Department of Primary Industries

OUT16/43366

Ms Rose-Anne Hawkeswood
Resource Assessments
NSW Department of Planning and Environment
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Dear Ms Hawkeswood

Springvale Colliery Extension Project Modification 1 (SSD 5594 MOD 1)
Comment on the Response to Submissions

I refer to your email of 2 November 2016 to the Department of Primary Industries (DPI) in respect to the above matter. Comment has been sought from relevant divisions of DPI.

Any further referrals to DPI can be sent by email to landuse.enquiries@dpi.nsw.gov.au.

DPI has reviewed the Response to Submissions and is satisfied that the proponent has adequately addressed the concerns raised in DPI submission regarding the Statement of Environmental Effects. For detailed discussion of the please refer to the comments provided at Attachment A. DPI provides no further comment or recommendation with respect to the proposal.

Yours sincerely

Mitchell Isaacs
Director, Planning Policy & Assessment Advice
11 November 2016

DPI appreciates your help to improve our advice to you. Please complete this three minute survey about the advice we have provided to you, here:
https://goo.gl/o8TXWz

Attachment A

Springvale Colliery Extension Project Modification 1 (SSD 5594 MOD 1)
Comment on the Response to Submissions
Detailed comments – DPI Water

The Proponent has satisfactorily addressed DPI Water's concerns and has provided suitable clarification. The DPI Water review criticisms stemmed from a lack of clarity and unknown assumptions in the SEE.

The primary matter was the use of new groundwater modelling (2015) compared to 2013 (original) modelling to advance arguments to support the Mod 1. The 2015 modelling has been re-run (2016) with the correct mine layout embedded. The results, which form the basis of the Mod 1, are similar to that originally used; but can now be correctly evaluated.

In any future reliance by the Proponent on the groundwater modelling results, the background version and embedded implications for mine layout need to be clearly stated and used for comparative purposes. The same arguments hold for any future discussion regarding impacts on individual groundwater works.

The Proponent has corrected an error in their understanding of dependent ecosystems from the WSP. The WSP maps on which they previously relied stated that "there are no identified groundwater dependent ecosystems" for the groundwater source, however, these are clearly listed in Table D of Schedule 4 in the WSP.

Assessment

DPI Water Matter	Proponent Response	DPI Water Comment
Use of the Updated Numerical Groundwater Model 1) There are a number of issues concerning comparisons of outcomes made by using the 2013 and 2015 versions of the NGM. It is proposed that the Proponent should resubmit the documentation after the NGM, and then the contingent EES for the proposed Modification 1, have been completely updated to reflect the full complement of approved mining i.e. including longwalls LW423 and LW501-503	The NGM has been re-run with the correct configuration of approved mine layout, i.e. including the previously excludes longwalls LW423 and LW501-503. These LW were excluded because of the Proponent's business approach which is the basis of the Mod 1 application. See Appendix C for an enhanced explanation of this. The revised results are shown in Figure 1 following, and the Proponent's analysis (Issue 1).	The revised NGM outputs correctly conform with what was required to be analysed. The interpretation of the results is agreed to. The response is satisfactory.
2) There is a data mis-match in the interpretation based on hydrographs derived from the NGM. This should be addressed with the updated NGM or otherwise clarified.	The Proponent has affirmed that the questioned hydrograph did not properly represent all available data, and hence without explanation there is an apparent mismatch; irrespective of whether 2013, 2015 or 2016 modelling results	The response is satisfactory.

	are used. The explanation is presented below (Issue 2).	
Correction of Descriptive Errors 3) Errors have been noted with respect to the description of dependent groundwater ecosystems; all descriptions need to acknowledge that the swampland of the Newnes Plateau is specifically listed in Schedule 4 of the Greater Metropolitan Water Sharing Plan for Groundwater Sources 2011.	The Proponent acknowledges the error. The Proponent states that they have relied upon an erroneous map in the WSP; they did not however, absorb the accompanying text (Issue 3).	The response is satisfactory.
4) The Proponent needs to correctly identify, when discussing the influence of the proposed works on nearby groundwater users' bores, drawdown and other aquifer impacts, that these occur against groundwater works and not Water Allocation Licences (WALs).	The Proponent has conducted a revised bore census for a 10 km radius around their mine. The potential drawdown effects, as modelled in 2015 (CSIRO) have been evaluated for each bore and indicate a likely impact in the range 0 to 0.48 m for all (Issue 4). There is no statement of recognition concerning the referencing of information about impact on WALs or GW works.	The Proponent has not made a specific statement about the referencing of groundwater licensing and works' information. However, they have conducted additional supporting work which implies recognition of the matter. The response can be regarded as satisfactory, but the matter may need to be further checked in any future documentation. [NOTE: The additional, unrequested, analysis undertaken on the bores of the revised bore census is technically inaccurate because it uses the 2015 NGM. However, if re-analysed using the correct 2016 NGM, the outcomes are expected to be similar.]

