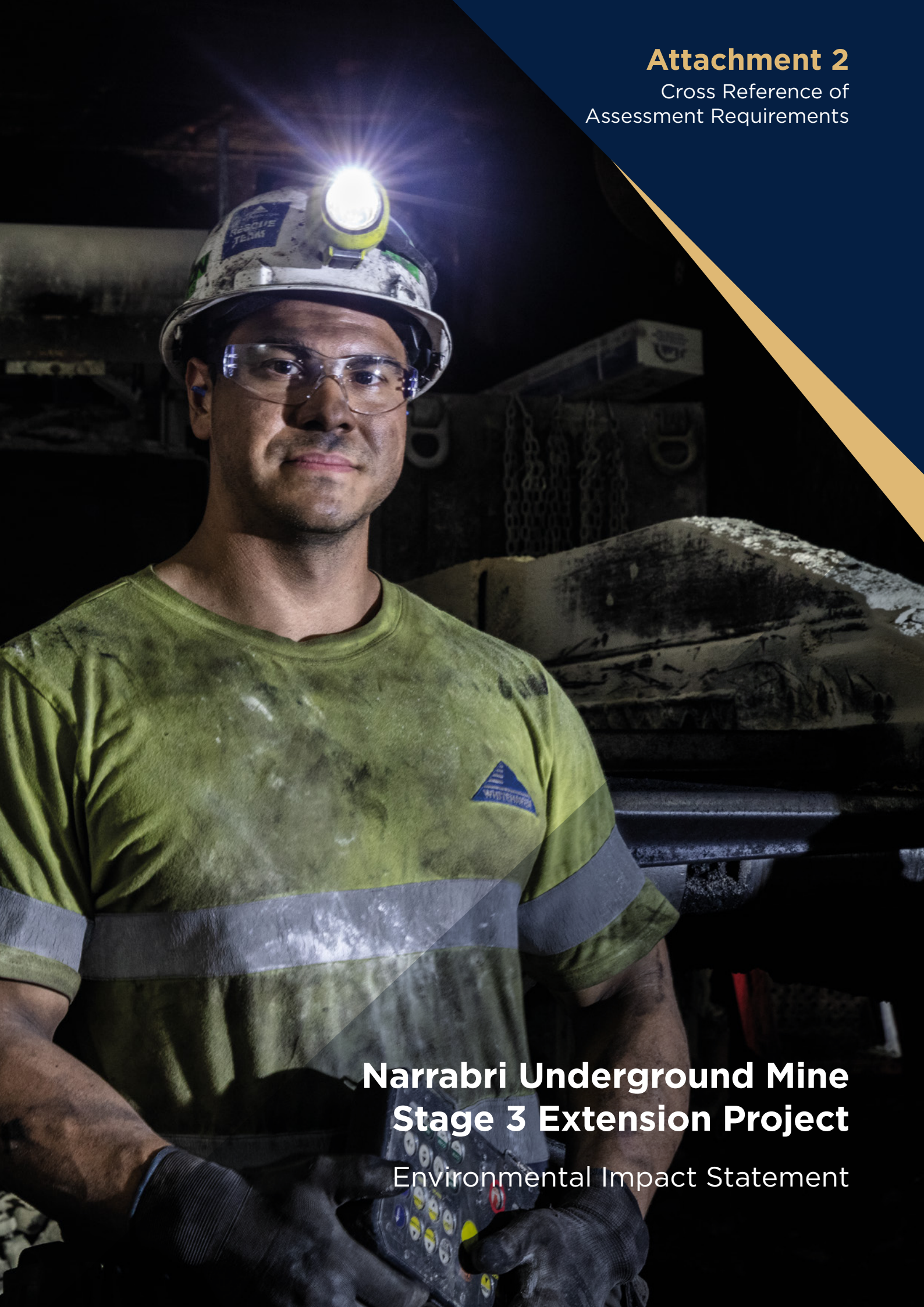


Attachment 2

Cross Reference of
Assessment Requirements



Narrabri Underground Mine Stage 3 Extension Project

Environmental Impact Statement

Table A2-1
Secretary's Environmental Assessment Requirements – EIS Reference Summary

