

Statement of Reasons for approval under the *Environment Protection and Biodiversity Conservation Act 1999*

1. I, Kate Gowland, Branch Head, Environment Assessments (NSW/ACT), delegate of the Minister for the Environment and Water (**Minister**), provide the following statement of reasons for my decision dated 24 September 2024 to approve, under subsection 130(1) and section 133 of the *Environment Protection and Biodiversity Conservation Act 1999* (Cth) (**EPBC Act**), Narrabri Coal Operations Pty Ltd's (the **proponent**) 'Narrabri Underground Mine Stage 3 Extension Project' (EPBC 2019/8427) (**proposed action**).

LEGISLATION

2. Relevant legislative extracts are at **Annexure A**.

BACKGROUND

3. The proponent is the operator of the **Narrabri Mine**, an existing underground coal mine located approximately 25 kilometres (km) south-east of Narrabri and approximately 60 km north-west of Gunnedah. The Narrabri Mine is operated by the proponent on behalf of the Narrabri Mine Joint Venture, which consists of the following:
- Whitehaven Coal Limited's wholly owned subsidiary Narrabri Coal Pty Ltd (70 per cent)
 - Upper Horn Investments (Australia) Pty Ltd (7.5 per cent)
 - J-Power Australia Pty Ltd (7.5 per cent)
 - EDF Trading Australia Pty Ltd (7.5 per cent)
 - Posco Daewoo Narrabri Investment Pty Ltd and Kores Narrabri Pty Ltd (7.5 per cent shared)
4. Narrabri Mine is an existing underground coal mine located within the Narrabri Shire Local Government Area, in the North West Slopes and Plains region of NSW. The mine currently employs around 520 workers. Coal mining, using bord and pillar extraction methods, commenced in 2010. In June 2012, Stage 2 of the existing mine commenced and involved extracting coal through longwall mining methods. The current mine approval (Stage 2), which was approved in January 2011 (2009/5003) (**existing approval**), allows for the production and processing of up to 11 million tonnes per annum (Mtpa) of ROM coal until 26 July 2031. ROM coal is processed at the mine site to produce thermal coal and smaller quantities of pulverised coal injection (PCI) coal.

Referral and the proposed action

5. On 5 April 2019, the Department of Climate Change, Energy Environment and Water (**department**)¹ received a valid referral from the proponent (**referral**).
6. The proposed action involves:
- total run of mine (**ROM**) coal production of 192 million tonnes (mt)
 - extraction of up to 11 million tonnes per annum (mtpa) of thermal coal

¹ For the purposes of these reasons, the 'department' refers to the Department of Climate Change, Energy Environment and Water, and any of its predecessors.

- longwall mining in a southern extension of the existing underground mining area, including an extension to Longwalls 203 to 209 (previously Longwalls 112 to 118 for the Narrabri Mine Stage 2 Longwall Project) and mining of an additional longwall panel (Longwall 210)
 - development of underground roadways within the Hoskissons Seam and adjacent strata to access mining areas in Longwalls 203 to 210
 - use of existing/approved roadways and drifts for personnel and materials access, ventilation, dewatering and other ancillary activities
 - development of additional surface infrastructure associated with mine ventilation and gas management, and other ancillary infrastructure above, and adjacent to, Longwalls 203 to 210
 - transport of product coal from site by the existing rail infrastructure
 - use of the existing/approved Namoi River water pipeline, sumps, pumps, pipelines, water storages and other water management infrastructure
 - progressive development of additional sumps, pumps, pipelines and other water management infrastructure
 - employment of the existing residentially based workforce
 - monitoring, rehabilitation and remediation of subsidence and other mining effects, and
 - other associated minor infrastructure, plant, equipment and activities.
7. The proposed action involves the continued use of existing underground and surface infrastructure, including use of the existing Coal Handling and Preparation Plant (**CHPP**) at its approved 11 Mtpa capacity. While the proponent currently has approval to mine until 2031, it is seeking approval for Stage 3 now as it would allow it to efficiently change the extraction sequence for the southern set of longwall panels by mining longer panels.
8. The referral was published on the department's website on 8 April 2019 and comments were invited until 24 April 2019. No public submissions were received. A number of Commonwealth Ministers were invited to comment on the referral, with one response being received from the Hon Matt Canavan, the then Minister for Resources and Northern Australia, stating that his department supports the sustainable development of coal, and that Geoscience Australia identified a number of impacts to groundwater dependant ecosystems and cumulative impacts from surrounding activities.

Controlled Action Decision

9. On 30 September 2019, a delegate of the Minister determined under section 75 of the EPBC Act that the proposed action was a controlled action due to likely significant impacts on listed threatened species and communities (sections 18 & 18A) and a water resource in relation to coal seam gas or large coal mining developments (sections 24D & 24E). On the same date, it was confirmed that the proposed action would be assessed in accordance with the Bilateral Agreement with New South Wales, namely, it would be assessed under the *Environment Planning and Assessment Act 1979* (NSW) (**EP & A Act**).

Assessment

State Assessment Report

10. On or around 23 October 2020, the proponent provided the now Department of Planning, Housing and Infrastructure (**DPHI**) with the Environment Impact Statement (**EIS**) for the proposed action.

11. On 30 October 2020, DPHI and the department requested that the Independent Expert Scientific Committee on Coal Seam Gas and Large Coal Mining Development (**IESC**) provide advice on the proposed action, specifically in relation to:
 - a. confidence in predictions of impacts on groundwater resources provided in the EIS, groundwater inflows, drawdowns in aquifers and potential impacts on private bores and groundwater dependent ecosystems
 - b. assumptions made in the EIS regarding the subsidence effects on the groundwater hydraulic model parameters
 - c. exclusion of open cut coal mines located to the south-west of the proposed action in the cumulative impact assessment
 - d. assessment of brine re-injection into the underground goaf area on long term groundwater quality.

12. Between 5 November 2020 and 16 December 2020, DPHI publicly exhibited the EIS, and comments/submissions were invited. In total 81 submissions were received, comprising 67 public submissions and 14 submissions from government agencies. Of the 67 public submissions, the SAR stated:

63 (94%) submissions expressing support for the Project, including 61 from public submissions and 2 from special interest groups;

3 (4.5%) submissions objecting to the Project, all from special interest groups; and

1 (1.5%) submission from a special interest group providing comments on the Project

None of the government agencies objected to the proposed action.

13. The key issues raised by the comments/submissions were reflected in the following graph from the SAR:

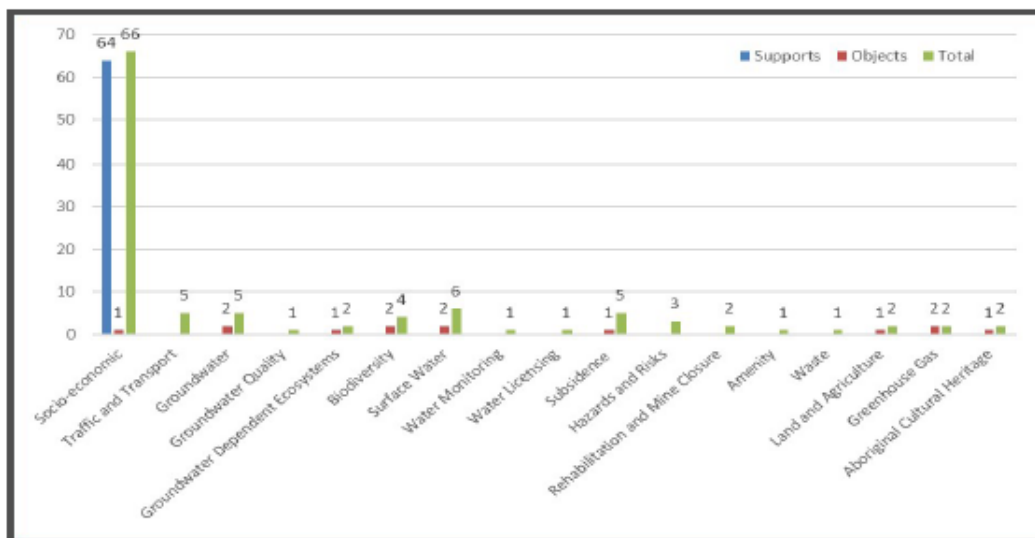


Figure 4 | Frequency of Issues Raised in All Public and Agency Submissions (Source: Submissions Report)

14. On 15 December 2020, the IESC provided its advice to DPHI.
15. On 31 May 2021, the proponent lodged its 'Submissions Report' which responded to the public submissions/comments, and other issues identified by DPHI. The Submissions Report indicated that the overall 'indicative Surface Development Footprint' would be reduced from 643.8 ha to 612.8 ha (a

reduction of 30 ha), and there would be a relocation of some proposed surface infrastructure to reduce by 2.3 ha impacts on the threatened flora species *Bertya opposens*.

16. On 19 January 2022, DPHI furnished a (State) Assessment Report (**SAR**). The SAR concluded that:

The Department has carefully weighed the environmental impacts of the Project against the significance of the Project's identified coal resources and the socio-economic benefits associated with continued operation of the Narrabri Mine for a further 13 years (from 2031 until 2044). On balance, the Department believes that the Project's benefits significantly outweigh its residual costs, and that it is in the public interest and is approvable, subject to the recommended conditions.

17. That same day (19 January 2022), DPE referred the proposed action to the Independent Planning Commission (**IPC**) for determination.

Independent Planning Commission

18. As part of the IPC's consideration of the proposed action, all persons were offered the opportunity to make written submissions to the IPC. The IPC received a total of 1,775 written submissions. By way of breakdown, the IPC recorded that 552 submissions supported the proposed action, 1,205 objected to the proposed action and there were 18 comments which were generally in support of the project, with a focus on ensuring effective mitigation measures and ongoing consultation. The IPC stated

... The majority of submissions to the Commission relate to three key topics, namely, global warming and fossil fuels (27.4%), mine impacts (31.3%) and economy and socioeconomic impacts (33.9%).

The Commission observes that the majority of objections were made in relation to global warming and fossil fuel impacts (Topic A) and mine impacts (Topic B) while the majority of support for the Application was in relation to economy and socioeconomic issues (Topic E)...

19. The IPC sought further public comment on additional information received, including information on GHG emissions and climate change and further information addressing questions relating to social impacts, water impacts, economic benefits and costs, subsidence and make good provisions. Public comments were accepted between 1 March 2022 and 8 March 2022. A total of 47 submissions were received, including 43 objections, 3 submissions in support and 1 comment. Key concerns raised in submissions:

- which objected to the proposed action, included Greenhouse Gas (**GHG**) emissions, including fugitive emissions, and the general concern regarding anthropogenic climate change, impacts on groundwater and aquifers, impacts on biodiversity and agriculture from subsidence and critique of the economic benefits the proposed action could provide;
- which supported the proposed action, were that the additional material did not change the view to support the proposed action, noting water contamination and GHG emissions can be carefully managed.

20. On 1 April 2022, the IPC determined that development consent would be granted for the proposed (**development consent**). In its Executive Summary, the IPC stated:

After consideration of the material and having taken into account the views of the community, the Commission has determined that development consent should be granted for the Application, subject to conditions. The Commission finds that the Application is consistent with the Objects of the Environmental Planning & Assessment Act 1979 and would achieve an appropriate balance between relevant environmental, economic and social considerations, with the likely benefits of the Project warranting the conclusion that an appropriately conditioned approval is in the public interest.

The Commission has imposed strict conditions on its development consent which seek to prevent, minimise and/or offset adverse impacts and to ensure ongoing monitoring and appropriate site management.

DPHI Recommendation

21. On 20 April 2022, DPHI notified the department that the NSW assessment had been completed and the IPC had approved the proposed action under Part 4 of the EP&A Act. DPHI stated that:

The Department concludes that the likely impacts of the proposed action on MNES would not be unacceptable, provided the action is undertaken in a manner consistent with the avoidance, mitigation and offset measures proposed by the proponent and outlined in the conditions of development consent.

Conditions B25 to B38 of the consent provide an effective, reasonable and achievable method to manage and mitigate the likely impacts on water resources.

Conditions B39 to B46 would protect EPBC Act listed threatened species and communities by ensuring impacts to identified listed species and ecological communities are avoided to the greatest extent possible, and where avoidance is not possible, these conditions provide a mechanism to secure biodiversity offsets.

Further details of the reasons for these conditions are discussed in the Planning Secretary's Environmental Assessment Report and the Commission's SoR.

An existing EPBC approval (EPBC 2009/5003) is included in the footprint of the Project and in some instances overlaps with the Project's proposed action (EPBC 2019/8427). The Department notes that the scope of EPBC 2019/8427 specifically excludes the existing approved activities under EPBC 2009/5003, which was also the subject of previous assessment and approval under the Narrabri Stage 2 project approval 08_0144.

For proposals that include the voluntary surrender of a development consent for the continuation of a new development, the Department (under s. 4.63 of the Act) is not required to re-assess the likely impacts of the continued development. As such, the approved activities under EPBC 2009/5003 have been excluded from the Department's assessment. However, the avoidance, mitigation and offsetting requirements of the existing approval have been incorporated into a consolidated consent. Further, impacts on water resources have been assessed on a cumulative impact basis, for example the cumulative impacts of drawdown on baseflow and groundwater dependent ecosystems from the mine complex as a whole, that is the approved mine and the mine extension, has been incorporated into the groundwater impact assessment.

On this basis, the Department recommends that the action should be approved by the Commonwealth Minister for the Environment. The Department considers that this recommendation is consistent with Clause 7 of the Bilateral Agreement.

22. DPHI recommended that the Minister should approve the action, subject to conditions.

Reconsideration request

23. On 8 July 2022, Environmental Justice Australia (**EJA**) submitted a reconsideration request, on behalf of the Environment Council of Central Queensland Inc (**ECCQ**), on the basis of the availability of substantial new information. EJA stated that the information provided with the request demonstrated that the proposed action will or is likely to have significant physical effects on a number of Matters of National Environmental Significance (**MNES**) because of the GHG emissions associated with the proposed action. It contended that, if the proposed action goes ahead, there is a real (as opposed to remote) chance that GHG emissions from the proposed action will result in physical effects of climate change (fire, ocean heatwaves and acidification, drought, rainfall extremes and flooding) and the proposed action will have, or is likely to have, a significant impact on a number of MNES.

24. On 11 May 2023, the Minister determined that the information in the request was not about the impacts of the proposed action within the meaning of s 572E of the EPBC Act.
25. ECCQ sought review of the reconsideration in the Federal Court and on appeal. Those proceedings were finally determined on 8 August 2024.

Proposed decision

26. On 5 September 2024, I made a proposed decision to approve the proposed action. That same day, in accordance with s 131AA of the EPBC Act, I wrote to the proponent and the following Ministers inviting comment on my proposed decision:
 - a. the Minister for Indigenous Australians, Senator the Hon. Linda Burney
 - b. the Minister for Climate Change and Energy, the Hon. Chris Bowen MP
 - c. Minister for Resources and Minister for Northern Australia, the Hon. Madeleine King MP
 - d. the Minister for Agriculture, Fisheries and Forestry, the Hon. Senator Murray Watt
 - e. the Minister for Infrastructure, Transport, Regional Development and Local Government, the Hon. Catherine King MP
 - f. the Minister for Defence, the Hon. Richard Marles MP
27. I also notified the NSW Minister for Planning and Public Spaces, the Hon. Paul Scully MP.

Proponent Comments

28. On 9 September 2024, the proponent made comments regarding clarifications of proposed conditions, and alignment with the development consent. In summary:
 - a. minor changes were requested to the proposed conditions to align with the development consent;
 - b. it was requested that condition 12 be amended to require submission of the Water Management Plan within 5 business days of the date of this approval, if the Water Management Plan had already been approved by the NSW Planning Secretary; and
 - c. maps for the proposed action area and species habitat areas were replaced with updated maps provided by the proponent with redundant layers (phases and existing/approved Stage 2 mining disturbance layers) removed.
29. The department also conferred with the proponent regarding an amendment to the definition of 'sensitive ecological data', in the proposed conditions. The proponent had no issue with this amendment.

Ministerial Comments

30. No comments were received by, or on behalf of, the Minister for Defence, the Minister for Climate Change and Energy or the Minister for Infrastructure, Transport, Regional Development and Local Government.
31. On 13 September 2024, the National Indigenous Australians Agency (**NIAA**) responded to the invitation to comment on behalf of the Minister for Indigenous Australians. The NIAA had provided general comments to assist the proponent in their ongoing engagement with Traditional Owners and other First Nations stakeholders, and in relation to social and economic matters.

32. On 17 September 2024, the Department of Agriculture, Fisheries and Forestry responded on behalf of the Minister for Agriculture, Fisheries and Forestry, and recommended:
- a. the proponent actively engage with surrounding landholders to understand their priorities and address any concerns about minimising impacts on agriculture, local air quality and local water resources;
 - b. the conditions of approval should include measures to protect the natural capital and resource base upon which agriculture depends; and Indigenous cultural heritage.
33. On 20 September 2024, Geoscience Australia (GA) responded to the invitation to comment on behalf of the Minister for Resources and Minister for Northern Australia. GA noted that groundwater dependent ecosystem (GDE) performances measures will be used to determine if an impact greater than those impacts predicted in the assessment documentation has occurred, and noted there can be considerable time lags before mine related impacts to water resources are realised as impacts to GDEs.

Approval decision

34. On 24 September 2024, I made the decision to approve the proposed action, with conditions.

EVIDENCE OR OTHER MATERIAL ON WHICH MY FINDINGS WERE BASED

35. My decision under subsection 130(1) and section 133 of the EPBC Act to approve the taking of the proposed action is based on consideration of the final approval decision brief prepared by the department dated 23 September 2024, and all of its attachments (**decision brief**). A full list of the attachments to the decision brief is set out at **Annexure B** to this statement.
36. I agreed with the department that the documents set out in Annexure B provide sufficient information for me to decide whether or not to approve the proposed action.

FINDINGS ON MATERIAL QUESTIONS OF FACT

37. In deciding whether to approve the proposed action, I have considered all impacts that the proposed action would have or was likely to have on each matter protected by the controlling provisions for the proposed action (being sections 18 and 18A, and 24D and 24E of the EPBC Act). My findings on these controlling provisions are set out below.

Listed threatened species and communities (section 18 and 18A)

38. The controlled action decision determined sections 18 and 18A to be controlling provisions for the proposed action on the basis that the proposed action was likely to result in a significant impact on the following EPBC Act listed species and communities:
- a. White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland – critically endangered
 - b. Koala (*Phascolarctos cinereus*) (Combined populations of Qld, NSW and the ACT) – vulnerable
 - c. Pilliga Mouse (*Pseudomys pilligaensis*) – vulnerable
 - d. South-eastern Long-eared Bat (*Nyctophilus corbeni*) – vulnerable
 - e. *Tylophora linearis* (a vine) – endangered
 - f. *Bertya opposens* (a shrub) – vulnerable

39. In addition, at the time of the referral, the delegate for the Minister considered that the following EPBC listed threatened species might be impacted by the proposed action:

- a. Regent Honeyeater (*Anthochaera phrygia*) – critically endangered
- b. Superb Parrot (*Polytelis swainsonii*) – vulnerable
- c. Large-eared Pied Bat (*Chalinolobus dwyeri*) – vulnerable

40. I noted that, since the referral, the following species and communities had been recorded in the proposed action area:

- a. Poplar Box Grassy Woodland on Alluvial Plains (Poplar Box Woodland) - endangered
- b. Spiny Peppercross (*Lepidium aschersonii*) - vulnerable
- c. Painted Honeyeater (*Grantiella picta*) - vulnerable

41. I consider these species and communities individually at [49]-[210] below.

General Impacts

42. Before considering the impacts on the species and communities, I noted that the department provided a general overview of impacts, which had been set out in the proponents Biodiversity Assessment Report (**BDAR**) and considered through the assessment process.