Issue 1 – Incorrect representation of NGM

The Proponent has re-run their COSFLOW NGM for the correct mine layout and generated the necessary outputs. The outputted results now properly reflect the approved mine layout, irrespective of any business reason to exclude them (see Appendix C for an enhanced discussion). The previous work was erroneous and poorly explained. The revised outputs are shown in Figure 1 and are very similar to the original. Following this, the Proponent's analysis of the results depicted in Figure 1 is presented.

DPI Water accepts this analysis.

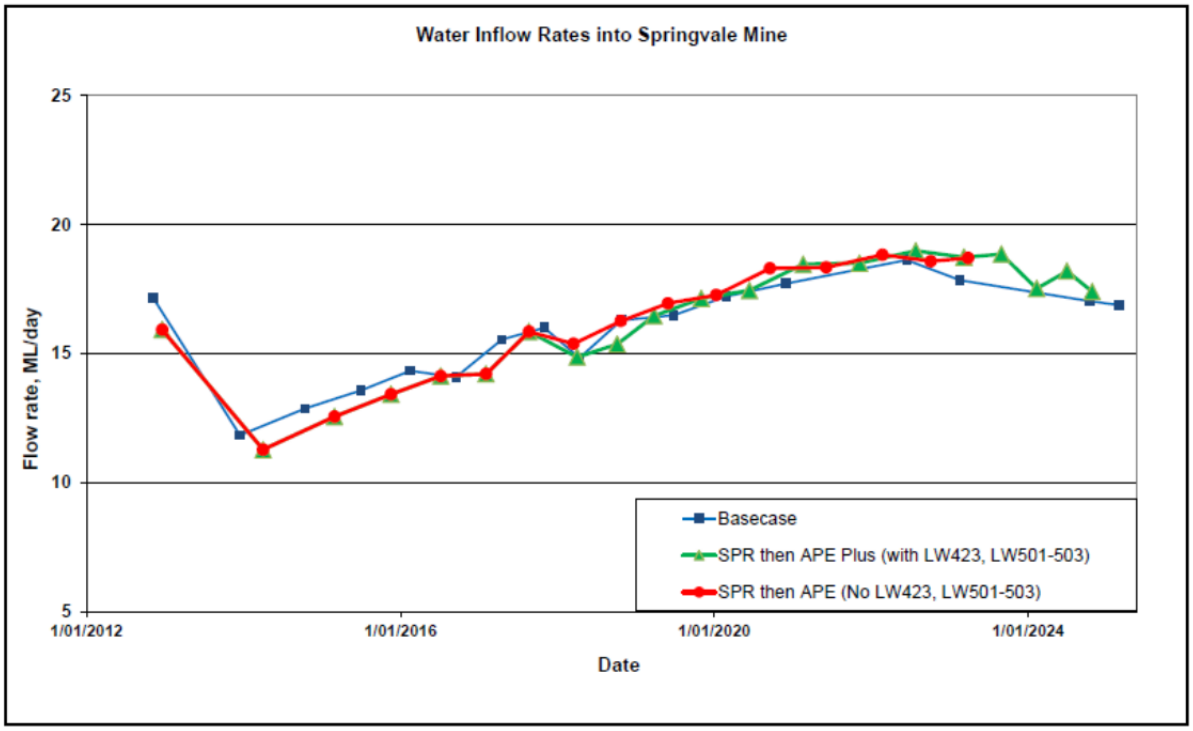

Figure 2.1 : Predicted Mine Inflow Rates (adapted from Adhikary and Wilkins (2013), Adhikary and Wilkins (2015) and Adhikary (2016))

Figure 1. Extracted Figure 2.1 from Jacobs' report

Key aspects are provided as follows:

- The mine inflow results presented for the 'SPR then APE Plus' simulation, which included all approved longwalls at Springvale Mine under SSD5594, are consistent with the original 'SPR then APE' case (Adhikary and Wilkins, 2015) and the CSIRO (2013) predictions (Adhikary and Wilkins, 2013) which assessed the entire mine footprint. Maximum mine inflows for the three simulations are provided below:
  - The maximum mine inflows for the 'Basecase' (Adhikary and Wilkins, 2013) is 18.6 ML/day in 2022
  - The maximum mine inflows for the 'SPR then APE' case (Adhikary and Wilkins, 2015) is 18.8 ML/day in 2022
  - The maximum mine inflows for the 'SPR then APE Plus' case (Adhikary, 2016) is 19.0 ML/day in 2022.
- The Springvale Mine Extension Project EIS (Section 10.2.3.1) notes the maximum mine inflow for the whole mine plan, the 'Basecase', as approved, as 19 ML/day in Year 2022.

