Appendix 3
Cross-reference of Draft EIS with EIS guidelines

The draft environmental impact statement (Draft EIS) for the Ranger 3 Deeps underground mine (the Project) has been prepared with consideration of the guidelines developed by the Commonwealth Department of Environment and the Northern Territory Environment Protection Authority in August 2013. The EIS guidelines require the Proponent (Energy Resources of Australia Ltd) to address all guidelines.

These guidelines, which are provided in Appendix 2, contain a detailed list of information requirements on the existing environment, the potential impacts of the Project, and the management controls proposed by the proponent to minimise negative impacts.

This appendix cross references the Draft EIS Chapter sections and appendices with each of the EIS guidelines for the Project. In some instances, this requires cross reference to a range of Draft EIS chapter sections.

Guideline Description	Cross reference
3: Description of the Proposal	
3.1: General Information	
Provide the background and context of the proposal including:	
The title of the proposal.	Chapter 1, section 1.1 'The Project'
The full name and postal address of the Proponent.	Chapter 1, section 1.2
The location of the proposal in the region and its proximity to:	Chapter 1, section 1.1.3 Chapter 3, section's 3.1; 3.2
Landmark features.	Chapter 2, section 2.2
Sites of cultural significance.	Chapter 2, section 2.2.3 Chapter 10, section 10.2
Sites of social significance.	Chapter 10, section 10.2
Regional community centres.	Chapter 2, section 2.2.2 Chapter 11, section 11.2.5
Sensitive environments, such as major waterways, significant groundwater resources, significant natural features and conservation reserves.	Chapter 2, sections 2.4.6; 2.4.7; 2.5 Chapter 12, sections 12.4; 12.5.1
Climate and atmospheric characteristics relevant to the proposal (e.g. air quality, seasonal temperatures, humidity, wind, evaporation, extreme events and rainfall).	Chapter 2, sections 2.4.1; 2.4.2
How the proposal relates to any other proposals or actions (of which the Proponent should reasonably be aware) that have been or are being taken, or that have been approved in the region.	Chapter 1; section 1.3.4 Annexe A: Ranger mine timeline Annexe B: Legislative framework
The background to the development of the proposal, including discussion of previous environmental impact assessment and overview of historic mining activities.	Chapter 1, sections 1.1.1; 1.3; 1.4
An explanation and outline of the objectives, benefits and justification for the proposal.	Chapter 1, sections 1.1.1; 1.1.2 Chapter 11, sections 11.2.5; 11.3; 11.4
Identification of areas of Ranger 3 Deeps deposit that are part of the Ranger 3 Deeps exploration program, which may be mined in future.	Chapter 3, section 3.1
A summary of current agreements between the Proponent and the Northern Territory Government, and/or the Australian Government, and/or other stakeholders;	Chapter 1; sections 1.3.3; 1.3.4; 1.3.5; 1.3.6 Annexe B
Details of the Proponent's environmental record, including details of any proceedings under a Commonwealth, State or Territory law for the protection of the environment or the conservation and sustainable use of natural resources against the Proponent, and details of systems and processes that have been subsequently upgraded.	Chapter 1, section 1.3.7 Annexe C
National and Northern Territory standards, codes of practice and guidelines relevant to the proposal.	Chapter 1, section 1.3.4 Chapter 15, sections 15.2; 15.3
Relevant industry standards and guidelines used; and	Chapter 1, section 1.3.4
The consequences, both positive and negative, of not proceeding with the proposal.	Chapter 4, section 4.3.1.1

