Accident Investigation Report Summary

The incident	Excavator falling in underground mine. The driver of the excavator died in the accident.
Time of incident	Thursday 15th December 2016 at 12:30 – 13:45
Place where incident occurred	*Kittilä Mine* owned by Agnico Eagle Finland Oy (address: Pokantie 541, FI-99250 Kiistala)
Summary of the incident and findings of the investigation	A fatal accident occurred in the underground mine when an excavator fell from level 325 down to level 350. At the time, the excavator was being used for road reparation when the driver of the excavator drove the vehicle over an open hole created by blasting operations at the mine. There were no eyewitnesses to the incident. According to rules issued by the mining company, the risk of falling must be prevented by placing safety embankments (earth walls) in front of the hole and by installing orange safety fencing and a flashing light with warning signs to warn of the danger ahead. These access impediments had not been put in place, with the exception of a warning sign and safety line crossing the road. The investigation revealed deficiencies in the working of the organisation that facilitated the observed and recorded hazard not being removed in good time. A central factor was the deficient understanding of employees, supervisors and the production control centre pertaining to what work has been performed and what has not, and the risk of accident. The deficiency of this common situation awareness was impacted by insufficient communication and shift changing practices used by supervisors and production control centre operators.
Recommendations of the investigation team for measures to be taken to avoid similar accidents from occurring in the future	The investigation team issues the following recommendations for measures to be taken to avoid similar accidents from occurring in the future. These measures primarily apply to operations at the Kittilä Mine, but can also be partly applied to other mines and industrial plants. 1. In order to ensure the efficient flow of information, the mining company must ensure the resources and competence of the production control centre (TOKE) and clarify shift changing practices. 2. Tools used by TOKE for maintaining common situation awareness must be improved. 3. The construction of a safety embankment in an open pit and other

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	safety critical works and areas must be ensured using a separate monitoring procedure 4. The mining company must make a written change management procedure for assessing the impacts of changes focused on the operations of the organisation. This procedure must include in terms of safety, all the most important work processes and tasks shall be specified within the organisation (including contractors). 5. Improvements must be made in the manifestation of critical safety occurrences in common situation awareness and in connection with the changing of shifts. 6. Investigation of deviations shall be improved to enable the impact of human and organisational factors on decision-making and performance of work tasks to be better taken into account. 7. The accident notification procedure needs to be improved by the Finnish Safety and Chemicals Agency (Tukes). The online service guides the person making the notification to provide adequate information significantly better than compared to the currently used form. At the same instance, using the online service it is possible to input data about what types of accidents or deviations are significant in regard to mine safety and what issues are important to examine in the internal investigation, therefore facilitating lessons learned from the accident in the best possible manner.
Date of the accident investigation report	1 March 2017
Signatures and printed names of investigation team members	Timo Talvitie Ilkka Keskitalo

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