Assessment Requirement	EIS Reference
General Requirements	
The Environmental Impact Statement (EIS) for the development must comply with the requirements in Clauses 6 and 7 of Schedule 2 of the <i>Environmental Planning and Assessment Regulation 2000</i> . In particular, the EIS must include:	
<ul style="list-style-type: none"> ▪ consideration of alternatives, including the development of a mine plan which avoids impacts on key sensitive surface features, and the 'do nothing' option; 	Sections 7.2 and 7.4
<ul style="list-style-type: none"> ▪ a full description of the development, including: <ul style="list-style-type: none"> – historical mining operations at the mine and in the region; 	Sections 2.1 and 3.3
<ul style="list-style-type: none"> – details of the resource to be extracted (size and quality), demonstrating efficient resource recovery within environmental constraints; 	Sections 2.3, 2.6, 7.2 and 7.4; Appendices A, B
<ul style="list-style-type: none"> – the mine layout and development scheduling; 	Sections 2.4 and 2.6
<ul style="list-style-type: none"> – coal production rates (run-of-mine and product); 	Section 2.6.3
<ul style="list-style-type: none"> – coal processing and transportation; 	Sections 2.7 and 2.8
<ul style="list-style-type: none"> – surface infrastructure and facilities (including any infrastructure that would be required for the development, but the subject of a separate approvals process); 	Section 2.11
<ul style="list-style-type: none"> – workforce requirements during all phases of the development (on a full-time equivalent basis); 	Section 2.16
<ul style="list-style-type: none"> – surface disturbance footprint; 	Sections 2.1 and 2.5
<ul style="list-style-type: none"> – a waste (overburden, course rejects, tailings, brine etc.) management strategy; 	Section 2.12
<ul style="list-style-type: none"> – a water management strategy; 	Section 2.10; Appendices B and C
<ul style="list-style-type: none"> – a rehabilitation strategy; 	Sections 2.14, 6.7; Attachment 5; Appendix D
<ul style="list-style-type: none"> – a landscape management plan, dealing with the Mining & Petroleum Gateway Panel's requirements (see Attachment 4); and 	Section 8 of Appendix G
<ul style="list-style-type: none"> – the likely interactions between the proposed development and the approved Narrabri Coal Mine, including the incremental and cumulative impacts of the extension and any other existing, approved or proposed mining-related and petroleum development in the vicinity of the site (including any relevant statutory approvals, environmental management regime relating to these operations); 	Sections 2 and 3.3
<ul style="list-style-type: none"> ▪ a list of any approvals that must be obtained before the development may commence; 	Section 4; Attachment 7
<ul style="list-style-type: none"> ▪ a risk assessment of the potential environmental impacts of the development, identifying key assessment issues; 	Section 6.1; Appendix O
<ul style="list-style-type: none"> ▪ an assessment of the likely impacts of the development on the environment, noting that under Section 4.63 of the <i>Environmental Planning and Assessment Act 1979</i>, the likely impacts of the continued development of approved aspects of the project do not need to be reassessed. This assessment must focus on the specific issues identified below, including: <ul style="list-style-type: none"> – a description of the existing environment likely to be affected by the development, using sufficient baseline data; 	Section 6
<ul style="list-style-type: none"> – an assessment of the likely impacts of all stages of the development, including appropriate worst-case scenarios and consideration of any cumulative impacts and taking into consideration any relevant legislation, environmental planning instruments, guidelines, policies, plans and industry codes of practice; 	Section 6
<ul style="list-style-type: none"> – a description of the measures that would be implemented to mitigate and/or offset the likely impacts of the development, and an assessment of: <ul style="list-style-type: none"> ▪ whether these measures are consistent with industry best practice, and represent the full range of reasonable and feasible mitigation measures that could be implemented; 	Section 6

Assessment Requirement	EIS Reference
<ul style="list-style-type: none"> ▪ the likely effectiveness of these measures, including performance measures where relevant; and 	Section 6
<ul style="list-style-type: none"> ▪ whether contingency plans would be necessary to manage any residual risks; and 	Sections 6
<ul style="list-style-type: none"> – a description of the measures that would be implemented to monitor and report on the environmental performance of the development if it is approved; 	Attachment 4
<ul style="list-style-type: none"> ▪ consideration of the development against all relevant environmental planning instruments (including Part 3 of the <i>State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007</i>); 	Section 4.2; Attachment 7
<ul style="list-style-type: none"> ▪ a consolidated summary of all the proposed environmental management and monitoring measures, identifying all the commitments in the EIS; 	Attachment 4
<ul style="list-style-type: none"> ▪ the reasons why the development should be approved, having regard to: <ul style="list-style-type: none"> – relevant matters for consideration under the <i>Environmental Planning and Assessment Act 1979</i>, including the objects of the Act; 	Sections 4 and 7.3; Attachment 7
<ul style="list-style-type: none"> – the biophysical, economic and social impacts of the development, including the principles of ecologically sustainable development; 	Sections 6.6, 6.7, 6.15, 6.16 and 7.4; Appendices G, K, and L
<ul style="list-style-type: none"> – the suitability of the site with respect to potential land use conflicts with existing and future surrounding land uses; and 	Sections 3.1, 3.2, 3.3, 6.6 and 7.1; Appendix G
<ul style="list-style-type: none"> – feasible alternatives to the development (and its key components), including the consequences of not carrying out the development; 	Sections 7.2 and 7.4
<ul style="list-style-type: none"> ▪ a conclusion evaluating the merits of the project as a whole, having regard to the requirements in Section 4.15 of the <i>Environmental Planning and Assessment Act 1979</i>; and 	Sections 7.4 and 7.5
<ul style="list-style-type: none"> ▪ a signed statement from the author of the EIS, certifying that the information contained within the document is neither false nor misleading. 	Front of EIS
While not exhaustive, Attachment 1 contains a list of some of the environmental planning instruments, guidelines, policies, and plans that may be relevant to the environmental assessment of this development.	Noted
In addition to the matters set out in Schedule 1 of the <i>Environmental Planning and Assessment Regulation 2000</i> , the development application must be accompanied by a signed report from a suitably qualified and experienced person that includes an accurate estimate of the capital investment value (as defined in Clause 3 of the <i>Environmental Planning and Assessment Regulation 2000</i>) of the development, including details of all the assumptions and components from which the capital investment value calculation is derived.	Attachment 8
Specific Issues	
The EIS must address the following specific issues:	
<ul style="list-style-type: none"> ▪ Subsidence – including an assessment of the likely conventional and non-conventional subsidence effects and impacts of the development, and the potential consequences of these effects and impacts on the natural and built environment, paying particular attention to those features that are considered to have significant economic, social, cultural or environmental value, taking into consideration: <ul style="list-style-type: none"> – recorded regional and historic subsidence levels, impacts and environmental consequences; 	Sections 6.3.2; Appendix A
<ul style="list-style-type: none"> – the potential extent of fracturing of the strata above the longwall panels; and 	Sections 6.3.3 and 6.4.3; Appendices A and B
<ul style="list-style-type: none"> – the implementation of a comprehensive subsidence monitoring program which is capable of detecting vertical, horizontal and far-field subsidence movements; 	Sections 6.3.4 and 6.3.5; Appendix A
<ul style="list-style-type: none"> ▪ Land – including: <ul style="list-style-type: none"> – an assessment of the likely agricultural impacts of the development including preparation of an Agricultural Impact Statement, prepared in accordance with DPI’s <i>Agricultural Impact Statement: Technical Notes</i>; 	Section 6.6.3; Appendix G, M and N
<ul style="list-style-type: none"> – an assessment of the likely impacts of the development on the soils and land capability of the site and surrounds, paying particular attention to any Biophysical Strategic Agricultural Land (BSAL) and having regard to the Mining & Petroleum Gateway Panel’s requirements (see Attachment 4); 	Section 6.6.3; Appendix G