Guideline Description	Cross reference
3.2: Approvals and Conditions	
The EIS must include information on any other requirements for approval or conditions that apply, or that the Proponent reasonably believes are likely to apply, to the proposed action. This must include:	
A description of any approval that has been obtained from a State, Territory or Commonwealth agency or authority (other than an approval under the EPBC Act or EA Act), including any conditions that apply to the action.	Chapter 1, sections 1.1.1; 1.3.2; 1.3.4; 1.3.5; 1.4 Annexe B
A statement identifying any additional approval that is required.	Chapter 1, section 1.4
A description of the monitoring, enforcement and review procedures that apply, or are proposed to apply, to the action.	Chapter 15 Appendix 4 Chapter 1, section 1.4 Annexe B
3.3: Proposal Components	
The EIS should identify all the processes and activities intended for the Ranger 3 Deeps Underground Mine and associated ancillary activities, during the life of the proposal. As background to discussion of specific components, the following should be included:	
A description of the environment of the proposed site and the surrounding areas that may be affected by the action.	Chapter 2, sections 2.4; 2.5 Chapter 3, section 3.2
The current status of the proposal.	Chapter 1, section 1.1 Chapter 3, section 3.1
An overview of the proposal schedule associated with construction, operation and closure. This should include a summary of the life-of-mine schedule/timeline for the current Ranger Uranium Mine and the Ranger 3 Deeps Underground Mine, including the targeting of each section of the Ranger 3 Deeps resource.	Chapter 3, section 3.9.1
An outline of the geology of the area including:	
The results of studies and surveys undertaken to identify the extent of the mineral resource or ore reserve within the area.	Chapter 1, section 1.1 Chapter 3, sections 3.3.1; 3.3.2
Geological properties of the site.	Chapter 2, section 2.4.3 Chapter 3, sections 3.3.1; 3.3.2
Characterisation of the orebody and waste rock.	Chapter 3, sections 3.3.1; 3.3.2
Delineation of the proposal footprint using detailed maps and diagrams, including:	Chapter 3, sections 3.3.1; 3.3.2; 3.3.3
Locations of existing infrastructure and mine components.	Chapter 2, section 2.6 Chapter 3, section 3.2
Locations of existing water extraction points and storage facilities.	Chapter 2, section 2.6.5
Location of the resource/s to be explored, developed, mined and included in mine closure and rehabilitation activities.	Chapter 3, sections 3.3.1; 3.3.2; 3.3.3; 3.10 Chapter 13, section 13.3
All areas to be cleared or disturbed, both for the life of the proposal and temporarily.	Chapter 3, section 3.2
The location of any works to be undertaken, structures to be built or elements of the proposal, including but not limited to:	Chapter 3, sections 3.2; 3.5
The mine.	Chapter 3, section 3.3.3

Guideline Description	Cross reference
Paste-fill plant.	Chapter 3, section 3.5.1
Vent raises.	Chapter 3, section 3.5.2
Hard stands.	Chapter 3, section 3.2
Product export or transhipment facilities.	Chapter 3, section 3.4.3
3.3.1: Mine	
Provide specific details of the following aspects of construction:	
Timetable for construction including staging of construction activities.	Chapter 3, sections 3.5.2.4; 3.5.3.5; 3.9.1
Methods of mine construction.	Chapter 3, section 3.3.3
Volumes of materials required, including, but not limited to, consumables such as bulk chemicals and fuel.	Chapter 3, section 3.4.2 Chapter 12, section 12.6.3.1
Plant and machinery required.	Chapter 3, section 3.3.4
Provide specific details of the following:	
Mining types and methods, including the major equipment to be used in the various components of the operation.	Chapter 3, sections 3.3.3; 3.3.4; 3.5
Handling and stockpiling of waste rock and materials.	Chapter 3, section 3.8 Chapter 13, section 13.3.4
Quantity of material to be mined annually, including any proposed ramping up of production or staging of development.	Chapter 3, section 3.3.5 Chapter 11, section 11.3.1.1
Confirmation of the volumes of ore already extracted from the Ranger Uranium Mine for comparison against the proposed additional ore extraction volumes.	Chapter 1, section 1.1.1
3.3.2: Processing	
Provide relevant information with respect to the processing circuit, including but not limited to:	
Transport of materials to the processing circuit.	Chapter 3, sections 3.4; 3.5.5.8
Processing methods, including the major equipment to be used in the various components of the processing operation, where appropriate.	Chapter 3, section 3.4
The methods proposed for processing of the ore body.	Chapter 2, section 2.6; Chapter 3, section 3.4
Water requirements, treatment and sources.	Chapter 3, section 3.7
Volumes of materials required, including, but not limited to, consumables such as bulk chemicals and fuel.	Chapter 3, section 3.4.2 Chapter 12, section 12.6.3.1
Beneficiation.	Chapter 3, section 3.4
A detailed discussion of how the processing of ore from the Ranger 3 Deeps Underground Mine differs from the current processing at the Ranger Uranium Mine should be provided, including the use of acids, alkalis and other chemicals.	Chapter 3, section 3.4