43. In particular, by way of direct impacts:

- the total amount of direct clearing required for the proposed action is approximately 1,226 ha;
- the 1,226 ha total includes 616.4 ha of previously approved surface disturbance associated with the initial approval;
- the final area of additional surface disturbance associated with the proposed action is approximately 609.5 ha, with around 546.7 ha classified as native vegetation (comprising approximately 421.6 ha of woodland and 125.1 ha of derived native grassland); and
- clearing will occur progressively over the 23-year mine life, before and during the mining of each longwall.

44. By way of indirect impacts, namely from edge effects, these included:

- transport of weeds and pathogens from the proposed action area to adjacent vegetation, which will degrade native vegetation and may impact adjacent threatened species habitat
- increased incursion of pest species, potentially impacting habitat quality
- increased risk of predation on threatened fauna from feral animals
- fragmentation resulting in reduced connectivity of different areas of habitat for listed threatened species
- reduced quality of adjacent habitat for listed threatened species, due to increased noise, dust and light spill generated from the proposed action
- increased risk of fire due to the use of flares in a bushfire-prone environment.

45. The SAR provided a detailed consideration of subsidence impacts, noting:

Mine subsidence is the movement of the ground following the extraction of coal underground. There are 'conventional subsidence effects' and 'non-conventional subsidence effects', which can lead to

'subsidence impacts' on the both the surface (including natural features like watercourses or built features) and subsurface (including groundwater and interactions with surface water).

Given the nature and scale of coal extraction proposed in this Project, there are likely to be subsidence impacts on landscape features, groundwater, surface water and heritage features

46. The SAR concluded:

The proposed longwalls for this Project would be some of the longest (10 km) and widest (400 m) underground panels in Australia. This leads to relatively high levels of subsidence, and a highly fractured zone above the mine workings. However, connective fracturing is generally not a major concern given the semi-arid climate, the nature of the surface environment and the subsurface geology.

47. The overall area of native vegetation requiring offsetting as a result of indirect impacts due to mine subsidence was assessed in the BDAR as totalling 70 ha; with 53.5 ha predicted to be impacted by surface cracking, 12.9 ha impacted by electricity transmission line management and 3.6 ha predicted to be impacted by ponding.

48. Finally, I note that I have considered the impacts on the species in the context of GHG emissions at [299]-[328] below.

Bertya Opponens – Vulnerable

Species Information

49. *Bertya opponens* is a slender shrub that grows to 4 metres tall. It may be multi-stemmed or have a single trunk. The branches and stems are densely covered with intertwined hairs. The thick leaves are smooth and dark green above and covered in velvety hairs below.

50. *Bertya opponens* occurs in a variety of vegetation communities including mixed shrubland, lancewood woodland, mallee woodland, eucalypt/acacia open forest with shrubby understorey, Eucalypt/Callitris open woodland and semi-evergreen vine-thicket.

51. *Bertya opponens* ranges from central Queensland south into the North Western Plains of NSW. The species has a highly restricted geographic distribution in NSW and is currently known from four scattered sites, including its largest known population in Jacks Creek State Forest. The total known population is estimated to include at least five million individuals.

52. Key threats to this species outlined in the conservation advice *Bertya opponens* include inappropriate disturbance regimes, land clearing and browsing by goats. In relation to the latter, I noted that the Threat abatement plan for competition and land degradation by unmanaged goats was relevant to this species and required to be considered. Further, the recovery plan for the species identifies grazing, inappropriate fire and disturbance regimes and clearing as major threats.

53. The overall strategy for the recovery of the species, as detailed in the recovery plan, is to:

- examine the impacts of grazing pressures to *Bertya opponens*
- increase certainty of the species distribution in the Cobar-Coolabah area
- further understand the biology of germination and seedling survival of the species
- improve survival prospects for senescent populations
- increase community awareness and support for the conservation of the species.

Impacts

54. The BDAR identified as follows:

The Project would result in the direct clearance of approximately 3.6 ha of known habitat for the Coolabah Bertya, comprising an estimated 15,345 individuals (Figure 17). There is estimated to be in the order of 1.1 million individuals in the Subject land; the size of the population may be much greater as the habitat extends into Jacks Creek State Forest (Figure 32). Jacks Creek State Forest has the largest population in NSW (estimated at >5 million plants) (National Parks and Wildlife Service [NPWS], 2002)

55. This clearance will occur during phases 3 and 6 of the proposed action, predominantly for gas drainage facilities, service boreholes and access tracks.
56. I accepted that there would be a direct impact on the *Bertya opposens* by way of the clearing of up to 15,345 individuals.
57. I further noted that there is approximately 355.4 ha of known habitat for *Bertya opposens* within the proposed action area that will be subject to subsidence, however the species does not occur within the areas of potential ponding or areas of potential cracking impacts on trees arising from the proposed action. I also acknowledged the indirect impacts I have identified at [44] also arose in relation to this species.

Avoidance and Mitigation Measures

58. I noted that the SAR stated as follows:

[The proponent] undertook detailed micro-siting of surface infrastructure to avoid key habitat features including a setback from Bulga Hill, a known topographic feature with rocky outcrops which provide good habitat for both Large-eared Pied Bats and Eastern Cave Bats. In addition, where possible, surface infrastructure has been placed to avoid impacts near creeks and drainage lines with disturbance targeted towards cleared land and derived native grassland (DNG).

The Project was amended in the Amendment Report to further avoid impacts on woodland, with a reduction of 33 ha woodland, 18 ha of DNG and 0.7 ha on Belah Woodland (a highly cleared vegetation community in the bioregion). [The proponent] has committed to ongoing review of the disturbance footprint through detailed mine design to further reduce impacts through the Extraction Plan process, with any disturbance to be progressively rehabilitated. [The proponent] would also continue to maximise the use of underground pre-mining gas drainage where feasible, which would reduce surface disturbance.

59. The proponent outlined 14 Biodiversity Measures in the BDAR aimed at mitigation. Those particularly relevant to *Bertya opposens* were:
- Vegetation Clearance Protocol to minimize the impacts of clearing on vegetation present during clearing
 - Rehabilitation and Revegetation, including progressive rehabilitation of areas impacted by direct clearing of native vegetation
 - Salvage and Relocation of Habitat Resources, such as the propagation and translocation trial will be implemented for *Bertya opposens*, involving collection of vegetative material from the local population (either above- ground parts and/or soil seed bank) and use of that material to re-establish individual plants in rehabilitation areas
 - Site Induction/Access Controls
 - Sediment and Erosion Controls
 - Weed Management conducted by qualified and experienced weed management contractors
 - Animal Pest Management by qualified and experienced animal pest management contractors
 - Bushfire Prevention and Control Measures

- Remediation of Surface Cracks, including remediation of areas where subsidence has impacted on biodiversity

60. I also noted that the development consent imposed the following conditions for the purposes of minimising and mitigating impacts:

- that the proponent develop a Biodiversity Management Plan (**BMP**) which will require the proponent to implement vegetation clearance measures to minimise the amount of clearing, provide for salvage, transplanting and/or propagation of any threatened flora found during pre-clearance surveys, protect vegetation outside of the approved disturbance areas, control weeds and feral pests and manage bushfire hazards. In particular, I noted that:
 - the BMP was required to contain very specific and detailed information as to the measures that would be implemented to minimise, manage, monitor, provide for, control or otherwise protect against impacts to the threatened species;
 - the proposed action could not commence until the BMP was approved;
 - the BMP must be implemented by the proponent;
- a requirement to rehabilitate the Narrabri Mine progressively, that is, as soon as reasonably practicable following disturbance, including construction disturbance. This condition requires that all reasonable and feasible steps must be taken to minimise the total area exposed at any time, and interim stabilisation and temporary vegetation strategies must be employed when areas prone to dust generation, soil erosion and weed incursion cannot be permanently rehabilitated;
- specific subsidence performance measures for natural features, including threatened species or populations, ecological communities, watercourses and aquatic ecology. The proposed action must not exceed these measures, and an appropriate measurement and management program must be undertaken by the proponent;
- a biodiversity component of each Extraction Plan (a plan used to manage subsidence associated with underground coal mining) to carefully manage and monitor the impact of second workings. This condition requires the proponent to establish baseline data for existing habitat and provide for the management of impacts on flora and fauna with a specific focus on threatened species, populations and their habitats, threatened ecological communities and water dependent ecosystems.

61. The department considered that the above measures were sufficient to mitigate the indirect impacts of the proposed action on the species. I agreed with this assessment, noting also that the SAR and IPC came to the same conclusion.

62. However, the direct clearance of 3.6 ha of known habitat (and up to 15,345 individuals) could not be avoided, minimised or mitigated, such that I was satisfied that there was a residual significant impact to the species.

Offsets

63. As I was satisfied there would be a residual significant impact, I considered whether an offset could adequately offset this significant impact.

64. *Bertya opponens* is classified as a 'Species Credit Species' in the BioNet Threatened Biodiversity Data Collection, an online NSW database which contains information about nationally listed threatened entities and key threatening processes in NSW.

65. Credit requirements for *Bertya opposens* are required under the NSW Biodiversity Offsets Scheme to be determined by a count of the number of individual plants within a development footprint.
66. The proponent confirmed that an offset in accordance with the NSW Biodiversity Offsets Scheme would be provided for the species and will result in the retirement of the required number and class of like-for-like biodiversity credits for *Bertya opposens*. Specifically, 46,035 species credits were indicated by the proponent to be required. Relevantly, the credit requirement was based on a conservative estimate of the density of *Bertya opposens* individuals for each vegetation zone in the proposed action area, which exceeded the actual number of individual plants counted.
67. I also noted that the proponent proposes to stage the retirement of credits over 6 phases prior to impacts on biodiversity values occurring for each phase.
68. In relation to the proponent's Offset Strategy and proposal, the SAR stated:

[Biodiversity Conservation and Science Directorate] has indicated its satisfaction with the BDAR and accepted [the proponent's] proposal for staged retirement of credits, noting that it "commends [the proponent] for producing an iterative development layout which will result in the reduction of biodiversity impacts as compared to the exhibited EIS, especially to Serious and Irreversible Impact (SAIL) entities." BCS also recommended that: "The upper quantum of credits for each stage be included in the consent conditions."

The Department also accepts the BDAR and [the proponent's] proposal for staged retirement of ecosystem and species credits. It has proposed conditions requiring that all credits are retired in accordance with the Offsets Scheme and according to a schedule specified in the consent which would prevent [the proponent] commencing clearing within any of the six phases of development unless the credits associated with that phase had already been retired.

69. I noted that the development consent requires the proponent to retire 46,035 species credits to compensate for impacts to *Bertya opposens*.
70. The development consent also required the proponent to:
- adhere to a schedule for the retirement of species credits, such that it could not commence clearing unless the credits associated with the particular phase had been retired;
 - implement the approved Biodiversity Offset Strategy prepared for the initial approval throughout the life of the proposed action, subject to certain exceptions;
 - make suitable arrangements to provide appropriate long-term security for the offset areas required by the Biodiversity Offset Strategy within 3 years of commencing the proposed action.
71. The SAR stated that, in light of such conditions, it considered that the proponent can satisfy its offset requirements.
72. Having regard to the conservative estimate which the proponent had applied to the calculation of offset credits and the comments in the SAR, I accepted that the proposed offsets would adequately compensate for the residual significant impact upon this species.

Conditions

73. The department recommended that a condition be imposed requiring that the proponent must not clear more than 3.6ha of *Bertya opposens* habitat.
74. The department also recommended that conditions be imposed requiring the proponent to comply with the development consent conditions which:

- require the proponent to provide the specified offset credits for the species, and the particular timeframe for doing so
- I have identified at [60] and [70] above.

75. I agreed with the department that these conditions would ensure that the areas of impact, and the assessment of impacts, as considered by the SAR and IPC would not be exceeded. I considered these conditions necessary to ensure that the avoidance, mitigation, management and compensation measures which were considered adequate would be implemented to protect the species.

Conclusion

76. For the reasons given above, I accepted the department's recommendation that approval of the proposed action, with conditions, would not have an unacceptable impact on the species. I was satisfied that the avoidance, mitigation, management and compensatory measures that the proponent had committed to and which formed part of the conditions of approval would ensure that any impacts are minimised, and I was satisfied that approval, with conditions, would not be inconsistent with the recovery plan for the species.

Tylophora linearis - endangered

Species Information

77. *Tylophora linearis* is a herbaceous climber with clear latex that grows to about 2 meters long. It grows in dense shrublands occasionally overtopped by *Callitris glaucophylla* and various species of Eucalyptus. Most populations occur on the western slopes of NSW with some possible occurring in flatter terrain on the western plains. *Tylophora linearis* is conserved within Goobang National Park, Eura State Forest, Goonoo State Forest, Pilliga West State Forest and Coolbaggie Nature Reserve.

78. The main identified threats to *Tylophora linearis* outlined in the approved conservation advice include forestry activities, disturbances such as grazing and fire, and invasion of habitat by introduced weeds.

Impacts

79. The BDAR states that approximately 3,447.1 ha of known and potential habitat for *Tylophora linearis* is present in the proposed action area and surrounding subject area. The proposed action will result in the clearance of approximately 405.2 ha of known and potential habitat of *Tylophora linearis*. I accepted that there would be a direct impact on the *Tylophora linearis* by way of the clearing of up to 405.2 ha of known and potential habitat.

80. The BDAR also noted that there is approximately 3,042 ha of known and potential habitat for *Tylophora linearis* within the proposed action area that will be subject to subsidence. Indirect impacts to *Tylophora linearis* due to subsidence include loss of habitat due to:

- ponding, noting approximately 2.7 ha of known and potential habitat for *Tylophora linearis* is within areas for potential ponding.
- vegetation die back in areas of cracking, noting approximately 14.1 ha of known and potential habitat for *Tylophora linearis* is within areas for potential cracking impacts on trees.

81. I also acknowledged the indirect impacts I have identified at [44] also arose in relation to this species.

Avoidance and Mitigation Measures

82. For the same reasons as those given at [58]-[610] above, I considered that the avoidance and mitigation measures were sufficient to mitigate the indirect impacts of the proposed action on the species.

83. However, the direct clearance of approximately 405.2 ha, and indirect impacts to 2.7 ha (areas of potential ponding) and 14.1 ha (areas of potential cracking impacts) of known and potential habitat for *Tylophora linearis* could not be avoided, minimised or mitigated, such that I was satisfied that there was a residual significant impact to the species.

Offsets

84. As I was satisfied there would be a residual significant impact, I considered whether an offset could adequately offset this significant impact.
85. *Tylophora linearis* is classified as a 'Species Credit Species' in the BioNet Threatened Biodiversity Data Collection. The proponent identified that 13,607 species credits would be retired to compensate for the residual significant impact on the species. I noted that the development consent required the proponent to retire 13,607 species credits to compensate for impacts to *Tylophora linearis*, and also noted the conditions I have referred to at [70] above.
86. The department agreed with the conclusion reached by the SAR and stated that, where the development approval contained the conditions described in [70] above, it was satisfied that the proposed offsets are adequate to offset residual significant impacts to *Tylophora linearis*.
87. Having regard to the matters that I have referred to at [67]-[68], and the department's analysis, I agreed that the retirement 13,607 species credits to compensate for impacts to *Tylophora linearis* was adequate.

Conditions

88. The department recommended that a condition be imposed requiring that the proponent must not clear more than 405.2 ha of *Tylophora linearis* habitat, and must ensure that habitat loss due to subsidence is limited to 16.8 ha of *Tylophora linearis* habitat.
89. The department also recommended conditions which required the proponent, if habitat loss due to subsidence exceeds, or is predicted to exceed, the amount in the paragraph above, to notify the department in writing and provide certain specified information. Upon receiving that notification, the conditions would provide that the Minister may direct the proponent to implement specific avoidance, mitigation, corrective and/or compensation measures, and that the proponent must implement those.
90. Conditions of the kind described at [74] were also recommended.
91. I agreed with the department that such conditions would ensure that the areas of impact, and the assessment of impacts, as considered by the SAR and IPC, would not be exceeded. I considered these conditions necessary to ensure that adequate avoidance, mitigation, management and compensation measures would be implemented to protect the species.

Conclusion

92. For the reasons given above, I accepted the department's recommendation that approval of the proposed action, with conditions, would not have an unacceptable impact on the species. I was satisfied that the avoidance, mitigation, management and compensatory measures that the proponent had committed to and which formed part of the conditions of approval would ensure that any impacts are minimised.

Spiny Peppercross (Lepidium aschersonii) – vulnerable

Species Information

93. Spiny Peppercross is a small perennial herb endemic to mainland southern Australia, where it is widely but patchily distributed from north-eastern NSW to Western Australia. Much of its habitat has

been lost to agriculture, and remaining populations are mostly small, isolated and at risk from a range of threats. There are an estimated 25,000 to 100,000 plants remaining in about 30 wild populations, with Narrabri being home to one of the two main known occurrences of the species.

94. Key threats to Spiny Peppercress outlined in the recovery plan include grazing, weed invasion, altered hydrology, habitat destruction and roadworks. The overall strategy for the recovery of the species, as detailed in the recovery plan, is to:

- determine distribution, abundance and population structure
- determine habitat requirements
- identify and manage threats to populations
- identify key biological functions
- determine growth rates and viability of populations
- establish a seedbank in storage
- build community support for conservation.

95. I noted that the *Threat abatement plan for predation, habitat degradation, competition and disease transmission by feral pigs* and the *Threat abatement plan for competition and land degradation by rabbits* were also relevant to the assessment of these species.

Impacts

96. The BDAR states that 355.3 ha of habitat for Spiny Peppercress occurs in the proposed action area and surrounding subject area. 32 individuals of Spiny Peppercress were identified during surveys in the proposed action area and surrounding subject area.

97. The proposed action will result in the clearance of approximately 42.6 ha of potential habitat for Spiny Peppercress. Within this area there is only one location with known individuals, located in an area planned for service boreholes with power reticulation. I accepted that there would be a direct impact on the Spiny Peppercress by way of the clearing of up to 42.6 ha of potential habitat.

98. I noted that approximately 232 ha of potential habitat for Spiny Peppercress within the proposed action area will be subject to subsidence. Indirect impacts to Spiny Peppercress due to subsidence include loss of habitat due to:

- Ponding, noting approximately 0.7 ha of potential habitat for Spiny Peppercress is within areas of potential ponding.
- vegetation die back in areas of cracking, noting approximately 13.7 ha of potential habitat for Spiny Peppercress is within areas of potential cracking impacts on trees.

99. I acknowledged the indirect impacts I have identified at [44] also arose in relation to this species.

Avoidance and Mitigation Measures

100. For the same reasons as those given at [58]-[61] above, I considered that the avoidance and mitigation measures were sufficient to mitigate the indirect impacts of the proposed action on the species, and were consistent with the relevant threat abatement plans.

101. However, the direct clearance of approximately 42.6 ha of potential habitat, and indirect impacts to 0.7 ha (areas of potential ponding) and 13.7 ha (areas of potential cracking impacts) of potential habitat for Spiny Peppercress could not be avoided, minimised or mitigated, such that I was satisfied that there would be a residual significant impact to the species.

