



TSF Breach Exercise

Mine Emergency Response Tabletop

As per Chief Inspector of Mines order (9) dated August 18th 2014 , (Dr. A Hoffman)

Report Issued: 11/24/2014

Exercise Date: 10/30/14

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EXERCISE OVERVIEW

On October 30th, 2014, at 14:00 hours the Endako Mine Incident Command Team and Knight Piesold (KP) engineer conducted a Dam breach exercise. The exercise was conducted as a tabletop exercise in which a hypothetical dam breach occurred. The exercise followed the mine site Emergency Response Plan (ERP). The exercise ran for approximately 2 hours and involved a total of 12 individuals. The exercise went very well, lessons were learned and deficiencies identified. The lessons learned are detailed below and include mitigation plans.

ATTENDEES:

K Sainis, C Turner, C Lipus, K. Watson, K. Schonecke, J. Cochran, J. Linton, C. Gibbs, S. McEachern, G. Friesen, J. Jenkinson, R. Dupuis

KEY GAPS AND LESSONS LEARNED

- 1. Accurate Incident Command Team Roles & Responsibilities** – In the event of an emergency there was some confusion over the roles and responsibilities. In particular who to contact offsite and whether we had accurate emergency phone lists. It was identified that the list needed to be reviewed and updated to ensure appropriate personnel were contacted in a timely fashion.

Mitigation - All internal and external Emergency Contact Lists will be immediately reviewed by the Safety Superintendent and Environment Superintendent, revised, and redistributed. Moving forward these Emergency Contact Lists will be reviewed every three months or sooner if required by the Safety Superintendent. Update the ERP plan to clarify roles and responsibilities in the flow chart.

- 2. Incident Command Team: Response Time to Contact the Downstream Residents** - In the event of a dam break the Incident Command Team members must be notified and be able to respond in a timely fashion to the Incident Command Center. With time of the essence, it was decided that the current flow chart of responsibilities needed to be reviewed to ensure there was no confusion over responsibilities or any unnecessary delays (in particular to make immediate contact to the Glenannan Community who are immediately at risk in the event of a dam break).

Mitigation- To empower and train the control room operator to immediately notify the downstream residents and follow the contact list protocol. Meet with the Glenannan Community contact representative to ensure they are prepared, understand our plan and have the information so they can respond.

- 3. Current ERP Plan applied to all major Environment Incidents/Events and was not specific to a Major Dam Breach.** – It was identified that the current ERP plan was too generic and applied to any major spill or environmental incidents/emergencies. Could result in confusion or incorrect procedures being followed.

Mitigation – To update the ERP Plan to include a new section specific to Tailings Facilities.

- 4. Attendee's common understanding of definitions and terminology** – with changes in personnel, not every member of the ERP team were on the same page when it came to understanding the definitions and terminology.

Mitigation – conduct further awareness training and drills on a regular basis (objective would be a minimum of two drills per year)

- 5. Training Requirements for Control Room Operators** - With changes to the ERP system it was recognized that some hourly personnel in the control room need to be trained and familiar with the revised procedures.

Mitigation – Conduct training and roll-out the new ERP plan. Ensure the appropriate Control Room Operators are included in the next ERP tests.

- 6. Well Informed Communities** – Endako has maintained communication with local communities about the mine and TSF and answered questions about the Endako TSF. We are not sure how well the local RCMP and Community Emergency Response Teams (CERT) understand the consequences and effects of a TSF breach. Although it was noted that the general ERP plans have been tested for non-Tailings related matters and emergency response teams have worked well together.

Mitigation – Environment Superintendent and Safety Superintendent will make contact with the Glenannan Community, RCMP and CERTs to ensure that they have adequate information to respond/ assist in the case of an emergency. Continue ongoing involvement with local community emergency response teams. A number of mine employees are volunteers on the local community teams as well.

CONCLUSION

This TSF Mine Emergency Tabletop Exercise proved to be an excellent learning tool and test of the TSF Mine Emergency Response Plan. All lessons learned have been taken seriously, actions implemented have been documented and communicated to the proper mine site and corporate levels. Endako Mine management team and Thompson Creek Metals is committed making all required improvements as identified in the exercise in a timely fashion.

ACTION PLAN

Requirements	Identified Gap	Recommended Action	Owner	Timeline
Accurate Incident Command Team roles and responsibilities	All attendees agreed to the roles and responsibilities of those involved	Add names and phone numbers to response tree contact list	Kosta Sainis	Completed
Discussed notification procedures and plans	Not all parties understand the correct notification procedures	Training for all relevant parties, particularly the Control Room Operators	Kosta Sainis	Completed
Define definitions and terminology	Not all parties understand the correct terminology or definitions	Training for all relevant parties	Kosta Sainis	Completed
Engineer of record - Knight Piesold availability by phone 24/7	Office phone numbers only in the MERP	Add cell phone numbers of Bruno Borntraeger (999 2045) and Ken Brouwer to the external contacts list	Kosta Sainis	Completed
In an emergency Incident Command Team members must respond in a timely fashion to the Incident Command Center	Reliance on cell phones for contact	Members need to reply if on duty other designate alternates if on holidays	Chris Gibbs	Completed
Discussed need to go over plan within Glenannan Community	Meet with Gill Kopy of Glenannan Community	Go over revised plan and get feed back	Kosta Sainis, Kai Schoneke	Completed
Develop new section of ERP to highlight this response plan	Current ERP doesn't contain a section on response procedures	Write new section of ERP	Kosta Sainis, Kai Schoneke, Keith Watson	Completed
Well informed external contacts such as RCMP / Community Emergency Response Teams	Unsure how advised these parties are	Provide copy of Emergency Response to affected communities and provide update at upcoming stakeholder meetings.	Kosta Sainis, James Cochran	Completed
ERP Team Preparedness, Awareness and Understanding	Understanding roles, responsibilities and procedures in the event of an emergency	Conduct further awareness training and drills on a regular basis (objective would be a minimum of two drills per year)	Kosta Sainis, James Cochran	Ongoing