Haul truck light duty vehicle fatality

Synopsis

On Sunday November 18, 2018, at approximately 10:39 hrs., at an open pit mine, a light duty pickup truck was travelling northwest on a mine road when it collided with a haul truck. The haul truck impacted and destroyed the pickup truck while crossing an intersection. The operator of the pickup truck was crushed under the haul truck and was pronounced deceased at the scene.

Findings

After the incident was reported to the Ministry of Energy, Mines and Low Carbon Innovation as per the Health, Safety and Reclamation Code for Mines in British Columbia, an investigation, under Section 7 of the *Mines Act*, was initiated by the Chief Inspector of Mines (CIM).

Forensic analysis found no mechanical issues with the pickup truck prior to the incident. Weather conditions were favorable, and the intersection was well-traveled and free of snow. Vehicle data indicated a defensive maneuver was performed by the operator moments before impact.

The accident occurred at a complex intersection, which was comprised of six roads and a laydown yard. Visibility challenges such as dust obscuring salient objects and a driver-side pillar impacted the site-line of the haul truck. Investigators believe the haul truck became visible just seconds before impact, as the operator maintained speed and used the radio right up until moments before impact.

There were no identified individual factors related to the operator that contributed to the incident.

FIGURE 1. The multi-lane Intersection

Outcome

The Mines Investigation Unit made four recommendations based on the findings of the investigation.

1. Hazard Alert for Industry - The CIM issued Haul Truck Light Vehicle Collision, published July 2020. The Hazard Alert highlighted the fatal incident at a multi-lane intersection with limited signage.
   - It discussed the continuous evaluation of traffic management plans at mine sites and evaluating the efficacy of relying solely on right-of-way rules as administrative controls and advocates for engineered controls to eliminate or significantly reduce vehicle interactions.
   - It also encouraged road design modifications and consideration of behavioral controls in these environments.

2. Independent Traffic Survey - Recommended an independent traffic survey due to uncertainty about the effectiveness of current traffic safety practices.
   - To be completed by a qualified person to conduct an independent professional report on the efficacy of the current traffic control at the mine.
   - To identify the potential fatality risk for light vehicle occupants due to interactions with haul trucks.

3. Temporary Speed Limit Reduction - A temporary reduction of the speed limit to 70 km/h at the mine for light vehicles in dynamic areas such as intersections, operating areas, near pit faces, and loading areas.
   - To reduce hazards, enhance worker safety, and decrease the likelihood of injuries or fatalities.
   - To increase scanning time for other road users and improve stopping distances.

4. Reassess Radio Usage at the mine - The operator's frequent radio use during critical haul truck operation diverted their attention significantly.
   - To minimize distraction for safer driving practices.
   - To place attention to driving tasks, especially in high-risk areas like the pit.
   - To enhance safety without compromising crucial communication needs during operations.