Offsets

102. As I was satisfied there would be a residual significant impact, I considered whether an offset could adequately offset this significant impact.
103. The Spiny Peppercross is classified as a 'Species Credit Species' in the BioNet Threatened Biodiversity Data Collection. The proponent identified that 1,731 species credits would be retired to compensate for the residual significant impact on the species. I noted that the development consent required the proponent to retire 1,731 species credits to compensate for impacts to Spiny Peppercross, and also noted the conditions I have referred to at [70] above.
104. The department agreed with the conclusion reached by the SAR and stated that, where the development approval contained the conditions described in [70] above, it was satisfied that the proposed offsets are adequate to offset residual significant impacts to Spiny Peppercross.
105. Having regard to the matters that I have referred to at [67]-[68], and the department's conclusion, I agreed that the retirement of 1,731 species credits to compensate for impacts to Spiny Peppercross was adequate.

Conditions

106. The department recommended that a condition be imposed requiring that the proponent must not clear more than 42.6 ha of Spiny Peppercross habitat, and must ensure that habitat loss due to subsidence is limited to 14.4 ha of Spiny Peppercross habitat. The conditions I describe at [74] and [89] were also recommended. For the same reasons as I have given at [91], I considered these conditions necessary.

Conclusion

107. For the reasons given above, I accepted the department's recommendation that approval of the proposed action, with conditions, would not have an unacceptable impact on the species. I was satisfied that the avoidance, mitigation, management and compensatory measures that the proponent had committed to and which formed part of the conditions of approval would ensure that any impacts are minimised, and was satisfied that approval, with conditions, would not be inconsistent with the recovery plan for the species, nor the applicable threat abatement plans.

Painted Honeyeater (Grantiella picta) – vulnerable

Species Information

108. The Painted Honeyeater is nomadic and occurs at low densities throughout its range. The greatest concentrations of the bird and almost all breeding occurs on the inland slopes of the Great Dividing Range in NSW, Victoria and southern Queensland. During the winter it is more likely to be found in the north of its distribution. The greatest concentrations and almost all records of breeding come from south of 26 degrees south, on inland slopes of the Great Dividing Range between the Grampians, Victoria and Roma, Queensland. The species often occurs singly or in pairs, and less often in small flocks.
109. The species inhabits mistletoes in eucalypt forests/woodlands, riparian woodlands of black box and river red gum, box-ironbark-yellow gum woodlands, acacia-dominated woodlands, paperbarks, casuarinas, callitris, and trees on farmland or gardens. The species prefers woodlands that contain a higher number of mature trees, as these host more mistletoes. It is more common in wider blocks of remnant woodland than in narrower strips, although it breeds in quite narrow roadside strips if ample mistletoe fruit is available.

110. The Painted Honeyeater is the most specialised of Australia's honeyeaters. Its diet mainly consists of mistletoe fruits, but also includes nectar (from flowering mistletoe, eucalypts and possibly banksias) and arthropods, especially in the non-breeding season. Arthropods are an important dietary item provided to nestlings and for adults during the breeding season. The species exhibits seasonal north-south movements governed principally by the fruiting of mistletoe, with which its breeding season is closely matched. Many birds move after breeding to semi-arid regions such as north-eastern South Australia, central and western Qld, and central Northern Territory. Considering its dispersive habits, the species is considered to have a single population.
111. The conservation advice and the recovery plan for the Painted Honeyeater identify the major threats to the species as habitat loss and degradation, competition for food resources with larger and/or more aggressive honeyeaters, climate variability and change predation by invasive species and deliberate destruction of mistletoe in production forests.
112. The strategy for the recovery of the species, and priority management plans to support recovery as detailed in the recovery plan and conservation advice are to:
- protect woodland from clearing in which the species have been regularly sighted, including remnant roadside vegetation and regrowth.
 - place all areas of public land that contain the species under secure conservation management, particularly those in timber reserves, transport corridors and areas owned by local government
 - promote ecological management of woodland remnants and regrowth on public or private land, including maintaining adequate populations of mature trees and trees that host the species' preferred mistletoe species
 - promote revegetation and land reclamation that recreates woodland habitat with a full complement of biodiversity, including the painted honeyeater
 - control firewood collection from areas occupied by painted honeyeaters, and reduce grazing densities to a level where mistletoe host population dynamics are secured over the long term.
 - protect, manage and restore the species breeding and foraging habitats at the local, regional and landscape scales.
 - monitor, reduce and manage threats and sources of mortality
 - develop and apply techniques to measure changes in population trajectory in order to measure the success of recovery actions
 - improve understanding of habitat use at a landscape scale in order to better target protection and restoration measures
 - engage local communities and stakeholders in the species conservation
 - coordinate, review and report on recovery progress.

Impacts

113. I noted that approximately 3,634 ha of potential foraging and breeding habitat for Painted Honeyeater is present in and surrounding the proposed action area. The department noted that the area adjacent to the proposed action (namely the Pilliga Forest) is 'habitat critical to the survival' of the species. This is because the recovery plan identifies the Pilliga Forest as a 'Key Biodiversity Area'.

114. By way of direct impacts, I noted that the proposed action will result in the progressive clearance (over a 23 year period) of approximately 421.1 ha of known habitat for Painted Honeyeater, likely used for foraging.
115. I noted that approximately 3,165 ha of known habitat for Painted Honeyeater within the proposed action area that will be subject to subsidence. Indirect impacts to Painted Honeyeater due to subsidence include loss of habitat due to:
- Ponding, noting approximately 3.1 ha of potential foraging habitat for Painted Honeyeater is within areas of potential ponding.
 - vegetation die back in areas of cracking, noting approximately 25 ha of potential foraging habitat for Painted Honeyeater is within areas of potential cracking impacts on trees.

116. I also acknowledged the indirect impacts I have identified at [44] also arose in relation to this species.

Avoidance and Mitigation Measures

117. For the same reasons as those given at [58]-[61] above, I considered that the avoidance and mitigation measures were sufficient to mitigate the indirect impacts of the proposed action on the species.
118. However, it remained that the direct clearance of approximately 421.1 ha of potential habitat, indirect impacts to 3.1 ha (areas of potential ponding) and 25 ha (areas of potential cracking impacts) of potential impacts could not be avoided or mitigated. While the proponent considered that, in the absence of the species being recorded in the proposed action area and any breeding habitat, the impact was unlikely to be significant, I agreed with the department that, due to the presence of potential foraging habitat in the proposed action area (known feed species) the proposed action was likely to have a residual significant impact on the species.

Offsets

119. As I was satisfied there would be a residual significant impact, I considered whether an offset could adequately offset this significant impact.
120. The Painted Honeyeater is classified as a 'Ecosystem Credit Species' in the BioNet Threatened Biodiversity Data Collection. Credits for 'Ecosystem Credit Species' are measured in a manner which recognises that species habitat that can be reliably predicted to occur with a plant community type (PCT) and plant community types generally.
121. The SAR indicated PCT 88, 435, 399, 401, 404, 405, 406, 408, 244, 55 and 206 were associated the Painted Honeyeater. I noted that the development consent required credits for each of these, as follows:
- PCT 88 – 1,938 credits
 - PCT 406 – 852 credits
 - PCT 435 – 558 credits
 - PCT 408 – 3 credits
 - PCT 399 – 332 credits
 - PCT 244 – 443 credits
 - PCT 401 – 111 credits
 - PCT 55 – 807 credits
 - PCT 404 – 5,222 credits
 - PCT 206 – 48 credits
 - PCT 405 – 2,125 credits

122. The department agreed with the conclusion reached by the SAR and stated that, where the development approval contained the conditions described in [70] above, it was satisfied that the proposed offsets are adequate to offset residual significant impacts to Painted Honeyeater.

123. Having regard to the matters that I have referred to at [67]-[68], the objectives of the recovery plan I have noted above (at [112]) and the department's conclusion, I agreed that the retirement of the ecosystem credits I have identified at [121] are adequate to compensate for impacts to the Painted Honeyeater was adequate.

Conditions

124. The department recommended that a condition be imposed requiring that the proponent must not clear more than 421.1 ha of Painted Honeyeater habitat, and must ensure that habitat loss due to subsidence is limited to 28.1 ha of Painted Honeyeater habitat. The conditions I describe at [74] and [89] were also recommended. For the same reasons as I have given at [91], I considered these conditions necessary.

Conclusion

125. For the reasons given above, I accepted the department's recommendation that approval of the proposed action, with conditions, would not have an unacceptable impact on the species. I was satisfied that the avoidance, mitigation, management and compensatory measures that the proponent had committed to and which formed part of the conditions of approval would ensure that any impacts are minimised, and was satisfied that approval, with conditions, would not be inconsistent with the recovery plan for the species.

Regent Honeyeater (Anthochaera phrygia) – critically endangered

Species Information

126. The Regent Honeyeater is a predominantly black and yellow bird endemic to mainland south-eastern Australia. It has a patchy distribution which extends from south-east Queensland, through New South Wales (NSW) and the Australian Capital Territory (ACT), to central Victoria.

127. The conservation advice for the species provides that the species mostly inhabits inland slopes of the Great Dividing Range, in areas of low to moderate relief with moist, fertile soils. It is most commonly associated with box-ironbark eucalypt woodland and dry sclerophyll forest, but also inhabits riparian vegetation such as sheoak (*Casuarina spp.*) where it feeds on needle-leaved mistletoe and sometimes breeds. It also uses a range of other habitats including lowland coastal habitats, remnant patches in farmland and urban areas, roadside reserves and travelling stock routes.

128. The Regent Honeyeater's diet primarily consists of nectar, but also includes invertebrates (mostly insects) and their exudates (e.g. lerps and honeydew), and occasionally fruit. The species is highly mobile and capable of travelling large distances, and the species' movement patterns are thought to be governed by the flowering of select eucalypt species. It is nomadic and partly migratory, with some predictable seasonal movements observed. Major threats to the species (as identified in the recovery plan and the conservation advice) are small population size, habitat loss, degradation and fragmentation, competition for resources and loss of genetic variability.

129. The overall strategy for the recovery of the species is to:

- reverse the long-term population trend of decline and increase the numbers of the species to a level where there is a viable, wild breeding population, even in poor breeding years.
- maintain and enhance the condition of habitat across the species range to maximise survival and reproductive success and provide refugia during periods of extreme environmental fluctuation.

Impacts

130. While the Regent Honeyeater had not been recorded in the proposed action area, approximately 3,638.2 ha of potential habitat for Regent Honeyeater was assessed present in the proposed action area and surrounds, though this was not considered as breeding habitat but potential foraging habitat.
131. I noted that the proposed action will result in the progressive clearance (over a 23 year period) of approximately 421.6 ha of potential foraging habitat for Regent Honeyeater. I accepted this clearance would be a direct impact of the proposed action.
132. I noted that, identical to the Painted Honeyeater, approximately 3,165 ha of known habitat for Regent Honeyeater within the proposed action area that will be subject to subsidence. Indirect impacts to the Regent Honeyeater, like the Painted Honeyeater, from subsidence include loss of habitat due to:
- Ponding, noting approximately 3.1 ha of potential foraging habitat for Regent Honeyeater is within areas of potential ponding.
 - vegetation die back in areas of cracking, noting approximately 25 ha of potential foraging habitat for Regent Honeyeater is within areas of potential cracking impacts on trees.
133. I also acknowledged the impacts I have identified at [44] also arose in relation to this species. Notably, the Pilliga Forest, located adjacent to the proposed action area, is recognised as a subsidiary breeding site for the Regent Honeyeater and therefore meets the definition of 'habitat critical to the survival' for this species, which I considered relevant to the significance of indirect impacts.

Avoidance and Mitigation Measures

134. For the same reasons as those given at [58]-[61] above, I considered that the avoidance and mitigation measures were sufficient to mitigate the indirect impacts of the proposed action on the species.
135. However, it remained that the direct clearance of approximately 421.6 ha of potential habitat, indirect impacts to 3.1 ha (areas of potential ponding) and 25 ha (areas of potential cracking impacts) of potential impacts could not be avoided or mitigated. While the proponent considered that, in the absence of the species being recorded in the proposed action area and any breeding habitat, the impact was unlikely to be significant, I agreed with the department that, due to the presence of potential foraging habitat in the proposed action area (known feed species) the proposed action was likely to have a residual significant impact on the species.

Offsets

136. As I was satisfied there would be a residual significant impact, I considered whether an offset could adequately offset this significant impact.
137. The Regent Honeyeater, like the Painted Honeyeater, is classified as a 'Ecosystem Credit Species' in the BioNet Threatened Biodiversity Data Collection. The SAR identifies PCT 88, 141, 435, 399, 401, 404, 405, 406, 408, 244, 55 and 206 as associated to the Regent Honeyeater.
138. I noted that the development consent required credits for each of these PCTs, in the amount I have identified above at [121]. I acknowledged that an offset to PCT 141 was additional to those I have identified at [121] for this species. Specifically, 8 credits would be required for PCT 141.
139. The department agreed with the conclusion reached by the SAR and stated that, where the development approval contained the conditions described in [70] above, it was satisfied that the proposed offsets are adequate to offset residual significant impacts to the Regent Honeyeater.

140. Having regard to the matters that I have referred to at [67]-[68], and the department's conclusion, I agreed that the retirement of the ecosystem credits I have identified at [121] and the 8 credits for PCT 141 are adequate to compensate for impacts to the Regent Honeyeater.

Conditions

141. The department recommended that a condition be imposed requiring that the proponent must not clear more than 421.6 ha of Regent Honeyeater habitat, and must ensure that habitat loss due to subsidence is limited to 28.1 ha of Regent Honeyeater habitat. The conditions I describe at [74] and [89] were also recommended. For the same reasons as I have given at [91], I considered these conditions necessary.

Conclusion

142. For the reasons given above, I accepted the department's recommendation that approval of the proposed action, with conditions, would not have an unacceptable impact on the species. I was satisfied that the avoidance, mitigation, management and compensatory measures that the proponent had committed to and which formed part of the conditions of approval would ensure that any impacts are minimised, and was satisfied that approval, with conditions, would not be inconsistent with the recovery plan for the species.

Koala (Phascolarctos cinereus) – vulnerable

Species Information

143. In Queensland, NSW and ACT, the Koala has an extensive and patchy distribution. The species inhabits a range of temperate, sub-tropical and tropical forest, woodland and semi-arid communities dominated by Eucalyptus species. The National Recovery Plan for the Koala *Phascolarctos cinereus* (combined populations of Queensland, New South Wales and the Australian Capital Territory) states that Koalas have been recorded to feed on more than 120 species of Eucalyptus, *Corymbia* and *Angophora*. Generally, their preferred tree species in the south of their distribution include Manna Gum (*E. viminalis*), Swamp Gum (*E. ovata*) and Blue Gum (*E. globulus*), while in the north Tallowood (*E. microcorys*), Red Gums (*E. camaldulensis* and *E. tereticornis*) and Grey Gums (*E. punctata* and *E. propinqua*) are important. Non-food tree species are an essential resource to Koalas. Koalas use these shelter trees to thermoregulate, especially during hot days and to avoid predators.
144. The conservation advice identifies habitat requirements for an individual Koala include access to sufficient quality food and shelter trees to meet their daily energetic requirements and reproductive needs, and a place to avoid predators. A population of Koalas requires a sufficient total amount of resources within their habitat of adequate quality to support a viable biological population where mortality, survival, and recruitment are balanced or recruitment increasing to optimal carrying capacity and within the bounds of natural fluctuations. Habitat critical to the survival of the Koala includes forests or woodlands, road-side and rail vegetation and paddock trees, safe intervening ground matrix for travelling between trees and patches to forage, shelter and reproduce and access to vegetated corridors or paddock trees to facilitate movement between patches. Over longer-time frames, habitat critical includes climate refugia such as drainage lines, riparian zones and patches that are resilient to drying conditions due to favourable hydrological systems. Additionally, it includes areas that may be temporarily unoccupied, because of seral (maturity or time) changes to habitat quality that arise through processes such as fire, drought, timber harvesting or disease (shifting habitat mosaic) or degradation and are available for future recolonisation.
145. The conservation advice states that the Koala is threatened by wide-scale climate change drivers which include the increased frequency and intensity of drought and high temperatures, the increasing

prevalence of weather conditions which promote bushfire, and a shrinking climatically suitable area. Koala populations are also being impacted by diseases, specifically koala retrovirus (KoRV) and Chlamydia (Chlamydia pecorum), human-related activities including habitat loss resulting from land clearance and mining, and mortality due to encounters with vehicles and dogs.

146. The overall strategy for the recovery of the species, as detailed in the recovery plan, which is supported by priority management, recovery and threat abatement actions detailed in the conservation advice are to:

- build and share knowledge
- engage and partner with the community in listed Koala conservation
- increase the area of protected habitat for the listed Koala
- integrate listed Koala conservation into policy, statutory and land use plans
- strategically restore listed Koala habitat
- actively manage listed Koala metapopulations.

Impacts

147. The BDAR identified that Koala individuals have not been recorded in the subject land surrounding the proposed action area, however evidence of species' presence was recorded during surveys (i.e. scats). Relevantly, approximately 4,008.4 ha of known and potential habitat for Koala is present in the proposed action area and surrounds.

148. I accepted that the proposed action will result in the progressive clearance (over a 23 year period) of a total of 457.4 ha of Koala habitat, comprising:

- approximately 455.5 ha of known habitat for the Koala, likely used for foraging and breeding.
- approximately 1.9 ha of potential Koala habitat (for the purposes of transmission lines).

149. I noted that there is approximately 3,368 ha of known habitat for the Koala within the proposed action area that will be subject to subsidence. Indirect impacts to the Koala due to subsidence include loss of habitat due to:

- Ponding, noting approximately 3.1 ha of known habitat for the Koala is within areas of potential ponding.
- vegetation die back in areas of cracking, noting approximately 29.7 ha of known habitat for the Koala is within areas of potential cracking impacts on trees.

150. I also acknowledged the indirect impacts I have identified at [44] also arose in relation to this species, and that any Koala present in the areas proposed to be cleared would be at risk of injury or fatality during clearance activities.

Avoidance and Mitigation Measures

151. For the same reasons as those given at [58]-[61] above, I considered that the avoidance and mitigation measures were sufficient to mitigate the indirect impacts of the proposed action on the species. Further, the department drew to my attention that the BMP included the following specific measures for the Koala:

- pre-clearance surveys including specific Koala observations (e.g. individual sightings, scats, scratches and/or pock marks on trees), conducted by a suitably trained and qualified ecologist or wildlife handler

- retention of trees that Koalas have been identified in, with a 200 m avoidance zone, until the Koala self-relocates
- management of the Koala in consideration of the NSW Code of Practice for Injured, Sick and Orphaned Koalas management plan.

152. Despite being satisfied that the measures proposed would sufficiently mitigate indirect impacts, I agreed with the department that the direct clearance of approximately 457.4 ha, and indirect impacts to 3.1 ha (areas of potential ponding) and 29.7 ha (areas of potential cracking impacts) of known habitat for the Koala, is likely to result in a residual significant impact for the species.

Offsets

153. As I was satisfied that there would be a residual significant impact, I considered whether an offset could adequately offset this significant impact.

154. The Koala is classified as a 'Species Credit Species' in the BioNet Threatened Biodiversity Data Collection. The proponent identified that 14,796 species credits would be retired to compensate for the residual significant impact on the species. I noted that the development consent required the proponent to retire 14,796 species credits to compensate for impacts to the Koala, and also noted the conditions I have referred to at [70] above.