Assessment Requirement	EIS Reference
<ul style="list-style-type: none"> - an assessment of the likely impact of the development on landforms (topography), including: <ul style="list-style-type: none"> ▪ the potential subsidence impacts on cliffs, rock formations and steep slopes; and ▪ the long term geotechnical stability of any new landforms; 	<p>Section 6.6.3; Appendix A</p> <p>Section 2.9.4</p>
<ul style="list-style-type: none"> - an assessment of the compatibility of the development with other land uses in the vicinity of the development in accordance with the requirements of Clause 12 of <i>State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007</i> 	Section 4.2; Attachment 7
<ul style="list-style-type: none"> ▪ Water – including: <ul style="list-style-type: none"> - an assessment of the likely impacts of the development on the quantity and quality of the region’s surface and groundwater resources, having regard to the Mining & Petroleum Gateway Panel’s requirements (see Attachment 4) and (Commonwealth) Department of Environment and Energy requirements under the <i>Environment Protection and Biodiversity Conservation Act 1999</i> (see Attachment 3); 	Sections 6.4.3, 6.4.4, 6.5.3 and 6.5.4; Appendices B and C
<ul style="list-style-type: none"> - an assessment of the likely impacts of the development on aquifers, watercourses, riparian land, groundwater dependent ecosystems, water-related infrastructure, and other water users; 	Sections 6.4.3, 6.5.3 and 6.7.3; Appendices B, C and D
<ul style="list-style-type: none"> - an assessment of potential flooding and ponding impacts of the development; 	Sections 5.2.1, 6.3.3, 6.5.2 and 6.7.3; Appendices A, C and D
<ul style="list-style-type: none"> - a detailed site water balance, including a description of site water demands, water disposal methods (including the location, volume, and frequency of any water discharges and management of discharge water quality), water supply arrangements, water supply and transfer infrastructure and water storage structures; and 	Sections 2.10 and 6.5.3; Appendix C
<ul style="list-style-type: none"> - a detailed description of the proposed water management system (including sewerage), beneficial water re-use program and all other proposed measures to monitor and mitigate surface water and groundwater impacts; 	Sections 2.10.1, 2.12.4, 6.4.4, 6.5.3 and 6.5.4; Appendices B and C
<ul style="list-style-type: none"> ▪ Biodiversity – including: <ul style="list-style-type: none"> - an assessment of the biodiversity values and the likely biodiversity impacts of the project in accordance with Section 7.9 of the <i>Biodiversity Conservation Act 2016</i> (NSW), the Biodiversity Assessment Method (BAM) and documented in a Biodiversity Development Assessment Report (BDAR), unless OEH and DPE determine that the proposed development is not likely to have any significant impacts on biodiversity values; 	Sections 6.7.2, 6.7.3 and 6.7.6; Appendix D
<ul style="list-style-type: none"> - the BDAR must document the application of the avoid, minimise and offset framework including assessing all direct, indirect and prescribed impacts in accordance with the BAM; 	Sections 6.7.3, 6.7.4 and 6.7.6; Appendix D
<ul style="list-style-type: none"> - assessment of the likely impacts of the development on listed threatened species and communities under the <i>Environment Protection and Biodiversity Conservation Act 1999</i> (see Attachment 3); 	Sections 6.7.3 and 6.7.6; Appendix D
<ul style="list-style-type: none"> ▪ Heritage – including an assessment of the likely Aboriginal and historic heritage (cultural and archaeological) impacts of the development; 	Sections 6.11.3 and 6.12.3; Appendices E and F
<ul style="list-style-type: none"> ▪ Noise and Vibration– including: <ul style="list-style-type: none"> - an assessment of the likely noise impacts of the development under the <i>NSW Noise Policy for Industry</i> and the <i>Voluntary Land Acquisition and Mitigation Policy</i> (DP&E); 	Section 6.8.4; Appendix H
<ul style="list-style-type: none"> - if a claim is made for specific construction noise criteria for certain activities, then this claim must be justified and accompanied by an assessment of the likely construction noise impacts of these activities under the <i>Interim Construction Noise Guideline</i>; 	Section 6.8.4; Appendix H
<ul style="list-style-type: none"> - an assessment of the likely road noise impacts of the development under the <i>NSW Road Noise Policy</i>; 	Section 6.14.3; Appendix H
<ul style="list-style-type: none"> - an assessment of the likely rail noise impacts of the project under the <i>Rail Infrastructure Noise Guidelines</i>; 	Section 6.14.3; Appendix H
<ul style="list-style-type: none"> - an assessment of the potential vibration and low frequency noise impacts of the development; 	Sections 6.8.4 and 6.14.3; Appendix H

