ENVIRONMENTAL LAW CENTRE

NEXT STEPS FOR RESPONSIBLE MINING

Improving Bonding and Reclamation in BC

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NEXT STEPS FOR RESPONSIBLE MINING: IMPROVING BONDING AND RECLAMATION IN BC

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EXECUTIVE SUMMARY

This report evaluates the legal and policy framework governing mine reclamation security in British Columbia ("BC") and identifies areas that could be changed to strengthen environmental and economic protection. It responds to concerns raised by Wildsight that BC's current security requirements may leave taxpayers exposed to billions of dollars in potential reclamation liabilities due to systematic "under-bonding" across the province's mining sector.[1]

Under the *Mines Act*[2] (the "Act"), and the *Health, Safety and Reclamation Code for Mines in British Columbia*[3] (the "Code"), every mine operator must remediate environmental disturbance resulting from mining activities. Section 10(5) of the Act authorizes the Chief Inspector of Mines ("Chief Inspector") or the Chief Permitting Officer ("CPO") to require a mine permittee to post financial security — commonly known as reclamation security or a bond — sufficient to ensure that the Province of British Columbia (the "Province") can complete reclamation work if the operator defaults.[4] The Province's stated policy objective is to obtain financial security equal to 100% of a mine's estimated reclamation and closure liability, including long-term water treatment and monitoring costs.[5]

Despite that legal and policy mandate, both the Office of the Auditor General of British Columbia and the Ministry's own public reporting indicate a persistent shortfall between posted reclamation securities and estimated total reclamation liability.[6] While it is important to acknowledge that BC has taken meaningful steps to close this gap, most notably through the 2022 Interim Policy , which has contributed to a total increase in reclamation security held by the Province of more than $1 billion, there are still significant gaps.[7] As of March 31, 2024, the Province held approximately CAD

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[1] Simon Wiebe, "Report reveals Elk Valley's $6.4 billion water pollution problem" *Wildsight* (19 March 2024), online: <https://wildsight.ca/2024/03/19/the-elk-valleys-6-4-billion-pollution-problem/> [https://perma.cc/T835-V2L9] [Wiebe 2024].

[2] *Mines Act,* R.S.B.C. 1996, c. 293 [*Mines Act*].

[3] Ministry of Energy, Mines and Low Carbon Innovation, *Health, Safety and Reclamation Code for Mines in British Columbia* (April 2024), online(pdf): <https://www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/mineral-exploration-mining/documents/health-and-safety/code-review/minescode_april_2024_web.pdf> [HSR Code].

[4] *Mines Act*, *supra* note 2 at s 10(5).

[5] British Columbia, Ministry of Energy, Mines and Low Carbon Innovation, *Major Mines Reclamation Security Policy (Interim) Version 1.0* (Victoria: Ministry of Energy, Mines and Low Carbon Innovation, 5 April 2022), online (pdf): <www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/mineral-exploration-mining/documents/reclamation-and-closure/major_mines_reclamation_security_policy_interim_v1_05apr2022.pdf> at 3 [Interim Security Policy 2022].

[6] Office of the Auditor General of British Columbia, "An Audit of Compliance and Enforcement of the Mining Sector" (May 2016), online(pdf): <https://www.oag.bc.ca/app/uploads/sites/963/2024/08/OAGBC-2016-05-01-OAGBC-Mining-Report-FINAL.pdf> at 50 [Governor General Audit 2016].

[7] Mining Association of British Columbia, "Response to Interim Major Mines Reclamation Security Policy" (2022), online: <mining.bc.ca/2022/04/mabc-responds-to-major-mines-reclamation-security-policy/> [Response to Interim Security Policy 2022].

$4.13 billion in reclamation security against a total estimated liability of CAD $4.46 billion, roughly 93% coverage.[8] This figure, drawn from the Chief Inspector of Mines' 2023/2024 Annual Report, reflects improvement over prior years but nonetheless confirms that the Province continues to hold less security than its own policy requires.[9] Recently, a 2024 report by Wildsight regarding Glencore's Elk Valley coal mines suggest the funding gap could be far greater: while the Province reportedly required Teck Coal Ltd. ("Teck") to post approximately $1.9 billion in reclamation security, the Burgess Report estimated that actual reclamation costs would be at least $6.4 billion based on available evidence, a shortfall of at least $4.5 billion.[10]

This gap is troubling. The Province's own methodology may produce estimates dramatically lower than the actual cost of reclaiming a mine site. The source of both problems stems, in part, from structural and procedural weaknesses in the mine bonding process, which include:

1. **Opaque calculation process.** The Province determines the amount of reclamation security confidentially, between the mine operator and provincial officials. The underlying Reclamation Liability Cost Estimate (RLCE), its assumptions, and the calculation methodology are generally withheld from the public under claims of commercial confidentiality. [11] As a result, civil society and individuals in affected communities cannot assess whether securities adequately reflect environmental risk.

2. **Limited opportunities for public participation.** The Act and the Code provide no explicit mechanism for public review or comment on proposed reclamation securities. Public engagement occurs primarily at the environmental assessment or permitting stage,[12] but once a mine is operating, changes to security amounts are negotiated privately.

Under the current statutory framework, Indigenous Nations have only a very limited opportunity to engage in the determination and review of mine reclamation security. Section 9 of the *Mines Act* permits the CPO to establish a Mine Review Committee ("MRC") to review and provide advice on permit applications, as discussed later in this report. While an MRC may include representatives from Indigenous Nations and other government actors and the proponent its

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[8] Ministry of Energy, Mines and Low Carbon Innovation, "Reclamation Security" (Last accessed 11 December 2025), online(pdf): <https://www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/mineral-exploration-mining/documents/compliance-and-enforcement/reclamation_security.pdf> [BC Government Reclamation Security Chart].

[9] Chief Inspector of Mines, *Annual Report 2023/2024* (BC Ministry of Mines, 2024) at 12 [Mines Report 2023/2024].

[10] Wildsight, *Review of Reclamation Security Addressing Selenium Contamination Teck Coal's Elk Valley Mines* (18 March 2024) at 137, online (pdf): <wildsight.ca/wp-content/uploads/2024/03/2024-03-18-Teck-Coal-Final-Report_Reduced_Cover-Letter.pdf?x38905> [web.archive.org/web/20260321015026/https://d1tfm8vclpltjj.cloudfront.net/wp-content/uploads/2024/03/2024-03-18-Teck-Coal-Final-Report_Reduced_Cover-Letter.pdf?x78559] [Burgess & Wildsight Report 2024].

[11] HSR Code, *supra* note 3 at 10.2.2(j); Interim Security Policy 2022, *supra* note 5 at 7; BC Government Reclamation Security Chart, *supra* note 8.

[12] Government of British Columbia, "Public participation guidance" (Last updated 16 July 2025), online: <https://www2.gov.bc.ca/gov/content/environment/natural-resource-stewardship/environmental-assessments/environmental-assessment-process/guidance-materials/public-participation-guidance-material>.

establishment is entirely discretionary and such committees are not routinely used for the review of Reclamation Closure Plans or associated security decisions. As a result, reclamation security determination and adjustment remain largely bilateral processes between the proponent and the regulator, with limited formalized avenues for Indigenous participation. This report is written for a general public audience. Indigenous Nations hold distinct rights, responsibilities, and decision-making authority pursuant to Indigenous legal orders and constitutional and statutory obligations under Canadian law that warrant careful and separate consideration. A full assessment of those interests, however, lies beyond the scope of this report.

