

**Ministry of Energy, Mines and Low Carbon Innovation**  
**Major Mines Reclamation Security Policy**  
**(Interim)**

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Version 1.0

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### Background/History

This policy was developed in response to recommendations made by the Office of the Auditor General of British Columbia (OAG) following a 2016 audit of compliance and enforcement in the BC mining sector. The Auditor General recommended that “...government safeguard taxpayers by ensuring the reclamation liability estimate is accurate and that the security held by government is sufficient to cover potential costs”. This policy sets out requirements for major mines to provide a clear accounting of estimated reclamation costs and establishes a framework for determining the amount and form of reclamation security.

Following the Auditor General’s report, the Ministry of Energy, Mines and Low Carbon Innovation (EMLI) commissioned Stantec Consulting Ltd. (Stantec) to examine how other jurisdictions in Canada and abroad handle reclamation security. Stantec prepared a report titled, *Policy and Process Review for Mine Reclamation Security* (September 2016).

EMLI and the Ministry of Finance then commissioned Ernst & Young (E&Y) to undertake an in-depth examination of EMLI’s reclamation securities practices. In 2017 E&Y completed the *Report and Recommendations for B.C.’s Mine Reclamation Security Policy* (February 2017), which included a comprehensive examination of the Ministry’s bonding practices and further analysis of best practices.

In 2019, EMLI requested input on policy components detailed in the Stantec and E&Y reports from Indigenous Nations, the public, non-governmental organizations in BC and Alaska, and from industry. Errington and Associates Ltd. conducted the outreach program on behalf of the Ministry. The OAG recommendations and the above-mentioned work by Stantec, E&Y, and Errington & Associates informed the development of this Interim Major Mine Reclamation Security Policy.

In November 2020, the Minister of EMLI and the Minister of Environment and Climate Change Strategy (ENV) were given a mandate to “ensure owners of large industrial projects are bonded moving forward so that they – not B.C. taxpayers – pay the full costs of environmental cleanup if their projects are abandoned.” Staff from EMLI, ENV and other ministries and agencies have begun work on this broader initiative, which is known as the Public Interest Bonding Strategy. This inter-agency work may result in recommendations for legislative change and will include engagement with Indigenous nations, environmental organizations, industry, and others. The process is expected to take 2-3 years to complete.

The interim policy is being implemented under the existing legislative framework while work continues to satisfy the broader government mandate. The interim policy will help to inform the Public Interest Bonding Strategy and will be updated as necessary following the conclusion of that work.

EMLI and ENV have a Memorandum of Understanding (MOU) whereby EMLI calculates and collects security on behalf of ENV under Section 14(1)(b) of the *Environmental Management Act* (EMA). ENV staff collaborate, review, and provide input to EMLI on the bonding process for applicable projects. The MOU ensures that mining companies are not required to post securities for the same activity under two different statutes.

### Policy Statement

This policy seeks to ensure that permittees for major mines pay the full cost of environmental cleanup and reclamation for their mine. New mines and any existing mines (whether in operation, in care & maintenance or closed) having less than five years of remaining mineral reserves will be required to post full reclamation security equal to the company's reclamation liability on the mine site. A partial exploration incentive security will be available to mines that have invested in sufficient exploration to demonstrate at least five years of remaining reserves. The policy seeks to ensure that new mines are fully bonded moving forward and seeks to reduce the differential between reclamation liabilities and reclamation securities for existing mines.

### Policy Objectives

The Reclamation Security Policy is intended to:

- Enhance the environmental sustainability of the mining sector;
- Provide transparency with respect to how reclamation liability cost estimates are to be calculated;
- Reduce the differential between the mining sector's reclamation liabilities and the reclamation securities held by the Province for existing mines;
- Promote on-going exploration to reduce the risk of default and to promote stable mining communities;
- Encourage progressive reclamation and proactive source control measures to reduce the need for long-term water treatment and other environmental liabilities;
- Maintain and enhance BC's strong practices and reputation with respect to Environmental, Social, and Governance factors;
- Support the continued competitiveness of BC's mining industry to ensure that this critical industry continues to thrive in BC.