Given the above, the baseflow predictions, with respect to modelled surface water reaches, and modelled mine inflows in the 'SPR then APE Plus' simulation, are consistent with Adhikary and Wilkins (2015) report, and, as presented in Adhikary and Wilkins (2015), are consistent with Adhikary and Wilkins (2013). The impacts and environmental consequences for the proposed modification area are therefore expected to be consistent, as discussed in the SEE, with the impacts presented in the SVMEP EIS and approved in SSD5594.

Issue 2 – Mismatch of data

The Proponent had presented data (in a hydrograph) without adequately explaining its composition and differences. A representative date was selected by DPI Water to illustrate the matter and the difficulty. The Proponent's response follows:

> This is readily resolved. Figure 4.4 of Jacobs (2016a) presents inflows to Angus Place East only. Figure 4.4 does not, however, present inflows to the other Angus Place panels. The reason for not separately presenting inflow to the other Angus Place panels in Figure 4.4 is due to, as we understand it, a constraint within COSFLOW insofar as not being able to, post-construction of the model, request this output from the model. Output from COSFLOW is currently restricted to total inflow to both mines, inflow to Angus Place East and inflow to Springvale. This issue was identified in the SVMEP EIS at the time, however, Jacobs should have more clearly highlighted this in Jacobs (2016a) to avoid any confusion.
>
> To explain the example quoted by DPI Water. At date 1 January 2020, 'Basecase' inflow (total inflow to both mines) in Figure 4.2 of Jacobs (2016a) is about 440L/s. This constitutes inflow to Springvale Mine in Figure 4.3 of Jacobs (2016a) of 200L/s and inflow to Angus Place East in Figure 4.4 of Jacobs (2016a) of 140L/s. What is not presented in Figure 4.4 of Jacobs (2016a) is the inflow to the other Angus Place panels, which is approximately 90 to 100L/s. This clarifies the reason for Figure 4.3 of Jacobs (2016a) values when added to Figure 4.4 of Jacobs (2016a) values do not match Figure 4.2 of Jacobs (2016a) values. It is highlighted that the other Angus Place panels are included in the COSFLOW model; it is merely that output from those nodes, separately, is not able to be generated.

Issue 3 – Misstatement of Regulation

The Proponent has consistently misstated that their mining lease is not subject to any notified high priority dependent groundwater ecosystems as listed in the WSP. This is incorrect; the Proponent in searching for descriptions of the ecosystems has relied solely on WSP maps, which is inconsistent with their considerable effort regarding swamp management on the Newnes Plateau. The Proponent has stated:

> We acknowledge that Schedule 4 of the Water Sharing Plan does include the THPSS and appreciate the clarification. We will amend our subsequent documentation accordingly.
>
> The maps of the Water Sharing Plans were consulted as the basis of the quoted statement. **Figure 2.2** presents the map for the Sydney Basin Richmond Groundwater Source downloaded from the Water Sharing Plan (Appendix 2 of http://www.legislation.nsw.gov.au/#/view/regulation/2011/111).
>
> As per the annotation in **Figure 2.2**, it is stated, in that figure, that there are no identified groundwater dependent ecosystems in the Richmond Basin. It is now apparent that the annotation to this map is inconsistent with Schedule 4 of the Water Sharing Plan.

DPI Water recognises that there is a difference between groundwater source map and text in the WSP, however, the matter is clearly stated in Table D of Schedule 4 of the WSP.

Issue 4 – Drawdown effects on groundwater works

In their additional evaluation of potential impacts on bores now identified within 10 km of the mine (revised 2016 bore census) the Proponent has used the 2015 NGM drawdown impact.
The potential impacts are in the range 0 – 0.48 m for all bores.

Unfortunately, the 2015 NGM is the contentious version of the NGM and was the basis of DPI Water's review criticisms. The potential effects should have been compared to the re-run 2016 NGM. This is an error.

However, it is now known that the outputs of the re-run (2016) NGM are not vastly different to those of the erroneous 2015 version; consequently any further analysis using the correct NGM is likely to generate the same conclusions and the matter does not need to be further considered at this time.

The extended analysis was not a part of, or a requirement of, DPI Water's review of the SEE.

End Attachment A