitoring)
    - South Dakota Mined Land Reclamation Act
    - South Dakota Mined Land Reclamation Rules
- **Washington** (recontouring, re-vegetation)
    - Surface Mining Act
    - Metals Mining and Milling Operations Act

If time permits, this phase will also include an evaluation of the legal regimes for mine reclamation in four Canadian provinces. The relevant legal sources for each province are listed below:

- **British Columbia**
  - Mines Act
  - Contaminated Sites Regulations
  - Health, Safety and Reclamation Code for Mines in British Columbia
- **Manitoba**
  - Mines and Minerals Act
  - Mine Closure Regulation
- **Ontario**
  - Mining Act, Part VII Rehabilitation of Mining Lands
  - Mine Development and Closure Under Part VII of the Act Regulation 240/00
- **Saskatchewan**
  - Mineral Industry Environmental Protection Regulations

Phase 4

This phase will use the criteria developed in the first phase, and a comparative analysis of findings from the second and third phases, to develop recommendations on how to improve the NWT's legal regime for mining reclamation. Options for reform may include a number of approaches including:

- Use of policy direction provisions under the *Northwest Territories Waters Act* by the DIAND Minister to the Mackenzie Valley Land and Water Board and Northwest Territories Water Board;
- Amendments to the *Territorial Lands Act* or regulations including *the Territorial Land Use Regulations*, *Mackenzie Valley Land Use Regulations*, *Territorial Lands Regulations*, *Canada Mining Regulations*;
- New legislation that deals specifically with mining;
- Coordination arrangements amongst regulatory agencies and authorities; or
- Issuance of guidelines or procedures for reclamation planning by co-management bodies.

Recommendations will also consider the need for improved coordination of land and water related reclamation planning and requirements in the NWT, best approaches to reclamation

planning including full-cost accounting and security requirements, and appropriate environmental standards at the end of mine life.

Study Researcher

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Peer Review

CARC will retain Dave Chambers and Jim Kuipers of the Centre for Science and Public Participation, and Karen Campbell of the West Coast Environmental Law Centre, who have the legal, mining engineering, geo-chemical and re-vegetation experience to review the draft reports at various stages. Government reviewers from DIAND, Environment Canada and others will also be utilized to ensure a rigorous peer review. CARC will provide support for the work of the contractor and peer review as agreed upon in consultation with the contractor.

Appendix C: References Used in Developing the Conceptual Framework

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Appendix D – Detailed list of Ideal Regime Components

1. Scope of Application of the Reclamation and Security Regime

a. Scope of Lands Subject to Reclamation and Security Regime

- All potentially affected lands within the jurisdiction (i.e. private, public, federal, regional, local).

b. Scope of Mines Subject to Reclamation and Security Regime

Mineral exploration

- Initial exploration.
- Advanced exploration.
- Link to reclamation standards for commercial production.

"Small" mines

- Appropriately defined scope of "small" mines.
- Full application of reclamation and security requirements, provided that:
  - Discretionary requirements are applied in light of site-specific circumstances (other than the miner's financial assets);
  - Exemptions are allowed for non-discretionary requirements only to the extent those requirements are wholly inapplicable or would provide no additional environmental protection;
  - Appropriate minimum security amounts are set on a per square unit basis for all "small" mines; and,
  - Actuarily determined contributions to security pools are allowed in lieu of individual financial instruments (only where measured liabilities do not exceed the total pool on a regular basis);

Existing mineral tenure holders who have not yet commenced commercial production

- Full application of new regime to future production.
- Regime for fair compensation of tenure holders for outright expropriation of tenures.

Existing non-orphan mines

- Mine subcategories:
  - Mines that are still producing commercial minerals and any expansions or use of new areas that have not been previously reviewed or approved;
  - Mines that are no longer producing, but have not yet been officially 'closed' (i.e. they have not received government approval of a closure plan or a formal liability release and the current owner is not financially solvent, or is unable or unwilling to carry out reclamation); and,
  - Mines that are officially closed.
- Appropriately timed application of new reclamation requirements for purposes of achieving land use and environmental objectives in:
  - An applicable regional land use plan, if one exists and is up-to-date; and,
  - Any other applicable legal or policy commitments relating to land use,

conservation, biodiversity, etc.

- Application of new security requirements if, within an appropriate period, a mine owner does not conduct sufficient reclamation to achieve applicable land use and environmental objectives.

