

# Draft Directive 091: Rock-Hosted Mineral Resource Development (released October 2023) What We Heard – And Our Response



We thank those who commented on the draft *Directive 091: Rock-Hosted Mineral Resource Development*. We received over 200 comments and reviewed each one, consolidating comments covering similar issues. What follows is a summary of the issues raised and our responses.

Contributors representing Indigenous groups, the public, industry, and environmental nongovernmental organizations commented on various topics within the draft directive. Most notably, we received comments on environmental management, application requirements, and participant involvement.

Concerns from stakeholders were related to identifying risks in the planning phase, socioeconomic effects, dam applications and specifications, and geological information.

We directed comments outside of our regulatory authority to the Government of Alberta (GoA). For example, input related to the government's duty to consult, mineral tenure, and government policy decisions.

We are developing the liability management program for rock-hosted mineral resources with further details on closure, abandonment, and reclamation requirements. Comments received on this directive will inform the development of the liability management program for rock-hosted mineral resources. A separate public comment period will occur at a future date.

Comments on grammar, punctuation, and cross-referencing have not been summarized, but changes were made where needed.

A list of the respondents is provided at the end of this document.

## Regulatory Process

Stakeholder Feedback – Issue	AER Response
<p><b>1. AER Oversight and Review</b></p> <p>Concerns were expressed about the AER’s regulatory oversight of the integrated application process submission requirements, application categorization, amendments, confidentiality, and project risk and mitigation.</p>	<p>This directive is focused on site-specific design and risk. We will review each application and assess it based on the site-specific information. The requirements in the directive are intentionally broad to address all mineral industries with different potential hazards and risks.</p> <p>We consolidated the email submissions in section 4.4 into one email address: <a href="mailto:MRDAMine.Application@aer.ca">MRDAMine.Application@aer.ca</a>.</p> <p>All <i>Mineral Resource Development Act (MRDA)</i> mines will require <i>Environmental Protection and Enhancement Act (EPEA)</i> approval and will include site-specific environmental conditions.</p> <p>Technical subject matter experts will review and assess each application. Our technical experts include engineers, geologists, hydrologists, chemists, biologists, economists, safety advisors, and land use specialists.</p> <p>Application categories provide applicants with a guide on the expected timelines for processing the submission. The “Operational” category is required to allow mining operators the ability to submit applications for changes to their approved activities—where stakeholders are unaffected or where the environmental and socioeconomic conditions that have already been assessed in the original application are unaltered.</p> <p>Requirements for amendments to mine permits, mine licences, and plant approvals are listed in sections 8, 10, and 13.</p> <p>Under section 49 of the <i>AER Rules of Practice</i>, a party may request confidentiality over information in a document before filing the document with the AER.</p>

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## 2. Reports

Make reports publicly available so interested parties are aware of volume of waste material and tailings being created in their local environment, as well as any safety, health, or environmental incidents, monitoring, and treatment efforts, etc.

Full transparency from the proponent facilitates mutual trust and keeps the proponents accountable to public and environmental health and safety.

Permittees should be required to submit annual reclamation reports.

Interested parties may submit requests for information to AER Information Services for copies of reports. We are developing a data dissemination protocol for the release of this new data and reports.

Section 17.2 of the directive provides details on biannual reporting requirements for waste management associated with tailings management facilities and heap leach facilities.

Reclamation reporting will be done as per the *EPEA* approval conditions, which adopts the environmental geoscience best practices and may specify appropriate report schedules.

Reporting requirements should be written into specific licences and be appropriate for the project activities. The reporting requirements are confusing.

Requirement 265 should be in *EPEA* approvals and not this document.

We removed section 17.2.2 on *MRDA* monitoring reports from the directive based on the feedback we received.

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## 3. Transitional Process

There is uncertainty due to the lack of a clear transitional process for converting existing approvals.

The directive does not include an option for converting existing approvals under the *Public Lands Act (PLA)*, *Water Act*, or *EPEA* that apply to existing rock-hosted mineral development projects (e.g., the limestone mine), creating considerable uncertainty for existing mine operators.

We are developing a plan to transition existing rock-hosted activities regulated by Alberta Environment and Protected Areas and Forestry and Parks ministries. Details on the transition process will be provided to exiting operators as they become available.