155. The department agreed with the conclusion reached by the SAR and stated that, where the development approval contained the conditions described in [70] above, it was satisfied that the proposed offsets are adequate to offset residual significant impacts to Koala.

156. Having regard to the matters that I have referred to at [67]-[68], the recovery plan strategy as outlined in the recovery plan for the species, and the department's conclusion, I agreed that the retirement 14,796 species credits to compensate for impacts to Koala was adequate.

Conditions

157. The department recommended that a condition be imposed requiring that the proponent must not clear more than 457.4 ha of Koala habitat and must ensure that habitat loss due to subsidence is limited to 32.8 ha of Koala habitat. The conditions I describe at [74] and [89] were also recommended. For the same reasons as I have given at [91], I considered these conditions necessary.

Conclusion

158. For the reasons given above, I accepted the department's recommendation that approval of the proposed action, with conditions, would not have an unacceptable impact on the species. I was satisfied that the avoidance, mitigation, management and compensatory measures that the proponent had committed to and which formed part of the conditions of approval would ensure that any impacts are minimised, and was satisfied that approval, with conditions, would not be inconsistent with the recovery plan for the species.

South-eastern Long-eared Bat (Nyctophilus corbeni) – vulnerable

Species Information

159. The south-eastern Long-eared Bat is a relatively large solid bat with a broad, robust skull. The species is found in southern central Queensland, central western New South Wales, north-western Victoria and eastern South Australia, where it is patchily distributed, with most of its range in the Murray Darling Basin. Most records are from inland of the Great Dividing Range. The species occurs in a number of national parks and nature reserves across its range, including Pilliga Nature Reserve. The Pilliga scrub region is a distinct stronghold for this species.

160. South-eastern Long-eared Bat is found in a wide range of inland woodland vegetation types including box, ironbark and cypress pine woodlands; Buloke woodlands; Brigalow woodland; Belah woodland; smooth-barked apple woodland; river red gum forest; black box woodland; and various types of mallee trees.
161. The conservation advice states that habitat loss and fragmentation is considered a known threat to South-eastern Long-eared Bat. Other potential threats include habitat degradation associated with altered fire regimes, timber extraction and mining; bushfires; reduction in hollow availability; exposure to agrichemicals; grazing; and predation by feral animals. Priority management actions that will support the recovery of the South-eastern Long-eared Bat, are to:
- implement conservation and management actions for the management and prevention of habitat loss, disturbance and modifications, invasive species, impacts of domestic species and fire
 - stakeholder engagement
 - survey and monitor to precisely assess population size, distribution, demographics and ecological requirements
 - continue to identify and assess key identified research priorities for the species.

Impacts

162. Approximately 3,623.4 ha of potential habitat for South-eastern Long-eared Bat is present in the proposed action area and surrounds, and the species had been located in the proposed action area during surveys.
163. I noted that the proposed action will result in the progressive clearance (over a 23 year period) of approximately 421.6 ha of known habitat for the South-eastern Long-eared Bat, likely used for foraging and breeding. The direct clearance of breeding habitat will result in reduced hollow-bearing trees used by South-eastern Long-eared Bat for nesting and roosting. I accepted that this clearing would have a direct impact on the species.
164. The BDAR noted that there is approximately 3,156 ha of habitat for South-eastern Long-eared Bat within the proposed action area that will be subject to subsidence. Indirect impacts to South-eastern Long-eared Bat due to subsidence include habitat loss due to:
- Ponding, noting approximately 3.1 ha of known habitat for the South-eastern Long-eared Bat is within areas of potential ponding.
 - vegetation die back in areas of cracking, noting approximately 25 ha of known habitat for the South-eastern Long-eared Bat is within areas of potential cracking impacts on trees.
165. I also acknowledged the indirect impacts I have identified at [44] also arose in relation to this species.

Avoidance and Mitigation Measures

166. For the same reasons as those given at [58]-[61] above, I considered that the avoidance and mitigation measures were sufficient to mitigate the indirect impacts of the proposed action on the species.
167. However, the direct clearance of approximately 421.6 ha, and indirect impacts to 3.1 ha (areas of potential ponding) and 25 ha (areas of potential cracking impacts) of known habitat for the South-eastern Long-eared Bat could not be avoided, minimised or mitigated, such that I was satisfied that there was a residual significant impact to the species.

Offsets

168. As I was satisfied there would be a residual significant impact, I considered whether an offset could adequately offset this significant impact.
169. The South-eastern Long-eared Bat, like the Regent Honeyeater and the Painted Honeyeater, is classified as a 'Ecosystem Credit Species' in the BioNet Threatened Biodiversity Data Collection. The SAR identifies PCT 88, 141, 435, 399, 401, 404, 405, 406, 408, 244, 55 and 206 as associated to the South-eastern Long-eared Bat.
170. I noted that the development consent required credits for each of these PCTs, in the amount I have identified above at [121] and [138].
171. The department agreed with the conclusion reached by the SAR and stated that, where the development approval contained the conditions described in [70] above, it was satisfied that the proposed offsets are adequate to offset residual significant impacts to the South-eastern Long-eared Bat.
172. Having regard to the matters that I have referred to at [67]-[68], and the department's conclusion, I agreed that the retirement of the ecosystem credits I have identified at [121] and [138] are adequate to compensate for impacts to the South-eastern Long-eared Bat.

Conditions

173. The department recommended that a condition be imposed requiring that the proponent must not clear more than 421.6 ha of South-eastern Long-eared Bat habitat, and must ensure that habitat loss due to subsidence is limited to 28.1 ha of South-eastern Long-eared Bat habitat. The conditions I describe at [74] and [89] were also recommended. For the same reasons as I have given at [91], I considered these conditions necessary.

Conclusion

174. For the reasons given above, I accepted the department's recommendation that approval of the proposed action, with conditions, would not have an unacceptable impact on the species. I was satisfied that the avoidance, mitigation, management and compensatory measures that the proponent had committed to and which formed part of the conditions of approval would ensure that any impacts are minimised.

*Pilliga Mouse (*Pseudomys pilligaensis*) – vulnerable*

Species Information

175. The Pilliga Mouse (*Pseudomys pilligaensis*) is a small rodent with grey fur and a white belly which grows up to 8 cm long. The Pilliga Mouse is known to occur in the Pilliga Scrub of NSW where it inhabits mixed Eucalyptus, Acacia and Callitris open forest on sandy soil and sandstone ridges with a preference for sparse understorey vegetation. This species occurs within the Namoi (NSW) Natural Resource Management Region. The species is sparsely distributed within a restricted range, known only within the Pilliga locality and immediate surrounding area, including the Pilliga Nature Reserve and the adjacent Pilliga State Forest.
176. The department's Species Profile and Threats Database states that exploration, infrastructure construction and infrastructure maintenance associated with coal seam gas threatens the Pilliga Mouse. Between 20,000 and 50,000 ha of suitable Pilliga Mouse habitat occurs within the Pilliga East State Forest, which is a focal point of coal seam gas activity. Other identified threats to Pilliga Mouse outlined in conservation advice include loss or degradation of habitat through inappropriate fire regimes, forestry operations and broombush harvesting; predation by feral cats (*Felis catus*) and

foxes (*Vulpes vulpes*); and competition from the common house mouse (*Mus musculus*). The small geographical range and restricted distribution of this species means it is particularly vulnerable to these threats. In relation to predation threats, I noted the following threat abatement plans were applicable:

- Threat abatement plan for predation by feral cats.
- Threat abatement plan for predation, habitat degradation, competition and disease transmission by feral pigs (*Sus scrofa*)
- Threat abatement plan for predation by the European red fox

177. Further, the conservation advice states that priority management actions that will support the recovery of the Pilliga Mouse, are to:

- Monitor known populations to identify and manage threats, and monitor the progress of recovery.
- Identify populations of high conservation priority.
- Investigate records of the species' outside of the Pilliga forests and ensure forestry operations do not disturb identified habitat.
- Prevent clearing of habitat, such as nesting sites, and investigate formal conservation arrangements.
- Develop and implement management strategies for the control and eradication of feral predators and competitors.
- Develop and implement suitable fire management strategies for the Pilliga Mouse and Pilliga region, including maps of known occurrences of the species.
- Raise awareness of the species within the local community and establish a captive breeding program.

Impacts

178. The BDAR identified that the Pilliga Mouse was recorded on several occasions in the area surrounding the proposed action area, and that approximately 3,259.4 ha of potential habitat for was identified in the proposed action area and surrounds.

179. The BDAR continued:

The Project would result in the progressive clearance (over a 23-year period) of approximately 378.1 ha of known habitat for the Pilliga Mouse, likely used for foraging and breeding.

180. In relation to indirect impacts, I noted that the BDAR stated:

Approximately 2.5 ha of known habitat for the Pilliga Mouse is within areas of potential ponding ...

Approximately 17.1 ha of known habitat for the Pilliga Mouse is located in the area of potential cracking impacts on trees...

There is approximately 2,982 ha of known habitat for the Pilliga Mouse within the area subject to subsidence...

181. I considered that indirect impacts of the proposed action would be habitat loss due to ponding and vegetation dieback in the areas identified above.

182. Further, the proposed action has the potential to cause Pilliga Mouse individuals to fall into subsidence cracks, which the BDAR notes would be temporary as the cracks are likely to fill naturally

over time. Surface cracking would also be greater in the eastern portion of the proposed action area, outside the Pilliga East State Forest. I also acknowledged the indirect impacts I have identified at [44] also arose in relation to this species.

Avoidance and Mitigation Measures

183. For the same reasons as those given at [58]-[61] above, I considered that the avoidance and mitigation measures were sufficient to mitigate the indirect impacts of the proposed action on the species.
184. However, the direct clearance of approximately 378.1 ha, and indirect impacts to 2.5 ha (areas of potential ponding) and 17.1 ha (areas of potential cracking impacts) of known habitat for Pilliga Mouse, could not be avoided, minimised or mitigated, such that I was satisfied that there was a residual significant impact to the species.

Offsets

185. As I was satisfied there would be a residual significant impact, I considered whether an offset could adequately offset this significant impact.
186. The Pilliga Mouse is classified as a 'Ecosystem Credit Species' in the BioNet Threatened Biodiversity Data Collection. The SAR identifies PCT 88, 141, 399, 401, 404, 405, 406, 408 and 244 as associated with the Pilliga Mouse.
187. I noted that the development consent required credits for each of these PCTs, in the amount I have identified above at [121] and [138].
188. The department agreed with the conclusion reached by the SAR, and stated that where the development approval contained the conditions described in [70] above, it was satisfied that the proposed offsets are adequate to offset residual significant impacts to the Pilliga Mouse.
189. Having regard to the matters that I have referred to at [67]-[68], and the department's conclusion, I agreed that the retirement of the ecosystem credits I have identified at [121] and [138] are adequate to compensate for impacts to the Pilliga Mouse was adequate.

Conditions

190. The department recommended that a condition be imposed requiring that the proponent must not clear more than 378.1 ha of Pilliga Mouse habitat, and must ensure that habitat loss due to subsidence is limited to 19.6 ha of Pilliga Mouse habitat. The conditions I describe at [74] and [89] were also recommended. For the same reasons as I have given at [91], I considered these conditions necessary.

Conclusion

191. For the reasons given above, I accepted the department's recommendation that approval of the proposed action, with conditions, would not have an unacceptable impact on the species. I was satisfied that the avoidance, mitigation, management and compensatory measures that the proponent had committed to and which formed part of the conditions of approval would ensure that any impacts are minimised, and was satisfied that approval, with conditions, would not be inconsistent with the threat abatement plans relevant to the species.

Large-eared Pied Bat (Chalinobus dwyeri) – vulnerable

Species Information

192. The Large-eared Pied Bat is a medium-sized insectivorous bat measuring approximately 100 mm including the head and tail and weighing 7-12 g. Large-eared Pied Bat is associated with sandstone escarpments (for roosts) and fertile valleys (for foraging), particularly where the valleys support box

gum woodland. The conservation advice states that this presents a relatively restricted combination of habitat factors. The extent of woodlands on fertile soils within its range has been greatly diminished by clearing.

193. The Large-eared Pied Bat is patchily distributed in central-eastern New South Wales (NSW) and south-eastern and central Queensland, from the area bounded by Shoalwater Bay, north of Rockhampton (QLD), south to Ulladulla, NSW. Much of the known distribution of Large-eared Pied Bat occurs in NSW. Its main strongholds are in the Sydney region and Pilliga Sandstone Region. The species' total population size is estimated to be less than 20 000 individuals.
194. Key threats to the Large-eared Pied Bat outlined in the conservation advice and recovery plan include:
- destruction of and interference with maternity and other roosts
 - mining of roosts
 - mine induced subsidence of cliff lines
 - disturbance from human recreational activities
 - habitat disturbance by other animals, including livestock and feral animals
 - predation by introduced predators/invasive species
 - vegetation clearance in the proximity of roosts
 - fire in the proximity of roosts
 - loss of genetic diversity.
195. The recovery plan details objectives to:
- identify priority roost and maternity sites for protection
 - implement conservation and management strategies for priority sites
 - educate the community and industry to understand and participate in the conservation of the large-eared pied bat
 - research the large-eared pied bat to augment biological and ecological data to enable conservation management
 - determine the meta-population dynamics throughout the distribution of the large-eared pied bat.

Impacts

196. The Large-eared Pied Bat was recorded in the area surrounding the proposed action area, and the BDAR assessed that 1,905.6 ha of known and potential habitat for Large-eared Pied Bat is present in the proposed action area and surrounds.
197. Of that area, approximately 217.6 ha of potential foraging habitat for Large-eared Pied Bat would be cleared over the period of 23 years. Such clearance was, I accepted, a direct impact of the proposed action.
198. In relation to indirect impacts, the BDAR identified approximately 1,659 ha of known habitat for Large-eared Pied Bat within the proposed action area that will be subject to subsidence. Indirect impacts to Large-eared Pied Bat from subsidence include habitat loss due to:

- Ponding, noting approximately 0.7 ha of known habitat for the Large-eared Pied Bat is within areas of potential ponding.
- vegetation die back in areas of cracking, noting approximately 11.8 ha of known habitat for the Large-eared Pied Bat is within areas of potential cracking impacts on trees.

199. I also acknowledged the impacts I have indirect identified at [44] also arose in relation to this species.

Avoidance and Mitigation Measures

200. For the same reasons as those given at [58]-[61] above, I considered that the avoidance and mitigation measures were sufficient to mitigate the indirect impacts of the proposed action on the species.

201. However, the direct clearance of approximately 217.6 ha potential foraging habitat, and indirect impacts to 0.7 ha (areas of potential ponding) and 11.8 ha (areas of potential cracking impacts) of known habitat for the Large-eared Pied Bat, could not be avoided, minimised or mitigated, such that I was satisfied that there was a residual significant impact to the species.

Offsets

202. The Large-eared Pied Bat is classified as a 'Species Credit Species' in the BioNet Threatened Biodiversity Data Collection. The proponent identified that 11,140 species credits would be retired to compensate for the residual significant impact on the species. I noted that the development consent required the proponent to retire 11,140 species credits to compensate for impacts to the Large-eared Pied Bat, and also noted the conditions I have referred to at [70] above.

203. The department agreed with the conclusion reached by the SAR and stated that, where the development approval contained the conditions described in [70] above, it was satisfied that the proposed offsets are adequate to offset residual significant impacts to Large-eared Pied Bat.

204. Having regard to the matters that I have referred to at [67]-[68], the recovery plan objectives I have identified at [195], and the department's conclusion, I agreed that the retirement 11,140 species credits to compensate for impacts to Large-eared Pied Bat was adequate.

Conditions

205. The department recommended that a condition be imposed requiring that the proponent must not clear more than 217.6 ha of Large-eared Pied Bat habitat, and must ensure that habitat loss due to subsidence is limited to 12.5 ha of Large-eared Pied Bat habitat. The conditions I describe at [74] and [89] were also recommended. For the same reasons as I have given at [91], I considered these conditions necessary.

Conclusion

206. For the reasons given above, I accepted the department's recommendation that approval of the proposed action, with conditions, would not have an unacceptable impact on the species. I was satisfied that the avoidance, mitigation, management and compensatory measures that the proponent had committed to and which formed part of the conditions of approval would ensure that any impacts are minimised, and was satisfied that approval, with conditions, would not be inconsistent with the recovery plan for the species.

Other listed species and communities

207. I noted that the following communities and species were identified by the department as having previously been assessed as likely to be, or potentially being, impacted by the proposed action:

- White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland – critically endangered
- Superb Parrot (*Polytelis swainsonii*) – vulnerable
- Poplar Box Grassy Woodland on Alluvial Plains (Poplar Box Woodland) – endangered

208. The department advised that the White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and derived native grassland (Box-Gum Grassy Woodland) was not identified in the proposed action area during surveys, and no records of the Superb Parrot were recorded in the proposed action area during surveys and no breeding habitat for the species was identified. The SAR concluded that there was unlikely to be a significant impact on this community or species. I accepted these views, and concluded that the proposed action was unlikely to have a significant impact on this community or species.

209. In relation to the Poplar Box Grassy Woodland on Alluvial Plains (Poplar Box Woodland), the SAR concluded that this community was unlikely to be significantly impacted by the proposed action. The proponent stated this was because the impact would be approximately 7.9 ha, relative to the wider occurrence of the community within the study area. I also noted that impacts on the Poplar Box Woodland would be offset by way of the credits required for PCT 244 (which I refer to at [121] above). Accordingly, I was satisfied that there would be no unacceptable impact on this community.

Conclusion on Listed Threatened Species and Communities

210. For the reasons set out at [38]-[209] above and [299]-[327] below, and having regard to the information before me, I found that the proposed action, if approved subject to the conditions outlined above and a condition that clearing must not occur outside of the proposed action area, would not have an unacceptable impact on listed threatened species and communities.

Unconventional gas or large coal mining development (s24D and s24E)

211. The department noted that the proposed action had the potential to impact surface water and groundwater resources through groundwater drawdown and potential impacts to water supply levels, yield and quality of privately-owned bores; subsidence-induced impacts to watercourses including impacts to key stream features such as pools and discharges impacting water quality.

IESC Advice

212. I noted that s 131AB of the EPBC Act required that advice be obtained, and considered, from IESC. The matters upon which the IESC's advice was sought are set out at [11] above. On 15 March 2021, the IESC provided its advice.

213. The IESC advice stated:

Key potential impacts from this [proposed action] are:

- *drawdown within the saturated alluvium and porous rock aquifers leading to potential long-term reduction of available groundwater for springs, other GDEs, and agricultural water resources;*
- *ground deformation above longwalls, including subsidence and mining-induced fracturing, which changes hydraulic parameters of porous rock aquifers and the groundwater flux within them and the hydraulically connected alluvium, producing a permanent area of groundwater drawdown (or groundwater sink) within the larger regional groundwater flow system. These changes can alter flow regimes and cause ponding in undermined ephemeral streams, as well as induce surface water losses from farm dams;*
- *extensive remnant and riparian vegetation dieback over longwall goafs due to subsidence;*

- possible discharge of saline water into the Namoi River above EC Guideline Values; and
- potential loss or alteration of habitat for species such as the Koala (*Phascolarctos cinereus*) listed as Vulnerable under the Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act).

214. The department further summarised the advice, which I agreed with, as follows:

The IESC advice:

- a) *Noted the significance of the Namoi River and its alluvium, springs and other Groundwater Dependent Ecosystems (GDEs) and considered its earlier advice to NSW at its Gateway Application stage in 2019 had not been adequately addressed in the EIS.*
- b) *Considered that there is still a material risk of impacts to water resources due to the intensive use of groundwater in the region and the predicted impacts from the proposed action.*
- c) *Identified a number of areas where it considered additional work is required, including in relation to:*
 - i) *surface water modelling*
 - ii) *consideration of additional mitigation measures to protect water resources*
 - iii) *further groundwater sensitivity modelling to examine a greater range in hydraulic parameters*
 - iv) *expansion of the groundwater monitoring network, particularly in areas of suspected groundwater and surface water interaction*
 - v) *additional monitoring of the effects of groundwater movement on groundwater levels*
 - vi) *further investigation and modelling of brine reinjection in the groundwater system*
 - vii) *additional information on hydrochemistry and treatment of mine affected water before its release into the Namoi River*
 - viii) *inconsistencies in risk assessment of GDEs*
 - ix) *assessment of groundwater dependence of vegetation communities in the zone of predicted drawdown with consideration of arboreal fauna likely to be impacted*
 - x) *additional data and information on the ecohydrology of the three identified springs to inform mitigation measures*
 - xi) *additional sample data to inform potential impacts on stygofauna*

215. I noted that the proponent provided a range of information in response to the IESC advice, which was considered by the SAR.

216. Where the advice, and the proponent's response, are relevant to my reasons, I refer to them in more detail below.

Submissions and Further Information

217. The proponent included a Subsidence Assessment, a Groundwater Assessment and a Surface Water Assessment in the EIS. Following public exhibition of the EIS, DPHI Water Division provided advice which indicated that additional information should be requested regarding groundwater entitlements, subsidence impacts on watercourses, drawdown and water quality impacts, groundwater modelling and updates to the Water Management Plan. I noted that the IESC and DPHI Water Division expressed a range of concerns about the groundwater modelling and the approach by the proponent to groundwater impact assessment, which prompted further information and responses from the proponent.

218. On 16 June 2021, DPHI requested the Independent Advisory Panel for Underground Mining’s advice on the proposed action’s potential impacts on a water resource, with a focus on groundwater modelling and groundwater resource impacts for neighbouring landholders. This Panel comprises an independent chair as well as experts in the fields of mining engineering and subsidence, surface water, groundwater and swamp hydrology and ecology.

219. The department also obtained further information from the Office of Water Science dated 20 July 2022.

220. Where relevant, I refer to these matters in more detail below.

Impacts

Groundwater Impacts

221. The SAR noted that there were three key impacts to groundwater from the proposed action:

- Impacts to regionally important aquifers
- Drawdown of privately held boreholes in the vicinity of the proposed action
- Changes to groundwater quality as a result of brine water injection into the longwall goaf.

Impacts to regionally important aquifers

222. The SAR identified that the primary water sources potentially at risk from the proposed action are the groundwater resources of the Namoi Alluvium and Pilliga Sandstone. The SAR explained:

The [Aquifer Interference Policy] establishes rules for ‘highly productive groundwater sources’, which include the Namoi Alluvium and Pilliga Sandstone. It states that any drawdown of more than 2 m is considered to be more than a ‘minimal impact’.

The Namoi Alluvium is located more than 6 km east of the Project mining area and is a surficial band of unconsolidated riverine sediments associated with the Namoi River and its tributaries. The Pilliga Sandstone is located adjacent to the western half of the Project area and is dominated by sandstones which are typically porous and permeable. While it is classified as ‘highly productive’, it is not considered to be an important recharge area for the Great Artesian Basin, due to low rainfall in the region, and this aquifer is not used for irrigation purposes above or near the Project.

These two aquifers sit stratigraphically above much ‘tighter’ strata which contain limited groundwater resources with generally higher salinity. The aquifers in these other geological strata are capable of yielding bore water, but are considered to be ‘less productive’ aquifers under the AIP. These bores are usually used only for stock watering purposes.

In relation to water quantity impacts (i.e. drawdown) on the Namoi Alluvium and Pilliga Sandstone aquifers, the Mining Panel stated that:

“Importantly the mine area is connected to the [Namoi] alluvium by low hydraulic conductivity units (<0.01 m/d) implying low risk of strong connections between the alluvium and the mine.

Equally important, the mine area is connected to the surface and to the Pilliga Sandstone aquifer by units with very low vertical hydraulic conductivity.”

The Groundwater Assessment concluded that the Project would meet the AIP’s minimal impact requirements for the two highly productive groundwater sources, i.e. Namoi Alluvium and Pilliga Sandstone.

In its advice on the Submissions Report, DPE – Water agreed with this conclusion, with particular reference to AGE’s statistical analysis of 100 separate groundwater model runs for the Namoi Alluvium. However, DPE – Water considered that the predicted maximum drawdown provided “no margin for error”

and recommended “demonstrably reliable early-warning monitoring systems and mitigation measures” to ensure that any impacts above the criterion are avoided.

223. The SAR concluded:

In summary, based on the advice of the Mining Panel and State agencies, the Department considers that the potential water quantity and quality impacts on regionally important groundwater aquifers would not be significant and, importantly, would not exceed the ‘minimal harm’ test under the AIP.

224. The IPC agreed with this conclusion. I noted that the predicted water take for the proposed action would reach a peak of 2.65 gigalitres per year, and all groundwater drawdown is subject to water access licensing under the provisions of the *NSW Water Management Act 2000*. The SAR and IPC accepted that the proponent’s predicted groundwater Water Access Licence (WAL) entitlements were appropriately modelled, and that the proponent would be able to obtain all necessary entitlements for the predicted groundwater take. To ensure this, the development consent contained a condition requiring the proponent to obtain such licences.

Drawdown of privately held boreholes

225. The SAR noted as follows:

There are more than 2,200 groundwater bores in the broader region, including 1,500 water supply bores. Registered water supply bores are primarily located in the Namoi Alluvium. Outside of this aquifer, groundwater use is much less prevalent and intensive. Privately-owned registered water supply bores in the vicinity of the mine and Project area are predominantly used for stock watering purposes, which reflects the lack of highly productive geological strata and the consequent lack of agricultural and other development to the west.

226. I noted that a local landholders’ group (the Boggabri/Baan Baa Landholders) raised strong concerns over the adequacy of a bore census the proponent had undertaken, particularly to the south of the proposed action area. The proponent undertook further consultative work, which identified that there were 9 ‘stock and domestic’ bores which might be impacted by drawdowns exceeding the AIP’s ‘minimal impact’ criterion. The additional modelling otherwise predicted that ‘actual impairment of supply’ would occur at only six of these nine bores, since predicted drawdown is a relatively minor proportion of the standing water column in the other three bores.

227. By way of mitigation, for all private bores predicted to be drawn down by more than 2 m, I noted that the proponent had committed to:

- conduct a groundwater yield test
- monitor any drawdown as it develops; and
- implement ‘make good’ measures, which may include:
 - deepening the affected groundwater bore
 - constructing a new groundwater bore; and/or
 - providing an alternative water supply of suitable quality and quantity

228. The DPHI Water Division raised no specific concerns regarding impacts on privately-owned bores or the proposed make good measures. The IPC concluded that the ‘*make good provisions would be sufficient in adequately compensating affected groundwater users*’, and imposed conditions on the development approval requiring those measures to be completed within 2-years of commencement.

Changes to groundwater quality

229. The Groundwater Assessment noted that it is intended that any brine stored in the brine storage ponds would be re-injected into the mine goaf at the completion of mining. The mine site water balance calculations indicate that re-injection of 2,367 to 2,830 ML of brine at Total Dissolved Solids (TDS) concentrations of 76,554 mg/L to 91,630 mg/L would be required. The proponent proposes that re-injection is likely to occur over a period of three years post-mining via a series of 20 re-injection bores targeting goaf areas towards the southern end of the 100 series and northern end of the 200 series panels. The proponent's view was that, since the majority of the TDS load in the brine came from underground in the first place, then the long-term water quality impacts of re-injecting these solids in a more concentrated form should be negligible.

230. The IESC advice stated:

Long-term impacts of brine re-injection require further justification which consider the recovery of groundwater levels and change in groundwater flux. The extensive fracturing caused by subsidence provides conduits for brine to migrate widely, including lateral extension contamination, potentially impacting local and adjacent GDEs, water bore resources and local aquifers. Despite hydraulic gradients increasing towards the goafs (i.e. the groundwater flow gradients will act like a sink towards the mine), the increase in hydraulic connectivity above the goafs coupled with the already saline groundwater present in the lower hydrostratigraphic units may have impacts on the groundwater quality long-term. These impacts will see an increase in the EC of water above the goafs. Preferential flow pathways may cause the more saline groundwater to be transported to the Pilliga Sandstone and Namoi River Alluvium present within or near the [proposed action] area. The proponent should monitor hydraulic interactions above the current goafs present at the mine and trial the injection of harmless tracer-fluids into these goafs to model the flow pathways in the system above the goafs.

231. The proponent responded to these concerns, and clarified information as to the brine volumes and salinity for injection. The Panel also carefully considered whether there was any likelihood of re-injected brines migrating from the goaf and reported:

.. the flows during groundwater recovery will not transmit the brine and the long-term flow rates through the goaf following recovery will be very low given the very low conductivity of the surrounding rocks and low head gradients. They will likely be countered by density gradients caused by the higher density of the brine. It is therefore reasonable to consider that any brine re-injected into the goaf at the mining depth will effectively be trapped in the mine with little prospect for contaminating any of the surrounding shallow aquifer systems. ... It does not seem likely that there will be any significant requirement for rehabilitation of the underground systems to manage groundwater or groundwater quality once mining has been completed.

232. Based on the advice of the Panel and State agencies, DPHI concluded that the potential water quantity and quality impacts on regionally important groundwater aquifers would not be significant and, importantly, would not exceed the 'minimal harm' test under the AIP. The IPC agreed with DPHI's conclusion, and imposed a specific condition requiring the impacts of brine re-injection to be monitored post mining.

Conclusion

233. The IPC concluded that:

- a. including the requirement for further monitoring, the proposed groundwater monitoring regime is appropriate and sufficiently comprehensive
- b. potential impacts to water quality and quantity as a result of mine operation and brine re-injection would not be significant and can be managed through conditions of consent.

234. I agreed with these conclusions, noting they were informed by consideration and advice of a number of highly experienced persons in the field. I also noted that a number of targeted conditions were imposed on the development consent to address impacts to groundwater resources, and the department had also undertaken a detailed analysis and recommended additional conditions (which I set out in detail below at [252]-[257]).

235. I considered that, with the conditions I discuss below, the impacts on groundwater resources would not be unacceptable.

Surface Water Impacts

236. By way of context:

- Narrabri Mine is located within the catchments of Kurrajong and Pine Creeks. Pine Creek and its tributaries traverse much of the northern series of longwall panels, before entering the Namoi River. Kurrajong Creek Tributary 1 and its tributaries traverse the southern series of longwall panels before flowing into Kurrajong Creek to the east of the Mine's Pit Top Area.
- Within the proposed action area, Pine and Kurrajong Creeks and Kurrajong Creek Tributary 1 and Tulla Mullen Creek Tributary 1 are all 3rd order streams.
- East of the proposed action area, Kurrajong Creek and Tulla Mullen Creek are 4th order and 5th order streams, respectively.
- The proposed action area also contains a network of smaller 1st and 2nd order streams.
- The climate is semi-arid, with a long term mean of around 600 mm annual rainfall. Rainfall is commonly in the form of short storms, which lead to short-term runoff and flows in the drainage channels.
- all creeks affected by the proposed action are ephemeral with minimal to no baseflow. The streams are generally not deeply incised and in their lower reaches are characterised by open channels with sandy beds.

237. The SAR identified the key potential impacts on surface water include:

- a. Surface water losses
- b. Water quality impacts

Surface water losses

238. I noted that potential impacts to overland flows and/or stream flows include:

- permanent losses through connective fracturing into the mine workings
- diversions into the surface fracture network, which may re-emerge downstream or end up in shallow aquifers.

239. The Surface Water Assessment did not include any modelling of surface water flow impacts. The IESC considered that such modelling was required. The Panel, however, had a different view stating that predictive modelling is possible but, considering the absence of surface flow data for model calibration and validation, surface flow modelling would be highly theoretical and unlikely to be accurate enough to usefully predict the potential for flow losses. Accordingly, the predictions of surface water losses were based on the proponent's experience of surface fracturing to date. That method predicted annual surface water losses being a total of 4.2 ML comprising:

- 3.5 ML for first/second order watercourses

- 0.7 ML for third order watercourses (i.e. Kurrajong Creek, Kurrajong Creek Tributary 1 and Tulla Mullen Tributary 1).

240. The SAR concluded that the predicted surface water loss of 4.2 ML/year is negligible when compared to the assessed annual runoff from the proposed action area of 5,524 ML/year. The SAR continued:

The Mining Panel gave limited consideration to the scale or significance of surface water losses caused by subsidence fracturing. As explained earlier, the Panel noted that even if “the height of connected fracturing and complete depressurisation is greater than predicted, it is unlikely to result in a meaningful increase in groundwater inflow to the mine due to the low surface recharge rates (<4 mm/annum) predicted for the outcrop formations above the mine footprint.”

Nevertheless, the Mining Panel also recommended that:

“Formal records of creek flow conditions should be initiated at selected sites.”

“Alternatives to measuring or predicting creek flows should be proposed for purpose of supporting water take licensing.”

241. With regard to the reference to ‘water take licensing’, I also noted that the proposed action is located within the Lower Namoi Regulated River Water Source, governed under the *Water Sharing Plan for the Upper Namoi and Lower Namoi Regulated River Water Sources 2020*, and within the *Eulah Creek Water Source, governed under the Water Sharing Plan for the Namoi and Peel Unregulated Water Sources 2012*.

242. The SAR noted that the EIS predicted that the proposed action would require up to 44 ML/year (during its operational life) and up to 193 ML/year (during post-mining peak drawdown) from the Lower Namoi Regulated River Water Source. I was advised that the proponent appeared to already hold a General Security entitlement of 658 ML/year as well as 20 ML/year High Security entitlement in this water source. The SAR concluded that the proposed action’s surface water licensing requirements are not excessive and, subject to the implementation of the Panel’s recommendations, are well capable of being adequately predicted, monitored and accounted for using existing WAL entitlements.

Impacts to surface water quality

243. Potential surface water quality impacts identified by the department include:

- increased sediment loads in watercourses resulting from stream geomorphology changes like erosion or scouring as well as the construction and use of ancillary infrastructure
- uncontrolled discharges or overflows from the brine storage dams.

Sediment loads

244. The proponent’s Subsidence Assessment found that, overall, the proposed action’s impacts on stream geomorphology would be limited due to the relatively gently sloping terrain drained by a series of small, ephemeral third order streams that are not deeply incised. The SAR noted that both the IESC and DPFI – Water Division expressed concerns over potential erosion, particularly the risks associated with changes of slope or fractures in watercourses. The Panel also raised some concern at the limited specific treatment of erosion within the proponents Surface Water Assessment, and recommended:

Further monitoring and assessment will be an essential part of the updated Water Management Plan including additional water quality data, details of controls, and erosion and water quality performance measures, indicators and Trigger Action Response Plans (TARPs).

245. The SAR agreed with this position and noted that it is usual practice for erosion, ponding and sedimentation to be primarily controlled through the development and implementation of a series of operational management plans, particularly where the risks are relatively low.

Uncontrolled discharges

246. As part of the proposed action, the proponent does not propose to change the catchment flowing to the existing Pit Top Area's water management system, and wet weather discharges from licensed discharge points would comply with the water quality limits in the existing Environmental Protection Licence (EPL) (EPL12789).

247. The Surface Water Assessment's water balance modelling calculates that the existing water management system would minimise the risk of uncontrolled releases from the Pit Top Area. It concludes that there is <1% chance of an uncontrolled release of runoff from the Pit Top Area and predicts 'no uncontrolled release' of brines from the existing or proposed brine storage dams. The SAR explained:

Hence, the Surface Water Assessment and EIS conclude that the Project would not adversely affect surface water quality in downstream receiving waters.

The EPA expressed no particular concerns about these assessments. Rather, it stated its standard policy position that: "The capacity of the mine water and "Pit Top Area Runoff" management system must be designed to maintain sufficient storage to achieve no managed overflows of wastewater, brine or effluent..." and that all EPL requirements regarding discharges must be met.

Nevertheless, the Mining Panel expressed some concern over the reliance of the water balance modelling on the previous 131 years of available rainfall records (as against worst case scenario modelling), and recommended that:

"Improved modelling of the likelihood of uncontrolled discharges should be included in future updates to the water balance model."

248. The IPC concluded that

The Commission accepts the findings of the Applicant's Surface Water Assessment and is of the view that the surface water impacts are capable of being managed through the Surface Water Management Plan...

Conclusion

249. Overall, the IPC concluded that:

- impacts of subsidence can be appropriately managed and mitigated.
- the predicted surface water losses would not be significant and there would be minimal cumulative impacts to downstream users as a result of the action.

250. Similar to my approach to the groundwater impacts, I agreed with these conclusions, noting that they were informed by consideration and advice of a number of highly experienced persons in the field. I also noted that a number of targeted conditions were imposed on the development consent to address impacts to groundwater resources, and the department had also undertaken a detailed analysis and recommended additional conditions (which I set out in detail below at [252]-[257]).

251. I considered that, together with the conditions I discuss below, the impacts on groundwater resources would not be unacceptable.

Conditions

252. The IPC imposed the following conditions for the management, mitigation, compensation and protection of water resources:

- a. a requirement the proponent ensure it has sufficient water for all stages of the proposed action, adjust the scale of the proposed action to match its available water supply if necessary and report on water take each year
- b. the proponent ensure that all surface discharges from the site comply with all relevant provisions of the *Protection of the Environment Operations Act 1997* (NSW), including any discharge limits (both volume and quality) set for the development in any EPL
- c. the proponent will provide compensatory water supplies to affected groundwater users (landowners), provide alternative long-term supply of water that is equivalent to the loss or provide compensation and refer disagreements with landowners to the Planning Secretary for resolution
- d. a requirement to comply with specified performance measures relating to the Namoi River, Namoi alluvium, general water management, water and sediment control works, clean water diversions and storage infrastructure, sediment dams, chemical and hydrocarbon storage, mine water discharges, treated water discharges and aquatic and riparian ecosystems
- e. the proponent has to prepare a Water Management Plan for the proposed action, to the satisfaction of the Planning Secretary
- f. to rehabilitate Narrabri Mine in accordance with the conditions imposed on the mining lease(s) under the *Mining Act 1992* (NSW). This rehabilitation must be generally consistent with the proposed rehabilitation strategy described in the EIS, and must comply outlined objectives relating to areas of the site affected by the development, areas proposed for native ecosystem re-establishment, watercourses, final landform, rehabilitation materials, surface facilities sites, portals and vent shafts of the development, mine water discharges, water quality, built features damaged, cliffs, rock face features and steep slopes, community and greenhouse gas emissions. Complementary to this is the requirement to prepare and implement a Rehabilitation Strategy to the satisfaction of the Planning Secretary and prepare a Rehabilitation Management Plan in accordance with the conditions imposed under the *Mining Act 1992* (NSW)
- g. a requirement to ensure that the proposed action does not cause exceedances of outlined performance measures relating to natural and heritage features including watercourses, landform features, biodiversity and mine workings, and to measure and monitor compliance with performance measures using generally accepted methods that are described in the relevant management plans and monitoring programs and are appropriate to the environment and circumstances in which the feature or characteristic is located
- h. that additional offsets and offset requirements are required to be provided if performance measures are exceeded
- i. the proponent may carry out first workings with the area of the approved mine plan, other than in accordance with an approved extraction plan, provided that the Resources Regulator is satisfied that first workings are designed to remain stable and non-subsiding in the long-term, and do not generate more than 20 mm of vertical subsidence at the surface, except insofar as they may be impacted by approved second workings
- j. to prepare and implement extraction plan (or plans) for all second workings within the area to the satisfaction of the Planning Secretary, and not undertake second workings until the applicable extraction plan is approved by the Planning Secretary

- k. within 4 months of the completion of each longwall panel, or as otherwise agreed by the Planning Secretary, the proponent must prepare an end-of-panel report and submit the report to relevant agencies to the satisfaction of the Planning Secretary.

