

Bulli Seam Operations (BSO) Independent Environmental Audit 2019 South32 Illawarra Metallurgical Coal (IMC) Action Response Table

Minister's Conditions of Approval PA 08_0150

Item No.	Assessment Requirement	Comment	Audit Classification	Response/Action	IMC Response December 2019
2.1	In addition to meeting the specific performance criteria established under this approval, the Proponent shall implement all reasonable and feasible measures to prevent and/or minimise any harm to the environment that may result from the construction, operation, or rehabilitation of the project.	The audit team observed inadequate storage of chemicals, oils and waste oil including bunds filled with water and other debris, bunds with insufficient capacity and drains to sumps blocked at the maintenance workshops, laydown areas and waste storage areas at Appin East and West. A bund, sump and oily water management procedure has been developed and it is understood a review of facilities has been conducted in accordance with the procedure. Actions are to be prioritised and implemented on a risk basis and capital availability.	Observation – Non Compliance	Implement the actions from the review.	IMC will continue to review and implement hydrocarbon and chemical facility improvement projects on the basis of risk and funding availability. Bunds will continue to be maintained on an ongoing basis.
2.12	The Proponent shall ensure that all the plant and equipment used on site is: (a) Maintained in a proper and efficient condition; and (b) Operated in a proper and efficient manner.	A SAP maintenance system is in place for preventative maintenance scheduling, execution and close out. A review of scheduled versus completed maintenance is done every Monday and rescheduling undertaken as necessary. Evidence of maintenance of subcontractor vehicles was also sighted by the auditor. New maintenance plans are being developed for bund checks, but have not yet been finalised and added to SAP. New metering at LDP24 is currently undergoing commissioning and will also need maintenance plans to be developed and added to SAP maintenance system. All personnel have access to system to add maintenance requests. The environment team conduct weekly and monthly inspections at Appin North, East and West. Inspections are recorded in	Observation - Compliant	Ensure maintenance plans and preventative maintenance schedules are set up in SAP for bund checks and new metering at LDP24.	SAP notifications have been set up for checking of bunds at Appin East, Appin West and the West Cliff Coal Preparation Plant. Notifications will be set up for checking of bunds at Appin North by 31 March 2020. SAP notifications will be set up for the maintenance of equipment at LDP24 by 31 March 2020.

		G360. The Environment Specialists can raise maintenance work orders directly from G360 during the inspection.			
3.9	<p>The Proponent shall prepare and implement a program to improve its prediction and understanding of subsidence impacts (in particular sub-surface impacts and impacts on groundwater resources), to the satisfaction of the Secretary. This program must be prepared in consultation with DRE and be submitted to the Secretary for approval by 30 September 2012 and must include proposals for:</p> <ul style="list-style-type: none"> (a) Testing (including core testing and in situ) to further define the mechanical, hydrogeological and geochemical properties of rock strata within each longwall domain, including: <ul style="list-style-type: none"> • Testing and validation of assumptions regarding regional continuity of modelled hydraulic properties (including mass porosity and permeability); • Identifying hydraulic properties of rock strata close to water-dependent ecosystems; and • Identifying the presence and distribution of iron-bearing minerals that might contribute to surface water quality impairment; (b) Installation of a regional network of deep pore pressure monitoring bores with vertical arrays of pore pressure transducers to assess and quantify the height and impacts of subsurface fracturing; (c) A census of boreholes which may be impacted by subsidence, the gathering of relevant borehole and groundwater quality data and a regular monitoring program; (d) Regular enhancement, calibration and verification of the project's regional groundwater model, and the further development of this model on a mining-domain scale; and (e) Regular recalibration of methodologies and models used for subsidence effect and impacts prediction, as they are applied within the project area. <p><i>Note: Results of this program are to be incorporated within subsequent Extraction Plans, including the subplans required under condition 5(g)-(l) above.</i></p>	<p>South32 advised that the Environmental Research Program (ERP) was submitted to the Department on 19 September 2012 but have not received approval to-date. The ERP has been implemented and Extraction Plans updated to include the results.</p>	Administrative Non Compliance	<p>Recommend to confirm with DPIE that the ERP is approved or confirm the actions necessary to obtain approval.</p>	<p>Correspondence will be submitted to DPIE requesting clarification on any actions necessary for approval of the Environmental Research Program by 31 March 2020.</p>
4.2	<p>From the end of December 2014, the Proponent shall ensure that the noise generated by the project does not exceed the criteria in Table 2 at any residence on privately-owned land or on more than 25 percent of any privately-owned land.</p> <p><i>Table2: Noise Criteria dB(A)</i></p>	<p>Attended noise monitoring is conducted on a quarterly basis. Since 2019 noise monitoring has been conducted by ERM, prior to which it was conducted internally.</p>	Non Compliance	<p>Continue to investigate sources of noise exceedances and implement corrective actions.</p>	<p>IMC will continue to investigate sources of noise exceedances and implement corrective</p>

Location		Day	Evening	Night	
Area	Receiver Number	LAeq (15min)	LAeq (15min)	LAeq (15min)	LA1 (1min)
Appin West Receivers south-west of Appin West	1-7, 9-11, 13, 184, 188-189	39	39	35	49
Appin West receivers near Hume Highway	185-187, 190	35	35	35	53
All other Appin West receivers	14, 26	45	45	35	53
	15-25, 27-48, 50-56	43	43	35	

Location		Day	Evening	Night	
Area	Receiver Number	LAeq (15min)	LAeq (15min)	LAeq (15min)	LA1 (1min)
Appin No. 3 receivers	58, 67, 71, 72	41	41	41	49
	68, 74, 75	40	40	40	
	69, 70, 76	39	39	39	
	217-218, 233, 279-282	35	35	35	
Appin No.1 and No.2 Receivers	82, 91, 216	42	42	42	50
	83, 85	41	41	41	
	78, 84, 86-90, 199	40	40	40	
	212-215, 226, 228-230, 232, 234, 235	35	35	35	

Noise levels were above the assessment criteria on three occasions during 2019. Exceedances of assessment criteria were recorded at Appin No. 1 & 2 in June and September and at Vent Shaft 6 in March 2019.

