

October 5, 2010

Chief Inspector's Directive

Reporting of an Accident or Dangerous Occurrence

Objective:

The Health, Safety and Reclamation Code for Mines in British Columbia (Code), Sections 1.7.1 through 1.7.3, require that the mine manager shall inform an inspector, the occupational health and safety committee (OHSC) and the local union of any dangerous occurrence. The mine manager is obligated to ensure that an investigation is carried out, prepare a report of the investigation and forward the report to the OHSC and an inspector.

The reasons for accident or dangerous occurrence reporting are:

1. To ensure accidents resulting in loss of life or dangerous occurrences (DOs) are reported to the Ministry, OHSC and local union or worker representative, in the legislated time frame;
2. To ensure accidents are thoroughly investigated by persons knowledgeable in the type of work involved, as well as the co-chairpersons of the OHSC or their designates;
3. To ensure a report is prepared and forwarded to the OHSC and mines inspector identifying:
 - the cause of the accident
 - any unsafe conditions, acts, or procedures which contributed in any manner to the accident
 - recommendations which may prevent similar accidents
4. To compile data for the purpose of accident causation or trend analysis, determining effectiveness of the legislation and for future Code review purposes.

Background:

Incomplete accident investigations are not uncommon. There may be a lack of interest or ability to find the root cause of an incident. The investigating team may make determinations which lack understanding of the potential for future injury or damage.

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If no one was injured or if the injury was minor, the incident may only receive a cursory investigation. This can be perpetuated by everyone up the management line who may give the investigation report a quick read and signs off.

There is a need to look deeper into incidents to ensure that the label of "human error" is not applied inappropriately. The investigators should look for conditions that may have lead to a worker error. For example, as a result of limited training or experience, the incident may not have been foreseen or prevented.

When DOs are reported to the inspector, there is the opportunity to review them without bias and ensure the investigation was thorough and accurate. Investigations should include photographs and notes of the scene and interviews of the person(s) involved.

The objective is to identify conditions which have the potential to harm workers and reduce the risk of reoccurrence.

Requirements:

1.7.3 Dangerous occurrences to be reported shall include:

(1) unexpected major groundfall or subsidence, whether on surface or underground, which endangers people or damages equipment or poses a threat to people or property

The inference here is in the word "unexpected". Unexpected means unplanned, or did not occur at the planned time or in the correct sequence. Was there potential to endanger people or equipment?

(2) cracking or subsidence of a dam or impoundment dike, unexpected seepage or appearance of springs on the outer face of a dam or dike; loss of adequate freeboard, washout or significant erosion of a dam or dike, any of which might adversely affect the integrity of such structures,

Dams or impoundment dykes contain a vast amount of potential energy that once released cannot be stopped. This means that action must be proactive and any changes in the dam, as noted in the code, must be reported and dealt with immediately.

(3) any accident involving a mine hoisting plant and including sheaves, hoisting rope, shaft conveyance, shaft, shaft timber, or headframe structure,

Workers are transported in shaft conveyances or in close proximity to skips. A failure of a component of a shaft conveyance system can have catastrophic impacts on lives and the mine.

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(4) unexpected inrush of water, mud, slurry, or debris,

We are dealing with potential energy that could seriously injure or kill anyone in its path. The word "inrush" means that the material came in an uncontrolled, unplanned manner. All such events must be addressed and reported.

(5) premature or unexpected explosion of explosives, gas or any dust,

The word "premature" is the key word here. Premature means that it occurred before the planned time; it was not in control.

(6) significant inflow or release of explosive or other dangerous gas,

If the inflow or release of gas is large enough to be noted by the workers or management, or sets off an alarm or shuts down equipment, then it is significant and shall be reported.

(7) unplanned stoppage of the main underground ventilation system,

The key word here is "unplanned". If the main ventilation fans stops unexpectedly, then it is reportable. Power outages are unplanned and are sometimes reported and sometimes not. If primary ventilation is affected, it is reportable.

(8) a mine vehicle going out of control,

In inclement weather, a vehicle that fishtails or locks a wheel under braking should not be reportable; however, the manager should be watching these incidents to ensure that the road is maintained, that driver training is acceptable and that the rules of the road are being followed. This also refers to an incident where the operator is not in control (i.e. falls asleep), or if the operator cannot effectively steer or stop the vehicle.

(9) outbreak of fire if it endangers persons or damages equipment and all underground fires,

Were there fire control measures in place and did they work? If the control measures did work and no one was put at risk, then it is not reportable. If fire hoses or more than three portable extinguishers were used to extinguish the fire, then it is reportable.

All underground fires must be reported because the impact of underground fires on workers can be catastrophic.

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10) *electrical equipment failure or incident that causes or threatens to cause injury to persons or damage to equipment or property,*

Arc flash, electric shock, a blown fuse or a burnt-up electric motor are reportable, when people are affected. There are very likely many instances where workers receive minor arc flash or electric shock and they are not reported.

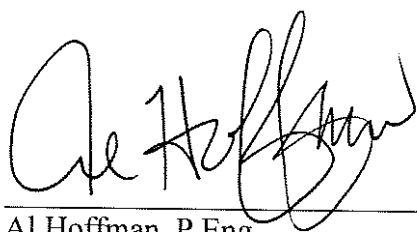
(11) *any other unusual accident or unexpected event which had the potential to result in (could have resulted in) serious injury.*

For the purpose of a Dangerous Occurrence, a serious injury may be defined as an acute trauma or exposure which resulted in, or had the potential to result in, significant temporary or permanent loss of function or disfigurement.

Some examples of serious acute trauma include, but are not limited to:

- Loss of consciousness
- A fracture of any bone (except simple fracture of a finger or toe)
- Injury to an internal organ (often caused by a direct blow)
- Significant injury to soft tissue, such as nerves, muscles or tendons (such as a muscle rupture)
- Loss of any member of the body
- Second or third degree burns or burns affecting more than five percent of the body
- Permanent impairment or loss of body function
- Permanent serious disfigurement
- Over exposure to infectious or toxic substances

The mine manager should consult with an inspector if there is any doubt that an incident may or may not be considered a dangerous occurrence.



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