### Questions and Answers Regarding the Policy

#### *How will the risk to taxpayers be reduced by this Policy?*

At all times in a mine's life there must be sufficient reclamation security in place to provide assurance that taxpayers will not be required to pay for mine site reclamation and environmental clean-up if companies default on their obligation to do this work. Accordingly:

- All new mines will be required to post reclamation security equal to 100% of the reclamation liability for the projected disturbance and any environmental liabilities created in the first 5 years of the mine's life.
- All mines having less than 5 years of economically viable reserves remaining must post reclamation security equal to 100% of the reclamation liability for the remaining life of mine.
- Mines that have been operating for more than 5 years, and that have economically viable reserves for more than the next ten years at the permitted production rate, will be eligible to secure up to 25% of the reclamation liability against a portion of the reserve value.
- Mines that have been operating for more than 5 years, and that have economically viable mineral reserves for more than the next five years (but less than the next 10 years) at the permitted production rate, will be eligible to secure up to 15% of the reclamation liability against a portion of the mineral reserve value.
- No more than 10% of the value of the mineral reserves may be used as reclamation security. The value of the reserve for this purpose is the net present value of the pre-tax free cash flow at a discount rate of 8% as reported in a publicly available National Instrument 43-101 Technical Report (NI43-101). This represents the net discounted free cash flow after all extraction and production costs are paid including operating, capital, and refining costs.
- A default contingency of 15% will apply to reclamation liability cost estimates (RLCE). Higher contingencies may be required depending on the level of risk or uncertainty. Lower values would need to be justified by the permittee and accepted by the chief permitting officer.

#### *Why does this policy consider the stage of a mine's life as a component of risk?*

New mines and mines with depleted reserves pose a greater risk of default and must be fully bonded using financial instruments to protect the environment and the taxpayers of BC. High capital expenditures and start-up costs could make new projects susceptible to premature closure before the infrastructure necessary to support long-term mining is in place. Further, new mines that are highly leveraged may be more susceptible to fluctuations in commodity prices. In the latter stages of a mine's life when reserves are depleted, the likelihood of another operator acquiring the mine site in the event of a default is limited.

### *Why does this policy promote on-going exploration at mine sites in BC?*

Investment in exploration adds value to a mining property by locating minerals and proving the economic viability of extracting them. Without this investment, a site has little or no value as a mine. The investment in exploration creates value for the people of BC that persists even if the mining company becomes insolvent, as that value can be realized through mineral extraction by another company. Exploration throughout the life of mine leads to long life mines that support the economy of BC with well-paying jobs and tax revenue.

### *Why are long-term mines promoted by this policy?*

Long life mines create and promote stable communities for families from both an economic and a social perspective. Mine employees are more likely to purchase a home and move their family to the community in which they work if they are confident that the mine will be operating for a long period of time. Local governments are better able to plan infrastructure and services that promote the well-being of their residents. Finally, operators of long-life mines are able to mix low grade and high-grade ore to utilize resources that might otherwise be uneconomical to recover.

### *Why are reclamation securities based on the peak disturbance over the next five years and not on the disturbance created over the projected life of the mine?*

Mining companies that have conducted exploration and planning to demonstrate the viability of long-term mining should not be penalized for doing so. Requiring up-front reclamation security for life of mine disturbance would incentivize short-term planning and short-term mines having lower economic and social value to the people of BC. Bonding for disturbance that has not yet occurred and that is not planned in the near term is not required to manage the risk to taxpayers. The reclamation security required will increase incrementally with the level of disturbance so that the security held at any point in a mine's life is equal to or greater than the reclamation liability at any point in time. This approach also provides an incentive for companies to undertake progressive reclamation at first party rates so that they can avoid bonding for reclamation work at much higher third party (contractor and consultant) rates.

### *How are taxpayers protected from the risk of default for mines having a long mine plan, but which are forced into bankruptcy?*

At any given time, the reclamation security held for a mine through financial instruments (which is in addition to the exploration incentive security) is to be no less than 75% of the total reclamation security calculated using contractor and consultant rates. This will cover costs associated with the care and maintenance of sites during temporary closures. Mines with large proven reserves are attractive to other operators in the event that low commodity prices or other circumstances force a company into insolvency.

### *How do we address the differential between the reclamation liability and the reclamation security for existing sites?*

Reducing the differential between the reclamation security and the reclamation liability for existing mines is one of the goals of this policy. This policy seeks to achieve this in a fair manner that is consistent with the best interests of the taxpayers of BC. Taxpayers are put at risk if EMLI seeks to close the differential in a rigid manner that pushes an existing mine into financial distress. This could result in mine closures with significant impacts on mine workers and the economy – and without the desired reduction in the differential. This is not in the taxpayer’s best interest. Wherever possible, parity between reclamation security and reclamation liability will be pursued over the next five years.

### *How does this policy encourage the use of source control measures to reduce the need for long-term water treatment?*

Companies that use best management practices for source control measures to protect water quality and reduce the need for long-term treatment will reduce their environmental liability and thereby reduce the amount of reclamation security that needs to be held.

### *How does this Policy incentivize Progressive Reclamation?*

Companies that complete necessary reclamation work using their own equipment and personnel, are able to complete this work at a cost that is lower than the contractor rates that are used to calculate the required reclamation security. Consequently, there is an incentive to progressively reclaim disturbance throughout the mine’s life in order to reduce the value of the required reclamation security.