3. **Impact of the exploration incentive.** The 2022 Interim Policy contains an "exploration incentive" that expressly permits qualifying mine operators to reduce the amount of reclamation security posted by up to 10% of the mine's value, subject to caps tied to proven reserves. This provision is arguably improper as a matter of environmental policy: it reduces the financial protection available to the public for reasons entirely unrelated to the actual cost or risk of reclamation. The rationale for the reduction — encouraging continued mineral exploration and mine development — is a legitimate economic policy objective, but it should be pursued through royalty structures, tax incentives, or permitting timelines, rather than by diminishing the financial assurance designed to protect against unfunded environmental liabilities. By conflating development incentives with environmental bonding obligations, the exploration incentive effectively subsidizes mine operators at the potential expense of the public purse and undermines the polluter-pay principle that the reclamation security regime is designed to enforce.[13]

4. **Inconsistent and discretionary application.** The Act grants broad discretion to the CPO to set security levels and their forms (cash, letters of credit, surety bonds), without mandatory minimum percentages or standardized formulas.[14] In practice, this means security calculations vary from mine to mine and depend heavily on regulator judgment rather than enforceable standards.

By contrast, Nevada has implemented a more transparent and structured framework. Under Nevada's state and federal laws, such as the *Nevada Revised Statutes, Chapter 519A*,[15] and corresponding regulations, full reclamation bonding is required, calculated through a transparent, publicly accessible process, and reviewed at mandatory intervals. While BC's 2022 Interim Policy similarly articulates a goal of 100% reclamation security coverage, the critical distinction lies in enforceability and transparency: Nevada's full-bonding requirement is embedded in statute and

[13] Interim Security Policy 2022, *supra* note 5 at table A-1.
[14] BC Mining Law Reform, "B.C. Mines Reclamation Security Policy – Overview" (April 2022), online(pdf): <https://reformbcmining.ca/wp-content/uploads/2022/04/BCMLR-Overview-of-Mines-Reclamation-Security-Policy.pdf> at 3.
[15] *Reclamation of Land Subject to Mining Operations or Exploration Projects*, Nevada Revised Statutes, c 519A (2024), online: <https://law.justia.com/codes/nevada/chapter-519a/> [NRS c 519A].

regulations, is subject to mandatory public disclosure of cost estimates, and is reviewed at least every three years, whereas BC's equivalent commitment remains a policy objective that is not legally enforceable, is shielded from routine public scrutiny, and is subject to the discretionary exploration incentive described below.[16] This system not only reduces fiscal risk but also enhances public confidence through transparency and accountability.

This comparative review demonstrates that BC's approach differs from Nevada in both public transparency and procedural rigour. While BC's 2022 Interim Major Mines Reclamation Security Policy moved toward requiring 100% reclamation security coverage for new mines and those nearing closure, it does not require publication of the cost-estimate methodology or provide for public scrutiny of security adjustments.

RECOMMENDATIONS IN BRIEF

1. **Legislative and regulatory reform:** Amend the Act or the Code to mandate (a) publication of all RLCEs and reclamation-security calculations, subject only to narrow confidentiality exceptions, and (b) public notice and comment procedures for new major-mine permits and for substantial permit amendments that either increase estimated reclamation liability by 10% or more, or materially alter long-term or perpetual reclamation obligations, including requirements for ongoing water treatment, monitoring, or maintenance.
2. **Policy reform:** Pending legislative change, direct the Ministry to revise Ministry of Mines internal policies to require that RLCEs and security assessments be disclosed to the public and that no confidential filings be accepted for major-mine securities.
3. **Comparative benchmarking:** Adopt transparent, formula-based reclamation-security calculations modeled on the Nevada and Ontario regimes, ensuring full coverage of long-term water-treatment costs and periodic public review.
4. **Removal or reform of the exploration incentive:** The exploration incentive under the 2022 Interim Policy, which permits operators to reduce posted reclamation security by up to 10% of mine value in exchange for continued exploration activity, should be eliminated or restructured. Any reduction in reclamation security below 100% of estimated liability undermines the polluter-pay principle and creates public fiscal exposure for reasons wholly unrelated to environmental risk. Where the Province wishes to encourage mineral exploration, it should do so through instruments that do not compromise environmental bonding adequacy.[17]

[16] NRS c 519A, *supra* note 15; *Nevada Administrative Code*, c 519A (2024); Interim Security Policy 2022, *supra* note 5.
[17] Interim Security Policy 2022, *supra* note 5 at table A-1.

In summary, BC's current framework exposes the public to unnecessary fiscal and environmental risk. While the Province has demonstrated a positive trajectory through the implementation of the 2022 Interim Policy and the resulting increase in total security held, the continued existence of a coverage gap, the opacity of individual mine-level security calculations, and the presence of the exploration incentive mean that these improvements remain fragile and incomplete. Enhancing transparency, consistency, and public participation would align BC's regime with best practices, promote environmental justice, and reinforce the Province's credibility as a responsible mining jurisdiction.

PART 1: BACKGROUND FACTS AND INTRODUCTION

PURPOSE OF RECLAMATION SECURITY

In BC, mining companies must post financial security to address the environmental impacts of their operations. This security – commonly referred to as reclamation security or 'mine bonding' – ensures that the funds are available to reclaim mine sites and address environmental harms if an operatory fails to do so. The Province may use the security in two instances: (1) if the mine operator does not reclaim or restore the mine site adequately after closure; and (2) if the mine has an environmental disaster that the operator does not reasonably address. In both instances, the law outlines how and when reclamation security must be posted before a mine begins operating.

LEGAL DUTY TO RECLAIM MINE SITES

Mine operators have a legal duty to reclaim land disturbed by mining. This obligation is grounded in the *Mines Act*, which authorizes the CPO to require financial security to ensure that reclamation and environmental mitigation obligations will be met.[18] The Act also requires owners, agents, and managers to carry out reclamation in accordance with the Act, their permit, and the Code.[19] The Code contains detailed technical requirements for closure and reclamation, including removal of structures,[20] water management and treatment,[21] re-contouring and stabilization of disturbed land,[22] revegetation,[23] and access road deactivation.[24]

RESPONDING TO ENVIRONMENTAL INCIDENTS

The *Mines Act* also provides tools to address environmental harm during a mine's operation. If a spill, structural failure, or other release occurs, the Chief Inspector or an inspector may issue a remedial order requiring the permittee to take corrective action to protect the environment, property, and public safety.[25] Reclamation obligations address planned and expected post-closure work; remedial orders provide the statutory mechanism for responding to accidents. Both

[18] *Mines Act*, *supra* note 2 at ss 10.2(b), 12.
[19] *Ibid* at s 10(4)-(5), 12(3).
[20] HSR Code, *supra* note 3 at 10.9.10.
[21] *Ibid* at 10.9.12; 10.9.20.
[22] *Ibid* at 10.9.15; 10.9.13; 10.9.10.
[23] *Ibid* at 10.9.8.
[24] *Ibid* at 10.9.6.
[25] *Mines Act*, *supra* note 2 at s 17.

reclamation and remedial work can be costly, and the Province requires mine permittees to post reclamation security to ensure funds are available for these obligations.[26]

FORMS OF RECLAMATION SECURITY

The Province refers to these funds as "reclamation security" (sometimes called "mine bonds"). Accepted forms of security include cash, cash equivalents (such as certified cheques, money orders, and bank drafts), qualified environmental trusts, irrevocable standby letters of credit, and surety bonds.[27] However, in certain circumstances, other financial instruments may be considered, as determined by the CPO.[28]

REFORMS TO THE BONDING SYSTEM

Concerns about the adequacy of mine bonding in BC intensified after the 2014 Mount Polley tailings-pond breach. In response, the Office of the Auditor General of British Columbia conducted an audit of compliance and enforcement in the provincial mining sector. The audit found that the Province had not consistently calculated reclamation security using accurate estimates and had failed to collect the full amount of many reclamation securities.[29] This finding reflected longstanding concerns that security amounts were being set too low to cover the cost of mine reclamation.