Investigations into the exceedances did not identify and significant issues with the vent fans however there is a plan to replace attenuators and inlet vanes to determine if that will resolve the issue. No regulatory action has been taken.

actions where appropriate.

	<table border="1"> <tr> <td data-bbox="203 172 324 405">Appin Township</td> <td data-bbox="324 172 459 256">136, 137, 139, 142, 143</td> <td data-bbox="459 172 557 256">44</td> <td data-bbox="557 172 667 256">44</td> <td data-bbox="667 172 770 256">44</td> <td data-bbox="770 172 862 256">52</td> </tr> <tr> <td></td> <td data-bbox="324 256 459 300">135</td> <td data-bbox="459 256 557 300">43</td> <td data-bbox="557 256 667 300">43</td> <td data-bbox="667 256 770 300">43</td> <td></td> </tr> <tr> <td></td> <td data-bbox="324 300 459 405">All other privately owned property</td> <td data-bbox="459 300 557 405">44</td> <td data-bbox="557 300 667 405">44</td> <td data-bbox="667 300 770 405">44</td> <td></td> </tr> <tr> <td data-bbox="203 405 324 517">Douglas Park</td> <td data-bbox="324 405 459 517">All privately owned residences</td> <td data-bbox="459 405 557 517">45</td> <td data-bbox="557 405 667 517">45</td> <td data-bbox="667 405 770 517">39</td> <td data-bbox="770 405 862 517">49</td> </tr> <tr> <td data-bbox="203 517 324 601">All other privately owned land (excluding receivers in Table 3)</td> <td></td> <td data-bbox="459 517 557 601">35</td> <td data-bbox="557 517 667 601">35</td> <td data-bbox="667 517 770 601">35</td> <td data-bbox="770 517 862 601">45</td> </tr> </table> <p>However, these criteria do not apply if the Proponent has a written agreement with the relevant landowner to exceed the criteria, and the Proponent has advised the Department in writing of the terms of this agreement.</p>	Appin Township	136, 137, 139, 142, 143	44	44	44	52		135	43	43	43			All other privately owned property	44	44	44		Douglas Park	All privately owned residences	45	45	39	49	All other privately owned land (excluding receivers in Table 3)		35	35	35	45				
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4.14	<p>The Proponent shall provide a compensatory water supply to any owner of privately-owned land whose water supply is adversely impacted (other than an impact that is negligible) as a result of the project, in accordance with the approved Surface Water Management Plan.</p> <p>The compensatory water supply measures must provide an alternative long-term supply of water that is equivalent to the loss attributed to the project. Equivalent water supply must be provided (at least on an interim basis) within 24 hours of the loss being identified.</p> <p>If the Proponent and the landowner cannot agree on the measures to be implemented, or there is a dispute about the implementation of these measures, then either party may refer the matter to the Secretary for resolution.</p> <p>If the Proponent is unable to provide an alternative long-term supply of water, then the Proponent shall provide alternative compensation to the satisfaction of the Secretary.</p>	<p>It is understood that BSO receive approximately half a dozen compensatory water requests per year. These have been historically handled through the subsidence advisory board. However, the new process is that the claims are now received directly by BSO.</p> <p>Short term solutions include a water truck taking water to affected landholders. Long term solutions can include new bore/s and drilling deeper at current bore.</p> <p>Claims are reviewed and tracked through the monthly Subsidence Review Meeting. Currently there is one case that has been referred to the Secretary for resolution and is currently with the department for consideration.</p>	Observation - Compliant	Ensure BSO continues to work with DPIE to resolve compensatory water dispute.	IMC will continue to work with DPIE to resolve compensatory water requests as applicable.																														
4.15	<p>The Proponent shall ensure that all surface water discharges from the site (including from the Brennans Creek Dam) comply with the discharge limits (both volume and quality) set for the project in any EPL.</p>	Refer to EPL P1.3, L2.4, L3.1	Non Compliance	Refer EPL Compliance.	IMC will continue to investigate any exceedances of water quality criteria as they occur and implement corrective actions where identified.																														

