

Case Study.
North America.
Mining & Metals.

Mining goes deep with battery electric vehicles—and a careful look at risk.

At a depth of over 2,000m (6,000 ft), a new mine will be wholly operated with battery electric powered vehicles (BEV), minimising costs for ventilation and air conditioning infrastructure as well as energy expense.

Challenge

With no historical data to draw upon and no standards in place, this mining company wanted to understand the risks of BEVs at the intended depth before acquiring equipment and starting construction. In addition, the client sought to estimate risks around battery procurement and potential supply chain challenges.

dss+ Approach

dss+ began the engagement with a multipath risk assessment with a team that included top battery experts; technical safety, electrical and instrument engineers; BEV vendors and suppliers; and mine operation, maintenance and engineering. dss+ also reviewed all hazard assessment reports and incidents, the company's fatal hazard protocol, emergency response plans, supply chain records and more.

Risk facilitation tools and methodologies helped the team estimate risk and proffer recommendations for each project phase. In addition to project-related risks such as supply chain disruption, battery storage and repairs, dss+ included preventive and mitigative controls for factors that could lead to incidents such as thermal runaway, fire or explosion in the assessment. Once project safety, project risk and operations-related risk were adequately estimated, the client was confident in moving forward with a significant investment.



Assignment

Estimate and analyse risks relating to using BEVs in mining operations at depth



Offerings

Operational Risk Management consulting



Impact

- Designed critical action plans to mitigate/minimize safety, operational, maintenance and supply chain risks.
- Developed recommendations around safe BEV use where no standards exist.
- Achieved employee buy-in and ownership of the project.
- Recommended fit-for-purpose training and work processes to ensure that project would sustain the culture and operational readiness far beyond the construction phase.



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