Assessment Requirement	EIS Reference
<ul style="list-style-type: none"> ▪ Air – including: <ul style="list-style-type: none"> – an assessment of the likely air quality impacts of the development in accordance with the <i>Approved Methods and Guidance for the Modelling and Assessment of Air Pollutants in NSW</i>; and 	Section 6.9.4; Appendix I
<ul style="list-style-type: none"> – an assessment of the likely greenhouse gas impacts of the development; 	Sections 6.17 and 7.4; Appendix I
<ul style="list-style-type: none"> ▪ Transport – including an assessment of the likely transport impacts of the development on the capacity, condition, safety and efficiency of the local and State road network and the rail network; 	Section 6.13.3; Appendix J
<ul style="list-style-type: none"> ▪ Visual and Light – including an assessment of the likely visual impacts of the development on private landowners in the vicinity of the development and key vantage points in the public domain, paying particular attention to the creation of any new landforms and minimising the lighting impacts of the development, with particular consideration of the impacts on the Siding Springs Observatory; 	Section 6.10.3
<ul style="list-style-type: none"> ▪ Hazards - including an assessment of the likely risks to public safety, paying particular attention to potential subsidence risks, bushfire risks, and the handling and use of any dangerous goods; 	Sections 2.13, 6.3.3, 6.18.2 and 6.18.3; Appendices A and P
<ul style="list-style-type: none"> ▪ Social – including: <ul style="list-style-type: none"> – an assessment of the social impacts of the project, prepared in accordance with the <i>Social Impact Assessment Guideline for State Significant Mining, Petroleum Production and Extractive Industry Development (2017)</i>, including the likely impacts of the development on the local community, cumulative impacts (considering other mining developments in the locality), and consideration of workforce accommodation; 	Section 6.16.3; Appendix K
<ul style="list-style-type: none"> ▪ Economic – including an assessment of the likely economic impacts of the development, paying particular attention to: <ul style="list-style-type: none"> – the significance of the resource; 	Section 2.3; Appendix L
<ul style="list-style-type: none"> – economic benefits of the project for the State and region; and 	Section 6.15.3; Appendix L
<ul style="list-style-type: none"> – the demand for the provision of local infrastructure and services; 	Section 6.16.3; Appendix K
<ul style="list-style-type: none"> ▪ Rehabilitation and Final Landform – including: <ul style="list-style-type: none"> – a conceptual final landform design; 	Attachment 5
<ul style="list-style-type: none"> – an assessment of the likely impacts of the development on existing landforms and topography, including justification of the final landform design and its long-term geotechnical stability; 	Section 6.3.3; Attachment 5; Appendix A
<ul style="list-style-type: none"> – a detailed description of the progressive rehabilitation measures that would be implemented for the development and how this rehabilitation would integrate with the final landform of the mine; 	Attachment 5
<ul style="list-style-type: none"> – a detailed description of the proposed rehabilitation and mine closure strategies for the development, including rehabilitation objectives, performance standards and completion criteria; 	Attachment 5
<ul style="list-style-type: none"> – decommissioning and management of surface infrastructure; and 	Attachment 5
<ul style="list-style-type: none"> – nominated final land uses, having regard to any relevant strategic land use planning or resource management plans or policies; and 	Attachment 5
<ul style="list-style-type: none"> ▪ Waste – including identification, quantification and classification of the likely waste streams likely to be generated (including tailings and course rejects) during construction and operation, and describe the measures to be implemented to manage, reuse, recycle and safely dispose of this waste. 	Section 2.12
Consultation	
During the preparation of the EIS, you must consult with relevant local, State or Commonwealth Government authorities, service providers, community groups and affected landowners. The EIS must describe the consultation that was carried out, identify the issues raised during this consultation, and explain how these issues have been addressed in the EIS.	Section 5

**Table A2-2
 Commonwealth Department of Agriculture, Water and the Environment Assessment Requirements – EIS Reference
 Summary**

Assessment Requirement	EIS Reference
<p>3. The Applicant must undertake an assessment of all protected matters that may be impacted by the development under the controlling provisions identified in paragraph 1. The DoEE considers that the proposed action is likely to have a significant impact on the following:</p> <ul style="list-style-type: none"> i. listed threatened species and communities (sections 18 and 18A): <ul style="list-style-type: none"> a) White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland - Critically Endangered; b) Koala (<i>Phascolarctos cinereus</i>) – Vulnerable; c) Pilliga Mouse (<i>Pseudomys pilligaensis</i>) – Vulnerable; d) South-eastern Long-eared Bat (<i>Nyctophilus corbeni</i>) – Vulnerable; e) <i>Tylophora linearis</i> (a vine) – Endangered; and f) <i>Bertya opposens</i> (a shrub) – Vulnerable. ii. a water resource, in relation to coal seam gas development and large coal mining development (sections 24D and 24E): <ul style="list-style-type: none"> a) the proposed action is likely to result in changes to groundwater and surface water. 	<p>Sections 6.7.3 and 6.7.6; Sections 8.1.2 and 9 of Appendix D</p> <p>Appendices B and C</p>
<p>4. Based on DoEE's Environment Reporting Tool and information provided by the Species Profiles and Threats Database (SPRAT), DoEE also considers that the proposed action may result in significant impacts to the following species:</p> <ul style="list-style-type: none"> a) Regent Honeyeater (<i>Anthochaera phrygia</i>) - Critically Endangered; b) Superb Parrot (<i>Polytelis swainsonii</i>) – Vulnerable; and c) Large-eared Pied Bat (<i>Chalinolobus dwyeri</i>) – Vulnerable. <p>These species require further assessment, surveys and analysis to determine whether they are likely to be significantly impacted. Note that this may not be a complete list and it is the responsibility of the Applicant to ensure any protected matters under this controlling provision are assessed for the Commonwealth decision-makers consideration.</p>	<p>Sections 6.7.3 and 6.7.6; Sections 8.1.3 and 9 of Appendix D</p>
<p>5. The Applicant must consider each of the protected matters under the triggered controlling provisions that may be impacted by the action. Note that this may not be a complete list and it is the responsibility of the Applicant to undertake an analysis of the significance of the relevant impacts and ensure that all protected matters that are likely to be significantly impacted are assessed for the Commonwealth Minister's consideration.</p>	<p>Sections 8 and 9 of Appendix D</p>
General Requirements	
Relevant Regulations	
<p>6. The Environmental Impact Statement (EIS) must address the matters outlined in Schedule 4 of the EPBC Regulations and the matters outlined below in relation to the controlling provisions.</p>	<p>Section 6.7; Appendix D</p>
Project Description	
<p>7. The title of the action, background to the action of the action and current status.</p>	<p>Section 2</p>
<p>8. The precise location and description of all works to be undertaken (including associated offsite works and infrastructure), structures to be built or elements of the action that may have impacts on MNES.</p>	<p>Section 6.7; Appendix D</p>
<p>9. How the action relates to any other actions that have been, or are being taken in the region affected by the action.</p>	<p>Sections 2 and 3.3</p>
<p>10. How the works are to be undertaken and design parameters for those aspects of the structures or elements of the action that may have relevant impacts on MNES.</p>	<p>Section 6.7; Appendix D</p>

Assessment Requirement	EIS Reference
Impacts	
11. The EIS must include an assessment of the relevant impacts ¹ of the action on the matters protected by the controlling provisions, including: <ul style="list-style-type: none"> i. a description and detailed assessment of the nature and extent of the likely direct, indirect and consequential impacts, including short term and long term relevant impacts; ii. a statement whether any relevant impacts are likely to be unknown, unpredictable or irreversible; iii. analysis of the significance of the relevant impacts; and iv. any technical data and other information used or needed to make a detailed assessment of the relevant impacts. 	Sections 6.4, 6.5 and 6.7; Appendices B, C and D
Avoidance, Mitigation and Offsetting	
12. For <u>each</u> of the relevant matters protected that are likely to be significantly impacted by the action, the EIS must provide information on proposed avoidance and mitigation measures to manage the relevant impacts of the action including: <ul style="list-style-type: none"> i. a description, and an assessment of the expected or predicted effectiveness of the mitigation measures, ii. any statutory policy basis for the mitigation measures; iii. the cost of the mitigation measures; iv. an outline of an environmental management plan that sets out the framework for continuing management, mitigation and monitoring programs for the relevant impacts of the action, including any provisions for independent environmental auditing; v. the name of the agency responsible for endorsing or approving each mitigation measure or monitoring program. 	Sections 6.4, 6.5 and 6.7; Appendices B, C and D
13. Where a significant residual adverse impact to a relevant protected matter is considered likely the EIS must provide information on the proposed offset strategy, including discussion of the conservation benefit associated with the proposed offset strategy.	Section 6.7.6; Section 10 of Appendix D
14. For each of the relevant matters likely to be impacted by the action the EIS must provide reference to, and consideration of, relevant Commonwealth guidelines and policy statements including any: <ul style="list-style-type: none"> i. conservation advice or recovery plan for the species or community, ii. relevant threat abatement plan for a process that threatens the species or community iii. wildlife conservation plan for the species iv. any strategic assessment. [Note: the relevant guidelines and policy statements for each species and community are available from the Department of the Environment Species Profiles and Threats Database. http://www.environment.gov.au/cgi-bin/sprat/public/sprat.pl]	Sections 6.4, 6.5 and 6.7; Appendices B, C and D
Key Issues	
Biodiversity (threatened species and communities and migratory species)	
<i>Comments</i>	
15. The significant impacts associated with the proposed action on threatened species relate to the removal of native vegetation, fragmentation of the remaining native vegetation (and subsequent indirect impacts), as well as subsidence. These impacts must be appropriately offset for EPBC Act purposes.	Sections 6.7.3 and 6.7.6; Appendix D
<i>Assessment Requirements</i>	
For each of the EPBC Act listed species predicted to occur in the project site, and each of the EPBC Act listed ecological communities likely to be significantly impacted, the EIS must provide:	
16. Survey results, including details of the scope, timing and methodology for studies or surveys used and how they are consistent with (or justification for divergence from) published Commonwealth guidelines and policy statements and/or the relevant NSW offsetting method.	Section 6.7.2; Attachments B and C of Appendix D

¹ Relevant impacts are those impacts likely to significantly impact on any matter protected under the EPBC Act