Mines producing all types of minerals and using all kinds of production methods

2. Reclamation Planning

a. Mandatory reclamation planning as condition for obtaining and maintaining approval to operate.

b. Planning Phases

- Initial or 'conceptual' reclamation plan reviewed and approved in conjunction with reviews and approvals of mining operations. This plan includes an estimate of post-closure monitoring and maintenance items and cost, and a funding mechanism to pay for these items post-closure.
- 'Detailed' cost-analysis reclamation plan due three years after initial mine startup (or sooner for mines expected to have a short life-span).
- Detailed approved plan reviewed periodically—at least every three years (or more frequently for mines expected to have a short life)—and updated as necessary for engineering and cost changes.
- Final plan – Plan with detailed engineering plans and specifications that can be utilized for RPF/bidding purposes, due the earlier of: at least two years before planned closure; or immediately after unplanned closure.

c. Reclamation objective—i.e. required condition of the reclaimed area

- Mine-specific reclamation objective that accounts for, and reflects a rational, regional distillation or synthesis of land use objectives derived from:
  - Land use/environmental objective, trigger, or thresholds set through a transparent, integrated landscape planning process;
  - Other local, regional, national or international land use or environmental commitments or policies;
  - Generic, minimum ambient environmental standards and negative targets (e.g. no perpetual toxics; no perpetual water treatment; no cyanide leaching); and,
  - Any applicable "no net loss" policy or similar disturbance trading scheme.
- Absent any relevant external objectives (the first two sub-items in the previous bulleted item):
  - A generic objective of restoring ecological productivity and diversity, by at a minimum: restoring pre-mining habitat and hydrological conditions; revegetating using native plants and soils; and, recontouring land to original topography to the greatest extent possible;
  - Appropriate negative targets (e.g. no cyanide leaching; no material risk of acid mine drainage; no operations that will require perpetual water treatment); and,
  - Any applicable "no net loss" policy or similar disturbance trading scheme.

d. Specifications on the timing of reclamation work

- Limit on the total allowable amount of unreclaimed land at any given phase of mining.
- Progressive Reclamation—i.e. phased reclamation per mining phases or per other factors.
- Enforceable deadline for completing all reclamation phases (not including post-closure monitoring).

e. Required content of proposed reclamation plans

- Identification and description of all mine facilities, activities, and phases.
- Identification of areas to be reclaimed, within and outside of the licenced mine areas.
- List of legal approvals needed to gain access to affected areas outside the boundaries of the licenced mine operations and other mine facilities.
- Identification of desirable uses and conditions of the reclaimed land, as per the applicable objectives in subpart 2.c.
- Detailed description of work in each of the following areas of focus (largely from Kuipers (2000), Section 4.1.7):
  - Recontouring;
  - Topsoil replacement or salvage;
  - Revegetation and introduced species control;
  - Slope stability and erosion control;
  - Hydrology;
  - Air and water quality;
  - Geochemical modeling and acid mine drainage prediction and prevention;
  - Public health and safety;
  - Wildlife habitat;
  - Aesthetics, including visual impact; and,
  - Long term monitoring and treatment;
- Baseline data on water quality, hydrology, wildlife, habitat, etc.
- Risk assessments—ecological; human health; and engineering, including (WMI 1994, p. 14):
  - Potential for and prevention of leaching and transport of contaminants from the tailing area, rock dumps, precipitates and residues, mine workings and landfill areas;
  - Long term stability of engineered structures, including tailings dams, pit slopes, waste rock slopes;
  - Need for long term treatment; and,
  - How passive structures will be designed to safely accommodate storm events, tremors, climate change and other extreme conditions.
- Demonstration of long run success of reclamation at other mines under similar geochemical circumstances or using similar reclamation techniques.
- Plan for dismantling and proper disposal of facilities and removal of refuse, debris and hazardous materials.
- Analysis and costing of alternative reclamation techniques including preferred alternative, based on full cost accounting/life cycle costing techniques that address costs that will be incurred in another jurisdiction.
- Identification of appropriate time periods and criteria for determining the success of work in each of the above areas of focus.