4.23A	<p>Prior to construction of the Appin East Mine Gas Safety Management Project, the Proponent shall:</p> <ul style="list-style-type: none"> (a) Undertake a dilapidation survey of the Upper Canal, in consultation with WaterNSW and the Heritage Division; (b) Prepare final detailed design plans in consultation with WaterNSW; and (c) Undertake vibration monitoring for all earthworks undertaken within 25 metres of the upper Canal, to the satisfaction of the Secretary. 	<p>Consultation of the modification for the pipeline was undertaken with OEH, but nothing specific was conducted with the Heritage Division. OEH made no comments on the Upper Canal in their submission on the MOD. No evidence of further OEH or Heritage Division consultation was provided. Historical Heritage assessment attached to the MOD states that there is only one heritage site at this location and that impacts to this would be minor and that no further heritage assessment is required prior to commencement of the works. Extensive consultation and communication was conducted with WaterNSW during 2017, including discussions in relation to the following:</p> <ul style="list-style-type: none"> • Dilapidation survey • Detail design plans • Vibration 	Administrative Non Compliance	No further action required – historic ANC	No further action
4.23B	<p>Following the completion of construction of the Appin East Mine Gas Safety Management Project, the Proponent shall:</p>	<p>Extensive consultation and communication was conducted with WaterNSW during 2017, including discussions in relation to the following:</p> <ul style="list-style-type: none"> • Dilapidation survey • Detail design plans • Vibration monitoring • Monitoring results and photos <p>No consultation with Heritage Division on completion of the pipeline was provided.</p>	Administrative Non Compliance	No further action required – historic ANC	No further action
4.28	<p>The Proponent shall:</p> <ul style="list-style-type: none"> (a) Minimise the waste (including coal reject) generated by the project; and (b) Ensure that the waste generated by the project is appropriately stored, handled and disposed of, to the satisfaction of the Secretary. 	<p>Two incidents were reported to the EPA related to issues of waste being inappropriately disposed at the site:</p> <ol style="list-style-type: none"> 1. Contents of reagent bund removed and placed at the slurry ponds 2. Oil separation pit cleaned out and disposed at Appin North pit top. <p>Following the incidents, the WMP has been reviewed but not yet updated. A procedure for bund, sump and oily water maintenance has been developed and includes requirements for inspection and</p>	Non Compliance	Ensure Waste Management Plan is updated and approved.	A review of the Waste Management Plan has been undertaken and opportunities for improvement have been identified. Additional review of the Plan is anticipated pending discussions with the EPA. The Plan will be submitted to DPIE for review by 31 December 2020.

		<p>maintenance and assessment of historic bunds for capacity.</p> <p>Waste is managed by Cleanaway and a new contract for Cleanaway to manage the area at Appin East and Appin West has recently been negotiated.</p> <p>Cleanaway will issue a notice if there is contamination of the waste streams. A Cleanaway representative is on site at Appin West full time and another representative will be shared between Appin East and north.</p>			
4.29	The Proponent shall prepare and implement a Waste Management Plan for the project to the satisfaction of the Secretary. This plan must be submitted to the Secretary by 30 September 2012.	BSO has reviewed the current Waste Management plan following recent incidents but has not yet updated the document.	Observation - Compliant	Ensure Waste Management Plan is updated and approved.	As above
6.1	<p>The Proponent shall prepare and implement an Environmental Management Strategy for the project to the satisfaction of the Secretary. This strategy must:</p> <p>(a) Be submitted to the Secretary for approval by 30 September 2012;</p> <p>(b) Provide the strategic framework for environmental management of the project;</p> <p>(c) Identify the statutory approvals that apply to the project;</p> <p>(d) Describe the role, responsibility, authority and accountability of all key personnel involved in the environmental management of the project;</p> <p>(e) Describe the procedures that would be implemented to:</p> <ul style="list-style-type: none"> • Keep the local community and relevant agencies informed about the operation and environmental performance of the project; • Receive, handle, respond to, and record complaints; • Resolve any disputes that may arise during the course of the project; • Respond to any non-compliance; • Respond to emergencies; and <p>(f) Include:</p> <ul style="list-style-type: none"> • Copies of any strategies, plans and programs approved under the conditions of this approval; and • A clear plan depicting all the monitoring required to be carried out under the conditions of this approval. 	The EMS doesn't include " <i>copies of any strategies, plans and programs approved under the conditions of this approval</i> " but does list all relevant plans and these are generally available online with the EMS	Administrative Non Compliance	Suggest request removal or reword of condition 6.1 (f) dot point 1	Administrative Review of Project Approval, including this item, to be submitted to DPIE by 30 June 2020.

6.5	<p>Within 3 months of:</p> <ul style="list-style-type: none"> (a) The submission of an annual review under Condition 4 above; (b) The submission of an incident report under Condition 7 below; (c) The submission of an audit report under Condition 9 below; and (d) Any modification to the conditions of this approval, (unless the conditions require otherwise), the Proponent shall review, and if necessary revise, the strategies, plans and programs required under this approval to the satisfaction of the Secretary. <p><i>NOTE: This is to ensure the strategies, plans and programs are updated on a regular basis, and incorporate any recommended measures to improve the environmental performance of the project.</i></p>	<p>Management plan reviews have generally been conducted on an annual basis however some reviews are overdue. Reviews have not been conducted following submission of incident reports. It is noted that BSO has developed a management plan review log and reviews are now being documented.</p>	Administrative Non Compliance	<p>Ensure management plans are reviewed and revised as required by this condition.</p>	<p>Management Plan Review Log in place and reviews will be undertaken as required.</p>
6.7	<p>The Proponent shall notify, at the earliest opportunity, the Secretary and any other relevant agencies of any incident that has caused, or threatens to cause, material harm to the environment. For any other incident associated with the project, the Proponent shall notify the Secretary and any other relevant agencies as soon as practicable after the Proponent becomes aware of the incident. Within 7 days of the date of the incident, the Proponent shall provide the Secretary and any relevant agencies with a detailed report on the incident, and such further reports as may be requested.</p>	<p>Ferric chloride discharge. Initial notification was to EPA hotline – refer to EPL for details. Letter to EPA (7 day report) was provided on 5/11. Incident occurred on the 18th October. DPIE was notified on Friday 19th October along with other agencies but was not provided with a report until 5 November.</p>	Administrative Non Compliance	<p>Ensure DPIE is provided with a written report within 7 days of the date of the incident.</p>	<p>DPIE will be provided a report within 7 days of any incident that has caused or threatened to cause material harm to the environment.</p>
6.10	<p>Within 6 weeks of the completion of this audit, or as otherwise agreed by the Secretary, the Proponent shall submit a copy of the audit report to the Secretary, together with its response to any recommendations contained in the audit report.</p>	<p>The last IEA Audit report was submitted on 27 March 2017, slightly later than the 6 week due-date of 7 March 2017. No evidence was provided that a response plan was submitted as required by the condition. An incorrect response plan is currently published online.</p>	Administrative Non Compliance	<p>No further action, historical ANC. Ensure response plan is developed and submitted with this IEA.</p>	<p>Correct response to recommendations for 2017 IEA is now online. Response to recommendations for 2019 IEA is this document.</p>

