Anna Timbrell

From: James Steele <JSteele@resourcestrategies.com.au>
Sent: Monday, 7 September 2015 11:44 AM
To: Anna Timbrell
Cc: Steve O'Donoghue; Mark Edmondson; 'Jill Johnson'; Richard Kirwood
Subject: Sunnyside Coal Mine Modification - Response to DP&E Query regarding final landform
Attachments: WHC-14-19_Cross Section Locations.pdf; WHC-14-19_Cross Sections.pdf

Hi Anna,

On behalf of Whitehaven, please find below responses to your queries regarding the Sunnyside Modification.

As stated in the Environmental Assessment (EA) for the Sunnyside Modification, changes to the existing landform are proposed to:

- lower the height of the existing waste rock emplacement (to approximately 345 mAHD); and
- use this material from the waste rock emplacement to partially backfill the final void (to a maximum depth of approximately 330 mAHD).

These changes to the existing Sunnyside landform would improve the geotechnical stability of the final void (i.e. in comparison to the existing void), as per the outcomes of previous consultation undertaken with the DRE in regard to the existing site.

The conceptual final landform shown in the Sunnyside Modification EA was reflective of the above (i.e. lower the existing waste rock emplacement and partially backfilling the final void).

The final landform design in the EA was conceptual, and more detailed engineering studies have progressed since finalisation of the EA.

The revised final landform provided in the Responses to Submissions (RTS) document reflects Whitehaven's preferred option for the final landform design. The revised landform has been developed consistent with the objective above (i.e. improve the geotechnical stability of the final void highwall).

The changes between the conceptual final landform design (EA) and revised final landform design (RTS) are minor. They involve differences in elevation in some sections of the final out of pit waste rock emplacement of several metres, and corresponding differences in elevation in some sections of the final void.

However, less material would required to be rehandled for the revised final landform, in the order of approximately 1 Mm^3 (for comparison, the total waste rock removed from the void is in the order of 20 Mm^3), which would reduce Whitehaven's operational costs, while maintaining the objective of improving geotechnical stability of the final void.

The extent of these minor changes between the two conceptual final voids is shown in the attached cross sections, as well as the comparison table below.

	Existing Landform	Final Landform (EA)	Revised Final Landform (RTS)
Maximum elevation of WRE	352 mAHD	345 mAHD	345 mAHD
Maximum depth of void	294 mAHD	330 mAHD	330 mAHD
Total disturbance area	Approximately 163 hectares	No change to disturbance footprint. Changes in elevation of some	No change to disturbance footprint. Changes in elevation of some

		sections of the out of pit dump (i.e. within existing footprint).	sections of the out of pit dump (i.e. within existing footprint).
Volume of material rehandled to backfill final void	N/A	3 Mm^3	2 Mm^3
Estimated volume of void	20 Mm^3	17 Mm^3	18 Mm^3

As stated in the Responses to Submissions, the minor changes in the final landforms would not result in additional potential environmental impacts in comparison to those described in the Sunnyside Modification EA, given:

- There would be no change to the maximum final elevation of the waste emplacement.
- There would be no change to the maximum depth of the final void.
- There would be no change to the size or geotechnical stability of the highwall on the southern side of the final void (i.e. the existing highwall would continue to be reduced by approximately 38 metres following the partial backfill of the final void to improve its geotechnical stability in the long term).
- There would be no change to potential visual impacts (i.e. the visual simulations prepared for the EA capture the maximum height and the full length of the revised waste emplacement).
- No change to rehabilitation objectives (i.e. the final landform would be rehabilitated with the aim of returning the majority of land to areas suitable for agricultural activities, consistent with the currently approved final land use).
- There would be no change to the noise and blasting or air quality impact assessments for the Modification, given that there would be no change to the hours of operation, mining fleet or increase in the quantity of material handled.
- There would be no change to the groundwater impact assessment for the Modification given there would be no change to the water demand, supply and management and no change to the depth of the final void (i.e. the maximum depth of the final void would remain above the surrounding groundwater levels, and as such, no pit lake is predicted to form).
- There would be no increase in the extent of surface disturbance/out of pit emplacement footprint in comparison the approved/existing surface disturbance footprint (only changes in the elevation of the some sections of the out of pit waste emplacement).

In summary, the reasons and justification for the revised final landform are as follows:

- The revised final landform would meet the objective determined in consultation with the DRE (i.e. improve geotechnical stability of the final void highwall by reducing its height).
- As slightly less material would be required to be rehandled to meet this objective for the revised final landform, this would reduce Whitehaven's operational costs.
- The revised final landform would not result in additional potential environmental impacts in comparison to those described in the Sunnyside Modification EA.

Further details of the final landform design would be required to be provided to the satisfaction of the DRE in a Mining Operations Plan for the site.

Should you require any additional information, please do not hesitate to contact me.

Regards

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