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## 4. Dam Applications

The directive did not include requirements for tailings and sediment pond dams.

Dams require a *Water Act* approval as part of the dam safety program.

Section 1.3.7 of the directive refers to this and provides an overview of the AER's dam safety program as it applies to regulating dams for energy resource development, including rock-hosted minerals.

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## 5. Maps

Section 9.2.8 (Maps) is missing items that are important for understanding the specifics of the project and regional context. Add the following to the list of map items:

- m) locations of tailings dams or sediment clarification dams
- n) locations of Indian Reserves and First Nations traditional territories in relation to the project
- o) watercourses and waterbodies, fish habitat including species at risk (federally and provincially), and culturally important fish and aquatic resources
- p) caribou zones, key wildlife biodiversity areas, wildlife habitat including culturally important species and species at risk (federally and provincially), wetlands, uplands, vegetation (including culturally important species and species at risk (federally and provincially) and soils, land use planning zones

We amended section 9.2.8 to include the requirement to provide the locations of operating, suspended, or abandoned processing facilities and associated infrastructure.

The locations of all known aquifers, watercourses, wetlands, and water bodies are already included in the proposed licence area.

*EPEA, Water Act, and PLA* applications require detailed ecological values. The requirements are not duplicated in this directive. This information is publicly available and is accessed by the subject matter experts reviewing applications.

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## 6. Infrastructure Details

Geological and geotechnical details are requirements for any successful infrastructure design; therefore, the AER should require this information with applications.

Descriptions should be required of all supporting infrastructure (including bridges, pipelines, power lines, railroads, river crossings, and utility corridors) and should be assessed as part of the project.

The directive details the infrastructure requirements (including bridges and river crossings) to properly assess the proposed structures, including the requirements for geotechnical assessments, road design, construction methodology, and geohazard risks and mitigation.

Details for pipelines, conveyors, railroads, and utility corridors are in the mine licence and plant approval requirements.

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## 7. Surface Mine

The design of the surface mine does not require an assessment of potential risks, which is an important and integral part of the mine's design for safety and environmental protection.

We added the requirement to provide the technical details on the assessment of the potential risks posed by biological, geological, and chemical hazards and any planned mitigation.

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**8. Waste Dumps**

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Ensuring waste dumps and tailing ponds are properly designed, monitored and maintained throughout their life cycle.

We recognize that proper design, geotechnical stability, and ongoing monitoring are key to the effective management of all projects.

Geotechnical assessment requirements of waste rock dumps and the tailings management facility foundations are outlined in sections 9.5.2 and 12.3.1 of the directive. Monitoring and reporting requirements are in section 17.2.1.

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**9. Mineral Resource Definitions**

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In the applications sections, the use of the terms “established in-place resources” and “established recoverable reserves” are not widely recognized terms in the mineral industry.

We revised the directive to align with Canadian industry nomenclature.

It was suggested referring to the standards used for the public reporting of mineral projects which are used globally. The references for the terminology can be found at <https://www.osc.ca/en/securities-law/instruments-rules-policies/4/43-101> and at [https://www.jorc.org/docs/JORC\\_code\\_2012.pdf](https://www.jorc.org/docs/JORC_code_2012.pdf) which is used in Australia and was the basis for *National Instrument 43-101 Standards of Disclosure for Mineral Products* (a securities regulatory instrument that governs how companies can disclose mining-related information in Canada).

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## 10. Mine Permit

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Companies overestimate the value of their operations and the economic benefit while underestimating the environmental and social costs.

Section 7.2 (Mine Permit General Technical Requirements) should include final closure plans, reclamation, the final landscape with wetland and boreal forest. Land is void and returned to baseline water, soil, and air qualities. (The *Mines Act* regulates all mining activities in British Columbia, and there should be something very similar in Alberta.) A mine permit focusing on environmental protection must be in place before any work in, on, or about a mine can occur.

Applicants must provide information that details the analysis of the rock-hosted mineral resource to demonstrate that a mine can be developed and sustained and is in the public interest. These requirements are in section 7 (Mine Permit) of the directive.

A mine permit is required to develop a mine site and is used to approve the design and construction of supporting infrastructure (e.g., roads, powerlines, and site structures). The permit application includes details on the mineralized zone or ore deposit (to demonstrate sufficient resources to sustain economic mining), processing facilities, and associated infrastructure (e.g., heap leach pads and tailings management areas). The permit allows the development of a mine site up to the point of readiness to start commercial production of rock-hosted minerals.

Sections 8 and 9 of the *Rock-Hosted Mineral Resource Development Rules* require a mine permit application made in accordance with the directive to develop a mine site or reopen an abandoned mine site. An application to amend a permit is required to resume operations at a suspended mine site or to extend or materially alter the program of operations for which a permit was granted.

Applicants are also responsible for the requirements administered by federal, other provincial, or municipal agencies and are encouraged to contact them early in the planning process. Provincial and federal coordination is often necessary, not only during the permitting phase but also for regulatory oversight of the operations phase.

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## 11. Exploration Data Submission

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Concerns were raised about the following AER requirements:

- Section 17.3.1: For companies to submit exploration samples, analyses, or core segments/core images typical and representative of the mine area. This request is inconsistent with requirements in the oil, gas, and coal industries.
- Section 17.3.2: For companies to submit similar samples, analyses, or core segments no later than three months after completion of a field program or any major phase of the field program.

These requirements are in alignment with the requirements applicable to all resource development regulated by the AER.

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## 12. Mine Abandonment

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There should be a separate manual related to mine abandonment.

Section 11.2 (Reinforced Concrete Cap Specifications) seems very specific and unsuited to this document.

We may develop guidance on the abandonment of underground mine workings; however, at this time, these technical details are included in the directive to provide clarification and context for the abandonment requirements of underground mine workings.

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## 13. Compliance and Enforcement

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Concern was expressed about the AER taking compliance and enforcement measures (i.e., issuing orders) in a manner that is industry friendly.

Suggest increasing transparency by subjecting the AER to the *Freedom of Information and Protection of Privacy (FOIP) Act*. Internal discussions regarding specific projects should be made publicly available.

The directive needs more details about compliance, including monetary penalties for environmental damage.

The AER has a robust compliance assurance program that is guided by the Integrated Compliance Assurance Framework. Section 1.4 of the directive directs applicants, permittees, licensees, and approval holders to *Manual 013: Compliance and Enforcement Program*, which provides details about compliance, investigations, and enforcement actions.

Compliance and enforcement information is available on the Compliance Dashboard on the AER website. The dashboard provides real-time information on incident response, investigations, compliance, and enforcement.

We present this information online in an easily accessible manner to increase the transparency of our activities. If you have questions about the dashboard or the content, please email [inquiries@aer.ca](mailto:inquiries@aer.ca).

The AER is subject to the *FOIP Act*.

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## Participant Involvement

Stakeholder Feedback – Issue	AER Response
<b>14. Participants to Include in the Involvement Program</b>	
<p>Section 3 is vague and would make it difficult for any project to get approved because someone somewhere will always have an issue with mining. Also, addressing all questions and concerns from all interested parties is not reasonable. There needs to be a boundary or filter.</p> <p>How will a proponent determine persons with a known interest in the proposed project?</p> <p>Sections 3.1.1 and 3.1.2 of the directive should explicitly state that proponents must contact and include local environmental nongovernmental organizations (ENGOS) and watershed planning and advisory councils (WPACs).</p> <p>It was recommended to add First Nations to the list of parties with a direct interest.</p>	<p>Section 3 (Participant Involvement) states, “Effective participant involvement programs are critical to ensure an efficient regulatory process and promote long-term relationships between project proponents and participants, leading to more influence on mitigating development effects.”</p> <p>We do not want to identify specific groups for public involvement as this may limit involvement rather than enhance it.</p> <p>An applicant is encouraged to expand their engagement program to parties who have expressed interest in similar projects. Contact with the AER, municipal authorities and synergy groups will often identify interested parties.</p> <p>As stated in section 3.1.4, anyone who believes that they may be directly and adversely affected by an application may share their concerns with the AER formally by filing a statement of concern. The AER considers all statements of concern that it receives.</p> <p>Questions about a proponent’s participant involvement program may be discussed at a preapplication meeting with the AER.</p>
<b>15. Information Packages for Indigenous Communities</b>	
<p>The final paragraph in section 3.1.2 stating, “distributing an information package to the Chief and Council... etc., satisfies the need to provide an information package to the members of the First Nation or Métis Settlement” is insufficient.</p> <p>The proponent must make every possible effort to contact those affected, including individuals within First Nations or Métis Settlements, so they are fully aware of the development and can take the appropriate responses.</p>	<p>We modified this statement to read as follows: “If a First Nations community, Métis Settlement, or credibly asserted Métis community is within the public involvement area, distribution of the information package to the Chief and Council or delegates of a First Nation community, Métis settlement, or credibly asserted Métis community satisfies the need to provide an information package to the members of the First Nation, Métis Settlement, or credibly asserted Métis community.”</p> <p>The proponent is required to distribute the information package to persons with a known interest in the proposed project and parties within the participant involvement area, including Indigenous peoples.</p>