253. The SAR stated that:

... the impacts of the action on a water resource, in relation large coal mining development would be acceptable, subject to the impact avoidance and mitigation measures described in [the proponent's] EIS, Submissions Report, Amendment Report and the recommended conditions of consent.

254. The department recommended, and I agreed, that a condition of approval of the proposed action would be that the proponent is required to comply with the conditions I have summarised at [252] above. This would ensure that the conditions which the IPC considered necessary to protect the water resources and ensure impacts were acceptable formed part of the suite of conditions which applied to the approval under the EPBC Act, and of which the department could maintain oversight.

255. While the IPC concluded that the above conditions would ensure the impacts were acceptable, I noted that the department considered that the conditions did not address all of the concerns which had been raised in the IESC advice. I adopt the department's analysis as follows:

- a. the IESC stated that groundwater monitoring should include monitoring of a wider range of parameters, including soluble metals. As part of the Submissions Report, the proponent committed to adding the soluble metals to their revised Water Management Plan, however the SAR and conditions of the development consent are silent on requirements for the proponent to include testing for soluble metals
- b. the IESC raised concerns around brine re-injection, in relation to the unknown quality of the groundwater and subsequent likely brine composition as well as the hydraulic interactions between the brine and groundwater. The SAR considered that, based on the advice from the Panel and other State agencies, impacts from brine re-injection on water quality would be acceptable, however the Department notes that further information in relation to the brine composition was not provided by the proponent. I noted that, while the conditions on the development consent require the proponent to prepare and implement a Water Management Plan, which includes a groundwater monitoring program and specific performance criteria, trigger levels, as well as management and monitoring requirements for brine re-injection, which address most of the IESC concerns, further advice from the department's Office of Water Science stated that monitoring of the increase in groundwater head should occur and be maintained at no greater than 6m increase above pre-commencement levels at the point of reinjection
- c. the IESC raised concerns as to whether the proponent had adequately assessed potential impacts on GDEs, especially springs and stygofauna. The Groundwater Assessment predicts very limited mining-related groundwater drawdown at each of these springs. The Mining Panel considered the three springs and recommended that monitoring should be undertaken at all three springs to establish any impacts as a result of drawdown due to mining, particularly for the Mayfield Spring which is closest to the mine. While the conditions of the development included provision for a Water Management Plan, performance criteria, trigger levels and reporting requirements were not explicitly required
- d. the IESC also raised several concerns over the impacts of subsidence on aquatic and riparian ecological values and expressed a low confidence in the proponent's impact assessment. The SAR identified that no threatened species potentially occur within the ephemeral creeks (Kurrajong Creek and Pine Creek) or unnamed drainage lines which are located within the proposed action area. In addition, Kurrajong Creek and Pine Creek do not provide any permanent habitat for aquatic biota as they only flow occasionally and have no significant long-

term pools. The Panel considered the scale or significance of surface water losses caused by subsidence fracturing to be minor. The conditions I have summarised at [252.i]-[252.k] were considered by the IPC to be adequate. However, in the event of an exceedance (or predicted exceedance) of a performance measure, the development consent does not contain any provisions to restrict mining of additional longwalls or to allow for the Minister to enforce corrective actions.

256. I accepted the department's summary of identified gaps which the development consent conditions did not address. The department recommended a number of conditions, as follows:
- a. a condition which sets limits on the rate of coal extraction per calendar year and the timeframe in which coal extraction must cease, and one which requires that the proposed action have no adverse impact to water resources as a result of the action
 - b. a requirement to submit the approved Water Management Plan to the department prior to commencing the action, to notify the department of predicted or detected exceedances of performance criteria, to fill the gap identified at [255.d], provisions for the Minister to direct NCOPL to undertake corrective actions and to include additional performance criteria for monitoring key metals and GDEs
 - c. requirements for the proponent to submit to the department and publish a report detailing the outcomes of the monitoring program, Extraction Plans that are approved under the development consent conditions, details of the brine groundwater monitoring network and program
 - d. that the proponent is to notify the department of any exceedances or predicted exceedances of the performance measures, submit an Impact Response Plan to the Minister for approval for each predicted or actual exceedance detected and to publish the Impact Response Plan. Further conditions would restrict the commencement of any new longwall panels prior to the Impact Response Plan being approved by the Minister, allow the Minister to direct the proponent to undertake specific corrective actions, if the Minister is not satisfied that the corrective actions specified in the Impact Response Plan are adequate to minimise impacts to water resources and to prevent the proponent from commencing mining of any longwall panel not commenced without written approval from the Minister
 - e. a requirement that the proponent establish and implement a groundwater monitoring network and program to monitor groundwater quality and head change at the point of brine re-injection, a condition which allows the Minister to direct the approval holder to include specific measures in the program, if the Minister is not satisfied the program is sufficient to protect water resources
 - f. limits on the increase of groundwater head due to brine re-injection, and a requirement to notify the department if a 6m increase in groundwater head is predicted or detected. If the 6m threshold is exceeded, the proponent must submit for the Minister's approval an Action Response Plan for the exceedance of the groundwater head threshold and is restricted from undertaking further brine injections until the Minister has approved the Action Response Plan.

257. I accepted the department's recommended conditions. I was satisfied that these conditions were necessary as they addressed outstanding concerns arising from the IESC advice such that water resources impacted by the proposed action could be appropriately and adequately managed such that those resources are protected.

Conclusion on water resources

258. For the reasons set out at [211]-[257] above, and [299]-[327] below and having regard to the information before me, I found that the proposed action, if approved subject to the conditions outlined

above, would not have an unacceptable impact on water resources. I noted in particular that the SAR and IPC considered that the proposed action would be acceptable with a suite of conditions, and a detailed analysis was undertaken by the department which led to further conditions which strengthened the protection mechanisms to ensure that impacts of the proposed actions were acceptable.

Economic and social matters

259. In making my decision, I had regard to the economic and social matters relevant to the proposed action, as follows.

260. I noted that the proponent had provided an Economic Assessment and a Social Impact Assessment (SIA) in accordance with the NSW Government Guidelines for the *Economic Assessment of Mining and Coal Seam Gas Proposals* (2015) and the NSW DPHI's Social Impact Assessment Guideline for State significant mining, petroleum production and extractive industry development, respectively.

261. Further, the SAR concluded as follows:

The Department concludes that the proposed development would result in a range of economic and social benefits for the local and regional communities and economies and is of public benefit to the community of NSW.

Overall, social impacts would be very minor compared with the social and economic benefits.

262. I agreed with this conclusion. I set out below at [263]-[281], the social and economic benefits which I accepted.

Economic

263. I noted that the proposed action will facilitate the recovery and processing of up to 11 million tonnes of ROM coal per annum until 26 July 2031. ROM coal is processed at the mine site to produce thermal coal and smaller quantities of PIC coal. The majority of product coal is delivered to export markets using existing rail and port infrastructure. Product coal is transported from Narrabri Mine to the Port of Newcastle using the Werris Creek Mungindi Railway.

264. The IPC reported that the proponent's cost benefits analysis states:

... indicates that the Project would have an estimated net benefit over 23 years of \$599 million (NPV) to the NSW economy which includes (Economic Analysis, Table ES-1):

- *royalties of \$259 million (NPV);*
- *NSW residents' share of company tax of \$177 million (NPV); and*
- *NSW shareholders' share of the net producer surplus of \$163 million (NPV).*

...

The Project's operational workforce is based on its projected peak, which is 520 full time equivalent (FTE) personnel. However, the Economic Assessment projects that the Applicant would employ an average of 370 FTE personnel between 2022 and 2044. The Commission notes that the additional employment benefits of the Project are concentrated in the second half of the Project life.

265. I noted that the public submissions in support of the proposed action raised the importance of job security in regional areas and the economic certainty of the proposed action provides opportunities for locals to remain in the area, remaining close to family and raising families of their own.

266. In terms of the local effects analysis, the SAR stated:

The analysis estimates that the Project, relative to the Reference Case for the local operation workforce, would lead to an increase in disposable income of \$55 million (NPV) for the local region and \$30 million (NPV) for the SA3 Region

267. I noted that the cost of direct (Scope 1 and Scope 2) GHG emissions were not internalised in the calculation of the proposed operation costs and were separately accounted for in the cost benefit analysis. The Economic Assessment considered that the proposed action would lead to an additional 18.6 Mt CO_{2-e} and calculated the economic impact of GHG emission output to NSW only, based on the proportion of the NSW Gross Sales Product as a percentage of World Gross Domestic Product. The direct GHG emissions attributable to NSW were calculated to be 0.06 Mt CO_{2-e} with a corresponding environmental cost of \$0.86 million (NPV).

268. Public submissions and comments which opposed the proposed action took some issue with the Economic Assessment. Further information was requested in relation to the Economic Assessment, and, on 17 February 2022, the proponent provided an updated economic assessment which provided an alternative emissions valuation, by allocating full GHG emission costs to Australia and apportioning by population to NSW using a central, low and high carbon price. DPHI reported that:

Under this approach under the central carbon price scenario the net benefit is reduced from \$598 to \$462 million, the f1igh carbon price is reduced to \$341 million and the low carbon price is reduced to \$506 million - that is, under all scenarios a substantial net benefit is realised'

269. NSW DPHI concluded that:

- while full accounting of Scope 1 and Scope 2 GHG emission costs to NSW and Australia would significantly decrease the proposed action's estimated net benefits, a significant net economic benefit would still accrue to the NSW Government, primarily from coal royalty payments
- a significant benefit would also arise for the NSW community from the NSW share of Commonwealth income taxes;
- significant local benefits would arise through the early creation of 13 high paying FTE jobs and the extension of 370 FTE jobs from 2034 to 2044, which would lead to significant local expenditure on other goods and services.

270. The IPC found:

Overall, the Commission finds that on balance and when weighed against the impacts, the Project is likely to generate net positive economic benefits for the local area, Moree-Narrabri region and to NSW more broadly through employment, royalties and tax revenue.

Social

271. The SAR stated that, given that the Narrabri Mine has been operating for over 11 years, its associated employment, expenditure and community sponsorship form part of the existing social baseline for both the local and wider region. The Narrabri and Gunnedah LGAs include the communities likely to be both positively and negatively impacted by the proposed action, and were together considered to be the primary region of social influence. The SAR went on to explain:

CDM Smith undertook a local community survey within the area of social influence, so as to enable a range of community members to participate in consultation and to obtain information for the social baseline. The surveys identified that the mining industry is a major contributor to the local economy. The most commonly identified benefits of the Project were ongoing jobs and training for local residents. The benefits of [the proponent's] existing community investment initiatives were also noted.

Consultation also identified that the community considered the rural and agricultural character of the area as an integral part of their 'sense of place'.

The surveys also identified that there is community concern regarding the effects of mining on environmental and social values, in particular potential impacts on:

- *surface water and groundwater (both water supply and water quality);*
- *community cohesion, as a result of change to the communities' sense of place and inequalities brought about by higher paying jobs in the mining and CSG industries;*
- *GHG emissions and climate change;*
- *Aboriginal cultural heritage, including a belief that mining is not compatible with the protection of Aboriginal cultural heritage values;*
- *community infrastructure and services, such as health services; and*
- *housing affordability and availability, particularly for low-income households.*

Consultation also indicated that noise, dust, visual amenity and odour are of key concern to the local community in the vicinity of the Narrabri Mine.

Other key concerns raised by nearby landholders relate to stress and anxiety from concerns around reduced property values (due to proximity to the Narrabri Mine), in addition to uncertainty regarding future mine plans and the possibility of future property acquisition

272. The IPC referred to the public submissions and hearings that had been held, in particular the importance of increased employment opportunities for the indigenous community, that 9% of the proponent's total workforce identify themselves as being of Indigenous heritage, that 12.4% of its workforce is female and the proponent stated that it offered sustainable long-term rewarding career opportunities in regional Australia with a strong focus on creating pathways for young people to remain in the region. It also noted that some expressed concern with the social impacts of the mine, stating that the mine does not listen to the local communities' concerns and has a history of infringements, and reiterated concerns with noise, dust, visual amenity and odour which are of key concern to the local community in the vicinity.
273. The SAR noted that the proposed action is unlikely to result in any significant change to population but may attract current non-local employees to move to the area of social influence, potentially resulting in low population growth. Further, by continuing to provide a substantial number of employment opportunities, it is likely that the proposed action would support continued provision of important services for the broader community, particularly in the health and education sectors. It was also noted that there would be up to 20 additional contractor construction personnel at various times during the proposed action's operation, however the impact of the proposed action on the demand for local services would be very limited.
274. I noted that the proponent had proposed to implement management measures to address social impacts under 4 key strategy areas: Community and Stakeholder Engagement, Employment and Procurement Management, Feedback and Complaints Management and Community Investment. The SAR noted that conditions on the development consent providing for the continued operation of the Community Consultative Committee, notification to landowners regarding voluntary acquisition and mitigation rights and exceedances of air quality or noise criteria, and ensuring access to information via the proponent's website would adequately meet and address social impacts. In this regard, I noted that such conditions were imposed on the development consent.
275. The SAR concluded 'The additional social costs of the Project are very low and are greatly outweighed by the social benefits associated with permanent and construction-related employment.' The IPC reached a similar conclusion, stating:

The Commission is of the view that the Applicant has assessed the social costs and benefits of the Project in significant and sufficient detail. The Commission agrees with the Department as quoted above and is of the view that the impact of the Project on the demand for local services would be very limited and the additional social costs of the Project are low and are outweighed by the social benefits associated with permanent and construction-related employment.

The Commission agrees with the Applicant that the Project would also continue to support community wellbeing through continued community contributions supporting positive social outcomes, social infrastructure investments and/or community resilience improvements (EIS page 6-12'.2). The Commission also acknowledges that the Applicant would implement a variety of mitigation and adaptive management measures to limit, manage and monitor the social impacts of the Project.

276. I agreed with these views.

Indigenous and cultural matters

277. An Aboriginal Cultural Heritage Assessment (**ACHA**) was undertaken for the proposed action. I noted that Heritage NSW, the agency responsible for regulating Aboriginal heritage and its protection, did not have any significant concerns over the ACHA and accepted the ACHA's findings, considering that the proposed action would have 'a minimal impact' on Aboriginal cultural heritage.

278. The SAR note that a total of 11 Aboriginal stakeholders registered an interest in the proposed action, and were consulted in relation to the ACHA process. Further:

Following review of desktop investigations and more recent surveys results, a total of 60 Aboriginal cultural heritage sites were identified within the Project area, comprising 36 surface artefact scatters, 22 isolated artefacts, and two grinding groove sites. Five of the sites (including four artefact scatters and one set of grinding grooves) were assessed as being of moderate scientific or archaeological significance. The remaining 55 sites were assessed as being of low scientific significance.

Whincop also undertook a 'cultural values assessment' for the Project. During the field surveys, archaeologists also encouraged RAPs to provide any relevant cultural information or values. No specific spiritual, traditional, historical or contemporary associations and attachments were identified by RAPs for the Project area. However, RAPs hold the view that all Aboriginal objects and sites are important due to their interconnectivity with the natural landscape and their testimony to ancestors' presence in the landscape.

279. The SAR concluded that there was 'limited likelihood of significant impacts' to Aboriginal heritage values as a result of the proposed action. The SAR stated that:

...Aboriginal cultural heritage would be appropriately managed under its standard conditions of consent for underground coal mines. These include requirements to prepare and implement an ACHMP for the Project as well as a Heritage Management Plan (addressing both Aboriginal and historic heritage) as a component of each Extraction Plan. Proposed conditions require [the proponent] to consult with Heritage NSW and the RAPs during preparation of each of these plans.

280. I noted that the IPC concluded:

The Commission agrees with the Heritage NSW advice above and the Department's assessment that the Project's overall impacts on Aboriginal cultural heritage are unlikely to be significant or widespread. The Commission is of the view that Aboriginal cultural heritage can be managed over the life of the Project and has imposed a range of conditions. Condition B47 imposed by the Commission states that the Applicant must ensure that the Project does not cause any direct or indirect impact on any identified Aboriginal object located outside the approved disturbance areas. Condition B48 imposed by the Commission imposes a stop work requirement stating that if any previously unknown Aboriginal object or Aboriginal place is discovered on the Site, or suspected to be on the Site, then all work in the immediate vicinity of the object or place must cease immediately, the object or area must be cordoned off and

Heritage NSW must be contacted immediately. The Commission has also imposed condition B51 which requires the Applicant to prepare an Aboriginal Cultural Heritage Management Plan in consultation with Heritage NSW and RAPS. The Applicant must implement this plan under condition B52.

281. I also noted the general comments from the NIAA (as noted at [31] above) in my consideration.

Principles of ecologically sustainable development - section 136(2)(a)

282. In approving the proposed action subject to conditions, I took into account the principles of ecologically sustainable development, including the precautionary principle (s 391(2)). I acknowledged that the SAR and IPC had concluded that approval of the proposed action, with conditions, would not be inconsistent with the principles of ecologically sustainable development. I reached the same conclusion.

283. I set out below ways in which I considered the individual principles in making my decision.

Decision-making processes should effectively integrate both long-term and short-term economic, environmental, social and equitable considerations

284. The department considered that the assessment of the proposed action (by way of the SAR and IPC) involved consideration of the long and short-term economic, environmental, social and equitable impacts, and included analysis of economic, environmental, social and equitable considerations, and included a public consultation process.

285. I was satisfied that the information before me allowed detailed consideration of long and short-term economic, environmental, social and equitable impacts. I acknowledged the detailed assessment process and thorough consideration given to the impacts of the proposed action in the SAR, by the IPC and then by the department, which itself was informed by advice from Heritage NSW, the IESC and the Office of Water Science, amongst others.

286. I accepted that the short-term and long-term impacts on protected matters would be appropriately managed by the conditions attached to the approval.

If there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation

287. Under sections 3A(b) and 391(2) of the EPBC Act, the precautionary principle provides that, if there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation.

288. The department advised me that there are threats of serious or irreversible environmental damage and a lack of full scientific certainty about the likely nature and/or extent of the impacts to threatened species and communities and water resources resulting from subsidence, groundwater quality resulting from brine re-injection, and GDEs. I accepted the department's advice, and applied the precautionary principle in making my decision. I agreed with the department that, applying the precautionary principle, it was nonetheless acceptable to approve the proposed action with conditions which would avoid any threat of serious or irreversible damage and manage scientific uncertainty by:

- requiring the proponent to mitigate and offset any additional loss of habitat for threatened species and communities resulting from subsidence;
- requiring impacts to water resources resulting from mining operations, subsidence and/or brine management to be appropriately managed and mitigated, and to be limited to what was predicted in the EIS.

