

27 February 2023

## Re: Use of mobile equipment on or near water

### Background

Operating mobile equipment on or near water has inherent risks which can include equipment becoming submerged and operators drowning. Between 2000 and 2020, 20% of fatalities in British Columbia's mining sector were related to operating mobile equipment on or near water. Through formal investigations, several contributing factors were identified:

- Deficiencies in prevention, preparedness, and emergency response;
- Lack of hazard recognition, assessment, and mitigation;
- Lack of proper equipment exits; and
- Lack of proper training.

*The Health, Safety and Reclamation Code for Mines in British Columbia* (the Code) must be followed in order to reduce the health, safety and environmental risks related to operating mobile equipment on or near water at mines in B.C., including sections *1.11.1 & 1.11.2 – Training; 3.3.3 – Drowning Hazard; and 4.1.4(1) & 4.1.4(3)(a)*. Because these provisions do not explicitly mention mobile equipment, there have been different interpretations and inconsistencies in application of the Code. As result, this can negatively impact the effective recognition, assessment, and mitigation strategies to protect workers using mobile equipment on or near water.

Further, mobile equipment may not be specifically designed to be used near bodies of water and may not provide specific protections or appropriate or effective emergency exits for a quick, safe egress from a submerged machine. Drowning hazards where workers are enclosed in the cab of mobile equipment working on or near water must be addressed.

Although the Code may not speak directly to mobile equipment working on or near water, as per section 1.9.1 of the Code, mine managers must still take all reasonable and practical measures to protect workers. Consider the following recommended best practices for operations involving mobile equipment working on or near water:

### Recommended Best Practices

*Hazard Assessment & Mitigation* – conduct a thorough hazard assessment and develop mitigation strategies specific to the mine and the type of work being performed before starting the job.

...2

*Equipment* – assess the nature of the task and select mobile equipment that is appropriate for the task. For example, selecting emergency exits appropriate for submerged exits, rescue equipment, alternative breathing sources, etc.

*Training* – ensure that all workers involved in the operation of mobile equipment near or on the water are trained and competent to perform their tasks. This includes operators and other workers performing activities in the same area.

*Prevention* – continued discussion about the task, including the appropriate type of equipment and controls, is necessary to ensure drowning prevention strategies are relevant and appropriate to the demands of the job.

*Supervision* – ensure supervisors are competent and provide effective supervision, tasked with regularly assessing and monitoring the operation.

*Mines Rescue* – ensure that proper resources and specific training are provided to mine rescue teams to ensure they are prepared for emergencies involving workers in mobile equipment and water. If possible, notify mine rescue ahead of time for tasks involving mobile equipment and water.

*Emergency Response* – ensure that emergencies involving mobile equipment and water are included in the Mine Emergency Response Plan and updated as per the Code.

*Equipment Modifications* – if any modifications are made to the equipment, including safety enhancements, ensure they are designed and signed off by a qualified professional, as defined in the Code. Ensure modifications do not render ineffective any safety devices.

#### **Additional Resources**

- [Excavators on Mine Sites Hazard Alert](#)
- [Dozers on Mines Sites Hazard Alert](#)
- [Safe Work Planning Hazard Alert](#)

Sincerely,



Hermanus Henning  
Chief Inspector of Mines