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Our Ref: S188G/005b
Date: 12 September 2014

Nagindar Singh
Springvale Coal Pty Ltd
Locked Bag 1002
WALLERAWANG
NSW 2845

Dear Nagindar,

RE: SPRINGVALE MINE EXTENSION PROJECT - RESPONSE TO SUBMISSIONS (Query on Total Predicted Discharge to the Coxs River)

1. Introduction

We have prepared letter this based on email correspondence between Springvale Coal Pty Ltd (Springvale) and RPS Aquaterra Pty Ltd (RPS) (BELL/SINGH, 28 August 2014) seeking assistance to address a query received via email from the NSW Environmental Protection Authority (EPA) on the proposed total discharge to the Coxs River associated with the Springvale Mine Extension Project (KIRSCH/CLIFT, 27 June 2014).

2. Proposed Response

Query 1. ...I raised at yesterday's meeting what I saw as a discrepancy in what the project estimates will be the mine water discharge volumes (ML/day) from both Angus Place and Springvale combined for each year 2013-2032....

Table 5.2 of the Surface Water Impact Assessment (RPS, 2014a) presents the predicted discharge from each Licensed Discharge Point (LDP) at Springvale Mine for the period 2013 to 2032. These discharges were determined from the site water balance prepared for Springvale Mine in GoldSIM by GHD Pty Ltd. Further details of the site water balance are presented in Appendix D of RPS (2014a).

There are two model scenarios presented in Table 5.2, one assuming the current capacity of the Springvale Delta Water Transfer Scheme (SDWTS) is maintained at 30ML/d and the second being with the capacity of the SDWTS increased to 50ML/d, when the combined mine water make at Angus Place Colliery and Springvale Mine exceeds 30ML/d. A third scenario, not presented explicitly in Table 5.2, is the predicted discharges in the circumstance that the SDWTS is not available to Angus Place Colliery and Angus Place Colliery and Springvale Mine discharge separately to Coxs River.

With the recent closure of Wallerawang Power Station, there is currently no direct demand for water from the SDWTS and flows are currently being discharged via Springvale LDP009. This is consistent with historical practice when responsibility for the SDWTS bypass was administered through Energy Australia LDP020.

The modelled discharges from the site water balance are presented below, as per Table 5.2 of the Surface Water Impact Assessment, together with totalled discharge to the Coxs River. It is noted that Springvale LDP004 and LDP005 are discharge locations on the Newnes Plateau that flow to the Wolgan

Table: Predicted Discharge (ML/d) to the Coxs River (adapted from Table 5.2 of RPS (2014a)).

Year	Discharge (ML/d) with SDWTS at 30ML/d			Discharge (ML/d) with SDWTS at 50ML/d			No SDWTS available to Angus Place Colliery		
	LDP001	LDP009	Total to Coxs River	LDP001	LDP009	Total to Coxs River	LDP001	LDP009 ¹	Total to Coxs River
2013	1.77	20.88	22.65	1.77	20.88	22.65	1.77	12.47	14.24
2014	1.77	19.36	21.14	1.77	19.36	21.14	1.77	10.95	12.72
2015	1.77	23.69	25.47	1.77	23.69	25.47	1.77	12.05	13.82
2016	1.78	27.36	29.14	1.78	27.36	29.14	1.78	12.79	14.57
2017	1.77	28.87	30.65	1.77	28.87	30.65	1.77	14.08	15.86
2018	1.77	27.77	29.54	1.77	27.77	29.54	1.77	14.05	15.82
2019	1.77	29.55	31.33	1.77	30.18	31.95	1.77	15.15	16.92
2020	1.78	30.06	31.84	1.78	35.97	37.75	1.78	16.02	17.80
2021	1.77	29.98	31.75	1.77	37.93	39.70	1.77	16.51	18.28
2022	1.77	29.98	31.75	1.77	41.65	43.42	1.77	16.89	18.66
2023	1.77	29.98	31.75	1.77	42.73	44.50	1.77	16.19	17.97
2024	1.78	30.06	31.84	1.78	43.26	45.03	1.78	15.62	17.40
2025	0.52	28.48	29.00	0.52	30.68	31.20	0.52	2.51	3.03
2026	0.24	28.28	28.52	0.24	28.28	28.52	0.24	0.00	0.24
2027	0.20	26.86	27.06	0.20	26.86	27.06	0.20	0.00	0.20
2028	0.16	26.27	26.42	0.16	26.27	26.42	0.16	0.00	0.16
2029	0.11	26.90	27.02	0.11	26.90	27.02	0.11	0.00	0.11
2030	0.07	28.63	28.70	0.07	28.63	28.70	0.07	0.00	0.07
2031	0.03	24.43	24.46	0.03	24.43	24.46	0.03	0.00	0.03
2032	0.00	25.66	25.66	0.00	25.69	25.69	0.00	0.00	0.00