THE INTERIM MAJOR MINES RECLAMATION SECURITY POLICY

The Province responded by introducing the Interim Major Mines Reclamation Security Policy (the "Interim Policy"). The Policy was designed to improve how reclamation liabilities are estimated and how security is collected for major mines, with the stated objective of ensuring that permit holders pay the full cost of environmental clean-up and reclamation for their mine.[30]

Since the Policy's introduction in 2016, the total reclamation security held by the Province has increased by more than $1 billion.[31] The Interim Policy remains the primary policy instrument governing reclamation bonding for major mines in BC. The Province has indicated that it will revise the Interim Policy after completing its broader Public Interest Bonding Strategy. Until then, the Interim Policy guides how the Province calculates reclamation security at key stages in a mine's lifecycle.[32]

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[26] *Ibid* at s 12.
[27] Interim Security Policy 2022, *supra* note 5 at 13: section on acceptable financial instruments.
[28] *Ibid.*
[29] Governor General Audit 2016, *supra* note 6.
[30] *Ibid* at 2.
[31] Response to Interim Security Policy 2022, *supra* note 7; Mines Report 2023/2024, *supra* note 9.
[32] *Ibid* at 3.

EVIDENCE OF REMAINING FINANCIAL RISK

Despite recent reforms, British Columbia's reclamation security system may still underestimate the financial risks associated with mine closure. The Chief Inspector's 2023/2024 Annual Report confirms that a gap between total estimated liabilities and total security held persists, although it has narrowed in recent years.[33]

There is also evidence that official liability estimates may themselves be understated. In 2024, Wildsight commissioned Burgess Environmental Ltd to assess the cost of reclaiming several coal mines in the Elk Valley previously owned by Teck Resources (now owned by Glencore). The Province currently holds approximately $1.9 billion in reclamation security for these mines, but the Burgess Report estimates that the total cost of reclamation could exceed $6.4 billion.[34] These findings raise concerns that current methodologies may underestimate reclamation liabilities in the Elk Valley and potentially elsewhere in British Columbia.[35]

Stakeholders differ in their assessment of the Interim Policy. The Mining Association of British Columbia has described the policy as a significant step toward responsible mining practices and has noted that the Province's bonding requirements are among the most stringent globally.[36] By contrast, the BC Mining Law Reform Network has argued that the policy should be codified in enforceable regulations rather than remaining an administrative policy. The Network also identifies the need for a catastrophe risk fund and suggests the Province establish an industry-wide pooled fund to reduce the risk that taxpayers bear in the event of such catastrophes.[37]

ADDITIONAL POLICY GAPS

Even where reclamation security is accurately calculated, other financial risks – such as corporate insolvency or catastrophic failures – may still expose governments and the public to cleanup costs. Experience in other jurisdictions highlights one of these additional gaps. In 2019, PricewaterhouseCoopers LLP ("PwC") was engaged by the Yukon Department of Energy, Mines and Resources to review the reclamation security regime following the near-collapse of the Wolverine Mine, operated by Yukon Zinc Company, which entered creditor protection under the *Companies' Creditors Arrangement Act* in 2015 and left the Yukon Government facing an estimated $24.9 million security shortfall. PwC recommended that governments incorporate

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[33] Ministry of Mining and Critical Minerals, *Chief Inspector of Mines 2023/2024 Annual Report* (June 2025), online(pdf): <https://www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/mineral-exploration-mining/documents/health-and-safety/ci-annual-reports/2023-24_cim-cpo_report_publish.pdf> at 23.
[34] Wiebe 2024, *supra* note 1.
[35] Burgess & Wildsight Report 2024, *supra* note 10 at 3.
[36] Mining Association of BC, News Release, "MABC Responds to Major Mines Reclamation Security Policy" (5 April 2022) online: <https://mining.bc.ca/2022/04/mabc-responds-to-major-mines-reclamation-security-policy/> [https://perma.cc/JS9K-X6HL].
[37] BC Mining Law Reform, "Progress on ensuring polluters pay" (20 April 2022), online: <https://reformbcmining.ca/news/2022/04/progress-on-ensuring-polluters-pay/> [https://perma.cc/XR4Z-6WU8].

financial risk assessments into mine licensing decisions, including reviews of corporate financial statements, relationships with parent companies, and the sensitivity of mine economics to commodity price changes. At the time of the report, PwC noted that no Canadian jurisdiction appeared to require such risk-based assessments as a matter of law.[38]

A second gap concerns financial assurance for catastrophic mining failures. Standard reclamation security covers the anticipated costs of planned mine closure but does not address catastrophic events such as tailings dam failures.[39] Indigenous communities and organizations including the Union of BC Indian Chiefs and the First Nations Energy and Mining Council have called for mandatory financial assurance against catastrophic mining risk, noting that Indigenous communities are disproportionately affected when disasters occur on or near their territories.[40] The 2014 Mount Polley tailings dam breach galvanized these calls. The breach released approximately 24 million cubic metres of tailings into Polley Lake, Hazeltine Creek, Quesnel Lake, and the Cariboo River. Despite the scale of the disaster, the Chief Inspector found no evidence of non-compliance with the *Mines Act* and laid no charges against operator Imperial Metals.[41] The First Nations Energy and Mining Council and the Union of BC Indian Chiefs have both advocated for a tiered system combining company-level bonding with an industry-wide fund financed through production levies.[42] The Office of the Auditor General's 2016 audit similarly recommended introducing financial assurance for unexpected environmental harm, but the Province has not yet implemented such a mechanism.[43]

PURPOSE OF THIS REPORT

Concerns about the adequacy of reclamation security therefore persist despite recent reforms. This report focuses on how the Province currently calculates reclamation security and identifies

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[38] PricewaterhouseCoopers LLP, *Review of the Determination of Security for Reclamation and Closure of the Wolverine Mine* (Yukon Department of Energy, Mines and Resources, July 2019), online (pdf): <yukon.ca/sites/default/files/emr/emr-pricewaterhousecoopers-wolverine-report.pdf> [web.archive.org/web/20260321020905/http://yukon.ca/sites/default/files/emr/emr-pricewaterhousecoopers-wolverine-report.pdf].

[39] First Nations Energy and Mining Council, *Reducing the Risk of Mining Disasters in BC: How Financial Assurance Can Help* (2019) at 2–3, online (pdf): <fnemc.ca/wp-content/uploads/2015/07/Reducing-the-Risk-of-Mining-Disasters-in-BC-FNEMC.pdf> [web.archive.org/web/20260321021229/http://fnemc.ca/wp-content/uploads/2015/07/Reducing-the-Risk-of-Mining-Disasters-in-BC-FNEMC.pdf] [*FNEM Reducing Risk*]; Union of British Columbia Indian Chiefs, *Toward Financial Responsibility in British Columbia's Mining Industry* (May 2016) at 4, online (pdf): <miningwatch.ca/sites/default/files/toward_financial_responsibilty.pdf> [web.archive.org/web/20260321021512/https://miningwatch.ca/sites/default/files/toward_financial_responsibilty.pdf] [*UBCIC Financial Responsibility*].

[40] *FNEM Reducing Risk*, *supra* note 39 at 2, 13–16; *UBCIC Financial Responsibility*, *supra* note 39 at 6–7.

[41] *FNEM Reducing Risk*, *supra* note 39 at 1; *UBCIC Financial Responsibility*, *supra* note 39 at 41.

[42] *FNEM Reducing Risk*, *supra* note 39 at 2, 13–16; *UBCIC Financial Responsibility*, *supra* note 39 at 6–7.

[43] British Columbia, Office of the Auditor General, *Managing the Risks of a Changing Landscape* (2016); *Interim Security Policy* 2022, *supra* note 5.

potential points where reforms could improve transparency, strengthen governance, and reduce the risk that the public bears the costs of mine cleanup.

Wildsight seeks to answer two questions:

1. How does the Province calculate reclamation security for mines in British Columbia?
2. How do other jurisdictions calculate mine reclamation securities?

Part 2 of this report provides an overview of the law and policy governing reclamation security in BC.

Part 3 examines bonding regimes in Nevada and identifies the method and process by which reclamation security is established.

Finally, Part 4 set out recommendations for law and policy reform to strengthen BC's reclamation security system, improve transparency, and enhance public accountability.

PART 2: RECLAMATION SECURITY ACROSS THE MINE LIFECYCLE IN BRITISH COLUMBIA

1.1 LEGAL FRAMEWORK AND DECISION-MAKING AUTHORITY

Reclamation security in BC is governed by a layered legal framework consisting of the Act, the Code, and a suite of policies and guidance documents, most notably the Interim Policy and the Joint Application Information Requirements (JAIR).[44] Together, these instruments regulate how reclamation obligations are defined, costed, and secured over the life of a mine.

The Act vests broad statutory discretion in the CPO to require reclamation security as a condition of a mine permit, including discretion over the amount, form, and timing of that security. While the Code establishes binding reclamation standards, and the Interim Policy structures how security should be calculated and adjusted, ultimate decision-making authority remains with the CPO. As a result, reclamation security determinations are discretionary statutory decisions guided, but not constrained, by policy. The following sections analyze the laws, policies, and guidance documents that govern reclamation security at each phase of a mine's development and operation.

1.2 ESTABLISHING RECLAMATION SECURITY AT THE MINE PERMITTING STAGE

DEFINING THE SCOPE OF RECLAMATION WORK

At the mine permitting stage, reclamation security is anchored in the scope of work defined by the proponent's Reclamation and Closure Plan (RCP). The Act requires permit applicants to submit a plan addressing the protection and reclamation of land, watercourses, and cultural heritage resources,[45] unless they have a special exemption.[46] The Code supplements this requirement by

[44] Ministry of Energy, Mines and Low Carbon Innovation and Ministry of Environment and Climate Change Strategy, "Joint Application Information Requirements (JAIR) Guidance Document" (April 2024), <https://www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/mineral-exploration-mining/documents/permitting/joint_application_information_requirements.pdf> [JAIR 2024].
[45] *Mines Act*, *supra* note 2, at s 10: "Before starting any work in, on or about a mine, the owner, agent, manager or any other person must hold a permit issued by the chief permitting officer…." Certain exploration activities are exempted, chiefly those that do not involve significant physical or biological disturbance.
[46] *Mines Act*, *supra* note 2 at ss 10(1.1), (2).

mandating compliance with 18 Reclamation Standards, including standards governing end land use, revegetation, landforms, water quality, and ecological risk.[47] "End land use" is the state approved by the CPO when considering previous and future uses of the land.[48]

Although the RCP is a legally required component of the permit application, neither the Act nor the Interim Policy requires public or Indigenous participation in its approval, nor do they require the CPO to provide reasons for approving an RCP**.** One limited exception exists: section 9 of the Act allows the CPO to strike a mine review committee (MRC) to review and advise on permit applications.[49] An MRC may include representatives of multiple ministries, Indigenous nations, federal and local government, and the proponent, and can involve technical reviews. However, MRCs are discretionary and are not routinely used for RCP review.[50] Consequently, RCP development and approval remain largely bilateral between the proponent and the regulator.

Most substantive RCP requirements arise not from statute, but from policy and guidance documents—particularly the JAIR—that require proponents to articulate proposed end land uses, quantify reclamation objectives, and model reclamation under both near-term and full-life-of-mine scenarios. The scope and assumptions embedded in the RCP therefore form the foundation for all subsequent reclamation cost estimates and security calculations.

Calculating the Reclamation Liability Cost Estimate (RLCE)

The second step in the security process requires the proponent to prepare a Reclamation Liability Cost Estimate (RLCE) based on the scope of work set out in the RCP. Detailed requirements for preparing the RLCE are set out in the Interim Policy and the JAIR. The RLCE represents the proponent's estimate of the cost to retain independent, third-party contractors to complete all the reclamation work described in the RCP.[51]

While the Act does not specify the methodology for developing the RLCE, it requires that the estimate comply with the regulatory standards established in the Code.[52] The Code requires the proponent to provide a comprehensive estimate of the total cost of completing all outstanding reclamation obligations over the entire life of the mine, including long-term post-closure

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[47] HSR Code, *supra* note 3 at 10.9.1: "It is the duty of every [mining company] owner, agent, and manager to institute and, during the life of the mine, to carry out, a program of environmental protection and reclamation, in accordance with the [reclamation] standards described in sections 10.9.4 to 10.9.21."
[48] HSR Code, *supra* note 3 at 10.9.4.
[49] Government of British Columbia, "Mine Review Committees" (Last updated 26 November 2024), online: <https://www2.gov.bc.ca/gov/content/industry/mineral-exploration-mining/permitting/coordinated-authorizations/mine-mrc?utm_source=chatgpt.com>.
[50] Ministry of Energy, Mines and Low Cardon Innovation, *Major Mines Authorizations Guide* (January 2023), online(pdf): <https://www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/mineral-exploration-mining/documents/permitting/mmpo/major_mines_auth_guide.pdf>.
[51] Interim Security Policy 2022, *supra* note 5 at 11; JAIR 2024, *supra* note 44 at 86.
[52] *Mines Act*, *supra* note 2 at s 10(1): Requires the general requirement that the mining permit application must include "the information, particulars and maps established by the regulations or the code."

monitoring and maintenance. The Code also authorizes proponents to submit commercially sensitive cost data in a separate confidential appendix with the approval of the CPO.[53]

Under the Interim Policy, the RLCE must break down anticipated work by year and include precise quantities and unit rates for each task, based on third-party contractor pricing. Where available, proponents must use current quotes from contractors or engineering firms. When quotes are not available, equipment costs may be estimated using the BC Road Builders and Heavy Construction Association's Blue Book.[54]

The JAIR further expands on these requirements by mandating that the RLCE include all costs necessary to implement the RCP and ensure compliance with provincial and federal regulations over a 100-year period beginning the year that the RLCE is submitted. Consistent with the reclamation scenarios required in the RCP, the RLCE must model costs under two future scenarios: one based on current site disturbance and the next five years of mine activity, and another based on full development through the mine's life.[55]

The JAIR also imposes a structured format for the RLCE, requiring that costs be distributed across seven predefined categories: infrastructure removal, site remediation, conventional reclamation, water quality mitigation, site staffing, ongoing site maintenance, and long-term monitoring and reporting. [56] Each category comes with specific definitions and calculation requirements to ensure consistency and clarity in the estimation process. [57]

Taken together, these requirements are intended to promote consistency, but they remain proponent-driven and are not subject to routine public review.