### *What are the requirements for designing mines in a way that considers closure up-front?*

A mine Reclamation and Closure Plan is required as part of any permit application to construct and operate a mine. Planning a mine with forethought to closure provides the proponent with the opportunity to: reduce rehandling costs and re-sloping requirements at closure, ensure sufficient overburden and topsoil inventory at closure, avoid relocation of key infrastructure during a mine’s life and minimize water treatment requirements. Good up-front closure planning reduces reclamation liabilities and the amount of the required reclamation security.

### Objective of Mine Reclamation

The objective of mine reclamation is to return disturbed land to a state that will achieve desired end land use goals, and to reduce risks to the public and to the environment. This requires that land and watercourses are left in a state of physical and geochemical stability and that disturbed land is revegetated to a self-sustaining state that satisfies the end land use.

### Purpose of Reclamation Security

Reclamation security is intended to cover the cost of reclaiming a site in the event that a mining company defaults on their obligation to do so or becomes insolvent. Costs that must be considered include those necessary to: close and maintain infrastructure such as tailing dams and waste rock dumps; construct, operate and maintain water treatment plants, waste cover systems and other required mitigations; re-contour the site, prepare the surface, place a suitable growth medium, revegetate the site, and implement on-going monitoring and surveillance programs.

### Scope of Policy

This policy applies to all major mines in the province of BC regulated by EMLI. Regional mines authorized under a Notice of Work (NOW) for a quarry, sand and gravel pit, placer mine, or exploration project will continue to use the Regional Mine Reclamation Bond Calculator. A link to this tool is provided later in this document under “Related Guidance”.

### Regulatory Context

Reclamation security provisions are included under various sections of the *Mines Act*, the *Environmental Management Act* and the Health, Safety and Reclamation Code for Mines in BC (Code) and are briefly summarized here:

- Section 10(4) of the *Mines Act* - provides the chief permitting officer the legal authority to determine the amount and form of financial security required of a *Mines Act* permit holder. Reclamation security can be required for mine reclamation and to provide for the protection of, and mitigation of damages to, watercourses and cultural heritage resources affected by the mine.
- Section 10(5) of the *Mines Act* – gives the chief permitting officer the ability to require annual changes to the security so that funds are available over the life of mine to cover the costs to reclaim and close the mine, to mitigate impacts to the environment, and to fulfill the conditions of the permit and any orders relating to reclamation and the protection of watercourses and cultural heritage resources affected by the mine.
- Section 10(7) of the *Mines Act* - provides the chief permitting officer with the ability to change the reclamation security requirements for a mine at any time if it is deemed necessary.

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- Section 10.1 of the *Mines Act* – gives the chief inspector the authority to apply all or part of a reclamation security to pay for necessary work at a mine site.
- Section 12 of the *Mines Act* – allows for a mine reclamation fund to be established with paid securities credited in the name of the mine to separate accounts in the fund. Payments may be requisitioned from accounts in the fund to refund money and interest to the owner, agent or manager of a mine, or to pay the costs of necessary work.
- Section 17 of the *Mines Act* – allows the chief inspector to cause work to be done on a mine site to address an emergency or to prevent danger to persons or property or to abate pollution on a closed or abandoned mine. All or part of the reclamation security may be realized for this purpose.
- Section 14(1)(b) of the *Environmental Management Act* – allows a director that is issuing a permit authorizing the introduction of waste into the environment to require the permittee to give security in the amount and form and subject to conditions the director specifies.
- Part 10.1.3 (i) of the Code – outlines the requirement for *Mines Act* permit applications to contain a detailed reclamation liability cost estimate of all outstanding reclamation and closure liabilities over the planned life of mine including any long-term monitoring and maintenance obligations. The reclamation liability cost estimate may be filed confidentially with the approval of the chief permitting officer.
- Part 10.6.15 of the Code – allows for the chief inspector to return all or part of a reclamation security when satisfactory work has been done that reduces or eliminates the reclamation and closure liabilities for a mine site.
- Part 10.6.16 of the Code – affords mine permit holders the opportunity to apply to the chief inspector for a release or partial release of reclamation security requirements based on work completed to reduce or eliminate reclamation and closure liabilities.

### Progressive Reclamation

Progressive reclamation serves to reduce the potential reclamation liability faced by the province and reduces the corresponding reclamation security required of mining companies. Reclamation should occur throughout the life of a mine. Progressive reclamation is comprised of incremental work that ultimately leads to final reclamation and closure of the site.

Conducting progressive reclamation allows for an incremental reduction of site liabilities, reduced closure timelines, and reduced monitoring costs. It also allows mine proponents to test and adjust proposed reclamation approaches and prescriptions over time.

Reclamation activities should be undertaken at the earliest opportunity that is afforded by the long-term mine plan. That is, at a time when no future mining purpose is contemplated for a given parcel of land. Sample timelines may include:

- Recontouring and vegetation of waste rock spoils once the spoil capacity is exhausted.
- Decommissioning of Tailings Storage Facilities (TSFs) once the tailings storage capacity is exhausted.
- Removal of mill and other infrastructure with the permanent cessation of mining.