1. Calculated based on Springvale's contribution to SDWTS, as presented in Table 5.2 of the Surface Water Impact Assessment for the model scenario where the capacity of the SDWTS was 30ML/d.

River. As indicated in RPS (2014a) these LDPs are not proposed to be used during the Mine Extension Project at Springvale Mine. Furthermore, Springvale Mine has proposed in the Environmental Impact Statement for the Project that these LDPs be relinquished post-approval when infrastructure required to re-direct emergency discharge water from the SDWTS back underground to the Angus Place Colliery's 900 Water Storage Area has been installed.

It is noted that the data presented in the Table above is the same as that presented in Table 5.2 but expressed to two decimal places. It is noted that Springvale LDP002 comprises discharge of treated effluent via spray irrigation and was not incorporated in Table 5.2 of the Surface Water Impact Assessment due to the flow rate being negligible at <0.1ML/d.

It is also noted that discharge from Angus Place Colliery is different to that from Springvale Mine due to differences in groundwater inflow to the underground workings. As presented in the Groundwater Impact Assessment (RPS, 2014b), the extension of Springvale Mine is hydrogeologically up-gradient compared to Angus Place. The regional hydraulic gradient is to the northeast toward the Wolgan Valley.

From the above table, the predicted total discharge to the Cocks River ranges from 21.14ML/d in 2014 to a peak of 31.84ML/d in 2024 with SDWTS at 30ML/d. When the SDWTS is upgraded to a capacity of 50ML/d, discharge to the Cocks River ranges from 21.14ML/d in 2014 to 45.03ML/d in 2024. It is noted that this latter scenario represents Angus Place discharge predominantly being transferred to SDWTS and Springvale discharging through its LDP009 since there is now no direct demand at Wallerawang Power Station. In the circumstance that the SDWTS is not available to Angus Place Colliery, discharge to the Cocks River of only mine water make at Springvale LDP009 and Pit Top via LDP001 ranges between 12.72ML/d in 2014 and 18.66ML/d in 2022. Following cessation of mining at Springvale Mine, discharge to the Cocks River reduces to <1ML/d.

A regional water quality impact assessment has been prepared by RPS (2014c) as part of the Response to Submissions and that water quality model presents the impact to flow and salinity of each of these scenarios.

It is highlighted that the model predictions presented above were obtained from the detailed site water balance prepared in GoldSIM and therefore take into account both above-ground and underground water management infrastructure, including storages.

3. References

RPS, 2014a. *Springvale Mine Extension Project – Surface Water Impact Assessment*. Reference No. S188E/057c, dated 9 February 2014.

RPS, 2014b. *Springvale Mine Extension Project – Groundwater Impact Assessment*. Reference No. S188B/006d, dated 9 February 2014.

RPS, 2014c. *Regional Water Quality Impact Assessment*. Reference No. S187E/012b, dated 10 September 2014.

4. Closing

We trust this information is sufficient for your purposes, however should you require any further details or clarification, please do not hesitate to contact our office.

Yours sincerely
RPS Water

Justin

Dr Justin Bell
Principal Environmental Engineer

cc:
enc: