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SITE VISIT - TECHNICAL REPORT

Site:	Alcoa Anglesea Coal Mine
Date:	29 June 2015
Meeting Attendees:	Tony Ferrazza, Chris Walschots, Sean Byrne (WorkSafe)
	Chris Rolland, Warren Sharp (Alcoa)
Time:	12.30pm – 4.30pm

Purpose:

To make enquiries regarding the fire preparedness of the Alcoa Coal Mine over the 2015/2016 fire season in light of the second Hazelwood Mine Fire Inquiry terms of reference and assessing the status/ plan for closure of the coal mine with regard to mitigation of the risk of a coal mine fire. As a result of these enquiries, to make suggestions and take appropriate compliance actions if required.

Discussions:

- Chris Walschots opened the meeting stating the following aims:
  - To inspect the mine in relation to the 1m OB cover of exposed coal areas and that works were being conducted in a safe manner;
  - To follow up on last year's (2014) verification findings report recommendations;
- Warren Sharp (previous Alcoa Point Henry Smelter Manager) introduced himself as the project manager of the shutdown program for both Point Henry and now also the Alcoa Power Station and mine operations. A bar chart / activity schedule for the shut - down has been developed and observed.
- Warren Sharp stated that:
  - This morning Alcoa had a meeting with representatives from the second Hazelwood Mine Fire board of inquiry who inspected the mine;
  - initial feedback from the board inspection was that the 1m OB cover appeared to be adequate in preventing coal fire from bushfire ember attack – pending further technical input regarding the risk of coal spontaneous combustion.
- Warren Sharp gave an overview of Alcoa's shut down plan and made the following points with input from Chris Rolland:
  - The initial priority for Alcoa was to look after its people impacted by the closure;
  - An internal Risk Assessment has been performed on the plant and mine closures and that mine fire risk was assessed as part of this. The RA had considered mine fire from three scenarios:
    - Spotting from bushfires;
    - Spontaneous combustion of in situ coal; and
    - Mobile Plant Fire spreading onto exposed coal.
  - Further work is planned for assessing the adequacy of the control used for mitigating the risk of a coal fire from bush fire spotting i.e. covering exposed coal (Overburden capping) by a 1m layer of overburden material. This work consists of:
    - Review of the Overburden (OB) capping control by the Alcoa Centre of Excellence Team. This team comprises technical experts including coal mining experts – based in the USA;

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- The engagement of an external technical expert (as recommended by DEDJTR's John Mitas) to also assess the adequacy of the capping was discussed.
- Review of the OB capping plan including the adequacy of coverage and program by the site's geotechnical consultants Mining One; Copy of the capping progress chart was provided which indicates that currently the program is slightly behind target. The contingencies in the program were discussed and these should provide sufficient buffer for the non-critical end date to be met. This delay does not appear to impact on the risk to employee health and safety.

- Alcoa gave feedback on the revised Emergency Plan. Alcoa met with Wayne Aylmer CFA Operations Officer (Fire Investigator) who reviewed the Emergency Plan. Alcoa has reviewed the plan in light of the Hazelwood Mine Fire Inquiry recommendations, Worksafe feedback from the verification and the CFA Pre-Incident Plan (PIP). This resulted in a complete rewrite of the Emergency Management Plan to align with CFA, VWA and PIP requirements.
- In relation to risk assessments regarding any changes i.e. the OB capping operation, Alcoa stated that this was within their normal operations and is covered by the relevant SWIs for mobile plant i.e. Excavator, Dozer and Haul Truck.

Technical Shutdown Plan:

- Warren Sharp presented information regarding the Power Station and Coal Mine Shutdown Plans and informed that
  - Initially Alcoa were planning to 'park' the power station and mine; Alcoa indicated that this period would probably extend for at least six months to allow consultation to take place with stakeholders regarding demolition and rehabilitation works, land use and the like;
  - The shutdown is to be done in a planned, safe manner;
  - The power station is to be shut down several days prior the target 31st August date; part of this rationale is that the target date is on a Monday;
  - Mining will be completed several days before this so that the emergency coal stockpile (20kt) can be used up;
  - A Gantt chart is being used to identify, plan and track works for the initial (parking) phase for the power station; this chart was observed. A similar chart will be prepared for the Mine;
  - Unauthorised public access has been identified as a major risk;
  - During this initial phase, the following activities are planned:
    - Ladders and other access from lower levels of the power station will be removed;
    - All equipment will be de-energised;
    - Some power will be maintained for surveillance and amenities purposes;
    - There will be 24hr security presence on site;
    - Surveillance cameras will continue to be used to monitor the site;
    - A small Alcoa team will be retained for planning, tracking , monitoring and maintenance purposes (e.g. maintain drains or for firefighting);
    - An excavator, water truck and wheeled dozer will remain in a serviceable state;
    - Alcoa is organising manning of this equipment;

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- In general the existing workforce will leave the site. Demolition and rehabilitation works will be undertaken by contractors once consultation has concluded;

- OB capping is planned to be completed several days before the planned closure day; a graph was tabled showing the coal capping progress to date with a total planned coverage of 32 hectares with 32,000 loose cubic metres of overburden material

- It is envisaged that it will be at least 6months from the closure date before any rehabilitation work will commence at the mine based on the time required to obtain technical impact reports on geotechnical, geohydrology and rehabilitation and obtaining relevant agency approvals through the work plan process as well as ongoing community engagement;

Discussions around the Current 1 Metre Capping Works:

- The purpose of capping the coal is to form a physical barrier which prevents coal from coming into contact with oxygen and any source of fire. It is not part of the rehabilitation plan which is subject to the mine's Work Plan requirements;

- WorkSafe made enquiries regarding the source and nature of the overburden material used to cap the exposed coal, the process involved in excavating and placing the material to ensure a 1m minimum coverage and the plan to maintain the integrity of the OB layer. Alcoa response was:

  - The material used is from several sources including an existing internal OB dump currently at the toe of the southern permanent batters (previously placed as part of a batter stability buttress) as well as local material to be dozed down from OB benches along the western batters;

  - The material type varies and is mostly sandy with some waste coal contamination in parts (a relatively small part);

  - Alcoa indicated that only three coal spontaneous events have occurred over the past 46 years (from when coal mining commenced) and that these presented as small coal smoulders. They were related to exposed loose coal (associated with fragmented coal from coal floor heave or pushing coal over batters) being exposed which was sitting in a wet environment. Ash Wednesday and some equipment fires have occurred;

  - Alcoa indicated the use of the buttress material would make an insignificant impact on the buttress's performance for stability of the southern batters;

  - Alcoa indicated that the experience with the mobile plant fires was that the fires were fuelled by loose coal build up around the equipment components and hydraulic oil from hydraulic oil leaks and that the fires did not spread onto the in-situ coal. Current controls to prevent and mitigate these events are included in the equipment SWIs and include housekeeping, plant inspections, on board automatic and manual fire suppression systems, on board fire extinguishers and preventative maintenance. Also, hot work procedures are in place.

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Field Observations:

- Inspected the floor of the mine and observed two areas on the western side of the mine:
  - One area had dumped overburden material predominately yellow in colour with some coal discoloration and had been spread as a layer which appeared greater than 1m;
  - The other area comprised white cementatious sand which, when picked up by hand exhibited little to no cohesion but appeared to form a crust when placed over the coal and wheel rolled. To the west of this area, an excavator was digging into the buttress and loading trucks which were short hauling the material to a location where 'fingers' were being formed which extended over the coal in a westerly direction. The excavator was observed to have 4 fire suppression canisters. Nearby was a hired D9 dozer which was sitting on OB material and WorkSafe was informed that it had no fire suppression system fitted apart from hand held fire extinguishers;
- Inspected the area around the coal haul road which had been involved in a previous batter movement incident and the depression to the east which had contained water at the time of the failure, had been effectively drained;
- Inspected the emergency coal stockpile area and observed a sprinkler on the stockpile and some vegetation on the top of the stockpile.

Findings:

These enquiries together with the site inspection suggest that the OB capping works present no immediate risk to health and safety of employees and the controls in place are sufficient in so far as reasonably practicable.

The 1m thick OB layer used to cap the coal is in excess of the 300mm OB capping commonly used in the Latrobe Valley Coal Mines for the same purpose.

Further enquiries by both WorkSafe and Alcoa (see action list below) will provide further confidence in the effectiveness of this control.

Actions:

1. Alcoa to forward a copy of the technical review report (Centre of Excellence report) and the Mining One report to WorkSafe when received, for assessment;
2. Alcoa to follow up on engaging an external coal fire expert to input into the mine fire risk assessment;
3. Alcoa to install a system (e.g. fill pegs) to control the thickness of the overburden capping as its placed on top of the coal to ensure it meets the minimum 1m thickness requirement;
4. Alcoa to action an improvement notice served relating to assessing and controlling the risk of fire in using mobile plant on coal – specifically to review and revise the dozer SWI;
5. WorkSafe to conduct an oversight visit on 24th July 2015 to follow up on verification recommendations related to the current Emergency Plan and to assess Alcoa's progress against the OB capping plan;
6. WorkSafe to make further enquiries in conjunction with DEDJTR on the potential impact the capping works may have on batter stability;