The schedule for reclamation and closure activities must be:

- Consistent with best practices,
- Consistent with the accepted Reclamation and Closure Plan for the mine,
- Consistent with progressive reclamation, and
- Acceptable to the chief permitting officer.

### Best Management Practices for Source Control

Early planning and implementation of effective source control measures will protect water quality and reduce the need for long-term treatment. Long-term water treatment is one of the highest cost items faced by mines, and one of the largest contributors to a mining company's environmental liability. Prioritizing up-front planning and source control during the early stages of mine design can significantly reduce a mining company's environmental liability and the amount of the required reclamation security.

### Process to Determine Reclamation Liability Cost Estimates

This section is written to assist mining companies in determining appropriate reclamation liability cost estimate (RLCE) requirements. Site specific factors will need to be considered to ensure that the RLCE is appropriate. The final decision on the amount, form, conditions, and schedule remains a statutory decision of the chief permitting officer.

#### Part 1: Definition of Scope of Work - The Reclamation and Closure Plan

For each Major Mine, the Reclamation and Closure Plan must describe the scope of work for reclamation and closure of a site under two scenarios:

1. Based on the mine's configuration at the end of the proposed 5-year mine plan; and
2. Based on the mine's projected configuration at the end of the mine's life.

Reclamation and Closure Plans are to be developed and updated throughout the life of mine, namely:

- Prior to mine construction as part of an initial *Mines Act* Permit Application;
- At five-year intervals during the mine's life as part of a mine's 5 Year Mine Plan and Reclamation and Closure Plan (MP/RCP) Updates;
- At the time of permit amendment applications, as determined by the chief permitting officer; and
- Twelve months prior to planned date of mine closure.

#### *EMLI's general process upon receiving a Reclamation and Closure Plan from a proponent:*

- A proposed Reclamation and Closure Plan submitted at the project application phase will typically be reviewed by a Mine Review Committee (MRC) and review comments provided to the proponent. The MRC consists of regulatory agencies and Indigenous Nations.
- MRC comments (or those of EMLI reviewers where an MRC is not established) must be addressed and the proposed Reclamation and Closure Plan revised by the proponent as necessary.
- The ultimate outcome of this process is an accepted Reclamation and Closure Plan and (following the steps outlined in Part 2 and Part 3) a determination with respect to the amount of reclamation security required.
- The *Mines Act* Permit is approved or amended as necessary to indicate acceptance of the Reclamation and Closure Plan and reclamation security required.

Mines are also required to provide an Annual Reclamation Report that describes the actual (vs. planned) disturbance at the site up to the end of the previous year, any completed reclamation work, and an updated RLCE. Based on the Annual Reclamation Reports, interim adjustments to the required reclamation security may be made in accordance with Sections 10(5), 10(6) and 10(7) of the *Mines Act*.

### Part 2 – Detailed Cost Estimate and Implementation Schedule

A detailed RLCE for the 5 Year Mine Plan and Life of Mine Plan should be appended to each Reclamation and Closure Plan, along with a reclamation implementation schedule. The reclamation security determined by EMLI will be based on the net present value of the peak estimated liability during the next 5 years (i.e. the peak liability before the next update to the Reclamation and Closure Plan is due).

Using the Reclamation and Closure Plan as the scope of work, the information requirements outlined in the Joint Application Information Requirements (JAIR) Guidance document, and using a suitable cost estimator tool (such as the Standardized Reclamation Cost Estimator), the mine must provide the following details to support the RLCE:

- The work breakdown by required cost item and by year in which the work is to be performed;
- The quantities associated with each line item;
- The unit rates associated with each line item – using third party contractor rates;
- The total costs for each line item and for the overall scope of work;
- Where possible, rates should be based on recent quotes received from suppliers, contractors, or engineering firms; and
- Where recent quotes are not used, equipment rates are to be informed by the BC Road Builders and Heavy Construction Association - The Blue Book.

A basic spreadsheet template for major mines, developed by EMLI, is available for use and can be found at: [https://www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/mineral-exploration-mining/documents/reclamation-and-closure/mem\\_closure\\_costing\\_template.xls](https://www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/mineral-exploration-mining/documents/reclamation-and-closure/mem_closure_costing_template.xls)

A schedule is required indicating which tasks are planned to occur during each year of a 100-year post closure period. The percent completed during each year must be indicated for each task, and a cost estimate provided for each year of the post closure period.

### Part 3 - Net Present Value of Reclamation Liability Cost Estimates

The Net Present Value (NPV) of the RLCE is calculated using the annual costs for each year of the post-closure period and in accordance with the parameters provided in Table 1. The RLCE must be completed by a qualified person and is subject to verification and acceptance by EMLI.