Net Present Value (NPV) Calculation

Once the RLCE is prepared, proponents must calculate the net present value (NPV) of the estimated reclamation liability. The Interim Policy prescribes these NPV parameters, including the use of a provincial discount rate, a fixed 100-year analysis period, contingency allowances, and costs associated with long-term administration and site oversight.[58]

The NPV calculation converts future reclamation obligations into current-dollar values and functions as the primary metric the CPO relies on to determine the amount of reclamation security required.[59] In particular, the highest NPV projected within the first five years of site disturbance is typically used to set security levels.[60] As a result, assumptions embedded in the NPV calculation,

[53] HSR Code, *supra* note 3 at 10.2.2(j).
[54] Interim Security Policy 2022, *supra* note 5 at 10.
[55] JAIR 2024, *supra* note 44 at 85.
[56] *Ibid* at 87.
[57] *Ibid* at 88-93.
[58] Interim Security Policy 2022, *supra* note 5 at 10-12.
[59] *Ibid* at 10.
[60] *Ibid.*

such as discount rates and timing of reclamation, play a decisive role in determining the extent of financial assurance protecting the public.

Exploration Incentive

The Interim Policy includes an exploration incentive that allows qualifying mines with demonstrated mineral reserves to reduce the amount of security posted. Depending on the length of remaining reserves, security reductions of up to 10% of the value of the mine may be permitted, subject to caps tied to the value of proven reserves (see Figure 1 below).[61]

Maximum eligible Exploration Incentive Security is the ***lowest*** of the 2 values calculated from Method 1 or Method 2		
Method 1	**Method 2**	
1. From a NI43-101 Report determine the estimated NPV of the pre-tax free cash flow at a discount rate of 8% 2. 10% of this value is eligible as an Exploration Incentive Security	*Remaining Mine Life*	*Percentage of Reclamation Liability*
	More than 10 years	25 % of the Reclamation Liability
	5-10 years	15 % of the Reclamation Liability
	Less than 5 years	0 % of the Reclamation Liability

Figure 1. Screenshot of Table A-1: Exploration Incentive Security Calculation Methods as published in the Interim Policy (2022).

While designed to encourage exploration and continued development, this incentive reduces the immediate financial assurance held by the Province in a manner that is untethered to any reduction in actual reclamation risk. The rationale for permitting a reduced bond — incentivising continued mineral development — is, in principle, a legitimate policy goal, but it is one that is inconsistent with the core purpose of reclamation security, which is to ensure that the full cost of environmental remediation is covered regardless of economic conditions at the mine site. As discussed in the Executive Summary, this incentive is arguably improper as an instrument of environmental bonding policy, and its removal or replacement with an alternative economic incentive mechanism unconnected to security levels is recommended.[62]

Reclamation Security During Mine Operations

During the operational phase, BC's regulatory framework allows the CPO discretion to adjust reclamation security in response to evolving environmental risks. However, the framework does

[61] *Ibid* at 20.
[62] Interim Security Policy 2022, *supra* note 5 at table A-1; *Mines Act*, *supra* note 2 at s 10(5).

not impose a legal requirement to do so. Three primary mechanisms exist for reviewing security during operations: Annual Reclamation Reports (ARRs), five-year mine and reclamation plans, and permit amendments triggered by material changes in operations.

ARRs require proponents to report on environmental risks, including tailings management, acid rock drainage, erosion control, and monitoring results. While these reports may reveal increased liabilities, any resulting security adjustment remains discretionary. Similarly, five-year plans provide a logical checkpoint for reassessing security, but no statutory requirement compels the CPO to increase security even when projected reclamation costs rise. [63]

Additional authority arises where material changes to mine operations trigger permit amendments or where default occurs. However, there is not a clear legal definition of what degree of changes to mine operations that result in increased reclamation liability constitutes a "material" change. Courts have generally considered material changes to include significant modifications to site preparation, expansion of mine sites, or alterations to tailings management.[64] If significant operational changes are proposed, such as expanding the mine footprint or altering key infrastructure, a permit amendment may be triggered. This process gives the CPO another opportunity to review and revise the reclamation security. Under ss. 10 and 10.1 of the Act, the CPO *may* revise reclamation security. Again, however, there is no statutory requirement compelling the CPO to increase security even if liability increases. The law confers discretion, not obligation.[65] Although the Interim Policy expresses an intent to align security with site disturbance over time, this commitment remains a policy objective rather than a legal requirement.[66]

Reclamation Security During Care and Maintenance

"Care and maintenance" is not a legally defined stage under BC's mining legislation, yet it carries significant regulatory and environmental implications. Mines in this phase may remain inactive for extended periods while avoiding formal closure obligations, even as environmental risks persist or increase. As of 2023, 19 major mines are classified as 'closed care and maintenance,' with some having remained in this status for over a decade.[67] During this period, operators may postpone or avoid certain environmental remediation obligations that would normally be triggered by formal closure, creating regulatory gaps that can elevate environmental risk.[68]

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[63] *Mines Act*, *supra* note 2 at ss 10 & 10.1; Interim Security Policy 2022, *ibid*: Part 3 – "Review of Reclamation Security During Operations."
[64] *Louis v British Columbia (Minister of Energy, Mines, and Petroleum Resources)*, 2013 BCCA 412.
[65] *Mines Act*, *supra* note 2 at ss 10, 10.1; HSR Code, *supra* note 3 at 10.7.1.
[66] Interim Security Policy 2022, *supra* note 5 at 2.
[67] Nick Gottlieb, "Mining companies are abusing a little-known loophole to avoid cleanup" (8 September 2023), online: <https://breachmedia.ca/mining-care-and-maintenance-loophole-profits-neglect-cleanup/>.
[68] The avoidance of environmental obligations is outlined in the Gottlieb article, *ibid.* A similar legal category also exists in Austria, where scholars have found that the category also allows mine operators to avoid certain environmental obligations, see: Mia Pepper, Michael Hughes & Yvonne Haigh, "Loophole or Lifeline? The Policy Challenges of Mines in Care and Maintenance" (2021) 8 *The Extractive Industries and Society* 100879, DOI: 10.1016/j.exis.2021.01.014.

The Act empowers the CPO and Chief Inspector to require or apply reclamation security in cases of default, non-compliance, or emergency, including during periods of inactivity. Section 17 grants emergency powers to address pollution or safety risks at inactive or abandoned mines.[69] However, there is no statutory obligation requiring proponents to increase reclamation security upon entering care and maintenance. Consequently, the adequacy of security during this phase depends largely on discretionary regulatory intervention.

Reclamation Security at Mine Closure

Under the Act, a mine is not considered "abandoned" merely because operations have ceased. Rather, an "abandoned mine" is defined as one for which all permit obligations have been satisfied and in respect of which the mineral claims have reverted to the government.[70] This definition underscores that legal abandonment occurs only after the regulator is satisfied that reclamation and environmental protection obligations have been fully discharged.

At the closure stage, the statutory and regulatory framework requires the permittee to complete all reclamation activities in accordance with the approved RCP and to demonstrate that the site is stable, safe, and environmentally secure.[71] Only once the Chief Inspector determines that these obligations have been met may the permittee apply for the return of posted reclamation security.[72] The Province may retain or apply all or part of the security to cover any remedial work it has undertaken, and the Code authorizes the Inspector to withhold security where ongoing monitoring or maintenance is required.[73] As a result, the release of reclamation security at closure remains contingent on regulatory satisfaction that long-term environmental risks have been adequately addressed.

Summary of Reclamation Security Framework in BC

Taken together, BC's reclamation security regime establishes a comprehensive but highly discretionary legal framework governing financial assurance across the mine lifecycle. The *Mines Act* and the Code impose clear obligations on permittees to plan for, carry out, and ultimately complete reclamation in accordance with approved Reclamation and Closure Plans, supported by financial security intended to protect the Province against default. Policy instruments such as the Interim Major Mines Reclamation Security Policy and the JAIR provide detailed guidance on how reclamation liabilities should be estimated, discounted, and secured, including requirements for long-term monitoring, maintenance, and water treatment. At closure, the law clearly conditions

[69] *Mines Act*, *supra* note 2 at s 17.
[70] *Ibid* at s1.
[71] *Mines Act*, *supra* note 2 at s 10(1); HSR Code, HSR Code, *supra* note 3 at Part 10.9.
[72] HSR Code, *supra* note 3 at Part 9.13.1.
[73] *Mines Act*, *supra* note 2 at s 12.

the return of reclamation security on regulatory satisfaction that reclamation objectives have been met and that long-term environmental risks are adequately addressed.

However, while the legal framework grants the Province broad authority to require and retain reclamation security, it does not impose corresponding legal obligations to ensure that security consistently reflects actual reclamation liability over time. At every stage of the mine lifecycle, key decisions regarding the amount, timing, and adjustment of reclamation security remain discretionary. Neither the *Mines Act* nor the Code mandates standardized methodologies for calculating reclamation costs, requires periodic reassessment of security in response to increasing disturbance, or compels security increases when reclamation liabilities grow. Instead, these outcomes depend on policy guidance and regulator judgment, leaving room for inconsistent application and under-bonding.

The framework also relies heavily on proponent-generated information. Although the Interim Policy and JAIR impose detailed technical requirements for RLCE preparation, cost estimates are developed by proponents or their consultants and are not subject to routine independent verification or public review. Confidential treatment of cost information is permitted, and there is no statutory requirement for disclosure of RLCE assumptions, NPV calculations, or approved security amounts. As a result, civil society, affected communities, and Indigenous Nations have limited ability to assess whether posted security adequately reflects long-term environmental risk.

Further, the law does not adequately address periods of operational transition or inactivity. The absence of a legally defined “care and maintenance” stage allows mines to remain inactive for extended periods without triggering mandatory reassessment of reclamation security, even where environmental risks persist or increase. While regulators retain emergency and enforcement powers, the adequacy of security during these periods depends largely on discretionary intervention rather than clear legal triggers. Similarly, during operations, annual reports and five-year plans may reveal growing liabilities, but there is no statutory duty requiring the Chief Permitting Officer to adjust security in response.

In sum, BC’s reclamation security regime provides the Province with sufficient legal authority to protect the public from unfunded reclamation liabilities, but that authority is exercised within a framework that prioritizes flexibility, confidentiality, and development incentives over transparency, standardization, and mandatory risk alignment. The absence of legally enforceable requirements for public disclosure, periodic reassessment, phased security posting, and security adjustment during care and maintenance creates structural vulnerabilities that can allow reclamation liabilities to outpace posted financial assurance. These gaps help explain the persistent risk of under-bonding identified in this report and underscore the need for reforms that move beyond discretionary policy toward clearer, enforceable legal requirements. Comparative analysis with Nevada illustrates that a more standardized, transparent, and precautionary approaches are achievable. Benchmarking against that regime underscores that BC’s shortcomings

are the result of policy choices rather than inherent constraints, providing a practical and legally grounded basis for reform to better protect the public and enforce the polluter-pay principle.

PART 3: OVERVIEW OF LEGAL FRAMEWORK FOR RECLAMATION SECURITY IN NEVADA

3.1 NEVADA

In Nevada, mine reclamation and reclamation security are regulated through a coordinated federal-state framework that applies standardized, transparent, and periodically reviewed financial assurance requirements.[74] Approximately 87% of Nevada's land base is federally owned and managed by the Bureau of Land Management (BLM) or the U.S. Forest Service, with the remainder subject primarily to state jurisdiction administered by the Nevada Division of Environmental Protection (NDEP).[75] For many projects, state and federal reclamation requirements apply concurrently, with agencies coordinating bonding and enforcement responsibilities through memoranda of understanding. [76]

Before commencing exploration or mining activities, operators must obtain approval of a reclamation plan,[77] submit a detailed reclamation cost estimate,[78] and post financial assurance sufficient to cover the full cost of reclamation in the event of default.[79] Reclamation security is required as a condition of approval for new projects and significant amendments, and in practice is typically consolidated into a single bond amount accepted across jurisdictions.[80] Reclamation cost estimates must reflect third-party contractor costs and itemize specific reclamation activities,

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[74] Nevada Legislature, "Mining Handouts" (2010), online(pdf): <https://www.leg.state.nv.us/Division/Research/LegInfo/Orientation/2010-11/Handouts/Dec7/13-MiningHandouts.pdf>.

[75] Nevada Division of Minerals, "Public Land Issues" (Last accessed 15 December 2025), online: <https://data-ndom.opendata.arcgis.com/pages/land-withdrawals>: "The borders of Nevada enclose over 70 million acres of land of which over 61 million acres are federally managed land."

[76] Bureau of Land Management, U.S. Forest Service, and Nevada Division of Environmental Protection "Memorandum of Understanding for Mining and Mineral Related Activities Within the State of Nevada" (2019), <https://www.blm.gov/sites/default/files/docs/2024-11/IM2025-009%20att2.pdf> [Nevada MOU 2019]; Bureau of Land Management, "BLM Handbook H-3809-1" (17 September 2012), online(pdf): <https://www.blm.gov/sites/blm.gov/files/H-3809-1.pdf> at 12-13.

[77] According to NDEP, the MOU provides that for all mines, even those existing exclusively on federal land, "a State reclamation permit and a financial guarantee are required…": Nevada Division of Environmental Protection, "What happens if a mine is abandoned?' (2020), online(pdf): <https://ndep.nv.gov/uploads/land-mining-faq-docs/20180727_FAQ_AbandonedMine_ADA.pdf>; Nevada MOU 2019, *supra* note 76 at 5.

[77] NRS c 519A, *supra* note 15 §§ 519A.180, 519.200.

[78] Nevada Administrative Code, c 519A (1989), §§ 519A.125(2), 519A.140(2), <https://www.law.cornell.edu/regulations/nevada/chapter-519A/regulation-of-mining-operations-and-exploration-projects> [NAC].

[79] 43 CFR § 3809.500 (2024); 36 CFR § 228.13 (2024); *Ibid* § 519A.360(1).

[80] *Ibid*.

disturbance types, and associated acreage.[81] To promote consistency and transparency, Nevada agencies strongly encourage use of the Standardized Reclamation Cost Estimator (SRCE), an annually updated tool developed by NDEP and BLM and made publicly available.[82] Approved reclamation cost estimates are posted in a publicly accessible database, a practice that appears to be grounded in administrative policy rather than express statutory mandate.[83] Operators may request confidential treatment of information that qualifies as a trade secret, but confidentiality must be justified and is subject to agency review.[84]

Public participation is embedded into the permitting process. Upon receipt of a permit application, the Division is required to publish public notice. Within 30 days, any person may submit written comments and information to NDEP.[85] Any operator or person directly affected may request a public hearing, which the Division must schedule if it determines the request is reasonable and there is a significant degree of public interest in the matter.[86] NDEP must publish notice of a public hearing 30 days in advance of the hearing date.[87] At the public hearing, anyone may make submissions to NDEP. If NDEP issues a final permit, it "shall" issue a statement responding to the comments received during the public notice period and/or the public hearing.[88] Nevada regulations permit appeals and hearings by any "aggrieved" person before the State Environmental Commission within 10 days.[89] The Commission may affirm, modify, or reverse any action of NDEP that is appealed to it.[90]

During operations, reclamation security must be sufficient to cover projected disturbances before they occur, and major expansions require amended permits and recalculated security.[91] Operators are required to review reclamation security at least every three years to determine whether it remains adequate, taking inflation into account, and must either request a reduction or increase the bond accordingly.[92] Agencies review these submissions and may require revisions, ensuring

[81] NAC, *supra* note 78 § 519A.365.
[82] Nevada MOU 2019, *supra* note 76 at 7; Standardized Reclamation Cost Estimator, "Model and Data Files" (Last accessed 16 December 2025), online: <https://nvbond.org/srce_downloads/>; Nevada Division of Environmental Protection, "Standardized Reclamation Cost Estimator (SRCE)" (Last accessed 16 December 2025), <https://ndep.nv.gov/land/mining/reclamation/reclamation-cost-estimator>.
[83] NRS c 519A, *supra* note 15 § 519A.150 empowers the Division to disseminate nonconfidential information, but does not make it a duty of the Division: "The Division may … 2. Collect and disseminate nonconfidential information relating to mining reclamation."
[84] *Ibid* § 519A.170(2).
[85] *Ibid* § 519A.190(1)(a).
[86] NAC, *supra* note 78 §§ 519A, 519A.185–519A.205.
[87] Nevada Administrative Code § 445A.239 (2019), online <https://www.law.cornell.edu/regulations/nevada/NAC-445A-239>.
[88] NAC, *supra* note 78 § 519A.210(1).
[89] *Ibid* § 519A.415(1)-(2).
[90] *Ibid* § 519A.415(4).
[91] *Ibid* §§ 519A.245, 519A.295–519A.310; Nevada Division of Environmental Protection, "Reclamation Branch" (Last accessed 16 December 2025), online: <https://ndep.nv.gov/land/mining/reclamation>.
[92] NAC, *supra* note 78 § 519A.380.

that financial assurance remains aligned with evolving reclamation liability.[93] At closure, Nevada regulations prohibit release of reclamation security until all reclamation obligations have been fulfilled in accordance with the approved plan.[94] Where reclamation has not been completed concurrently with operations, regulations impose clear timelines for initiating reclamation following completion, abandonment, or temporary closure.[95] Reclamation security is subject to forfeiture where operators fail to meet these obligations or cease operations without transferring the permit, reinforcing the polluter-pay principle and limiting the risk of unfunded liabilities.[96]

3.2 APPLICATION OF RECLAMATION SECURITY LESSONS FROM NEVADA

Nevada provides instructive examples of a more transparent and structured approach to mine reclamation security than the current practice in British Columbia. In Nevada, financial assurance is standardized, publicly accessible, and reviewed regularly, with operators required to submit detailed, third party-informed cost estimates and to update security at least every three years. Public participation is embedded into the permitting process: upon publication of a permit application, any person may submit written comments, and persons directly affected may request a public hearing. While hearings are not guaranteed as of right — they are subject to a public interest threshold — this framework nonetheless provides a structured and legally codified avenue for public input that has no counterpart in BC's current regime, where no equivalent notice-and-comment process applies to reclamation security determinations.[97] Nevada maintains an enforceable link between mine activity, closure obligations, and financial security, reducing the risk of under-bonding and unfunded reclamation liabilities.

Critically, Nevada contains no equivalent to BC's exploration incentive that allows operators to post less than the full estimated reclamation security for reasons unconnected to environmental risk. The absence of such a carve-out reflects a principled commitment to the polluter-pay principle that BC's current framework does not fully replicate, despite its stated 100% coverage objective**.**

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[93] *Ibid.*

[94] *Ibid* § 519A.385(2): "The entire surety must not be released until all of the requirements of the permit have been fulfilled, except that: (a) A portion of the surety covering the reclamation of a discrete part of a disturbance must be released when the requirements of the permit regarding the discrete part of the disturbance have been fulfilled. (b) That portion of the surety covering a discrete activity must be released when the requirements of the permit regarding that discrete activity have been fulfilled."

[95] *Ibid* § 519A.385(5): "If a request to release is denied, the operator may appeal the decision pursuant to NAC 519A.415 [appeals to Commission]."

[96] *Ibid* § 519A.390(1)(a) and (c).

[97] NAC, *supra* note 78 §§ 519A.185–519A.205.

By contrast, BC's current framework relies heavily on discretionary decision making, lacks mandatory public disclosure of reclamation cost estimates, and does not systematically link financial assurance to operational phases or updated closure obligations. Furthermore, Nevada's triennial review requirement creates a structural check on the adequacy of financial assurance that is not dependent on the proactive intervention of regulators. BC's regime, by contrast, leaves the Province exposed where an operator's financial condition deteriorates without triggering any mandatory security review.[98]

Applying lessons from Nevada suggests that BC could enhance transparency, accountability, and fiscal protection by standardizing reclamation cost calculations, making approved estimates publicly accessible, instituting phased or periodic security updates, and integrating structured opportunities for public and stakeholder input throughout the mine lifecycle. These lessons are discussed in further detail in the next part.

[98] NAC, *supra* note 78 § 519A.345; *Mines Act*, *supra* note 2 at ss 10, 10.1.

PART 4: RECOMMENDATIONS FOR RECLAMATION SECURITY GOVERNANCE IN BC

Despite recent reforms, BC's reclamation security framework exhibits significant structural weaknesses that jeopardize both environmental protection and public accountability. Key issues include under-bonding risk, unbounded discretionary authority, lack of transparency, absence of mandatory financial distress triggers, and limited public and Indigenous Nation oversight.

RLCEs are prepared by the mining company or consultants they retain, creating an inherent risk of underestimation. While the Interim Policy and updated RLCE guidance require detailed cost breakdowns, including water treatment, monitoring, maintenance, and long-term liabilities, these estimates remain largely proponent-driven and are not subject to routine independent or public scrutiny. Independent analyses, including reviews conducted by Wildsight, suggest that actual reclamation and long-term water treatment costs may significantly exceed those estimated by industry.[99] The absence of standardized, transparent calculation methodologies further compounds this risk, particularly for mines with perpetual or indefinite care requirements.