Guideline Description	Cross reference
3.3.3: Transport and Consumables	
Identify proposed routes for transport to and from the underground mine, of construction materials, consumables, personnel and product for the proposal, including use of existing roads and airfields.	Chapter 2, sections 2.2.5; 2.6 Chapter 12, section 12.3
Details of the road network and any access track construction or upgrade should be provided, including:	Chapter 2, section 2.2.5 Chapter 3, section 3.6 Chapter 12, section 12.3
Maximum width of road corridors required for construction.	Chapter 3, section 3.6.2
Plant and machinery required.	Chapter 3, section 3.5.5.8
Vegetation clearing methods and disposal of plant matter following clearing.	Chapter 3, section 3.2
Timeframes for access track construction and upgrade.	Chapter 3, section 3.9
Source of construction inputs and materials.	Chapter 3, sections 3.5.5; 3.5.6
Ongoing provisions for road and access track maintenance, including source and extraction of maintenance inputs and materials.	Chapter 3, section 3.5.5.8 Chapter 3, section 3.6
Details of road use associated with the proposed activity should be provided including:	
Type, size and number of vehicles required during all phases of the proposal.	Chapter 12, sections 12.6.2; 12.6.3; 12.6.4
Estimated frequency of proposal-related vehicle use on public roads.	Chapter 12, sections 12.6.2; 12.6.3; 12.6.4
Quantities of materials to be transported to the mine (e.g. heavy machinery, equipment, diesel, hazardous materials such as sulfuric acid).	Chapter 12, sections 12.6.2; 12.6.3
Hours of operation.	Chapter 12, section 12.6.2
Describe operational aspects of the facilities, including:	
Product handling requirements, including storage and laydown areas.	Chapter 3, section 3.5
Hazardous materials storage.	Chapter 2, section 2.6 Chapter 3, sections 3.5.5, 3.5.5.1; 3.5.5.5
Water storage (ponds or tanks) and/or groundwater extraction requirements.	Chapter 2, section 2.6.5 Chapter 3, sections 3.5.4; 3.5.5.2
Operational hours/days.	Chapter 3, section 3.9.2
Lighting.	Chapter 3, section 3.5.5.10
3.3.4: Water	
Provide information on the quantity, quality, source (groundwater and/or surface water), storage, and infrastructure requirements for water use, including a water balance, for both construction and operational aspects of the proposal include:	
Dust suppression.	Chapter 2, section 2.6.5.1 Chapter 3, section 3.7.2
Drinking water.	Chapter 2, section 2.6.5.1 Chapter 3, sections 3.5.5.2; 3.7.3
Ablutions and sewage treatment.	Chapter 2, section 2.6.5.1 Chapter 3, section 3.5.5.2

Guideline Description	Cross reference
Waste (mine and process) water.	Chapter 3, sections 3.5.4; 3.5.5.2; 3.7.1; 3.7.2; 3.7.4
Processing circuit.	Chapter 3, sections 3.4.1; 3.7.1
Any other uses.	There are no other uses.
3.3.5: Energy	
Provide relevant information with respect to energy, including but not limited to:	
Information on the proposal energy requirements, including mining fleet fuels and electricity demand both onsite and at the accommodation village.	Chapter 3, section 3.5.3 Chapter 6, sections 6.5.5; 6.5.8
Details of energy requirements (type of equipment, fuel use).	Chapter 3, sections 3.5.3; 3.5.5.1 Chapter 6, section 6.5.8
Details of energy infrastructure requirements, for all components of the proposal, including fuel storage.	Chapter 3, sections 3.5.3; 3.5.5.1; 3.5.5.4
Describe any initiatives proposed to improve energy efficiency and/or reduce emissions to air.	Chapter 3, sections 3.5.3.2; 3.5.3.3 Chapter 6, sections 6.4.6; 6.5.9
An inventory of any emissions to air and their management during the proposal.	Chapter 6, section 6.3.1; 6.5.8.3 Appendix 10 Chapter 15 Appendix 4
3.3.6: Stockpile Management	
Provide a detailed description of the type (e.g. cut-off grades), storage and management of the stockpiled materials at the Ranger Uranium Mine.	Chapter 2, section 2.6.3 Chapter 3, sections 3.1; 3.3.5; 3.4.1; 3.8.1 Chapter 13, section 13.3.4
3.3.7: Waste Management	
Provide relevant information with respect to waste management, including but not limited to:	
Descriptions of predicted waste streams, both industrial and domestic, including solid and liquid wastes at the mine site, camp site and other relevant locations both during construction and operational phases of the proposal.	Chapter 3, section 3.8
Information on potentially hazardous materials to be used or produced and methods for storage, transport, handling, containment, disposal and emergency management of these materials (including fuel).	Chapter 3, sections 3.4.2, 3.4.3; 3.8 Chapter 12, sections 12.6.2, 12.6.3.1
An inventory of any waste streams requiring management during the proposal.	Chapter 3, section 3.8
3.3.8: Tailings Management	
Provide relevant information with respect to tailings management, including but not limited to:	
Methods for managing tailings and associated process water, including volumes.	Chapter 2, section 2.6.2.2 Chapter 3, sections 3.7.1, section 3.8.1
To provide context, clearly indicate the quantity of tailings that would be produced from the underground mine and how that may impact the overall Integrated Tailings and Water Closure Strategy e. g. Detail any changes in the total volume and timing of tailings proposed to be transferred into Pit 3.	Chapter 3, section 3.8.1 Chapter 13, sections 13.3.3; 13.4.2