**Table 1. Mine Reclamation Security Policy - RLCE Parameters**

RLCE Parameter	Costing Parameter Comments
Discount Rates	<p><b>Mine sites with a RLCE less than \$50M:</b> 1.5% for years 1 to 5, 2.0% for years 6 to 30, and 3.0% for years 31 to 100.</p> <p><b>Mine sites with a RLCE greater than \$50M:</b> 4.0% for years 1 to 100.</p> <p><b>Note 1:</b> For both scenarios the discount rates may only be applied to long-term costs (such as site upkeep, site monitoring and water treatment). They cannot be applied to conventional reclamation activities as those should occur shortly after mine closure.</p> <p><b>Note 2:</b> The 4% discount rate cannot be applied to reduce the RLCE below \$50M after the inclusion of contingencies.</p>
RLCE Time Period	100 years.
Labour and Equipment Rates	Based on third-party contractor and consultant Rates
Equipment Mobilization and Demobilization	Mob/Demob may be estimated as 5% of the value of the physical work to be conducted or based on recent prior work of a similar nature.
Engineering	Based on a cost estimate provided by an engineering firm to complete the activities outlined in the reclamation and closure plan or conservative estimates based on recent prior work of a similar nature.
Project Management	May be estimated as 10% of the value of the physical work to be conducted or estimates based on recent prior work of a similar nature.
Administration	Salary for Mine Manager and required staff for 100 years.
Conventional Reclamation (e.g. landforming, site prep, revegetation, etc)	Based on third party contractor and consulting rates to implement and complete reclamation prescriptions in the approved Reclamation and Closure Plan. Based on expected machine productivity and material costs. Unit rates should be informed by the BC Road Builders and Heavy Construction Association Equipment Rental Rate Guide – The Blue Book.
Equipment and Structure Removal/Disposal	Based on cost estimates provided by a third-party contractor or a qualified person.

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RLCE Parameter	Costing Parameter Comments
Site Monitoring Costs	Include all required regulatory compliance monitoring requirements identified within the EMA permit, MA permit, and the Metal Mining Effluent Regulations. Monitoring programs may include water quality/quantity monitoring, reclamation monitoring (e.g. revegetation/metal uptake), geotechnical stability monitoring, air quality/weather monitoring, etc. Costs are to be based on contractor rates if part time monitoring services are to be utilized or a conservative cost estimate if site staff are to be utilized, including salary, equipment, testing and reporting.
Capital Costs for Water Treatment	Capital costs should be based on a recent cost estimate provided by a supplier or on the actual cost of a similar system used elsewhere. Capital costs for water treatment facilities that are planned for construction after mine closure, or in the last 10 years of the mine life, must be included in the RLCE. At the discretion of the chief permitting officer, the RLCE may exclude capital costs associated with water treatment facilities planned for construction while 10 years or more remain in the mine's life (based on proven reserves from a publicly available NI43-101). A conditional security payment may be included as a condition of the permit, which would be triggered in the event that construction is not completed as scheduled.
Operating Costs for Water Treatment	Include labour, reagents, shipping, parts, sampling/analysis, energy, waste disposal, maintenance and replacement over the period that treatment is required. Costs to be based on a cost estimate provided by a supplier or a conservative estimate based on costs to operate a similar system elsewhere.
Site Maintenance Costs	Based on cost estimates provided by a contractor or qualified person or informed by unit rate costs in the BC Road Builders and Heavy Construction Association Equipment Rental Rate Guide – The Blue Book.
Contingency	A default 15% contingency will apply to reclamation liability cost estimates. Higher contingencies may be applied at the discretion of the chief permitting officer based on the level of uncertainty. If lower contingencies are contemplated, they must be justified by the proponent and acceptable to the chief permitting officer.

### Accountability for Reclamation Liability Cost Estimates

The RLCE must be prepared and signed by a qualified person with expertise in reclamation and cost estimating and must be co-signed by the Mine Manager. A Reclamation Specialist from EMLI will review the cost estimate and schedule and make a recommendation to the chief permitting officer with respect to the amount of financial security required. A proponent may request an independent review of the calculated EMLI reclamation liability amount used to determine the security at the proponent's cost, and this request may be granted at the chief permitting officer's discretion. The independent review must be conducted by a qualified person acceptable to the chief permitting officer and must be calculated in accordance with this policy. Notwithstanding the outcome of the independent review, the chief permitting officer will have the final authority to make a decision with respect to the amount and form of required reclamation security under the authority granted under Section 10(4) of the *Mines Act*.

### Acceptable Financial Instruments for Reclamation Securities

Acceptable financial instruments for companies to use when posting the required reclamation security include:

- Cash,
- Cash equivalents (certified cheques, money orders, bank drafts),
- Surety bonds,
- Qualified environmental trusts, and
- Irrevocable standby letters of credit.