The Interim Policy's exploration incentive allows mines with sufficient proven reserves to post only a portion of their total reclamation liability as security. This reduction in financial assurance is arguably improper: it reduces the protection afforded to the public for reasons entirely unconnected to reclamation risk, and it conflates development incentive policy with environmental bonding policy. Where the Province wishes to encourage exploration and development, the appropriate instruments are royalty structures, taxation, and permitting timelines — not reductions in the financial assurance held against environmental obligations. Where projects stall, enter care and maintenance, or fail altogether, the reduced security can leave the Province, and ultimately the public, exposed to unfunded reclamation liabilities.

There is no formal, legislated mechanism for public or Indigenous communities to review, challenge, or provide input into reclamation security amounts once a mine is permitted. Reclamation security calculations and underlying RLCEs are generally treated as confidential, despite the significant public interest in understanding long-term environmental liabilities. This lack of transparency limits accountability, constrains informed public participation, and reduces confidence that security amounts are sufficient to protect the public from future reclamation costs.

Mines placed into "care and maintenance" can defer or avoid full closure obligations, even though environmental risks may persist or increase during operational pauses. While the Interim Policy applies to such mines, there is no clear requirement to reassess or increase security when

[99] Burgess & Wildsight Report 2024, *supra* note 10.

operations cease or are suspended. As a result, security levels may remain based on outdated assumptions, leaving growing reclamation liabilities unaddressed until a default or closure event occurs.

The challenges identified in BC's reclamation security regime are not inherent to mining regulation but reflect policy choices that differ from other mining jurisdictions. Nevada employs a transparent, formula-based bonding system in which the cost estimation methodology is publicly available through the Nevada Standardized Reclamation Cost Estimator (SRCE), a tool jointly administered by NDEP and the BLM that operators must use to calculate and submit reclamation cost estimates, and financial assurance amounts are designed to cover the full cost of reclamation as calculated on a third-party contractor basis.[100] Security amounts are regularly reviewed and adjusted — at minimum every three years for plans of operations — to reflect changing site conditions and updated cost assumptions. Nevada also provides structured mechanisms for public participation in the permitting process, including mandatory public notice and written comment periods, with public hearings available upon request where the Division determines there is a significant degree of public interest.[101] These features demonstrate that standardized methodologies, public disclosure, and proactive reassessment are administratively feasible. In contrast, BC's reliance on discretionary, largely non-public security assessments represents a departure from Nevada's approach.

In combination, these issues reveal a reclamation security system that systematically underestimates long-term environmental liabilities, relies heavily on proponent-generated information, and provides limited opportunities for public or Indigenous Nation oversight. Although the Province possesses broad legal authority to require adequate financial assurance, that authority is exercised within a policy framework that prioritizes flexibility, confidentiality, and development incentives over transparency and risk alignment. The result is a regime that exposes the public to significant financial risk, particularly in relation to long-term water treatment and mines that stall, enter care and maintenance, or fail before closure obligations are fulfilled.

To strengthen BC's reclamation security regime and reduce fiscal and environmental risks, several detailed reforms are warranted.

RECOMMENDATION #1: ESTABLISH STANDARDIZED, TRANSPARENT METHODOLOGIES FOR CALCULATING LIABILITY

First, the Province should establish standardized, transparent methodologies for calculating reclamation liability, including clearly defined cost categories for site rehabilitation, long-term water treatment, monitoring, and maintenance. Modeled on the Nevada SRCE framework, these methodologies should be publicly available and applied consistently across all mines, reducing the

[100] 43 CFR § 3809; NRS c 519A, *supra* note 15; NAC, *supra* note 78.
[101] NAC, *supra* note 78 §§ 519A.185–519A.200.

scope for proponent-driven underestimation. These methodologies should incorporate third-party or independent review to reduce proponent bias, and the resulting RLCEs should be publicly available, with limited and justified exceptions for confidential business information.

RECOMMENDATION #2: LINK FINANCIAL ASSURANCE TO OPERATIONAL PHASE, PROJECT EXPANSIONS, AND PERIODS OF CARE AND MAINTENANCE

Second, financial assurance should be explicitly linked to operational phases, project expansions, and periods of care and maintenance. Security levels should be recalculated whenever site conditions change materially, including changes in mine design, footprint, or disturbance area. Mines in care and maintenance should undergo mandatory reassessment of reclamation security, with increases required to reflect risks that may grow during operational pauses. This would ensure that financial assurance remains aligned with the full scope of environmental obligations throughout the mine lifecycle.

RECOMMENDATION #3: IMPLEMENT MEANINGFUL PUBLIC AND INDIGENOUS NATION ENGAGEMENT MECHANISMS

Third, the Province should implement structured mechanisms for meaningful public and Indigenous Nation engagement. This could include mandatory consultation with affected Indigenous Nations and formal avenues for public review and comment on RLCEs and security amounts. Providing clear timelines for responses to input and allowing appeals or administrative review where disputes arise would further enhance accountability and trust.

RECOMMENDATION #4: INTRODUCE A PHASED OR PERIODIC APPROACH TO POSTING AND UPDATING RECLAMATION SECURITY

Fourth, a phased or periodic approach to posting and updating reclamation security should be introduced. Financial assurance should increase incrementally in alignment with mine development and disturbance expansion, rather than relying on single, pre-operational calculations or discretionary updates. Regulators should have clear authority to reject incomplete or underestimated cost submissions, and security levels should be updated to account for inflation, evolving regulatory standards, and advances in reclamation technology or understanding of environmental risk.

RECOMMENDATION #5: ELIMINATE THE EXPLORATION INCENTIVE AS A MECHANISM FOR REDUCING RECLAMATION SECURITY

Fifth, the Province should remove the exploration incentive provision that permits operators to post less than the full estimated reclamation security. This provision reduces public protection for reasons unrelated to environmental risk and is inconsistent with the polluter-pay principle that underlies reclamation security policy. Development incentives should be pursued through appropriate fiscal and permitting instruments, not by reducing the financial assurance held against environmental obligations. All operators, at all stages, should be required to post security equal to the full estimated cost of reclamation.

RECOMMENDATION #6: STRENGTHEN REGULATORY OVERSIGHT TO ENSURE SECURITY AMOUNTS FULLY COVER PROJECTED RECLAMATION COSTS

Finally, regulatory oversight should be strengthened to ensure that security amounts are sufficient to fully cover projected reclamation costs. This includes enforcing compliance with approved closure plans, monitoring whether reclamation obligations are met, and retaining authority to use posted security to complete reclamation where the operator defaults. Clear enforcement mechanisms, including forfeiture provisions and penalties for noncompliance, would reinforce the polluter-pay principle and limit the risk of unfunded liabilities for the Crown and the public.

Taken together, these reforms would create a reclamation security system that is transparent, predictable, and resilient, aligning BC's practices more closely with those in Nevada. They would reduce the risk of under-bonding, improve public and Indigenous confidence in the regulatory system, and safeguard both environmental and fiscal outcomes over the full lifecycle of mining operations.

CONCLUSION

BC's reclamation security framework has improved substantially, particularly through the Interim Policy. However, the reliance on discretion, underestimation of costs, limited public scrutiny, and regulatory ambiguity, especially during care and maintenance, mean that the system still carries significant risks. The exploration incentive, which permits operators to post less than the full estimated reclamation security for reasons unrelated to environmental risk, further undermines the polluter-pay principle and warrants elimination. Without stronger legal mandates, greater transparency, and formal mechanisms for public participation, the Province and taxpayers remain exposed to potential shortfalls in reclamation funding.