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## 16. Defining the Participant Involvement Area

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The participant involvement area, particularly the 1.5 km radius around the proposed permit boundary, is too small and should be calculated based on the mine size and specifications. The size of the public involvement area should be proportional to the scale of the development. Large-scale developments may potentially affect the public beyond those in the participant involvement program.

Furthermore, the definition of who might be affected must include all those with even a peripheral interest in the impacts.

The 1.5-kilometre radius surrounding the proposed permit boundary is the minimum radius. The proponent is responsible for determining whether the participant involvement area needs to be expanded.

We do not, however, want to identify specific groups as this may limit distribution rather than enhance it.

Proponents are responsible for determining whether the participant involvement area needs to be expanded. The radius may need to be expanded to include groups with a known interest in development in the area.

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## 17. Notification of Proposed Development

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The minimum of 14 calendar days should be changed and extended to one month, making it consistent with *EPEA* and the *Water Act*.

It was recommended providing at least 45 or 90 days for review of rock-hosted mineral development applications. Potentially open to building different timelines for different types and sizes of project.

We revised the directive to allow for 30 calendar days for participants to receive, consider, and respond to notification of the proposed development. Requests to further extend the period should be made to the applicant.

Section 3.1.1 of the directive states,

“The proponent is expected to communicate with local residents and other operators and to develop an effective participant involvement program engaging parties at an early stage of planning. The applicant is also encouraged to contact any synergy groups identified in the participant involvement area.”

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## 18. Use of the Term “Participant”

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It is inappropriate to refer to those negatively affected by a project or who oppose it or want modifications, most often nearby landowners, as “participants.”

“Participants” should be renamed to reflect reality. I suggest “affected persons” or “impacted parties” or “interested parties.”

The use of “participant” is consistent across all our regulatory instruments. Participant involvement is important to us as we want to hear from all interested parties to assist us in our determination of whether an approval of an application is in the public interest.

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**19. Addressing Participant Concerns**

The AER needs to explicitly define their requirements for what constitutes “good-faith efforts” to address participant concerns.

We removed “good faith” from the directive.

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**20. Definition of Indigenous Communities**

Define the term Indigenous communities and ensure it includes First Nations. Also, indicate in the definition that First Nations have Indigenous, treaty, and Aboriginal rights. Otherwise, use First Nations and Métis separately. For the Nation’s purposes, this technical review will refer to First Nations or Indigenous communities/First Nations depending on the context.

Upon review of the comments and in collaboration with the GoA, we have decided to use the term Indigenous groups for the participant involvement program requirements, which are in addition to ACO consultation requirements.

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**21. Treaty and Aboriginal Rights**

There are no application requirements for assessing project effects on treaty and Aboriginal rights. A First Nation recommended that they conduct the assessments on risks and environmental and technical issues themselves with capacity funding provided, and the AER should look at the findings in its decision making.

Proponents must follow Alberta’s First Nations and Métis Settlements consultation and policies and guidelines on land and natural resource management. Proponents must also follow section 3 of the directive concerning participant involvement.

The Indigenous Consultation Capacity Program provides all First Nation communities who participate in Alberta’s consultation process an annual core funding allotment to assist with consultation-related activities regarding land and natural resource management.