The exploration incentive security is also an acceptable form of reclamation security for the limited circumstances described in Appendix A. For clarity, the exploration incentive security is not considered to be a "financial instrument" for the purpose of this policy.

Other financial instruments may be considered where they:

- Offer equivalent or better safeguards to the taxpayer;
- Can be realized immediately if the chief inspector chooses to exercise their authority under Section 17(6)(b) of the *Mines Act*;
- Can be realized immediately in the event of a bankruptcy;
- Can be realized without potential contest by other creditors in the event of a bankruptcy, and;
- Do not put an onus on government to prove a claim to the funds in question.

For added clarity - except where already accepted in writing by the chief permitting officer for an existing mine, the salvage value of materials and equipment or the value of any other assets or any non-mining revenue streams cannot be used to offset the reclamation security amount moving forward.

## Administrative Handling of Reclamation Securities

### Collection of Reclamation Securities and Changes to Reclamation Securities

Under Sections 10(4) and 10(5) of the *Mines Act*, the chief permitting officer may require the mine to deposit reclamation security in an amount and form satisfactory to the chief permitting officer each year to address unsecured reclamation liabilities. Section 10(6) of the *Mines Act* allows an Inspector of Mines to apply to the chief permitting officer for an increase in the reclamation security where unsecured liabilities exist. Section 10(7) of the *Mines Act* gives the chief permitting officer the authority to change the reclamation security required with or without a permit application. Actions under Sections 10(6) or 10(7) will be undertaken in a manner that is administratively fair and in a manner that provides the permittee with an opportunity to be heard.

### Amendments to Change Name of Permittee

Reclamation Security placed by a permit holder is held by the Province for the proper performance of the mine, under the *Mines Act*, Code and permit conditions. The reclamation security is specific to a particular mine property and cannot be transferred to another mine site that is owned and/or operated by the same mining company without the approval of the chief permitting officer. Similarly, the *Mines Act* permit cannot be directly transferred to another party; it can only be amended to change the name of the permittee with the approval of the chief permitting officer.

A mining company wishing to change the name of the permittee on a *Mines Act* permit must apply to the chief permitting officer for an amendment to the permit. The reclamation security associated with the mine site does not transfer, and an equivalent or greater reclamation security must be placed by the new permit holder before the original reclamation security can be released.

The Ministry does not control the sale of a company or changes in mine ownership. However, to change the name on a permit, the new owner must apply for an amendment to the permit, and the amendment is subject to the approval of the chief permitting officer. To amend a *Mines Act* permit to a new company, the chief permitting officer must be satisfied that the new entity has the willingness and ability to meet the regulatory obligations under the *Mines Act*, Code and conditions of the *Mines Act* permit, including the reclamation security requirements. To undertake a permit amendment for a change of name:

- The seller must provide a letter to indicate that the company has been sold and that they do not object to the buyer being named as the permittee.
- The buyer must provide a letter application to the chief permitting officer requesting an amendment to the permit. The letter must clearly state that they are assuming all reclamation and closure obligations associated with the mine.
- A reclamation security review may be undertaken by the Ministry before a *Mines Act* permit is amended in order to ensure that the reclamation and closure liabilities are defined, and that the new permittee is capable of assuming the site liabilities.

- Additional financial security may be required as a condition of the permit amendment if the existing reclamation security is not sufficient to cover outstanding reclamation liabilities.
- A reclamation security increase may be deferred in cases where the mine transfer reduces government risk.

### Return of a Reclamation Security

Mining companies cannot access or remove funds from a reclamation security held under the *Mines Act*. Changes to the amount of security required, including release of the reclamation security or a portion thereof can only be approved by the chief permitting officer under Section 10 (7) of the *Mines Act* or by the chief inspector under Parts 10.6.15 and 10.6.16 of the Code.

A permit holder may apply for a release or partial release of the reclamation security based on work completed that has reduced reclamation and closure liabilities at a mine site. This is intended to encourage progressive reclamation. The Ministry will conduct a review of work completed and assess any outstanding liabilities to determine whether the site reclamation liability has changed and if a return of some or all of the reclamation security is warranted.

Consistent with Section 10.7.22 of the Code, the mine owner will be released from further obligations under the *Mines Act* if all conditions of the *Mines Act*, the Code and the permit have been fulfilled to the satisfaction of the chief inspector, provided that there are no on-going requirements for inspection, monitoring, mitigation, or maintenance.

### Seizure of a Reclamation Security

Section 10.1 of the *Mines Act* give the chief inspector the authority to seize all or part of a reclamation bond when a mine operator fails to fulfill their reclamation and closure obligations under the *Mines Act*, Code or conditions of their *Mines Act* permit. The chief inspector can cause work to be done to address outstanding liabilities.

