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**Decisions, Decisions, Decisions
Decision Analysis Processes for Mine Closure**

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Abstract:

Decisions are part of everyday life. Some decisions require more structured processes to produce a rational and auditable methodology for a choice between competing options. This is especially true for closure planning and closure design decision making, which bring together informed people from many fields, such as social, environmental, technical and costing. These fields of interest often have competing requirements and different risk profiles, which a decision analysis process can describe in plain language and evaluate from different stakeholder viewpoints in a workshop setting.

Klohn Crippen Berger utilizes a decision analysis process that works well with the updated approach and tools to identify and implement mine closure as described in the 2019 International Council on Mining & Metals (ICMM) Integrated Mine Closure Guide¹. This process builds on the Kepner-Tregoe method, a decision-making approach designed to build consensus among stakeholders, consider a wide range of options, identify potential risks, and develop a plan with specific actions.

Closure planning starts with establishing the knowledge base/problem definition (e.g., site characteristics, inventory, etc.). The closure vision, situational appraisal, principles and objectives can be developed from that base of understanding. The objectives associated with post-closure land use are integrated in this step as well. The risks and opportunities for closure can be identified once the objectives are set and the site characteristics are known. This review leads into the development of the closure concepts and activities/alternatives, and the evaluation of these concepts against the success criteria developed based on the closure vision and end land use.

Making decisions about closure with involved, informed people with the right level of analyses applied at the right time can be the difference between successful mine closure and unforeseen long-term costs.

¹ 2019 International Council on Mining & Metals (ICMM) Integrated Mine Closure Good Practice Guide 2nd Edition.