The principle of inter-generational equity – that the present generation should ensure that the health, diversity and productivity of the environment is maintained or enhanced for the benefit of future generations

289. I noted that the IPC concluded as follows:

The Commission has considered inter-generational equity in its assessment of the potential environmental, social and economic impacts of the Project, including through imposing conditions seeking to leverage established and emerging technologies to significantly mitigate the potential long-term environmental impacts of the Project. The Commission finds that, subject to the imposed conditions, the Project would appropriately balance the environmental, social and economic impacts of the present generation with those of future generations

290. I noted that the SAR had acknowledged that coal mining is a major contributor to anthropogenic climate change, which has the potential to impact future generations. I explain my consideration of this in further detail below (at [299]-[328]).

291. The department considered that, with the proposed conditions of approval, the proposed action could be delivered and operated in a sustainable way to protect listed threatened species, ecological communities and water resources. I agreed with this view.

The conservation of biological diversity and ecological integrity should be a fundamental consideration in decision-making

292. I refer back to my discussion above (at [38]-[211]), where I set out in detail my consideration of biological and ecological impacts of the proposed action, and the measures for avoiding, mitigating and compensating for these, with the intention of ensuring diversity and integrity. I noted further that the IPC concluded:

... The Commission finds that any potential impacts would be reasonably mitigated and/or offset to enable acceptable long-term biodiversity outcomes to be achieved. The Commission finds that the conservation of biological diversity and ecological integrity can be achieved through avoiding, minimising and offsetting biodiversity impacts.

293. The department noted, and I agreed, that the importance of conserving biological diversity and ecological integrity in relation to the MNES were reflected in the proposed conditions of approval.

Improved valuation, pricing and incentive mechanisms should be promoted

294. I noted that the SAR which stated:

Many of the proposed conditions of consent are 'outcomes focused', i.e. they apply either performance measures to avoid impact or else require particular outcomes ('environmental goals'), such as remediation or further offsetting. They do not seek to codify which mechanisms must be applied by [the proponent] in order to achieve these environmental goals. Consequently, they allow [the proponent] to identify and pursue cost-effective solutions, including via the market-based mechanisms inherent in the State's biodiversity offsetting policies

295. This informed the IPC conclusion that:

The Department in its assessment, has proposed a mechanism by which GHG emissions per tonne of coal could be reduced. In its evaluation and conditions, the Commission has followed this approach. The Commission finds that, when considering the current policy framework, scope of the application and assessment of costs and benefits, the Project would produce net positive social and economic benefits to the local region and NSW.

296. Informed by the above, I accepted that valuation, pricing and incentive mechanisms had been promoted in the assessment process, and my proposed decision.

Assessment Report - section 136(2)(b)

297. In making my decision I had regard to SAR and IPC and, where relevant to my findings, I have referred to this throughout my reasons above.

Other information - section 136(2)(e)

298. The information on the relevant impacts of the action which I took into account is listed in Annexure B and, where it was relevant to the controlled action provisions and has formed part of my decision, I have also identified it above.

GHG Emissions

299. I noted that the issue of GHG Emissions from the proposed action was prominent in the public submissions, including that the IPC reopened public submissions for comments on this issue. I was also aware of the reconsideration request, which raised GHG emissions in some detail (see [23]-[25]). While the reconsideration decision addressed this issue in some detail I was required to, and did, consider the issue for myself, as I set out below.

300. I accepted that the proposed action will produce GHG emissions. I noted that the EPBC Act does not regulate GHG emissions as a discrete protected matter. However, GHG emissions from the taking of an action may be considered where those emissions will, or are likely to, result in a 'significant impact' on a MNES.

301. In making my decision I:

- agreed that, in a general sense, that climate change from anthropogenic sources of GHG emissions has and/or will have adverse physical effects on MNES.
- considered that, relevant to this proposed action, the combustion of coal and/or gas on a global scale results in GHG emissions, which increases the effects of climate change, including the regularity, scope and intensity of climate hazards.
- accepted that the GHG emissions and physical effects of climate change may adversely affect listed threatened species and ecological communities, and water resources in relation to unconventional gas or large coal mining developments.

302. Against this context, I considered whether GHG emissions from the proposed action will, or are likely to, result in a 'significant impact' on a MNES.

The proposed action and GHG emissions

303. By way of context, I adopt the following explanation of the categories of GHG emissions from the SAR:

- *Scope 1: emissions released to the atmosphere as a direct result of an activity;*
- *Scope 2: emissions released to the atmosphere from the indirect consumption of energy; and*
- *Scope 3: indirect emissions (other than Scope 2 emissions) generated in the wider economy, which occur as a consequence of the activities of a facility, but from sources not controlled by that facility.*

304. As part of the EIS, a Greenhouse Gas Assessment was undertaken to evaluate the likely GHG emissions of the proposed action. The Greenhouse Gas Assessment estimated as follows:

Mining Year	ROM coal (Mt)	Emissions (Mt CO ₂ -e)		
		Scope 1	Scope 2	Scope 3
2022	7.677	0.625	0.110	17.977
2023	7.140	0.581	0.102	16.760
2024	6.649	0.743	0.095	15.592
2025	10.948	0.829	0.156	25.698
2026	10.901	0.828	0.156	25.465
2027	9.404	0.845	0.134	21.987
2028	10.768	0.872	0.154	25.216
2029	8.958	0.885	0.128	20.890
2030	10.405	0.914	0.149	24.374
2031	8.436	0.875	0.120	19.618
2032	10.271	1.178	0.147	24.094
2033	9.353	1.160	0.134	21.807
2034	8.334	1.356	0.119	19.471
2035	9.379	1.377	0.134	21.805
2036	8.111	1.351	0.116	18.862
2037	9.212	1.471	0.132	21.448
2038	9.225	1.471	0.132	21.418
2039	7.679	1.466	0.110	17.858
2040	8.350	1.480	0.119	19.387
2041	7.550	1.464	0.108	17.558
2042	9.052	0.752	0.129	21.139
2043	6.056	0.956	0.086	14.210
2044	1.273	0.436	0.018	2.986
Average	8.484	1.040	0.121	19.810

305. The estimated annual average Scope 1 and 2 emissions from the proposed action as stated in the Greenhouse Gas Assessment (which was 1.161 Mt CO₂-e) represent approximately 0.22% of Australia’s 2017 emissions, as reflected in the following table:

National Greenhouse Gas Inventory	Value
2017 Total Australia GHG emissions (Mt CO ₂ -e)	530.5
2017 Total NSW GHG emissions (Mt CO ₂ -e)	128.9
Project Greenhouse Gas Emissions	Value
Average projected emissions per year (Mt CO ₂ -e)	1.161
Proportion of 2017 total Australia emissions	0.22%
Proportion of 2017 total NSW emissions	0.90%

306. On 10 November 2022, the department requested, in connection with the reconsideration request, information from the proponent on GHG emissions associated with the proposed action. On 17 March 2023, the proponent provided an updated response, which estimated the proposed action’s GHG emissions as follows:

Estimated Project Greenhouse Gas Emissions (Mt CO ₂ -e) *							
Emission Scope	Scope 1	Scope 2	Scope 3		Sum of Scopes 1 - 3		
Nominal Emission Location	Australia	Australia	Australia	Outside Aust.	Australia	Outside Aust.	Global
Annual Average	1.504	0.110	0.114	19.780	1.728	19.780	21.508
Maximum Annual Value	2.124	0.141	0.147	25.554	2.366	25.554	27.305
Total Over Project Life	34.781	2.555	2.523	435.174	39.859	435.174	475.033

307. Scope 1 emissions from the proposed action may occur through generation of electricity, heat or steam, physical or chemical processing, transportation of materials, products, waste and employees, consumption of diesel and fugitive emissions from the extraction of coal. Scope 2 emissions from the proposed action come from the consumption of purchased electricity. Scope 3 emissions were stated to comprise:

- fuel consumption (diesel) for equipment (0.03%);*
- electricity distribution losses (0.05%);*
- end use of product coal outside of Australia (energy production) (93.46%);*
- shipping of product coal to export destinations outside of Australia (1.21%);*
- transportation of product coal within Australia (0.53%); and*
- end use of product coal outside of Australia (coking coal use) (4.73%)*

308. The department noted that, through comparison with 2020 values, the response provided information that the estimated annual average GHG emissions (Scope 1 and 2) from the proposed action during operations represent approximately 0.324% of Australia's annual GHG emissions. The average annual GHG emissions (excluding the decommissioning phase) are estimated to be:

- 1.504 Mt CO₂-e for Scope 1;
- 0.110 Mt CO₂-e for Scope 2; and
- 19.894 Mt CO₂-e for Scope 3.

309. Total GHG emissions over the life of the proposed action (including the decommissioning phase) are estimated at 437.697 Mt CO₂-e for Scope 3 emissions. The majority of emissions associated with the proposed action are Scope 3 emissions, derived from the combustion of coal produced by the proposed action by its customers.

310. The proponent also provided the following in relation to global emissions:

In accordance with DCCEEW's Greenhouse Gas Emissions – Request for further information, the annual average greenhouse gas emissions for the Proposed Action as a proportion of global emissions are as follows (Table 7):

- *proportion of Scope 1 emissions from the Proposed Action relative to global emissions in 2019 (0.003%).*
- *proportion of Scope 2 emissions from the Proposed Action relative to global emissions in 2019 (0.000%).*
- *proportion of Scope 3 emissions associated with the Proposed Action relative to proportion of global emissions in 2019 (0.040%).*
- *proportion of the sum of Scopes 1 to 3 emissions from the Proposed Action, proportion of global emissions in 2019 (0.043%).*

Period	Scope 1 Emissions (Mt CO ₂ -e)	Scope 2 Emissions (Mt CO ₂ -e)	Scope 3 Emissions (Mt CO ₂ -e)	Total Emissions Inventory
Project Annual Average*	1.504	0.110	19.894	21.508 Mt CO ₂ -e
Annual Global Emissions for 2019 ¹				49,758 Mt CO ₂ -e
Contribution to Annual Global Emissions				0.043%

311. In addition, the proponent provided information about the consumers of the end-product coal, and emissions mitigation and management measures, including the following in the EIS:

... a number of processes by which the greenhouse gas emissions from the Narrabri Mine are mitigated, including the Greenhouse Gas Minimisation Plan (GHGMP) (SLR, 2017) and Energy Savings Action Plan (ESAP) (Advitech, 2017) (or the latest approved versions), which would be updated to incorporate the Proposed Action and are published online for public viewing. These plans set out a range of measures for the management and mitigation of greenhouse gas emissions, as well as identified opportunities to save energy and reduce the level of future greenhouse gas emissions from the Narrabri Mine. The current management and mitigation measures include:

- *regular maintenance of plant and equipment to minimise fuel consumption and associated emissions;*
- *continuing to select plant and equipment that are energy efficient; and*
- *training relevant staff on continuous improvement strategies regarding efficient use of plant and equipment including maintaining equipment to retain high levels of energy efficiency.*

An impact of the proposed action

312. Section 527E of the EPBC Act states:

Meaning of impact

- (1) *For the purposes of this Act, an event or circumstance is an impact of an action taken by a person if:*
- (a) *the event or circumstance is a direct consequence of the action; or*
 - (b) *for an event or circumstance that is an indirect consequence of the action--subject to subsection (2), the action is a substantial cause of that event or circumstance.*

313. Based on the information available, the department assessed that the physical effects of climate change associated with the GHG emissions of the proposed action are, if anything indirect consequences of the proposed action. I agreed with this assessment. As such, I was required to consider whether the proposed action was a substantial cause of the physical effects of climate change on listed threatened species and/or on water resources in relation to unconventional gas or large coal mining developments.

314. I did not consider that the information before me demonstrated that the effects of climate change on listed threatened species and ecological communities, and on water resources in relation to unconventional gas or large coal mining developments, were 'impacts'. I agreed with the department that:

- a. the available information did not demonstrate that the proposed action will cause a net increase in GHG emissions and global average temperature; and
- b. even if a likely net increase were demonstrated, any contribution from the proposed action to global GHG emissions would be very small, such that it could not be said that the proposed action will be a 'substantial cause'.

The proposed action will not cause a net increase in GHG emissions and global average temperature

315. I agreed with the department that the likely contribution of the proposed action towards a net increase in global GHG emissions and global average temperature is subject to a number of variables. One variable is whether any emissions generated by the combustion of the coal from the proposed action will be offset, mitigated or abated. The countries or jurisdictions where the prospective buyers of the coal are expected to combust the coal may at any time implement new policies or regulations regarding emissions within their borders.
316. I noted that, in the reconsideration decision, the proponent had advised that it was anticipated that the coal from the proposed action will be consumed by Japan, Taiwan, South Korea, India, Indonesia, China, Malaysia and Vietnam. With the exception of Taiwan, each have respective nationally determined contributions (**NDCs**) under the Paris Agreement. The reconsideration decision explained:
74. *The Paris Agreement entered into force on 4 November 2016. 195 members of the UNFCCC are parties to the Paris Agreement, including Australia. The temperature goal of the Paris Agreement is to limit the increase in global average temperature to well below 2°C and pursue efforts to limit the temperature increase to 1.5°C above pre-industrial levels.*
75. *Under the Paris Agreement, all parties must prepare, communicate and maintain successive NDCs and pursue domestic mitigation measures, with the aim of achieving the objectives of such contributions. Under the Paris Agreement, emissions that occur within a party's jurisdiction are accounted for within that party's national greenhouse gas inventory. As a result, emissions associated with the combustion of exported Australian coal are accounted for in the national greenhouse gas inventories of the importing countries.*
77. *Under Article 4 of the Paris Agreement, Parties aim to reach global peaking of GHG emissions as soon as possible, and to undertake rapid reductions thereafter in accordance with best available science, so as to achieve a balance between anthropogenic emissions by sources and removal by sinks of GHG in the second half of this century, on the basis of equity, and in the context of sustainable development and efforts to eradicate poverty. 151 governments around the world, including Australia, have announced intentions to reach net zero emissions.*
- ...
109. *...Under the Paris Agreement (referred to at paragraphs 73 to 78 above), each Party must submit an NDC every five years. These NDCs are required to reflect increased ambition over time. Parties may also submit new or updated NDCs at any time. The emissions generated by combusting coal (including coal from the proposed action) would be counted as scope 1 emissions in the country where combustion occurred and may be subject to mitigation actions or offsetting.*
110. *Taiwan is not a member of the United Nations and is excluded from the UNFCCC. Domestically, however, it has an Intended NDC that includes a 2030 target and has committed to net zero emissions by 2050.*
317. More broadly, if the proposed action does not proceed, this will not necessarily affect the level of GHG emissions worldwide or the extent to which listed threatened species and ecological communities, and water resources in relation to unconventional gas or large coal mining developments, will be impacted by the physical effects of climate change. That will be subject to a range of other factors, including the level of emissions from sources other than the proposed action.
318. I noted that if the proposed action does not proceed (i.e., I was to refuse the proposed action or something prevented the commencement), this will not necessarily affect the level of GHG emissions worldwide, or the extent to which listed threatened species and ecological communities, and water resources in relation to unconventional gas or large coal mining developments, will be impacted by

the physical effects of climate change. That will be subject to a range of other factors, including the level of emissions from sources other than the proposed action.

319. I agreed with the department that the presence of other factors makes it very difficult to estimate the likely net increase (if any) in global GHG emissions from the proposed action's emissions and, by extension, the extent of any net increase in global average temperature and the extent to which listed threatened species and ecological communities, and water resources in relation to unconventional gas or large coal mining developments, will be impacted by the physical effects of climate change.

320. Further, it is reasonable to expect that, if the proposed action does not proceed, the prospective buyers will purchase an equivalent amount of coal from a supplier other than the proponent, which would result in at least an equivalent amount of GHG emissions when combusted, when compared with the amount estimated for the proposed action. For example, the IEA Coal 2022 report states that, in 2022, China increased its imports from Indonesia and Russia when it reduced its imports from Australia. It also stated:

...Russia is the third largest coal exporter in the world and the sanctions have as a result given rise to a reshuffling of global trade flows as buyers, especially in Europe, seek alternative supplies. In addition, owing to the lack of rail capacity, part of the Russian coal volumes previously sent by rail to Europe or shipped from northwestern Russian ports towards Europe cannot be redirected to the east or the south. This has resulted in a decline of Russian exports and a tightening of the market. The gap left by Russian coal supplies in Europe has been largely filled by South Africa, Colombia and other smaller producers such as Tanzania and Botswana. Indonesia, which started the year banning coal exports in order to meet its own domestic demand, once again demonstrated its flexibility as it shifted its exports to Europe to help offset the Russian shortfall.

321. The department noted the more recent IEA Coal 2023 report, which post-dated the reconsideration decision, which notes that, although coal demand will fall in almost all advanced economies, the European Union and the United States with the biggest drops, the growth in China, India, Indonesia, Vietnam, and the Philippines will more than offset these decreases on a global level. I considered that, should the proposed action not proceed, the market would respond through an increase in supply elsewhere, in circumstances where there is still anticipated demand for the coal from the proposed action. That is, if the proposed action did not proceed, the emissions from the proposed action would nevertheless occur, it would just be by way of a different action.

322. The department recommended that I conclude that the proposed action will not, or is not likely to, result in a net increase to GHG emissions, or affect the extent to which the MNES will be affected. I accepted that recommendation. The matters I have discussed above (at [299]-[321]), and the information before me was such that I could not be satisfied that there would be any net increase to global GHG emissions as a result of the proposed action, such that the proposed action will be a substantial cause of the physical effects of climate change on these MNES.

In any event, any contribution from the proposed action to global GHG emissions would be very small, such that it could not be the proposed action will be a 'substantial cause'

323. The department considered that, in the alternative, even if the proposed action would result in a net increase in global GHG emissions and global average temperature, there is no reasonable basis for concluding that the proposed action will be a substantial cause of the physical effects of climate change on listed threatened species and ecological communities, and on water resources in relation to unconventional gas or large coal mining developments.

324. As I have noted above (at [310]), the proponent provided information demonstrating that the average total annual GHG emissions (Scope 1, 2 and 3) from the proposed action represents approximately 21.5 Mt CO_{2e} or 0.043% of global annual emissions in 2019. The proponent used Climate Watch's

Historical GHG Emissions 2019 data, the latest data available at the time, as the basis for its calculations, consistently with the department's request for information. Similarly, the information indicated that

- Scope 1 and 2 emissions from the proposed action would contribute approximately 0.003% to cumulative global emissions;
- Scope 3 emissions would represent approximately 0.040% of the total anthropogenic greenhouse gas emissions globally.

325. I noted that the reconsideration decision stated:

Further, the proponent estimated, in response to the same request for information, that the total GHG emissions associated with the [proposed action] would be approximately 475.03 Mt CO_{2e}. I noted that the department estimated that the likely increase in global temperature that could arise from the proposed action's estimated total GHG emissions, in a scenario where it could be shown that the proposed action would result in a net increase in global GHG emissions and global average temperature, is approximately 2.1×10^{-4} °C or 0.00021 °C. The department prepared this estimate assuming a one-for-one relationship between temperature and tons of GHG emissions, based on the information EJA provided about findings by the IPCC Working Group I that the relationship between anthropogenic CO₂ and global temperature has thus far been approximately linear.