Where there is an emergency at a mine or where work is necessary at a closed or abandoned mine in order to protect persons or property or to abate pollution, Section 17 of the *Mines Act* gives the chief inspector the authority to seize the financial security to complete the work, and to order the replacement of the security realized.

### Bankruptcy

Upon receipt of notification of bankruptcy proceedings with respect to a mine permit holder, the Ministry may seize the reclamation security for the affected mine.

### Transparency and Accountability

During a *Mines Act* permit application review process, any person may comment on the reclamation security requirements for a mine. This feedback will be considered by the chief permitting officer when setting reclamation security requirements. The Ministry will disclose the total value of the reclamation security required and the payment schedule.

The annual chief inspector's report includes a summary of the estimated reclamation liabilities that exist at permitted major mines in BC, and the amount of reclamation security held by the province. Copies of permits, amendments, and annual reclamation reports are posted online.

### Future Updates to this Policy

This Policy will be reviewed following the conclusion of the inter-agency work that is underway as part of the Public Interest Bonding Strategy and periodically thereafter. This will ensure that this policy is consistent with the outcome of that project and that it continues to meet the needs of the Province.

Anyone making use of this document is encouraged to send any suggestions for revision to the chief permitting officer at the Ministry of Energy, Mines and Low Carbon Innovation. These suggestions will be tracked and implemented as appropriate. Administrative revisions will be implemented with notifications to stakeholders while those that are substantive will be made after engaging with those affected.

### Related Reclamation Costing Guidance

Additional guidance for the preparation of the RLCE for major mines is provided in Section 4.11 of the Joint Application Information Requirements for *Mines Act* and *Environmental Management Act* Permits located at:

[https://www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/mineral-exploration-mining/documents/permitting/2019\\_09\\_24\\_joint\\_application\\_information\\_requirements.pdf](https://www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/mineral-exploration-mining/documents/permitting/2019_09_24_joint_application_information_requirements.pdf)

Regional Mines authorized under a Notice of Work for a Quarry, Sand and Gravel Pit, Placer Mine or Mineral Exploration project will continue to use the Regional Mine Reclamation Bond Calculator located at:

[https://www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/mineral-exploration-mining/documents/reclamation-and-closure/regional-bond-calculator-supporting-files/regional\\_reclamation\\_bond\\_calculator\\_82\\_july\\_2018.xlsx](https://www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/mineral-exploration-mining/documents/reclamation-and-closure/regional-bond-calculator-supporting-files/regional_reclamation_bond_calculator_82_july_2018.xlsx)

A Guidance Document for the Regional Mine Reclamation Bond Calculator is located at:

[https://www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/mineral-exploration-mining/documents/reclamation-and-closure/regional-bond-calculator-supporting-files/bond\\_calculator\\_guidance\\_report\\_march\\_2021.pdf](https://www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/mineral-exploration-mining/documents/reclamation-and-closure/regional-bond-calculator-supporting-files/bond_calculator_guidance_report_march_2021.pdf)

## **Appendix A - Exploration Incentive Security**

## **Exploration Incentive Security - Eligibility Criteria**

Exploration Incentive Security will only be available to companies that are in full compliance with respect to their reclamation security payment schedule. In addition, the following two eligibility criteria must be satisfied:

### **Criteria 1: Stage of Mine Life**

Mines will not be eligible for the Exploration Incentive Security during the first 5 years or last 5 years of the mine's life. The maximum Exploration Incentive Security is only available for mines having more than 10 years of remaining mine life. Accordingly:

- All new mines will be required to post 100% of the reclamation security for the reclamation liability created in the first 5 years of the mine's life using financial instruments.
- All mines having less than 5 years of economically viable reserves remaining at the permitted production rate must post 100% of the reclamation security for all current and forecast disturbance using financial instruments.
- Mines that have been operating for more than 5 years, and that have economically viable reserves for more than the next ten years at the permitted production rate, will be eligible to secure up to 25% of the reclamation liability against a portion of the reserve value. The portion secured in this way will comprise the Exploration Incentive Security. The remainder must be secured using acceptable financial instruments.
- Mines that have been operating for more than 5 years, and that have economically viable mineral reserves for more than the next five years (but less than the next 10 years) at the permitted production rate, will be eligible to secure up to 15% of the reclamation liability against a portion of the mineral reserve value. The portion secured in this way will comprise the Exploration Incentive Security. The remainder must be secured using acceptable financial instruments.

### **Criteria 2: Net Present Value of Mineral Reserve**

Eligibility for an Exploration Incentive Security is based on the net present value of the mine's proven reserves. A distinction is made here between mineral resources (not eligible) and mineral reserves (eligible) based on information that must be publicly available, reliable, and easily verified.