Environmental Protection Licence 2504

Item No.	Assessment Requirement	Comment	Audit Classification	Response/Action	IMC Response December 2019																								
L1.1	Except as may be expressly provided in any other condition of this licence, the licensee must comply with section 120 of the Protection of the Environment Operations Act 1997.	Non-compliances with water quality limits were reported to the EPA during the reporting period. Two Penalty notices were issued by the EPA in February 2019 for failing to maintain or operate equipment in a proper and efficient manner and for causing pollution of waters due to discharged of ferric chloride to the Georges River.	Non Compliance	No further action required.	No further action																								
L2.1	For each monitoring/discharge point or utilisation area specified in the table/s below (by a point number), the concentration of a pollutant discharged at that point, or applied to that area, must not exceed the concentration limits specified for that pollutant in the table.	Non-compliances with water quality limits were reported to the EPA during the reporting period. Two Penalty notices were issued by the EPA in February 2019 for failing to maintain or operate equipment in a proper and efficient manner and for causing pollution of waters due to discharged of ferric chloride to the Georges River.	Non Compliance	No further action required.	No further action																								
L2.4	Water and/or Land Concentration Limits:																												
	Point 3	Non-compliance with the concentration limits were reported to the EPA on three occasions during the reporting period. All events were investigated, and no further action taken.	Non Compliance	No further action required.	No further action																								
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pH	pH	6.5-8.5			6.0-9.0																								
	Point 22	Two exceedances of BOD above the 100 percentile concentration limit were reported during the audit period. The exceedances were investigated, and action taken where appropriate.	Non Compliance	No further action required	No further action																								
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Pollutant	Units of Measure	50 percentile concentration limit	90 percentile concentration limit	3DGM concentration limit	100 percentile concentration limit																								
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L3.1	<p>For each discharge point or utilisation area specified below (by a point number), the volume/mass of:</p> <p>a) Liquids discharged to water, or; b) Solids or liquids applied to the area;</p> <p>Must not exceed the volume/mass limit specified for that discharge point or area.</p> <table border="1"> <thead> <tr> <th>Point</th> <th>Units of Measure</th> <th>Volume/Mass Limit</th> </tr> </thead> <tbody> <tr> <td>18</td> <td>Kilolitres per day</td> <td>1000</td> </tr> <tr> <td>19</td> <td>Kilolitres per day</td> <td>2000</td> </tr> <tr> <td>22</td> <td>Kilolitres per day</td> <td>80</td> </tr> <tr> <td>24</td> <td>KL/month</td> <td>93000</td> </tr> <tr> <td>24</td> <td>Kilolitres per day</td> <td>4700</td> </tr> </tbody> </table>	Point	Units of Measure	Volume/Mass Limit	18	Kilolitres per day	1000	19	Kilolitres per day	2000	22	Kilolitres per day	80	24	KL/month	93000	24	Kilolitres per day	4700	One exceedance on Point 24 was reported during the audit period. The exceedance was investigated, and action taken where appropriate	Non Compliance	No further action required	No further action						
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O1.1	<p>Licensed activities must be carried out in a competent manner. This includes:</p> <p>a) The processing, handling, movement and storage of materials and substances used to carry out the activity; and b) The treatment, storage, processing, reprocessing, transport and disposal of waste generated by the activity.</p>	<p>A formal warning letter was issued by the EPA in March 2019 for failure to bund a flocculant tank at Appin North. A temporary bund was placed at the tank. The tank has since been decommissioned.</p> <p>The audit team observed potentially inadequate storage of chemicals, oils and waste oil including bunds filled with</p>	Non Compliance	Implement the actions of the review	IMC will continue to review and implement hydrocarbon and chemical facility improvement projects on the basis of risk and funding availability.																								

		<p>water and other debris, bunds with insufficient capacity and drains to sumps blocked by mud at the maintenance workshops, laydown areas and waste storage areas at Appin East and West. A bund, sump and oily water management procedure has been developed and it is understood a review of facilities has been conducted in accordance with the procedure. Actions are to be prioritised and implemented on a risk basis and capital availability.</p> <p>Two incidents were reported to the EPA related to issues of waste being inappropriately disposed at the site:</p> <ol style="list-style-type: none"> 1. Contents of reagent bund removed and placed at the slurry ponds 2. Oil separation pit cleaned out and disposed at Appin North pit top <p>No further action was taken by the EPA.</p>			<p>Bunds will continue to be maintained on an ongoing basis.</p>
<p>O2.1</p>	<p>All plant and equipment installed at the premises or used in connection with the licensed activity:</p> <ol style="list-style-type: none"> a) Must be maintained in a proper and efficient condition; and b) Must be operated in a proper and efficient manner 	<p>BSO reported a non-compliance with condition O2.1 relating to the discharge of ferric chloride into the Georges River in October 2018. The incident resulted from replacement of a pump taken out of service for maintenance with a pump that discharged at a higher rate and caused overdosing of the sediment dam at point 19.</p> <p>A SAP maintenance system is in place for preventative maintenance scheduling, execution and close out. A review of scheduled versus completed maintenance is done every Monday and rescheduling undertaken as necessary.</p> <p>Evidence of maintenance of subcontractor vehicles was also sighted by the auditor.</p> <p>New maintenance plans are being developed for bund checks, but have</p>	<p>Non Compliance</p>	<p>Ensure maintenance plans and preventative maintenance schedules are set up in SAP for bund checks and new metering at LDP24.</p>	<p>SAP notifications have been set up for checking of bunds at Appin East, Appin West and the West Cliff Coal Preparation Plant.</p> <p>Notifications will be set up for checking of bunds at Appin North by 31 March 2020.</p> <p>SAP notifications will be set up for the maintenance of equipment at LDP24 by 31 March 2020.</p>