*Directive 031: REDA Energy Cost Claims* provides the requirements for participants who wish to apply to the AER for an advance of funds or an award of costs in relation to their participation in a hearing.

## Environment

Stakeholder Feedback – Issue	AER Response
<p><b>22. Reclamation Timelines</b></p>	
<p>Section 3.1.3 should be updated to include a clear and reasonable timeline regarding decommissioning and reclamation. (Ideally, all restoration completed within a year, and then long-term monitoring of efficacy.)</p>	<p>The applicant must provide its anticipated schedule and timeline for decommissioning and reclamation activities, which will be subject to AER approval.</p> <p>We can impose site-specific conditions around the timing of decommissioning and reclamation in any permits, licences, or approvals issued for rock-hosted mineral development.</p>
<p><b>23. Reclamation (Equivalent Land Capability)</b></p>	
<p>The AER stipulates that land should be returned to its original ecological state, or in better condition, and strive to reflect the baseline ecological conditions as closely as possible.</p> <p>The wording “land is restored to an equivalent land capability” should be changed to “land is restored to the original ecological baseline of the landscape or better.”</p> <p>Equivalent land capability leaves too much room for interpretation.</p>	<p>The directive refers to the regulatory requirements for conservation and reclamation under <i>EPEA</i>. Section 2 of the <i>Conservation and Reclamation Regulation</i> states, “The objective of conservation and reclamation of specified land is to return the specified land to an equivalent land capability.”</p> <p>Operators must meet the reclamation requirements under <i>EPEA</i> and the <i>Conservation and Reclamation Regulation</i>.</p> <p><i>EPEA</i>, <i>Water Act</i>, and <i>PLA</i> applications require detailed ecological values. The requirement is not repeated in this directive.</p>
<p><b>24. Baseline Environmental Conditions</b></p>	
<p>The AER must require a proponent to complete a comprehensive, independent survey of the existing ecosystems, species, and environmental conditions at the proposed site before application to create an ecological baseline for the reclamation standards.</p> <p>The ecological baseline should be measured before disturbance. The directive should make sure that this concept is made clear throughout the directive where applicable.</p> <p>This allows the AER to effectively compare the before and after development conditions of the site and issue reclamation certificates with confidence.</p>	<p>This information is obtained through the <i>EPEA</i> approval application, which requires baseline information for the environment. Sections 4, 12, and 20 of the <i>Guide to Content for Energy Project Applications</i> require applicants to provide the current project setting and environmental conditions (i.e., baseline or predisturbance information) for air, water, and land.</p>

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## 25. Water Conservation

The proponent must indicate how they will limit water use and conserve or recycle water in their processes, any risks to water they anticipate, and contingency plans to address risks. They must also explicitly indicate how process water will be treated to meet environmental standards.

Water use and conserving or recycling water controls are included in *EPEA* and *Water Act* approvals.

The requirements in section 9.4.4 of the directive are to confirm that the mine design complies with *EPEA* and *Water Act* approval controls.

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## 26. Road Design

The proponent must describe how they will design roads to minimize environmental damage, avoiding important ecological areas and waterways. They must also indicate how they intend to mitigate wildlife strikes.

An *EPEA* approval is issued before the mine development is licensed and contains requirements for activities in environmentally sensitive areas. There are additional operating conditions in the *EPEA* approval to protect wildlife.

The *MRDA* application is assessed to determine if a subsequent review of the existing *EPEA* approval is required.

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## 27. Mandatory Environmental Impact Assessment (EIA)

Rock-hosted mineral mines should be added to the mandatory list of projects requiring an EIA, as they are associated with large, widespread, and severe environmental impacts necessitating this precautionary and considered approach.

The AER does not have authority to amend the *Environmental Assessment (Mandatory and Exempted Activities) Regulation*, which identifies mandatory activities requiring an environmental assessment. That authority belongs to the GoA.

Proposed activities may also be deemed to require assessment where the complexity and scale of a proposed project, technology, resource allocation, or siting considerations create uncertainty about the exact nature of environmental effects or result in a potential for significant adverse environmental effects.

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## 28. Cumulative Effects

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Industrial development affects the environment. Risks to the environment from development (including ancillary facilities and infrastructure) need to be well characterized and account for, and respond to, current and future states.

A concern was expressed that the AER must account for cumulative effects when reviewing applications for rock-hosted minerals. This includes effects on the terrestrial, aquatic, and atmospheric conditions throughout the project life cycle.

Section 10.4.4 does not include cumulative effects for water. Data should incorporate cumulative effects with a more robust regional assessment.

Section 3.1.1 of the directive directs the applicant to minimize cumulative effects and explain how the proposed mineral resource development complements other mineral and energy developments in the area.

The *EPEA* approval application requires the applicant to provide proposed monitoring and performance measures for air quality throughout the project life cycle, including reclamation. The applicant must assess the potential environmental risks of the proposed activity and the anticipated effectiveness of the proposed mitigation measures to prevent adverse effects and contribute to meeting required environmental objectives. If an *EPEA* approval is issued for a project, it would include terms and conditions for monitoring and reporting.

Our technical review includes a thorough examination of all parts of the application. Our multidisciplinary team of technical experts is responsible for ensuring that every decision we make is based on science and facts and that applications meet our requirements.

Changes to environmental assessment policy or requirements under *EPEA* and its regulations are outside our jurisdiction and beyond the scope of this directive.

If an *EPEA* approval is issued for a project, it would include terms and conditions for monitoring and reporting.

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## 29. Regional Plans

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Not all regional plans (e.g., Lower Athabasca Regional Plan) were complete and need to be reviewed.

As stated in section 4.2.1 of the directive, “The AER is legally obligated to act in compliance with any approved regional land use plan under the *Alberta Land Stewardship Act*.” The AER does not have authority under *ALSA* to make, approve, amend, or review regional plans.

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### 30. Monitoring Airborne Pollutants

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Risks to atmospheric conditions should be accounted for and mitigated. Project proponents must include detailed air monitoring in their regulatory filings to determine where airborne pollutants may accumulate. Airshed-scale modelling may be required to achieve the necessary degree of accuracy.

The requirements for air dispersion modelling are outlined in *EPEA*. See our response to issue 24 concerning baseline conditions.

The *EPEA* approval application requires the applicant to provide proposed monitoring and performance measures for air quality throughout the project life cycle, including reclamation. The applicant must assess the potential environmental risks of the proposed activity and the anticipated effectiveness of the proposed mitigation measures to prevent adverse effects and contribute to meeting required environmental objectives. If an *EPEA* approval is issued for a project, it would include terms and conditions for monitoring and reporting.

Additionally, the draft directive requires the applicant to provide details on how its tailings operations and facilities may affect air quality, including dust.

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### 31. Managing Contaminated Water

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Leaching from waste rock can release harmful levels of dangerous materials for years beyond the closure phase.

The AER must ensure that the effects of leaching and groundwater infiltration are effectively controlled and minimized to prevent long-term surface and groundwater contamination.

A rigorous review of the mitigation measures to control waste materials and associated runoff is required. Ensure that waste rock dump sites and tailings ponds are designed to handle at least a 1-in-100-year precipitation event.

The AER must require companies to adopt proven technologies to mitigate leaching. Measures need to be in place (and funded) after a mine closes.

Sections 9.5.5, 9.5.6, and 12.3.3 of the directive address waste material and associated surface water runoff.

The *EPEA* approval application requires the applicant to provide proposed monitoring and performance measures for air, water, and land (e.g., surface water quality, groundwater quality, substance release) throughout the project life cycle, including mine suspension and reclamation. The applicant must assess the potential environmental risks of the proposed activity and the anticipated effectiveness of proposed mitigation measures to prevent adverse effects and contribute to meeting required environmental objectives. If an *EPEA* approval is issued for a project, it would include terms and conditions for monitoring and reporting.

We conduct a technical review, which includes a thorough examination of the application. Our multidisciplinary team of technical experts is responsible for ensuring that every decision we make is based on science and facts and that applications follow our rules and requirements.

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### 32. Water Monitoring

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There should be a requirement for details regarding subsurface water management. Ready-to-reclaim criteria should be developed during operations and for after closure, with a commitment that all contaminants will be reclaimed to predevelopment levels. Contaminants that migrate into the environment pose a real risk to Indigenous and ecosystem health, so contaminant containment/remediation/ elimination is critical.

Groundwater monitoring supports containment assessment but does not address remediation or elimination of contaminants. Released contaminants that affect the ability to hunt safely/successfully, fish, trap, gather, pass on knowledge to future generations, etc., infringe on Indigenous rights. Tailings deposits need to be properly contained. Tier 1/2 guidelines are not “pollute up to” limits.

Water quality must be monitored long term and informed by the best available science on the mineral being mined (different minerals peak in concentration at different times/distances from the discharge point). Water quality should not be monitored at the end of the pipe but where it is most likely to end up.

Environmental protection requirements (water quality, contaminants, and reclamation) fall under *EPEA* (support and promote protection, enhancement, and wise use of the environment). Water management structures and water balances are under the *Water Act*.

Section 9.5.6 of the directive establishes the licensing requirements, including acid mine drainage, assessment of the potential for groundwater contamination, and monitoring and mitigation plans.

Water quality monitoring is regulated under *EPEA*.

Monitoring and testing are performed as required by *EPEA* approval conditions based on environmental geoscience best practices.

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Water quality criteria should be protective of human, aquatic and wildlife health.

Recommend adding the following italicized text:

215) Identify any contaminants of concern and the proposed water treatment, discharge and receiving water quality criteria, *protective of humans, aquatic life and wildlife. If Indigenous/First Nation criteria are available also use these.*

222) Provide design details of the surface water management facilities and infrastructure design including design criteria, layout, sizing, material specifications, construction specifications, and erosion control. Design criteria should be protective of the environment (e.g., 1/100 year or more protective) and consider regional and local weather, climate and hydrological conditions, and climate change predictions.

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Water quality monitoring, testing, and reporting are performed as required by *EPEA* approval conditions based on environmental geoscience best practices.

Water quality monitoring is regulated under *EPEA*.

## Closure and Liability

Stakeholder Feedback – Issue	AER Response
<b>33. Liability Management (Program and Funding)</b>	
<p>The liability management system for rock-hosted mineral mines should be unified, as far as possible, with the upcoming replacement for the Mine Financial Security Program.</p> <p>Include details on liabilities, contaminated sites, reclamation planning, liability management, etc.</p>	<p>We are developing requirements for the liability management program for rock-hosted mineral resources, which will have a separate public comment process.</p> <p>The liability management requirements will ensure that at the end of a mining project’s life, all infrastructure is removed from the landscape, and land is restored to an equivalent land capability.</p>
<b>34. Financial Security Requirements for Exploration Activities</b>	
<p>The AER should specify that persons carrying out exploration activities under <i>MIMER</i> must post financial security for the cost of remediation and reclamation before conducting exploration work.</p> <p>Furthermore, companies should be required to post a security that could be used to address unmitigated risks. Industry-funded assessments may report risks that are negligible or incomplete.</p>	<p>Details on exploration dispositions are in the <i>Metallic and Industrial Minerals Exploration Regulation (MIMER)</i>, which includes requirements to obtain a reclamation certificate for the disturbed land. Additionally, sections 27 and 28 of <i>MIMER</i> specify how the AER can collect security deposits, reclaim disturbed lands, and recover additional funds.</p> <p>We are developing requirements for the liability management program for rock-hosted mineral resources, which will have a separate public comment process.</p>
<b>35. Liability Cost Estimates</b>	
<p>Details on reclamation liability cost estimates are needed. A detailed estimate of the total expected costs of outstanding reclamation obligations for the mine, including all long-term costs for monitoring, maintenance, and water treatment (if required), must be included in the Annual Reclamation Report. If the detailed cost estimates are expected to be filed as a separate confidential report, please clearly specify in the report cover letter.</p>	<p>We are developing requirements for the liability management program for rock-hosted mineral resources, which will have a separate public comment process.</p> <p>The liability management requirements will ensure that at the end of a mining project’s life, all infrastructure is removed from the landscape, and land is restored to an equivalent land capability.</p>



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**36. Closure**

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Closure should include water specifications, contaminants of potential concern in the final landscape, reclamation criteria that the operator is proposing, water-capped end-pit tailings should be prohibited technology, aquatic criteria health, and human health impacts after closure based on previous history of mining in Alberta.

Closure planning must be done with an aim to understand and minimize risks and uncertainties.

Need improved site-specific reclamation and closure plans. Mine abandonment and reclamation and closure plans must provide for a safe and nontoxic landscape.

Environmental protection requirements (water quality, contaminant, and reclamation) fall under *EPEA* (support and promote protection, enhancement, and wise use of the environment).

Depending on the stage of development, approval holders submit plans and reports to guide progressive reclamation leading to closure, as required by the terms and conditions of the *EPEA* approval.

The development of a proposed abandonment and reclamation program and the proposed mine closure plan are requirements in the consultation process and the mine permit application, as set out in sections 3.1.3 and 7.2.5 of the directive.

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## Policy and Other Issues

Stakeholder Feedback – Issue	AER Response
<b>37. AER Funding and Budget</b>	
<p>A concern was expressed about the AER being funded by industry and about the AER’s budget.</p>	<p>Other regulatory agencies in Canada use this funding model, such as the Alberta Utilities Commission and the BC Energy Regulator.</p> <p>Our budget is established through a formal process between the GoA’s Treasury Board and the AER. Once the GoA approves the budget, we collect this amount from industry through an administrative fee (levy). Information on our 2023/24 budget can be found in <a href="#">Bulletin 2023-15</a>.</p> <p>For more information about how we are funded, see <a href="#">EnerFAQs and Fact Sheets</a>.</p> <p>Our annual report contains a consolidated financial statement from the 2022/23 fiscal year is available at <a href="https://static.aer.ca/prd/documents/reports/AER2022-23-AnnualReport.pdf">https://static.aer.ca/prd/documents/reports/AER2022-23-AnnualReport.pdf</a>.</p>
<b>38. AER Staffing</b>	
<p>It was recommended that the AER have adequate staff with the experience, capacity, capability, and technical competency to regulate rock-hosted mineral development and to understand the safety, technical, and environmental risks that it presents.</p>	<p>Our multidisciplinary team of technical experts is responsible for ensuring that every decision we make is based on science and facts and that applications follow our rules and requirements. This multidisciplinary team includes engineers, geologists, hydrologists, chemists, biologists (vegetation, wildlife, aquatic), economists, safety advisors, and land use specialists. During application review, risks are identified, and a plan to manage these risks is developed.</p>
<b>39. First Nations and Métis Input</b>	
<p>It was suggested the AER develop a separate process for First Nations and Métis communities to review and provide input on project approvals, Aboriginal rights, treaty rights, and traditional land.</p>	<p>The AER has forwarded all comments related to Aboriginal rights, treaty rights, and consultation to the Government of Alberta, as these are outside our regulatory authority.</p> <p>In addition to the Alberta’s First Nations and Métis Settlements consultation process, proponents must follow the participant involvement section of the directive.</p>

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#### 40. Policy Matters

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Some of the comments we received involved aspects of government policy that are not within the jurisdiction of the AER, including the following topics:

- cumulative effects
- Indigenous rights
- ACO processes
- consultation with First Nations
- land use and regional plans
- reclamation definition under *EPEA*
- mineral lease rights notification process
- health, safety and reclamation code

We have forwarded comments on these matters to the appropriate government ministry as noted below:

- cumulative effects to the Ministry of Environment and Protected Areas
  - Indigenous rights to the Ministry of Indigenous Relations
  - Aboriginal Consultation Office processes to the Ministry of Indigenous Relations
  - consultation with First Nations to the Ministry of Indigenous Relations
  - land use and regional plans to the Ministry of Environment and Protected Areas
  - reclamation definition to the Ministry of Environment and Protected Areas
  - notification process when mineral leases are obtained to the Ministry of Energy and Minerals
  - worker safety to Alberta Occupational Health and Safety.
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**Stakeholders Who Submitted Feedback** (in alphabetical order)

Alberta Wilderness Association

Athabasca Chipewyan First Nation

Athabasca Region First Nations

Fort McKay First Nation

Fort McMurray #468 First Nation

Heidelberg Materials North American

Kikino Métis Settlement

Northback Holdings

Public

Smith's Landing First Nation