The IEA Coal 2022 report also noted global coal consumption in 2022 was predicted to reach 8 025 million tonnes. The proposed action's maximum annual output is 11 million tonnes per annum (Mtpa) and this represents 0.14% of the global coal consumption that was predicted for 2022. Further, the IEA Coal 2022 report predicts global coal consumption will reach 8 038 Mt in 2025.

326. While the reconsideration decision relied on a predicted amount of coal consumption in 2022, the IEA Coal 2023 report noted that global coal consumption in 2022 (based on preliminary data) was 8,415 Mt. That was more than had been predicted, and exceeded what the global consumption was predicted to reach in 2025. The proposed action's maximum annual output is 11 Mtpa. As such, the proposed action would represent 0.14% of the preliminary global coal consumption for 2022. Further, the IEA Coal 2023 report estimates that global coal consumption for 2023 was 8,536 Mt, and forecasts that global coal consumption will reach 8,344 Mt in 2026.

327. I agreed that climate change occurs in a global context and, having regard to the percentages and figures in the paragraphs above, I considered that the amount of coal to be combusted from the proposed action, and any possible increase in net global GHG emissions and global average temperature that would result from combusting this amount of coal, would be such a minimal amount that I could not accept that the proposed action would be a 'substantial' cause of the physical effects of climate change on listed threatened species and ecological communities, and on water resources in relation to unconventional gas or large coal mining developments.

328. Further, and for the same reasons, even if it was said that impacts on listed threatened species and ecological communities and water resources arising from Scope 1, 2 and 3 GHG emissions could be said to be impacts of the proposed action, I would not accept that those impacts were significant.

Relevant comments - section 136(2)(f)

329. I have identified and summarised the relevant comments received at [30]-[33] above, and had regard to those when making my decision.

Relevant advice - section 136(2)(fa)

330. As required, I had regard to the advice obtained from the IESC. I refer to the advice in my consideration of the impact on water resources at [211]-[258] above.

Person's environmental history – section 136(4)

331. I noted that, pursuant to s 136(4) of the EPBC Act, I may take into account the proponent's history in relation to environmental matters.
332. On 17 September 2024, Environment Compliance Branch provided an Environmental History Check on the proponent. The check found no adverse history under the EPBC Act.
333. Between 18 May 2022 and 29 August 2024, the department obtained further information from the proponent and DPHI regarding the proponent's environmental compliance history. In summary, that information provided that over the previous 10 years Whitehaven had recorded:
- a. 38 penalty notices in the range of \$1,000 to \$15,000;
 - b. 8 penalty notices in the range of \$20,000 to \$372,000;
 - c. 54 official cautions;
 - d. 53 warnings;
 - e. 47 Pollution Reduction Programs (PRPs);
 - f. 10 directions;
 - g. 3 suspensions;
 - h. 3 'NC Recorded';
 - i. 2 Clean Ups;
 - j. 1 audit; and
 - k. 1 administrative self-report.

The department considers that, for the most part, these are minor contraventions in light of the scale and complexity of the operations being undertaken.

334. However, one particular incident involved a major water pollution event. Long term corrective actions taken by the proponent in response to this incident included upgraded water management infrastructure around the relevant emplacement area to a higher standard than required by the approval to reduce the risk of discharges and relocation of an explosive facility to within the mine water management system, and additional containment controls were implemented to prevent contaminate leaving the facility. I further noted that the department undertook an examination of the publicly available independent audit reports for Whitehaven and its subsidiaries, and reported that these showed that breaches of State environmental law identified have been addressed through corrective actions.
335. Having regard to the above matters, I considered that the proponent, despite some adverse history, was a suitable person for approval. I noted in particular that there had been no non-compliance under the EPBC Act, that the proponent had taken corrective actions in response to any compliance issues and that a comprehensive evaluation was undertaken by the DPHI Resources Regulator in relation to whether the proponent was fit and proper to hold mining authorisations, and did not take any action following this review. The department considered that the proponent was a suitable person for approval. I agreed with this assessment.

Requirements for decisions about listed threatened species and communities (section 139 of the EPBC Act)

Biodiversity Convention

336. In my making my decision, I was required to ensure that any decision I made would not be inconsistent with the Biodiversity Convention. The objectives of the Biodiversity Convention, to be pursued in accordance with its relevant provisions, are the conservation of biological diversity, the sustainable use of its components and the fair and equitable sharing of the benefits arising out of the utilisation of genetic resources, including by appropriate access to genetic resources and by appropriate transfer of relevant technologies, taking into account all rights over those resources and to technologies, and by appropriate funding.
337. The proposed action was subject to an environmental impact assessment process under the EP&A Act. The SAR identifies the likely impacts of the proposed action on MNES, and recommended measures to avoid and mitigate those impacts, which the IPC ultimately accepted and applied as conditions to the development consent. The department recommended, and I agreed, that conditions of this approval should require compliance with the conditions of the development consent.
338. The department also considered that the proposed action will not have unacceptable impacts on listed threatened species and communities if it is taken in accordance with the proposed conditions, and that approving the proposed action, subject to conditions, is not inconsistent with Australia's obligations under the Biodiversity Convention.
339. Taking into account my findings in relation to the listed threatened species, and noting the SAR, IPC and department's views, I was satisfied that approval of the proposed action, with conditions, would not be inconsistent with Australia's obligations under the Biodiversity Convention.

Apia Convention

340. The Convention on the Conservation of Nature in the South Pacific (Apia Convention) encourages the creation of protected areas which together with existing protected areas will safeguard representative samples of the natural ecosystems occurring therein (particular attention being given to endangered species), as well as superlative scenery, striking geological formations, and regions and objects of aesthetic interest or historic, cultural or scientific value.
341. The department informed me that the Apia Convention was suspended with effect from 13 September 2006. As Australia currently has no international obligations under the Apia Convention, I did not consider that any decision could be inconsistent with the Convention.
342. Nevertheless, I noted the Department's advice that the Apia Convention had been taken into consideration, and that the proposed action had undergone a rigorous environmental assessment. In addition, I acknowledged that the proposed conditions of approval placed express limits on the extent of impacts the proposed action can have on biodiversity, and required ongoing monitoring of potential impacts and obligations for the proponent to implement mitigation and corrective actions, and to offset significant residual impacts.
343. Accordingly, even if the Apia Convention did impose obligations, I was satisfied that approval with conditions would not be inconsistent with the Apia Convention.

International trade in endangered species

344. The Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) is an international agreement between governments. Its aim is to ensure that international trade in specimens of wild animals and plants does not threaten their survival. I agreed with the department

that as the proposed action does not involve international trade in specimens of wild animals and plants, approval would not be inconsistent with the CITES.

Recovery Plans and Threat Abatement Plans Recovery Plan

345. I was required to consider any Recovery Plans and Threat Abatement Plans relevant to my decision, and ensure that my decision was not inconsistently with these statutory documents.

346. I have had regard to these documents in making my decision, as discussed above at [38]-[211] above. I am satisfied that approval of the proposed action (subject to conditions) would not be inconsistent with any of these plans.

Conservation Advice(s)

347. I was required to have regard to any approved conservation advice for any species which is likely to be, or will be, significantly impacted by the proposed action. I have identified the relevant conservation advices, and how I took them into account, in my discussion at [38]-[211] above.

Bioregional plans (section 176(5) of the EPBC Act)

348. I noted that the proposed action is not located within or near an area designated by a bioregional plan, and therefore there is no bioregional plans for me to consider.

Conditions

349. I have noted above in my consideration of the listed threatened species and water resources the conditions that I considered necessary for the protection of those matters. I do not repeat those matters here.

350. In deciding if those conditions were necessary or convenient, I had regard to the very detailed conditions of the development consent, and the information provided by the proponent, including the minor variations to the proposed conditions of approval requested by the proponent (see [28]) following my proposed decision, and considered these were cost-effective as they would avoid duplication with the conditions of development consent.

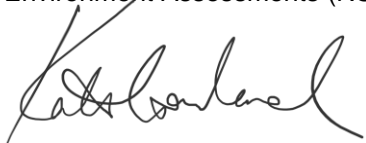
351. I noted that the department had also recommended various standard administrative conditions that allow for enforcement, record-keeping and appropriate documentation to be provided to the department. These conditions include:

- the proponent notifying the department of the commencement of the proposed action
- the proponent maintaining and supplying upon request accurate and complete compliance records
- annual compliance reporting and relevant timeframes
- the reporting of instances of non-compliance and the relevant procedures and timeframes
- independent audits of compliance with the proposed conditions and the relevant procedures and timeframes
- completion of action protocols, and
- the proponent notifying the department of any change or proposed change to the development consent.

352. I agreed that these conditions should be imposed as they were both necessary and convenient for the purposes of ensuring that the department can maintain adequate oversight over the proposed action and ensure protection of the MNES.

CONCLUSION

353. In making my decision, I considered each of the matters I have discussed above. There were no other matters which I took into account.
354. For the reasons I have detailed above, I found that the proposed action would have:
- 354.1. a significant impact on the various species, however, with appropriate conditions including requiring offsets, the proposed action would not have an unacceptable impact on those species; and
- 354.2. with appropriate conditions imposed, not have an unacceptable impact on the water resources.
355. Having considered all matters required to be considered under the EPBC Act, I accepted the recommendation of the department that the proposed action be approved, with conditions.

Name and position	Kate Gowland Branch Head Environment Assessments (NSW, ACT) Branch
Signature	
Date of decision	6 February 2025

ANNEXURE A

130 Timing of decision on approval

Basic rule

- (1) The Minister must decide whether or not to approve, for the purposes of each controlling provision for a controlled action, the taking of the action.

133 Grant of approval

...

Notice of refusal of approval

- (7) If the Minister refuses to approve for the purposes of a controlling provision the taking of an action by the person who proposed to take the action, the Minister must give the person notice of the refusal.

134 Condition to inform persons taking action of conditions attached to approval

...

Generally

- (1) The Minister may attach a condition to the approval of the action if he or she is satisfied that the condition is necessary or convenient for:
 - (a) protecting a matter protected by a provision of Part 3 for which the approval has effect (whether or not the protection is protection from the action); or
 - (b) repairing or mitigating damage to a matter protected by a provision of Part 3 for which the approval has effect (whether or not the damage has been, will be or is likely to be caused by the action).

Conditions to protect matters from the approved action

- (2) The Minister may attach a condition to the approval of the action if he or she is satisfied that the condition is necessary or convenient for:
 - (a) protecting from the action any matter protected by a provision of Part 3 for which the approval has effect; or
 - (b) repairing or mitigating damage that may or will be, or has been, caused by the action to any matter protected by a provision of Part 3 for which the approval has effect.

This subsection does not limit subsection (1).

Examples of kinds of conditions that may be attached

- (3) The conditions that may be attached to an approval include:
 - (aa) conditions requiring specified activities to be undertaken for:
 - (i) protecting a matter protected by a provision of Part 3 for which the approval has effect (whether or not the protection is protection from the action); or
 - (ii) repairing or mitigating damage to a matter protected by a provision of Part 3 for which the approval has effect (whether or not the damage may or will be, or has been, caused by the action); and
 - (ab) conditions requiring a specified financial contribution to be made to a person for the

- purpose of supporting activities of a kind mentioned in paragraph (aa); and
- (a) conditions relating to any security to be given by the holder of the approval by bond, guarantee or cash deposit:
 - (i) to comply with this Act and the regulations; and
 - (ii) not to contravene a condition attached to the approval; and
 - (iii) to meet any liability of a person whose taking of the action is approved to the Commonwealth for measures taken by the Commonwealth under section 499 (which lets the Commonwealth repair and mitigate damage caused by a contravention of this Act) in relation to the action; and
 - (b) conditions requiring the holder of the approval to insure against any specified liability of the holder to the Commonwealth for measures taken by the Commonwealth under section 499 in relation to the approved action; and
 - (c) conditions requiring a person taking the action to comply with conditions specified in an instrument (including any kind of authorisation) made or granted under a law of a State or self - governing Territory or another law of the Commonwealth; and
 - (d) conditions requiring an environmental audit of the action to be carried out periodically by a person who can be regarded as being independent from any person whose taking of the action is approved; and
 - (e) if an election has been made, or is taken to have been made, under section 132B in respect of the approval--conditions requiring:
 - (i) an action management plan to be submitted to the Minister for approval, accompanied by the fee (if any) prescribed by the regulations; and
 - (ii) implementation of the plan so approved; and
 - (f) conditions requiring specified environmental monitoring or testing to be carried out; and
 - (g) conditions requiring compliance with a specified industry standard or code of practice; and
 - (h) conditions relating to any alternative proposals in relation to the taking of the action covered by the approval (as permitted by subsection 133(1A)).

This subsection does not limit the kinds of conditions that may be attached to an approval.

Note: Paragraph (e)--an election is taken to have been made if an approval is varied to add a condition requiring an action management plan, see subsection 143(1A).

...

Considerations in deciding on condition

- (4) In deciding whether to attach a condition to an approval, the Minister must consider:
 - (a) any relevant conditions that have been imposed, or the Minister considers are likely to be imposed, under a law of a State or self - governing Territory or another law of the Commonwealth on the taking of the action; and
 - (aa) information provided by the person proposing to take the action or by the designated proponent of the action; and
 - (b) the desirability of ensuring as far as practicable that the condition is a cost - effective

means for the Commonwealth and a person taking the action to achieve the object of the condition.

136 General considerations

Mandatory considerations

- (1) In deciding whether or not to approve the taking of an action, and what conditions to attach to an approval, the Minister must consider the following, so far as they are not inconsistent with any other requirement of this Subdivision:
 - (a) matters relevant to any matter protected by a provision of Part 3 that the Minister has decided is a controlling provision for the action;
 - (b) economic and social matters.

Factors to be taken into account

- (2) In considering those matters, the Minister must take into account:
 - (a) the principles of ecologically sustainable development; and
 - (b) the assessment report (if any) relating to the action; and
 - ...
 - (c) if Division 5 (public environment reports) of Part 8 applies to the action:
 - (i) the finalised public environment report relating to the action given to the Minister under section 99; and
 - (ii) the recommendation report relating to the action given to the Minister under section 100; and
 - ...
 - (e) any other information the Minister has on the relevant impacts of the action (including information in a report on the impacts of actions taken under a policy, plan or program under which the action is to be taken that was given to the Minister under an agreement under Part 10 (about strategic assessments)); and
 - (f) any relevant comments given to the Minister in accordance with an invitation under section 131 or 131A; and
 - (fa) any relevant advice obtained by the Minister from the Independent Expert Scientific Committee on Coal Seam Gas and Large Coal Mining Development in accordance with section 131AB; and (g) if a notice relating to the action was given to the Minister under subsection 132A(3)—the information in the notice.

Note: The Minister must also take into account any relevant comments given to the Minister in response to an invitation under paragraph 131AA(1)(b). See subsection 131AA(6).

Person's environmental history

- (4) In deciding whether or not to approve the taking of an action by a person, and what conditions to attach to an approval, the Minister may consider whether the person is a suitable person to be granted an approval, having regard to:

- (a) the person's history in relation to environmental matters; and
- (b) if the person is a body corporate—the history of its executive officers in relation to environmental matters; and
- (c) if the person is a body corporate that is a subsidiary of another body or company (the parent body)—the history in relation to environmental matters of the parent body and its executive officers.

Minister not to consider other matters

- (5) In deciding whether or not to approve the taking of an action, and what conditions to attach to an approval, the Minister must not consider any matters that the Minister is not required or permitted by this Division to consider.

137A Requirements for decisions about National Heritage places

In deciding whether or not to approve for the purposes of section 15B or 15C the taking of an action, and what conditions to attach to such an approval, the Minister must not act inconsistently with:

- (a) the National Heritage management principles; or
- (b) an agreement to which the Commonwealth is party in relation to a National Heritage place; or
- (c) a plan that has been prepared for the management of a National Heritage place under section 324S or as described in section 324X.

139 Requirements for decisions about threatened species and endangered communities

- (1) In deciding whether or not to approve for the purposes of a subsection of section 18 or section 18A the taking of an action, and what conditions to attach to such an approval, the Minister must not act inconsistently with:

- (a) Australia's obligations under:
 - (i) the Biodiversity Convention; or
 - (ii) the Apia Convention; or
 - (iii) CITES; or
- (b) a recovery plan or threat abatement plan.

- (2) If:

- (a) the Minister is considering whether to approve, for the purposes of a subsection of section 18 or section 18A, the taking of an action; and
- (b) the action has or will have, or is likely to have, a significant impact on a particular listed threatened species or a particular listed threatened ecological community;

the Minister must, in deciding whether to so approve the taking of the action, have regard to any approved conservation advice for the species or community.

140 Requirements for decisions about migratory species

In deciding whether or not to approve for the purposes of section 20 or 20A the taking of an action relating to a listed migratory species, and what conditions to attach to such an approval, the Minister

must not act inconsistently with Australia's obligations under whichever of the following conventions and agreements because of which the species is listed:

- (a) the Bonn Convention;
- (b) CAMBA;
- (c) JAMBA;
- (d) an international agreement approved under subsection 209(4).

176 Bioregional plans

...

- (5) Subject to this Act, the Minister must have regard to a bioregional plan in making any decision under this Act to which the plan is relevant.

391 Minister must consider precautionary principle in making decisions

Taking account of precautionary principle

- (1) The Minister must take account of the precautionary principle in making a decision listed in the table in subsection (3), to the extent he or she can do so consistently with the other provisions of this Act.

Precautionary principle

- (2) The precautionary principle is that lack of full scientific certainty should not be used as a reason for postponing a measure to prevent degradation of the environment where there are threats of serious or irreversible environmental damage.

ANNEXURE B

- A: Updated Legal Considerations Report – finalised version to support final decision
 - B: Responses to invitation for comment on proposed decision
 - C: Notice of decision
 - D: Letters to relevant parties
 - E: Proposed approval decision briefing package
 - A: Legal considerations report
 - B: Proposed approval decision
 - C: Letters to proponent, Commonwealth Ministers and NSW Planning Minister
 - D: Referral decision briefing package and Reconsideration briefing package
 - E: National recovery plans, threat abatement plans, conservation advices
 - Recovery Plans for Regent Honeyeater, Painted Honeyeater, *Bertya opponens*, Spiny Peppercross, Koala, Large-eared Pied Bat.
 - Threat abatement plan for predation, habitat degradation, competition and disease transmission by feral pigs, Threat abatement plan for competition and land degradation by unmanaged goats, Threat abatement plan for competition and land degradation by rabbits, Threat abatement plan for predation by feral cats, Threat abatement plan for predation by the European red fox.
 - Conservation advices for *Bertya opponens*, *Tylophora linearis*, Regent Honeyeater, Painted Honeyeater, Koala, South-eastern long-eared bat, Pilliga Mouse, Large-eared pied bat.
 - F: NSW assessment documentation
 - G: Proponent's assessment documentation
 - H: Environmental history
 - I: Further information provided by proponent
 - J: IESC advice
 - K: OWS advice
 - L: Species Information and Policy Section advice
 - M: ERT Reports and ERT Review
 - N: Compliance Section advice
 - O: Significant Impact Guidelines
 - P: Summary of key IESC comments
- F: Notice of decision with tracked changes
 - G: Additional Attachments

G1: Compliance section advice 17 September 2024

G2: Biodiversity Management Plan

G3: Department correspondence with the proponent dated 17 September 2024

G4: Reconsideration decision package

G5: EPBC Offsets Policy