		not yet been finalised and added to SAP. New metering at LDP24 is currently undergoing commissioning and will also need maintenance plans to be developed and added to SAP maintenance system											
M6.1	For each discharge point or utilisation area specified below, the licensee must monitor: a) The volume of liquids discharged to water or applied to the area; b) The mass of solids applied to the area; c) The mass of pollutants emitted to the air; At the frequency and using the method and units of measure, specified below.												
	Point 4 <table border="1"> <thead> <tr> <th>Frequency</th> <th>Unit of measure</th> <th>Sampling method</th> </tr> </thead> <tbody> <tr> <td>Continuous</td> <td>Kilolitres per day</td> <td>In line instrumentation</td> </tr> </tbody> </table>	Frequency	Unit of measure	Sampling method	Continuous	Kilolitres per day	In line instrumentation	Monitoring report indicates manual readings taken from January to December 2017 as flow meters were being replaced. EPA was not notified of the change of sampling method. Illawarra Coal now maintains a Correspondence Register to record all correspondence with regulators and it was sighted that issues with monitoring equipment was now being notified to the EPA.	Administrative Non Compliance	Ensure issues with sampling equipment are notified to the EPA.	EPA will be notified as required where there are any changes to the sampling method as specified in the EPL.		
Frequency	Unit of measure	Sampling method											
Continuous	Kilolitres per day	In line instrumentation											
	Point 19 <table border="1"> <thead> <tr> <th>Frequency</th> <th>Unit of Measure</th> <th>Sampling Method</th> </tr> </thead> <tbody> <tr> <td>Continuous during discharge</td> <td>Kilolitres per day</td> <td>In line instrumentation</td> </tr> </tbody> </table>	Frequency	Unit of Measure	Sampling Method	Continuous during discharge	Kilolitres per day	In line instrumentation	Monitoring report indicates manual readings taken from February to December 2017 as flow meters being replaced. Refer above	Administrative Non Compliance	Ensure issues with sampling equipment are notified to the EPA.	EPA will be notified as required where there are any changes to the sampling method as specified in the EPL.		
Frequency	Unit of Measure	Sampling Method											
Continuous during discharge	Kilolitres per day	In line instrumentation											
	Point 24 <table border="1"> <thead> <tr> <th>Frequency</th> <th>Unit of Measure</th> <th>Unit of Measure</th> <th>Sampling Method</th> </tr> </thead> <tbody> <tr> <td>Continuous during discharge</td> <td>Kilolitres per day</td> <td>KL/month per day</td> <td>Flow meter and continuous logger</td> </tr> </tbody> </table>	Frequency	Unit of Measure	Unit of Measure	Sampling Method	Continuous during discharge	Kilolitres per day	KL/month per day	Flow meter and continuous logger	Monitoring report indicates manual readings taken from January to December 2017 as flow meters being replaced. Refer above	Administrative Non Compliance	Ensure issues with sampling equipment are notified to the EPA.	EPA will be notified as required where there are any changes to the sampling method as specified in the EPL.
Frequency	Unit of Measure	Unit of Measure	Sampling Method										
Continuous during discharge	Kilolitres per day	KL/month per day	Flow meter and continuous logger										
R2.2	The licensee must provide written details of the notification to the EPA within 7 days of the date on which the incident occurred.	Refer to condition L1.1 re ferric chloride incident.	Administrative Non Compliance	Ensure notification is undertaken as required.	The EPA will be provided a report within 7 days of any								

	Note: The licensee or its employees must notify all relevant authorities of incidents causing or threatening material harm to the environment immediately after the person becomes aware of the incident in accordance with the requirements of Part 5.7 of the Act.	The incident occurred on 18/10 and the 7 day written notification was provided on 5/11.			incident that has caused or threatened to cause material harm to the environment.
U1.1	<p>AIM: The aim of this Environment Improvement Program (EIP) is to improve water quality and aquatic health in the Georges River downstream of licenced discharge point 10 (Brennans creek discharge).</p> <p>WORKS: The licensee must undertake its commitments to works and activities described in the latest controlled version of the document titled "Illawarra Coal, Bulli Seam Operations, Georges River Environmental Improvement Program". The latest version of the document must be displayed on the licensee's website. In addition to the reporting and consultation commitments in document, the licensee must submit a report to the EPA by the due date recommending licence limits for discharge point 10. DUE DATE: 31 December 2018 DUE DATE: 30 June 2019 Note: This EIP follows from Pollution Reduction Programs 19 and 20.</p>	<p>The EIP document is available on the company website. No report has been submitted for 2019. Reports for 2017 and 2018 reviewed. Monitoring of macroinvertebrates and ecotoxicity is continuing. BSO is in discussion with the EPA as to next steps to enable proposed discharge limits at Point 10 to be achieved. It is expected that another water filtration plant will be constructed at Appin North.</p>	Non Compliance	No further action – dependent on outcome of negotiation with EPA.	IMC is continuing to engage with the EPA on the project to improve water quality in the Georges River.