- Demonstration that analyses used for designing the reclamation plan were conducted, and relevant data collected, by competent personnel using appropriate methods, models, or other tools.
- Identification of reclamation personnel and demonstration of their qualifications, including personnel responsible for reclamation if production ceases with or without official closure.
- Identification of any liabilities (actual or potential) resulting from past practices and activities at the mine site and surrounding region.
- Demonstration of corporate commitment to sustainable development principles and sound environmental practices, as enunciated by external, respected sources. (Possible sources include: ISO 1400; Mining Association of Canada, "Guiding Principles Towards Sustainable Mining (April 2004) (www.mining.ca/english/tsm/principles.html), International Council on Mining and Metal, "Sustainable Development Framework" (www.icmm.com/icmm_principles.php); and Prospectors and Developers Association of Canada, "Environmental Excellence in Exploration" (www.e3mining.com).
- Demonstration of successful reclamation record of the mine proponent and relevant parent companies or subsidiaries at other mines.

f. Government review of proposed reclamation plan

- Coordination with approval of mining operations and of closure and post-closure plans (if distinct from reclamation plans), and functional tie to any environmental assessment or monitoring conducted for those other approvals.

g. Content of reclamation plan approval decision (in addition to provisions related to previous topics)

- Adoption of reclamation plan by reference, with any needed modifications.
- Appropriate mix of: ambient environmental quality standards; technology-based standards; and best management practices.
- Reopener clause based on periodic review of reclamation plan and periodic reports.
- Parent company agrees to be liable for obligations of subsidiary-project proponent.
- Fees for government inspections and oversight of reclamation process.
- Reclamation obligations are not affected by approval of closure plan.
- Approval terms and conditions apply to future owners.
- Linkage to reclamation of abandoned/orphaned sites. For example:
  - Limit on the total area of unreclaimed land per jurisdiction or region; and,
  - Proponents of new mines get "no net loss" credit, in approvals of those mines, for reclaiming abandoned/orphan mines.

3. Security

a. Security required, along with reclamation plan, as condition for operating approval

b. Type of financial instruments allowed

- No self assurances (e.g. mine's own property, equipment, corporate guarantee, or self-bond). Instruments must be independently guaranteed, so not reachable by company's creditors under bankruptcy, and liquid.
  - Cash; surety bonds, irrevocable letters of credit; other forms only if readily liquid

and can be assumed as cash; and,
    - Evolution from surety bond to cash as production commences with the goal of completely replacing the bond with cash over a set period of project life. Regulator then invests the cash in an interest-bearing Treasury bill or similar instrument. Company can then obtain compensation from the cash fund for actual costs incurred (Kuipers, 2000, p. IV-19).
- Able to be used directly for work on the relevant mine.
- Payable to and held by the mining regulator, or to another authority of the jurisdictional government provided that the secured funds are used only for reclamation or related purposes.
- If multiple instruments are required to satisfy conditions of multiple approvals, consideration of whether a single instrument can be provided instead of multiple instruments.
- Instrument accompanied by proof of guarantor's financial health.
- Instrument can be readily tracked in its various forms.
- Even where there is a single regulator/approval, if reclamation work is phased, multiple instruments may be submitted in phases corresponding to each reclamation phase, in lieu of a single instrument covering the entire cost of all reclamation phases.

c. Scope of work and risks to be covered by financial instrument(s)

- Instruments should cover the full cost of all required categories of work—including:
    - Compliance with environmental and public health/safety requirements during operations;
    - Reclamation;
    - Closure - Kuipers (2000, p. IV-14) recommends estimating at least 2 years of "interim operations" until reclamation is completed;
    - Cleanup;
    - Post-closure, including short and long term monitoring and site maintenance; and,
    - Responding to unpredicted catastrophes (unless covered by insurance the maintenance of which is not itself dependent on payment of premiums from solvent companies).
- Instruments should also cover economic loss and lost economic value of natural resource damages (for specific, identifiable and quantifiable values).
- No generic limits or caps on amount of security (e.g. per acre cap in Alaska).
- Special or supplemental costs for mines that use cyanide leaching or other toxic chemicals to extract minerals from the ore. (Kuipers (2000), p. IV-12).

d. Rigorous costing methodologies

- Regulators or independent third parties, not mining companies, conduct the cost calculations. Mining company provides information on the nature and scope of work to be done and can provide feedback on calculation methodologies.
- Costing based on the costs that would be incurred if the government or a third party, rather than the mining company, has to perform the required work.
- Cost estimates derived from verifiable sources (see Kuipers (2000), p. IV-13 for list).
- Comprehensive itemization of cost categories for each work task, including costs of (from Kuipers (2000), p. IV-13):

- Owning or leasing, operating and maintaining equipment and vehicles;
- Labour;
- Transporting all structures, equipment, materials, and labour to the mine site; and,
- Removing or disposing all structures, equipment, and materials, including debris and chemicals, including associated transportation costs (CSP2 recommends 5% for mobilization/demobilization).