Assessment Requirement	EIS Reference
17. A description and quantification of habitat in the study area (including suitable breeding habitat, suitable foraging habitat, important populations and habitat critical for survival), with consideration of, and reference to, any relevant Commonwealth guidelines and policy statements including listing advices, conservation advices, recovery plans, and threat abatement plans.	Appendix D
18. Maps displaying the above information (specific to each EPBC protected matter) overlaid with the proposed action. It is acceptable, where possible, to use the mapping and assessment of Plant Community Types (PCTs) and the species surveys prescribed by the BAM as the basis for identifying EPBC Act-listed species and communities. The EIS must clearly identify which PCTs are considered to align with habitat for the relevant EPBC Act listed species or community, and provide individual maps for each species or community.	Appendix D
19. Description of the nature, geographic extent, magnitude, timing and duration of any likely direct, indirect and consequential impacts on any relevant EPBC Act listed species and communities. It must clearly identify the location and quantify the extent of all impact areas to each relevant EPBC Act listed species or community.	Section 6.7.3; Appendix D
<p>Water resource, in relation to coal seam gas development and large coal mining development</p> <p><i>Comments</i></p> <p>20. To date, the Applicant has provided preliminary hydrological information that is insufficient for an adequate assessment of the impacts of the proposed action on water resources, however the Department considers key impacts to water resources are likely to arise from altered surface hydrology and quality as well as increased groundwater drawdown. The Department understands that the Applicant will provide detailed water modelling as part of the EIS which will allow a detailed assessment of the potential impacts of the proposed action on water resources be undertaken. A joint Request for Advice (RFA) from the Independent Expert Scientific Committee on Coal Seam Gas and Large Coal Mining Development (IESC) will need to be developed for this project.</p>	
<p><i>Assessment Requirement</i></p> <p>The EIS must include a detailed water assessment. The water assessment must be undertaken in accordance with the IESC Information Guidelines (http://iesc.erlvirurlrnerll.yov.ClU/publiGClions/information-guidelines-independent-expertsscientific-committee-advice-coal-seam-gas) and provide the information outlined in these guidelines including:</p> <p><u>Improved groundwater modelling</u></p>	
21. Include a refined groundwater model that uses a wider variety of parameters and predictions to enable clarification of potential drawdown impacts and revise, accordingly, the assessment of impacts on both the Upper Namoi Alluvium and the Namoi River.	Appendix B
22. Include a groundwater model that has been integrated with the subsidence model to provide an improved understanding of impacts on surface water and alluvium.	Appendix B
23. Address the issues identified in Paragraph 3 of the IESC 2019-102: Narrabri Underground Mine Stage 3 Extension Project (Narrabri Mine Extension) (State Ref No 9882) - Expansion, February 2019 (IESC advice) in regards to further information and refinements to the groundwater model.	Appendix B
<p><u>Analysing potential impacts to groundwater dependent ecosystems (GDEs)</u></p>	
24. Confirm the distribution of GOE ² s in the region and the depth to groundwater in areas of potential GDE's.	Section 5.7 of Appendix B; Section 6.2.22 of Appendix D
25. Conduct a detailed cumulative impact assessment of potential risks to groundwater and surface water ecosystems of the Namoi River catchment that may be impacted by the project.	Section 7 of Appendix B; Sections 8.3 and 8.7 of Appendix C
26. Include an assessment of GOEs as outlined in Paragraph 18 of the IESC advice.	Section 7.6.2 of Appendix B
<p><u>Improved surface water modelling</u></p>	
27. The EIS should provide surface water modelling which considers water loss from surface waters due to groundwater drawdown, cracking and ponding.	Sections 7 and 8 of Appendix C
28. Include a surface water assessment in accordance with Paragraph 17 of the IESC advice. Include a quantitative site-specific water balance modelling approach as per the recommendations provided in Paragraph 14 of the IESC advice.	Appendix C

² GOE assumed to refer to groundwater dependent ecosystems (GDE).