The value of the reserve for this purpose is the net present value of the pre-tax free cash flow at a discount rate of 8% as reported in a publicly available National Instrument 43-101 Technical Report (NI43-101). This represents the net discounted free cash flow after all extraction and production costs are paid including operating, capital, and refining costs.

No more than 10% of the net present value of the mineral reserves may be used to secure the allowable amount of the reclamation liability as an Exploration Incentive Security.

## Exploration Incentive Security Calculation

When determining the required security:

- Where the mine is eligible for an Exploration Incentive Security, the required reclamation liability that must be secured by financial instruments is equal to the EMLI determined reclamation liability including contingencies less the Exploration Incentive Security. The maximum value of the Exploration Incentive Security is the lesser of the values calculated following Method 1 and Method 2 in Table A-1.
- Note that the NPV calculation in the reclamation liability cost estimate for long-term reclamation liabilities is to be performed prior to application of the Exploration Incentive Security.

**Table A-1: Exploration Incentive Security Calculation Methods**

Maximum eligible Exploration Incentive Security is the <b><i>lowest</i></b> 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	<i>Remaining Mine Life</i>	<i>Percentage of Reclamation Liability</i>
	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

## **Appendix B – Glossary of Terms**

### Glossary

**Abandoned mine** – A mine for which all permit obligations under the *Mines Act* have been satisfied and in respect of which the mineral claims have reverted to the government.

**Chief Inspector of Mines (Chief Inspector)** – Appointed by the Minister of Energy, Mines and Low Carbon Innovation to administer relevant sections of the *Mines Act* and the Code.

**Chief Permitting Officer** – Appointed by the Minister of Energy, Mines and Low Carbon Innovation to administer relevant sections of the *Mines Act* and the Code.

**Closed mine** – A mine at which all mining activities have ceased, but for which the permittee remains responsible for compliance with the *Mines Act*, the regulations, the Code and permit conditions.

**Irrevocable standby letter of credit (ISLOC)** – A guarantee of payment issued by a bank on behalf of a client that is used should the client fail to fulfill a contractual commitment with a third party. Neither the bank granting it nor the letter holder may cancel the ISLOC.

**Life of Mine** – The period of time over which the life cycle of a mine evolves through the phases of exploration, construction, operation, closure, and post-closure.

**Major Mine** – for the purpose of this policy, *major mine* refers to a permitted metal or coal mine in BC whether it be operating, in care & maintenance, or closed (but having ongoing monitoring requirements or other liabilities).

**Mine reclamation** – The process of restoring land that has been mined to an approved end land use (as determined by the chief permitting officer).

**Mineral reserve** - A mineral reserve is the economically mineable part of a measured or indicated mineral resource (per latest CIM Definition Standards for Mineral Resources & Mineral Reserves).

**Mineral resource** – A concentration or occurrence of solid material of economic interest in or on the earth's crust in such form, grade or quality and quantity that there are reasonable prospects for eventual economic extraction (per latest CIM Definition Standards for Mineral Resources & Mineral Reserves).

**Orphaned Mine** – The permittee is not able or available to meet permit obligations. The Ministry has taken over responsibility for the mine.

**Progressive mine reclamation** – The process of restoring land that has been mined to a natural or economically usable state in an ongoing manner over the life of the mine.

**Qualified person** – As defined by the Code, a person who, in the opinion of the manager, is (a) qualified because of the person’s knowledge, training and experience to design, organize, supervise and perform the duties for which the person is appointed, (b) familiar with the provisions of the code and the regulations that apply to the duties for which the person is appointed, and (c) capable of identifying any potential or actual danger to health or safety in the workplace.

**Reclamation Liability** – All liabilities associated with the reclamation and closure of a mine, including any obligations for post-closure, ongoing environmental protection, and monitoring and maintenance. For clarity, this includes liabilities relating to water treatment where this is needed to meet water quality parameters established under an *Environmental Management Act* permit. Reclamation liabilities are the obligation and responsibility of the permittee whether or not a reclamation security is held by the province.

**Reclamation Liability Cost Estimate (RLCE)** – the reclamation liability estimate for a mine developed by the proponent and submitted to the chief permitting officer. The estimate must include, in table form, a detailed summary assumptions and calculations used to estimate the costs associated with reclaiming mine site disturbance, as well as all costs associated with post closure environmental stewardship including water treatment, site monitoring, administration, and reporting.

**Reclamation security** – The amount of financial security for a mine as determined by EMLI through a review of the reclamation liability cost estimate and set by a statutory decision of the chief permitting officer. This value may differ from the reclamation liability as a result of this policy or at the discretion of the chief permitting officer, but will normally be the value of the peak reclamation liability during the next five years of mining.

**Surety bond** – A three-party agreement where the surety company promises to perform obligations of the bonded party or pay costs up to an agreed sum of money to the beneficiary if the bonded party fails to perform those obligations.