Guideline Description	Cross reference
3.3.9: Noise	
Provide relevant information with respect to noise, including but not limited to:	
The expected noise levels associated with the proposal construction and operation, including timing and duration, in comparison to levels associated with the existing operation, sensitive receptors and nominated noise criteria and standards.	Chapter 6, section 6.6.5 Appendix 9
Describe the management of relevant noise impacts.	Chapter 3, section 3.5.2.2 Chapter 6, section 6.6.6 Appendix 4
3.3.10: Air Quality	
Provide relevant information with respect to air quality, including but not limited to:	
A description of the sources and projected quantities of greenhouse gases emitted by the proposal	Chapter 6, section 6.3.1; 6.5.8.3 Appendix 10
A description of the sources and projected quantities of radioactive gases and particulates emitted by the proposal.	Chapter 6, sections 6.3.1; 6.4.3 Chapter 7, section 7.3.5.1 Appendix 10
Discuss dust suppression strategies and monitoring of potential dust impacts, including reporting requirements and compliance with relevant health standards.	Chapter 3, section 3.7.2.2 Chapter 6, section 6.4.6 Chapter 7, section 7.3.3.10 Chapter 10, section 10.4.2.2 Chapter 15 Appendix 4
3.3.11: Workforce and Accommodation	
Provide relevant information with respect to the workforce and accommodation, including but not limited to:	
Details of the estimated number of people to be employed, skills base required, and likely sources (local, regional, overseas) for the workforce during construction, operational and closure/rehabilitation phases.	Chapter 3, section 3.9.2
Information on the potential overflow into commercial accommodation.	Chapter 3, section 3.9.3
Discuss arrangements for transport of workers to and from project areas, including air services required.	Chapter 3, section 3.9.3
3.3.12: Ancillary Infrastructure	
Provide construction and operational information regarding ancillary infrastructure, including, but not limited to:	
Telecommunications.	Chapter 3, section 3.5.5
Any existing ancillary infrastructure that could be used by the proposal.	Chapter 2, section 2.6 Chapter 3, sections 3.4.1; 3.5.5
3.3.13: Closure and Rehabilitation	
Discuss the various aspects of proposed progressive and final rehabilitation of disturbed areas associated with the Ranger 3 Deeps Underground Mine, including:	
Proposed staging and timing.	Chapter 3, sections 3.10.2; 3.10.6 Chapter 13, sections 13.2.1; 13.4.2