- Indirect costs, including (from Chambers, CSP2 & Kuipers (2000)):
  - Contingency – costs that reflect the level of detail and completeness of the cost estimate, as well as the degree of uncertainty of factors and assumptions used in the cost estimate;
  - Engineering redesign – costs that stem from a lack of detailed information and plan development in a financial assurance estimate, as well as the need to account and design for actual conditions at the time of reclamation and closure;
  - Engineering, procurement, and construction management costs;
  - Contractor overhead – costs that account for administration, management, public relations, safety, environmental, legal, performance bonding and other costs associated with doing business;
  - Contractor profit;
  - Contractor insurance and performance bonding;
  - Agency administration — costs that would be incurred by agencies if they had to arrange with contractors to conduct the reclamation or other work, and oversee and investigate reclamation work; and
  - Annual increases in costs due to inflation.

e. Timing of submission of instruments (not including issues related specifically to phased security)

- Instruments provided up front—i.e. as a pre-condition for granting approval of the operating permit and reclamation plan or any other approval allowing environmental disturbance needing to be reclaimed.
- Instruments periodically reviewed for adequacy. Review allows bonds to keep pace with inflation and provides operators with ongoing environmental performance incentives.

f. Phased Security

- Generally restrictive approach to allowing phased security, due to problems discussed in Kuipers (2000), pp. IV-17 – IV-18.
- Where phased security is allowed, reclamation costs for individual instruments should be determined on the basis of predictions of annual reclamation costs, rather than on cost-per-acre predictions for each acre expected to be reclaimed in each phase (Kuipers (2000), p. IV-18).
- Even using annual expected reclamation costs, if the annual costs in later years are expected to be considerably higher than those costs in early years, the value of the initial instrument and all subsequent instruments should be no lower than the highest annual expected reclamation cost, or even some highest multi-year period. Alternatively, a single instrument covers expected annual costs for all years, but gets reduced annually on the basis of costs that have already been incurred.

- If company is allowed to submit multiple instruments per distinct phases of the reclamation work, each instrument should be submitted before each phased disturbance corresponding to the reclamation phases.

g. Amendment or supplementation of instruments

- Mandatory review of security in conjunction with mandatory review of reclamation plan. (Kuipers (2000, p. IV-20) suggests review occur every 3 years.)
- Discretionary review at other times as circumstances warrant.
- Clear criteria for when instruments can and should be amended or supplemented. Criteria should be tied to changes in actual or estimated costs of reclamation and other work covered by security and to expansions of the mine footprint beyond originally approved footprint.

h. Mining companies' forfeiture of security

- Clear criteria for forfeiture:
  - Failure to comply with reclamation plan, operational approval, closure & post-closure plans within specified time periods, or pursuant to notices of deficiency;
  - Abandonment (automatic forfeiture); and,
  - Mine operator is unable to maintain the financial security;
- On regulator's demand, the holder of the security should pay the security amount to the regulator.
- Only after prior notice to, and opportunity to comment by, public and mining company, except in emergencies.

i. Release of security

- Instruments released when reclamation is complete—as verified by independent third party experts—and potential impacts mitigated for a long period after closure.
- Release only after public notice and comment

j. Bond pools

- As supplement to, but not in lieu of, mine-specific security and based on tax on value of mineral production.
- Pool allowed in lieu of mine-specific security requirements, if at all, only for small mines and start-up companies and only if eligible miner forfeits any rights to conduct mining if regulators need to use pool for work at the miner's site.
- Pool can cover emergencies and existing, orphaned sites.

4. Integration with other legal regimes

a. Mineral Tenure Regimes

- Tenure-granting decisions reflecting broad public interest criteria including rough estimates of reclamation feasibility and costs.
- Conditions in mineral tenure instruments making it clear that:
  - Tenure rights are conditioned on tenure holder obtaining approval of reclamation plan and proposed security;
  - The existence of tenure rights is irrelevant to whether the tenure holder's

reclamation plan and security should be approved;
  - Denial of reclamation plan or proposed security is not grounds for claim of compensation for taking or expropriation of tenure right; and,
  - Mineral tenure is automatically forfeited, without compensation, if mining regulator determines that tenure holder has committed a substantial breach of the reclamation and security requirements.

b. Financial Incentives Other Than Security

- Royalties and/or corporate tax regimes that provide incentives to miners to reduce the footprints to be reclaimed and to conduct reclamation as soon as possible. Items to address include:
  - Whether and when reclamation expenses and security should be deductible business expenses;
  - Whether interest on security should be taxable income; and,
  - Whether royalty rates should be based on net or gross revenue.
- Consideration of establishing a regional, national, or international mining certification program.
- Requirements that corporate reports (for investors, stock holders, and securities commissions) treat long term reclamation costs as liabilities notwithstanding that such liabilities may have low or negligible net present values applying conventional discount rates and generally accepted accounting practices.[207]

c. Common law and other legislative liabilities

- Reclamation and security requirements don't preclude other common law or legislative liabilities.
- Government approval of reclamation is not an automatic bar to common law tort liability and compliance with government approval conditions is not conclusive evidence of due care.
- Liability in legislation for contaminated sites—joint and several; strict; and retroactive.
- Liability in legislation to government for "natural resource damages".

5. Process for developing a reclamation regime

- New regime developed through public consultations.
- Regime instruments—legislation, regulations, policy or guidelines—produced in a sequence that facilitates public participation in regime design.
- Commitment to review and assess the new regime after a designated period.
- Regime is developed in the context of a broader sustainability strategy for mineral production, processing, and consumption.

[207]Compare Whitehorse Mining Initiative, Environment Issue Group, Final Report (Nov. 1994) at 15 & App. 3 (para. 3) (noting that the "CICA Handbook recognizes the need to consider reclamation expenses in measuring and [publicly] reporting net income") and Mining Minerals and Sustainable Development Project, Breaking New Ground – Mining, Minerals, and Sustainable Development – The Report of the MMSD Project (International Institute for Sustainable Development, 2002) at 347 (noting that closure costs "may look small when discounted at 6-8% or more over 30 years. See also Repetto, supra note 6 (concluding that major Canadian and U.S. mining companies were significantly underreporting environmental liabilities) and Global Reporting Initiative Guidelines and Mining Supplement (forthcoming) (www.globalreporting.org/guidelines/sectors/mining.asp).

- Consideration given to whether the regime should be developed in the context of the development of a uniform, multi-jurisdictional regime for reclamation and security.

6. Written text of reclamation regime

- Readable and understandable texts.
- Consolidated texts for each level of legal and non-legal source (legislation; regulations; policy/guidelines) or, if not consolidated, clear 'road map' linking multiple sources at each level and linking sources among levels.
- Mining industry terms of art used in texts are:
  - All defined;
  - Used consistently in all regime components; and,
  - Consistent with terms used in other, mining-related legal and policy sources.
- Text sources are readily accessible to the public.

7. Government Decision Making

a. Reasonable limits on delegation of regulatory discretion (from legislative to regulatory and from regulatory to policy) to ensure accountability and transparency in exercise of discretion

- Meaningful standards to provide reasonable bounds for discretion.
- Binding time frame for exercising discretion.
- Public participation in decision-making (see *infra* part 8).
- Discretionary decisions explained in statements of reasons that include responses to public comments.
- Meaningful judicial/tribunal review of discretionary decisions (see *infra* part 8).

b. Decisions Based on Sustainability Principles

Equity—Inter- and Intra-generational

Precautionary principle

- Lack of full scientific certainty shall not be used as a reason for postponing decisions or actions to avoid or remedy threats of serious or irreversible damage.
- Burden of proof is generally on the mining project proponent.
- Reclamation techniques that are untested or that otherwise have uncertain chances of success should be disapproved or at least accompanied by higher security and increased monitoring and adaptive management checks.

"Polluter pays"

- Principle applied through a full-cost accounting of social and environmental costs.

Pollution prevention is generally better than pollution treatment

- Principle applied on a holistic analytical basis, so pollution or other wastes are not simply transferred from one environmental medium to another.

View of "public interest" that recognizes the broad array of interests and values at stake

- Broad geographic scope of interests and values—local, regional, national, international.