Assessment Requirement	EIS Reference										
<p><u>Comprehensive and detailed monitoring</u></p> <p>29. The EIS should derive site-specific water quality guidelines and provide more information on how they plan to monitor impacts. For example, the parameters and frequency of monitoring should be detailed.</p>	Section 9.3 of Appendix C										
<p>30. The groundwater monitoring network should be expanded to include locations to the west and south of the project.</p>	Section 6.4.4; Attachment 4; Appendix B										
<p><i>EPBC Act and NSW EP&A Project Differences</i></p> <p><i>Comments</i></p> <p>31. It is noted the project referred under the EPBC Act differs to the project seeking approval (works not already approved) under the NSW Environment Planning and Assessment Act 1979 (EP&A Act). The table below outlines the key components of the EPBC Act action.</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center;">Action Component</th> <th style="text-align: center;">EPBC Act Action</th> </tr> </thead> <tbody> <tr> <td>Total run of mine (ROM) coal production</td> <td>192 million tonnes (mt)</td> </tr> <tr> <td>Extraction rate</td> <td>11 mt per annum (pa)</td> </tr> <tr> <td>Project footprint</td> <td>Approximately 5,425 ha Includes the entire length of the longwall panels 203-210</td> </tr> <tr> <td>Surface infrastructure</td> <td>Development of additional surface infrastructure associated with mine ventilation and gas management, and other ancillary infrastructure above, and adjacent to, Longwalls 203 to 210 (see Appendix B)</td> </tr> </tbody> </table>	Action Component	EPBC Act Action	Total run of mine (ROM) coal production	192 million tonnes (mt)	Extraction rate	11 mt per annum (pa)	Project footprint	Approximately 5,425 ha Includes the entire length of the longwall panels 203-210	Surface infrastructure	Development of additional surface infrastructure associated with mine ventilation and gas management, and other ancillary infrastructure above, and adjacent to, Longwalls 203 to 210 (see Appendix B)	<p>Section 2.6.3</p> <p>Section 2.2</p> <p>Section 2.2</p> <p>Section 2.2</p>
Action Component	EPBC Act Action										
Total run of mine (ROM) coal production	192 million tonnes (mt)										
Extraction rate	11 mt per annum (pa)										
Project footprint	Approximately 5,425 ha Includes the entire length of the longwall panels 203-210										
Surface infrastructure	Development of additional surface infrastructure associated with mine ventilation and gas management, and other ancillary infrastructure above, and adjacent to, Longwalls 203 to 210 (see Appendix B)										
<p><i>Other approvals and conditions</i></p> <p>32. Information in relation to any other approvals or conditions required must include the information prescribed in Schedule 4 Clause 5 (a) (b) (c) and (d) of the EPBC Regulations 2000.</p>	Section 6.7; Appendix D										
<p><i>Environmental Record of person proposing to take the action</i></p> <p>33. Information in relation to the environmental record of a person proposing to take the action must include details as prescribed in Schedule 4 Clause 6 of the EPBC Regulations 2000.</p>	A7.4.9 of Attachment 7										
<p><i>Information Sources</i></p> <p>34. For information given in an EIS, the EIS must state the source of the information, how recent the information is, how the reliability of the information was tested; and what uncertainties (if any) are in the information.</p>	Noted										

**Table A2-3
 Conditional Gateway Certificate (Schedule 2) – EIS Reference Summary**

Criteria	Condition	Recommendations	EIS Reference
17H4(a)(i)	The Gateway Panel considers that the underground longwall mining will disturb the soil surface with cracking and subsidence of up to 2.8 meters (<i>sic</i>).	The panel requires a landscape management plan to be prepared as part of the EIS detailing how surface cracking and altered drainage patterns will be managed as subsidence occurs. This plan must include detailed mapping of potential BSAL currently not verified.	Appendix G
17H4(a)(ii)	The Gateway Panel considers that underground longwall mining and subsequent subsidence could affect BSAL soil drainage and therefore rooting depth.	The panel requires a landscape management plan to be prepared as part of the EIS detailing how altered drainage patterns resulting in soil saturation for extended periods will be managed as subsidence occurs.	Appendix G
17H4(a)(iii)	The Gateway Panel considers that underground longwall mining and subsequent subsidence will significantly affect soil micro-relief.	The panel requires within the EIS landscape management plan a documented procedure for managing the altered micro-relief resulting from subsidence within the current agricultural production systems.	Appendix G
17H4(a)(iv)	The Gateway Panel recognises that the groundwater modelling work completed to date is adequate for this early stage of assessment of water impacts under the Aquifer interference policy.	The Panel requires more geological detail and baseline data acquisition in any upgraded groundwater model that is to be used in an EIS. Also, any future groundwater flow modelling should include cumulative impact studies of the nearby (proposed) Santos Coal Seam Gas Project. Additional studies are required to more fully identify and evaluate cracking formed from the effects of mining and the possible loss of water in ephemeral streams due to surface cracking.	Appendix B
17H4(a)(vi)	The Gateway Panel notes that significant verified BSAL will be covered by mine surface infrastructure for the duration of mining.	The panel requires a detailed plan for the storage of BSAL topsoil removed for surface infrastructure development and its subsequent re-establishment in the mine rehabilitation process at the end of mine life.	Appendix G