Guideline Description	Cross reference
How the proposal will be incorporated within the final landform design for the existing operation, including the design approach and methodology used, and any voids or landscape depressions to be left at cessation of mining.	Chapter 3, section 3.10.1 Chapter 13, sections 13.3.1; 13.3.2; 13.3.4; 13.3.5
The rehabilitation techniques to be used and the final topographic and drainage morphology.	Chapter 13, section 13.3.6
The proposed revegetation program, with selection and collection of local native species e.g. native grasses and other vegetation.	Chapter 3, section 3.10.3 Chapter 13, section 13.3.6
Other preparations required for rehabilitation (seed harvesting, seedling generation).	Chapter 13, section 13.3.6
Groundwater influences, including the long term predicted hydrology.	Chapter 8, section 8.5.2.1
Water supply.	Chapter 3, section 3.10.6
Post closure and rehabilitation monitoring.	Chapter 13, section 13.2.2, 13.3.8
3.4: Alternatives	
The EIS should describe any feasible alternatives to carrying out the proposed action, including how it complies with the principles and objectives of ecologically sustainable development (Attachment 1).	
Alternatives should include:	
Not proceeding with the proposal.	Chapter 4, section 4.3.1.1
Site selection for mine and processing components.	Chapter 4, sections 4.3.2.6; 4.3.1.2
Mining methods.	Chapter 4, sections 4.2.4; 4.3.2.1
Management of wastes.	Chapter 4, section 4.3.3.1
Water management.	Chapter 4, section 4.3.3.2
Rehabilitation methods.	Chapter 4, section 4.3.3.3
Energy sources for power generation, including renewable energy sources.	Chapter 4, section 4.3.3.4
Alternative processes, methods and lifecycle.	Chapter 4, sections 4.2.4; 4.3.2
Consideration of alternative environmental management measures for key risks/impacts.	Chapter 4, section 4.3.3.5
Discussion should include:	
Sufficient detail to make clear why a particular alternative is preferred to another.	Chapter 4, sections 4.2; 4.3
Adverse and beneficial effects (direct and indirect) of alternatives at national, territory, regional and local levels and their distributional impact.	Chapter 4, section 4.2
The comparison of short (whilst operational), medium (post closure) and relevant long term advantages and disadvantages of the options.	Chapter 4, section 4.2.
A comparative description of the potential impacts associated with each viable alternative on NES matters protected by controlling provisions of Part 3 of the EPBC Act for the action.	Chapter 4, section 4.2.1

Guideline Description	Cross reference
4: Risk Assessment	
4.1: Risk Assessment Approach	
The EIS should be undertaken with specific emphasis on the identification, analysis and mitigation of risks through a whole of project risk assessment. Through this process, the EIS will:	
Identify and discuss the full range of risks presented by the proposal, including those of special concern to the public.	Chapter 5 Chapter 6, sections 6.4.4; 6.5.7; 6.6.4; 6.7.4 Chapter 7, section 7.3 Chapter 8, section 8.5 Chapter 9, section 9.4 Chapter 10, section 10.4 Chapter 11, section 11.3 Chapter 12, sections 12.5; 12.7 Chapter 13, section 13.4 Chapter 14, sections 14.4; 14.5; 14.6 Appendices: 5; 6; 14; 16
Identify relevant impacts.	Chapter 6, sections 6.4.5; 6.5.8; 6.6.5; 6.7.5 Chapter 7, section 7.3 Chapter 8, section 8.5.2 Chapter 9, sections 9.2.3 Chapter 10, section 10.4 Chapter 11, sections 11.3 Chapter 12, sections 12.5; 12.6.4; 12.7 Chapter 13, section 13.4.2 Chapter 14, sections 14.5; 14.6 Appendices: 5; 6; 14; 16
Quantify and rank risks so that the reasons for proposed management responses are clear.	Chapter 5, sections 5.2; 5.4 Chapter 12, section 12.5.2; 12.5.4 ; 12.5.6 ; 12.7 Appendices: 5; 14; 16
Explicitly identify those members of the community expected to accept residual risks and their consequences, providing better understanding of equity issues.	Chapter 11, sections 11.2, 11.3 Appendix: 14
Demonstrate that the proposal represents best practicable technology.	Chapter 4, sections 4.2; 4.3
Statements about levels of uncertainty should accompany all aspects of the risk assessment. Steps taken to reduce uncertainty or precautions taken to compensate for uncertainty should be identified and their effect/s demonstrated.	Chapter 5, section 5.4 Appendix: 5