- Aboriginal/non-aboriginal interests
  - Aboriginal interests recognized, in part, through government solicitation and use of traditional knowledge and consultation.
- Commercial/non-commercial/government interests.

c. Decision-making structure

- A single agency, preferably the agency responsible for environmental quality (especially water protection), administers all reclamation and security requirements, in order to ensure accountability, and to promote efficiency and avoid inconsistency.
- Transparent process for coordination/integration with other orders of government (provincial/state/territorial, Aboriginal, municipal) and with land use planning and other land management programs. Coordination should be reflected in legal sources or at least publicly available written agreements that clearly define the coordinating agencies' roles and responsibilities.
- If decision-making functions are divided or duplicated among several agencies, a process for coordinating those agencies' proceedings for purposes of streamlining the overall approvals, facilitating information transfer, and use of expert advice, and resolving inter-agency disputes.
- Consideration of appropriateness of granting an Aboriginal veto to approvals of reclamation plans or security instruments.

d. Adaptive Management

Monitoring of reclamation progress and environmental conditions

- Establishment of good baseline for pre-mining conditions to measure success of reclamation activities.
- Reclamation test and research programs (e.g. revegetation plots and test covers for waste, if required).
- See also other parts below.

Structured process for government and public review of monitoring results and decisions on whether mid-course changes are warranted

- Conditions in approvals and other mine-related dispositions that allow mid-course changes through adaptive management decisions.
- Regular schedule for considering reclamation plan revisions and changes to security requirements based on:
  - Periodic progress reports;
  - Analysis of monitoring data and setting of thresholds or triggers for a management response;
  - Review of progress of mining and reclamation activities; and,
  - Updated costing of reclamation techniques.

Annual full-cost accounting

- Annual accounting of costs of reclaiming unreclaimed land and related work versus security and other funds available to meet costs.

Adequate Funding

- For research on reclamation techniques and security regimes.
- For regulatory oversight and independent audit.

8. Public Participation and Accountability

a. Types of Participation

- Public notice.
- Informal public hearings (available to all members of the public).
- Written comments (available to all members of the public).
- Formal administrative appeals with funding for citizen participation.
  - Rational, not unduly restrictive requirements for "standing" to participate in appeals:
    Standing can be based on harm to not only legally protected, economic interests (e.g. land ownership; lease or licence interest), but also to: human health and use/enjoyment of the environment;
    Cognizable harms include cumulative harms;
    Credible risk of harms, not just actual harms, suffices; and,
    Proof of risk of harm for standing purposes not as rigorous as level of proof required to demonstrate merits of appeal.

b. Timing of Participation

- Participation available at every key decision point in the reclamation process, including periodic reviews of reclamation plans and security instruments.

c. Access to information

- Broad scope of records available (key documents posted to websites).
- Prompt release of records.
- Reasonable costs for obtaining records.

d. Government Inspections

- Purpose: To determine compliance with reclamation plan approval, operating approval, and related approvals.
- Scope: Based on detailed itemization of required activities. Particular attention to water management, toxic chemical use, and occurrence of metals leaching and acid mine drainage (AMD) or predicators of AMD.
- When: During all mine phases (operations; closure; post-closure; reclamation).
- Frequency: random and regularly scheduled (Kuipers (2000, p. IV-19) recommends monthly) and in response to serious public complaints or petitions.
- Follow up: Process for addressing any deficiencies, short of formal enforcement.

e. Enforcement

- Broad array of available remedies:
  - Civil Penalties -
    Specified minimum per day of violation; and,
    Maximum fine amount pegged in proportion to minimum of: annual corporate profits or actual damage.

- Criminal penalties & jail terms for egregious offenses (e.g. knowledge, intent) for mine employees, managers and owners;
- Judicial discretion to allow penalties to go to environmental funds/projects rather than straight to general funds;
- Injunctive relief—court order requiring reclamation; order shutting down ongoing production; and,
- Administrative remedies and judicial enforcement of administrative orders.

- Appropriate triggers—i.e. definitions of violations.
- Defenses, provided that:
  - Burden of proving defenses is on the defendant; and,
  - No 'due care' defense based on economic infeasibility, for violations of specific requirements (e.g. use of specific treatment technology).
- Process for prompt and rigorous response to citizen complaints.
- Citizen suits.

f. Independent oversight committees

- Both jurisdiction-wide and mine-specific.
- Mandate to include reclamation, planning, research, monitoring, and public reporting.
- Adequate funding for public participation in committees, including clear, objective funding formula to protect committees from having to renegotiate funding annually.

g. Judicial oversight in non-enforcement contexts

- Oversight of both discretionary and non-discretionary reclamation and security decisions.
- Meaningful standards of judicial review.
- Appropriate rules of standing and costs to provide fair opportunities for citizens to seek judicial review.