Consolidated Coal Leases 724 and 767

Item No.	Assessment Requirement	Comment	Audit Classification	Response/Action	IMC Response December 2019
2. CCL 724 and 767	<p>Environmental Harm</p> <p>a) The lease holder must implement all practicable measures to prevent and/or minimise any harm to the environment that may result from the construction, operation or rehabilitation of any activities under this lease.</p> <p>b) For the purposes of this condition:</p> <p>i. Environment means components of the earth, including:</p> <ul style="list-style-type: none"> • Land, air and water, and • Any layer of the atmosphere, and • Any organic or inorganic matter and any living organism, and • Human-made or modified structures and areas, and includes interacting natural ecosystems that include components referred to in paragraphs (A)-(C). <p>ii. Harm to the environment includes any direct or indirect alteration of the environment that has the effect of degrading the environment and, without limiting the generality of the above, includes any act or omission that results in pollution, contributes to the extinction or degradation of any threatened species, populations or ecological communities and their habitats and causes impacts to places, objects and features of significance to Aboriginal people.</p>	<p>Refer to CoA and EPL for air and water quality non-compliances. Erosion and sediment control was noted around construction works. Pit top areas run into stormwater management system.</p>	<p>Non Compliance</p>	<p>Refer to CoA and EPL for air and water quality non-compliances.</p>	<p>No further action.</p>

EPBC Approval 2010/5350

Item No.	Assessment Requirement	Comment	Audit Classification	Response/Action	IMC Response December 2019
5	<p>Shale Sandstone Transition Forest</p> <p>The person taking the action must provide to the Minister for approval within 1 year of the date of this approval, a plan for the management of the Shale / Sandstone Transition Forest offset. The approved Shale / Sandstone Transition Forest offset Management Plan (the Forest plan) must include but not be limited to:</p> <ul style="list-style-type: none"> a. Specific management measures to control weed species, pest animals, public access and otherwise manage the Shale / Sandstone Transition Forest offset so that the ecological condition of the Shale / Sandstone Transition Forest is maintained or enhanced to a higher condition than that being lost as a result of this action; i. This may be demonstrated through comparisons of floristic diversity and structure, vegetation health and/or percentage cover of introduced or weed plants; b. An outline of key milestones and performance objectives; c. Measures for annual monitoring of the ongoing quality (as measured against the ecological survey information referred to at Conditions 4 a) of the Shale / Sandstone Transition Forest Offset and the effectiveness of management actions. Reports containing the monitoring results must be submitted to the department within 30 days of every 12 month anniversary of the date the Shale / Sandstone Transition Forest offset is protected in perpetuity; and d. Corrective actions and contingency measures to be implemented should monitoring indicate a decrease in the quality of the Shale / Sandstone Transition Forest conservation offset. <p>The approved Forest plan must be implemented within 2 years of the date of this approval.</p>	<p>Approval of the original plan outside audit period.</p> <p>Monitoring Report 2017 (covering once a year monitoring in November 2016), submitted 23 March 2017</p> <p>Monitoring Report 2018 (covering monitoring October 2017 to June 2018 under BioBanking), submitted 31 May 2018.</p> <p>Monitoring Report 2019 (covering April 2018-May 2019 under BioBanking) submitted 9 August 2019</p> <p>The submission email for the 2018 monitoring Report was accompanied by a note explaining why this report was submitted later than "30 days every 12 month anniversary of the date the Offset is protected in perpetuity" as a requirement of Condition 5c (which therefore required submission by 2-3 March 2018). South32 had been holding off sending the report until they received the Departments decision to revise Condition 5 in May 2018. Submission of the 2017 and 2019 reports were also outside of the requirements of 5c and no explanations for the late submission were provided in the submission emails.</p> <p>It is noted that condition 5A states that "annual reporting required under that (BioBanking) scheme may be provided to the department in place of the reports containing monitoring results required under Condition 5C", thereby implying that the time of submission would also be according to the BioBanking scheme requirements, notwithstanding the final clause of this Condition 5c ("on the proviso that all measures specified in Condition 5 are covered").</p>	Administrative Non Compliance	It is recommended that confirmation be sought from the Department that the required timing for submission of monitoring report in Condition 5c be changed to that required under the BioBanking scheme.	Correspondence will be provided to DotEE requesting a revision to report submission dates by 30 June 2020.

		Monitoring reports provide evidence of corrective actions. Photographs of photo points are compared to 2017 photo points, indicating changes in quality.			
18	The audit must be conducted by a suitably qualified, experienced and independent team of experts whose appointment has been endorsed by the Minister.	The endorsement of the audit team was not received from the Minister prior to conducting the audit on 24 October 2019, but until 9 December 2019.	Administrative Non Compliance	No further action required.	No further action.

EPBC Approval 2010/5722

Item No.	Assessment Requirement	Comment	Audit Classification	Response/Action	IMC Response December 2019
3	<p>The person taking the action must submit a Vegetation Management plan to the Minister for approval. The plan must address the following requirements:</p> <ul style="list-style-type: none"> (a) Make reference to the Biodiversity Offset strategy as outlined in condition 2; (b) Measures to protect the population of <i>Pimelea spicata</i> found in the area proposed for protection through condition 2. These must: <ul style="list-style-type: none"> i. Monitor the <i>Pimelea spicata</i> population to determine the success of management or the need for intervention; ii. Include the establishment of thresholds that if reached would require intervention measures; and iii. Identify what further management measures must be implemented of a threshold is reached (c) Rehabilitate MZ2, MZ3 and MZ4 (Annexure B) using appropriate native species with input from a suitably qualified CPW expert; and (d) The plan must include key milestones, performance indicators, corrective actions and timeframes for the completion of all actions outlined in the plan for the life of the project. <p>The approved plan must be implemented. The person taking the action must not clear any CPW until the Minister approves the plan.</p>	Monitoring reports cover the offset area, but there is no evidence of monitoring or maintenance within rehabilitated vegetation within MZ2-4. During field inspection, it appeared that only the noise mitigation bund/wall had been planted with trees. Several areas were observed to be un-related (e.g. MZ 2 and parts of MZ 4) or exhibited rehabilitation failure, as evidenced by the numerous old plastic protective sleeves without plants growing within. Areas of weeds were also observed.	Non Compliance	Survey to be undertaken by a suitably qualified expert of plant density/composition/survival in rehabilitated zones, and corrective measures to be taken where required.	<p>Recommendation noted however IMC has a requirement to maintain an asset protection zone around the Ventilation Shaft 6 fan site.</p> <p>Weed control works will be undertaken as required.</p>

Noise Management Plan

Item No.	Assessment Requirement	Comment	Audit Classification	Response/Action	IMC Response December 2019
4.5	<p>The Proponent shall prepare and implement a Noise Management Plan for the project to the satisfaction of the Secretary.</p> <p>This plan must:</p> <ol style="list-style-type: none"> a) be prepared in consultation with EPA and WSC, and submitted to the Secretary for approval by 30 September 2012; b) include provisions to ensure that the road haulage fleet attains and maintains best practices in both equipment and operations; c) seek to minimise road traffic noise generated by employee commuter vehicles on public roads, particularly Douglas Park Drive and Macarthur Road; d) describe the measures that would be implemented to ensure compliance with the relevant conditions of this approval; e) outline procedures to manage responses to any complaints or issues raised by the owners of affected residences; and f) include a noise monitoring program that: <ul style="list-style-type: none"> • uses a combination of real-time and supplementary attended monitoring to evaluate the performance of the project; and • includes a protocol for determining exceedances of the relevant conditions of this approval. 	<p>It is understood the date of the NMP was updated by the document controller prior to publishing to the system – the actual date of the document pre-dates the Department approval.</p>	<p>Administrative Non Compliance</p>	<p>Ensure those responsible for publishing documents are aware that they are approved documents.</p>	<p>Document Controllers have been advised of this requirement.</p>

Air Quality & Greenhouse Management Plan

Item No.	Assessment Requirement	Comment	Audit Classification	Response/Action	IMC Response December 2019
4.12	<p>The Proponent shall prepare and implement a detailed Air Quality & Greenhouse Gas Management Plan for the project to the satisfaction of the Secretary. This plan must:</p> <ol style="list-style-type: none"> be prepared in consultation with EPA, and submitted to the Secretary for approval by 30 September 2012; describe the measures that would be implemented to ensure compliance with the relevant conditions of this approval, including consideration of applying a real-time air quality management system that employs both reactive and proactive mitigation measures; describe the measures that would be implemented to minimise the release of greenhouse gas emissions from the site; and include an air quality monitoring program that uses a combination of high volume samplers and dust deposition gauges to evaluate the performance of the project, and includes a protocol for determining exceedances with the relevant conditions of this approval. 	<p>Consultation was not undertaken in accordance with the condition when the plan was revised. It was advised that consultation for the plan was completed at the time the plan was originally developed. The Air Quality, Greenhouse Gas & Energy Management Plan contains a commitment to undertake routine sensory odour assessments however it was confirmed that these are no longer conducted.</p>	Administrative Non Compliance	<p>Ensure that revised management plans are provided to relevant stakeholders for consultation prior to submission for approval. The process for assessing odour should be reviewed and the plan updated accordingly.</p>	<p>Management Plans will be provided to relevant stakeholders and other regulatory agencies for review as required. It is noted that stakeholder consultation is a requirement when the management plan is first developed, and not a requirement of the condition for each review of management plans.</p> <p>Any odours identified during inspections by environmental personnel will be investigated. This will be reflected in the next review of the Air Quality and Greenhouse Gas Management Plan, to be completed by 31 December 2020.</p>

Surface Water Management Plan

Item No.	Assessment Requirement	Comment	Audit Classification	Response/Action	IMC Response December 2019
4.16	<p>The Proponent [must] update and implement the Surface Water Management Plan for the project to the satisfaction of the Secretary. This plan must be prepared in consultation with DPI Water and EPA by suitably qualified and experienced persons whose appointment has been endorsed by the Secretary, and submitted to the Secretary for approval by 31 January 2017. This plan must include:</p>	<p>The SWMP was approved by the secretary on 27 June 2018. The SWMP generally addresses the requirements of the condition, excluding the issues identified below.</p>	Administrative Non Compliance	<p>The SWMP needs to be updated to include potable water minimisation controls in SWMP.</p>	<p>There are significant changes planned to surface water management at Appin North in 2020.</p>

	<p>a) a comprehensive water balance for the project, that includes details of:</p> <ul style="list-style-type: none"> • sources and security of water supply and water make; • water use; and • water discharges; and <p>b) management plans for the surface facilities sites, that include:</p> <ul style="list-style-type: none"> • a detailed description of water management systems for each site, including: <ul style="list-style-type: none"> – clean water diversion systems; – erosion and sediment controls; and – any water storages; • measures to minimise potable water use and to reuse and recycle water; • a Water Response Plan, which describes the measures and/or procedures that would be implemented to: <ul style="list-style-type: none"> - investigate, notify and mitigate any ground or surface water exceedances; - minimise, prevent or offset any adverse impacts to ground or surface water resources; - provide compensatory water supply to any owner of privately-owned land whose water supply is adversely impacted (other than an impact that is negligible) as a result of the project; and • measures to comply with surface water discharge limits; • implementation of any pollution reduction program relating to mine water discharges from Brennans Creek Dam and identification of 5, 7 and 10 year commitments to substantially reduce the impacts on biota of salinity and other pollutants in such discharges; and • monitoring and reporting procedures including: <ul style="list-style-type: none"> – collection of baseline data on surface water quality in creeks and other waterbodies that could potentially be affected by the project; and – surface water and stream health impact assessment criteria. <p><i>Note: This plan must be suitably integrated with the Water Management Plans that form part of Extraction Plans.</i></p>	<p>The SWMP does not include a Water Response Plan however the plan refers to the relevant extraction and subsidence management plans which include Trigger Action Response Plans (TARP) for water impacts.</p> <p>Spill response procedures and emergency response plan were sighted by the auditor that address the requirements of a Water Response Plan, these are not captured in the SWMP and these documents are not referred to in the SWMP. Through discussions it is understood that in the event of a risk to impacting the surface water management system, BSO have the ability to interlock dams, and move water around site as needed, but this is not a documented process.</p> <p>Recently completed Appin North water movement/management figure has been completed. An opportunity to include this in the SWMP to demonstrate how surface water can be controlled around the site. Appin West also have a figure. Appin East doesn't have this plan.</p> <p>The SWMP does not adequately address "potable water minimisation controls". Controls are in place, such as the water filtration plant at Appin West, replaces Sydney Water use. Plans for Appin North to also have filtration plant that will also reduce need for Sydney Water use.</p> <p>The PRP relating to the semi-closed loop system for washery water is ongoing. Refer to EPL condition U1.1.</p>		<p>Update the SWMP to include details of interlocking of dams to control water.</p>	<p>These requirements will be incorporated in the next review of the Surface Water Management Plan by 31 December 2020.</p>
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West Cliff Coal Emplacement Management Plan

Item No.	Assessment Requirement	Comment	Audit Classification	Response/Action	IMC Response December 2019
4.17	<p>The Proponent shall prepare and implement a West Cliff Coal Wash Emplacement Area Management Plan for the project to the satisfaction of the Secretary. This plan must be prepared in consultation with OEH and be submitted to the Secretary for approval by the end of June 2013. This plan must include:</p> <ol style="list-style-type: none"> a) detailed design plans which include options for reducing, avoiding and/or managing impacts on Aboriginal heritage sites in and adjacent to the southwestern fringe of the proposed Stage 4 footprint (including sites 52-2-2228/3617, 52-2-1373, 52-2-3533/3613 and 52-2-3506); b) management strategies to ensure no impacts to Aboriginal heritage site 52-2-3505 other than negligible impacts, including consideration of potential staged development of the emplacement and/or buffer areas; c) management strategies for the protection and conservation of <i>Persoonia hirsuta</i>; d) management strategies for the protection and conservation of the Broad-headed Snake and the Southern Brown Bandicoot; e) a comprehensive water monitoring program for the emplacement; f) provide for progressive rehabilitation of the emplacement area, including through: <ul style="list-style-type: none"> • maximising opportunities for natural regeneration; • maximising retention of suitable habitat species; appropriate weed and pest control strategies; and • planting only endemic species in habitat mixes appropriate for soil, slope and aspect 	<p>As required by 4.17(a) and as stated in the WCCWEAMP, detailed design plans for Stage 4 are not included in the plan. It is understood that these plans are still being developed, as Stage 4 has yet to commence.</p> <p>As per figure Plan 5 – Cultural Heritage Plan site 52-2-3505 is currently proposed to be avoided, along with 52-2-2228/3617 and 52-2-3506.</p> <p>It is understood that the plan was submitted and approved by the Secretary in 2016. The plan was then submitted to the Federal Government for approval under EPBC and due to the length of time taken to review asked for the date to be updated to 2017. The revision number remained the same and no updates to the plan were made. The plan otherwise addresses the requirements of this condition.</p>	Observation - Compliant	Ensure that detailed design plans for Stage 4, when developed, are included in the WCCWEAMP.	Detailed design plans for Stage 4 will be included in the WCCWEAMP prior to commencing Stage 4.

Traffic Management Plan

Item No.	Assessment Requirement	Comment	Audit Classification	Response/Action	IMC Response December 2019
4.26	<p>The Proponent shall update the approved Traffic Management Plan for the project to the satisfaction of the Secretary. This plan must be:</p> <ul style="list-style-type: none"> a) prepared in consultation with the RMS, WCC, WSC and the CaCC; b) submitted to the Secretary for approval by 31 January 2017; c) propose an appropriate program and schedule of works for any intersection upgrades to be undertaken or contributed to by the Proponent over the life of the project, including an upgrade of the intersection of West Cliff Mine Access Road and Appin Road that is generally in accordance with the requirements of the RMS and that is to be completed before the Level of Service at this intersection drops below LOS C; and include strategies to manage construction traffic, including road closure protocols, community consultation and measures to avoid potential road safety conflicts with other road users. 	<p>The TMP was approved by the Secretary on 26 July 2018. It was advised that consultation for the plan was completed at the time the plan was originally developed. No material changes were made to the 2017 update and the plan was approved without request for further consultation.</p> <p>The TMP does not include a/any schedule of works for intersection upgrades. States <i>"The program and schedule of upgrade works for the intersection will be prepared by RMS"</i>, and it is understood that no intersection works were undertaken for the period, none proposed currently.</p> <p>The plan does not include details of the upgrade of the intersection of West Cliff Mine Access Road and Appin Road. This work was completed prior to the audit period, and therefore no longer relevant. It is suggested this condition is updated to remove this requirement.</p> <p>The TMP does not adequately address construction traffic requirements. It was advised this is generally captured by a construction management plan developed for any relevant construction activities.</p>	Observation - Compliant	<p>Suggested that condition 4.26 is updated to remove the requirement around details for upgrade <i>"of the intersection of West Cliff Mine Access Road and Appin Road"</i>, as this has been completed and is no longer relevant.</p> <p>Suggest TMP is updated to include a commitment to develop and detail construction traffic requirements for each construction project.</p>	<p>These requirements will be incorporated in the next review of the Traffic Management Plan by 31 December 2020.</p>