Guideline Description	Cross reference
Information provided should permit the reader to understand the likelihood and potential severity of each risk presented by the proposal, and any uncertainty around these risks, as well as any uncertainty about the effectiveness of controls. Levels of uncertainty that preclude robust quantification of risk should be clearly acknowledged.	Chapter 5, section 5.4 Chapter 6, sections 6.4.4; 6.5.7; 6.6.4; 6.7.4 Chapter 7, section 7.3 Chapter 8, section 8.5 Chapter 9, section 9.4 Chapter 10, section 10.4.1 Chapter 11, section 11.2 Chapter 12, section 12.5 Chapter 13, section 13.4 Chapter 14, sections 14.5.4; 14.6.4; 14.7.5; 14.8; 14.9.5; 14.10; 14.11 Appendices: 5; 6; 14; 16
Risk rankings assigned should be fully justified. Where a risk score associated with the likelihood or consequence of an impact is reduced as a result of proposed mitigation measures, clear justification should be provided for the reduction in score. The adequacy and feasibility of mitigation measures must be demonstrable.	Chapter 5, section 5.4 Chapter 12, section 12.5 Appendices: 5; 16
Sufficient quantitative analysis should be provided to indicate whether risks are likely to be acceptable or tolerable. A comparison can be made with similar ventures in Australia and internationally. Assumptions used in the analyses should be explained. Relevant standards, codes and best practice methodologies that minimise risks should be discussed.	Chapter 5, section 5.4 Chapter 12, sections 12.5.2 ; 12.5.3 ; 12.5.4 Appendices 5; 14;16
The risk assessment should be based on best practice. Processes for risk management are formalised in Standards Australia / Standards New Zealand (e.g. AS/NZS ISO 31000:2009; HB 436:2004; HB 158:2010; HB 203:2012).	Chapter 5, section 5.2 Chapter 12, sections 12.5.2; 12.5.3; 12.5.4; 12.5.7
A number of key risks have been identified through a preliminary assessment of the proposal. Each of the identified risks should be addressed by the Proponent in the risk assessment and management process.	Chapter 5, section 5.4 Chapter 6, sections 6.4.4; 6.5.7; 6.6.4; 6.7.4 Chapter 7, section 7.3 Chapter 8, section 8.5 Chapter 9, section 9.4 Chapter 10, section 10.4 Chapter 11, sections 11.2, 11.3 Chapter 12, sections 12.5.4; 12.7 Chapter 13, section 13.4 Chapter 14, sections 14.4; 14.5; 14.6 Chapter 15 Appendices: 5; 6; 14; 15; 16

Guideline Description	Cross reference
Additionally, it is expected that further risks will be identified through the comprehensive risk assessment process required for the EIS. These should also be addressed and appropriate management initiatives be developed.	Chapter 5, section 5.4 Chapter 6, sections 6.4.4; 6.5.7; 6.6.4; 6.7.4 Chapter 7, section 7.3 Chapter 8, section 8.5 Chapter 9, section 9.4 Chapter 10, section 10.4 Chapter 11, sections 11.2, 11.3 Chapter 12, sections 12.5.4; 12.7 Chapter 13, section 13.4 Chapter 14, sections 14.4; 14.5; 14.6 Appendices: 5; 6; 14; 15; 16; 17
Where relevant, describe how applicable standards, codes and best practice that minimise risk and describe how the application of this guidance material has been utilised by other projects dealing with similar potential risks and their identified impacts.	Chapter 5, section 5.4 Chapter 6, sections 6.4.4; 6.5.7; 6.6.4; 6.7.4 Chapter 7, section 7.3 Chapter 8, section 8.5 Chapter 9, section 9.4 Chapter 10, sections 10.2.1; 10.2.2; 10.2.3 Chapter 11, section 11.2 Chapter 12, sections 12.8.1.2 ; 12.8.1.3 Chapter 13, section 13.4 Appendices: 5; 6; 15; 16
The construction, operation and rehabilitation of the Ranger 3 Deeps underground mine should not compromise the existing Environmental Requirements (Attachment 3) for the Ranger uranium mine.	Chapter 5, section 5.4 Chapter 6, sections 6.4.4; 6.5.7; 6.6.4; 6.7.4 Chapter 7, section 7.3 Chapter 8, section 8.5 Chapter 9, section 9.4 Chapter 10, section 10.3; 10.4.2; Chapter 11, sections 11.2, 11.3 Chapter 12, section 12.8 Chapter 13, section 13.4 Chapter 14, sections 14.4; 14.5; 14.6 Appendices: 4; 5; 6; 15; 16; 17
4.2: Cumulative Impacts	
Cumulative impacts can arise from compounding activities of a single operation or multiple mining and processing operations, as well as the aggregation and interaction of mining impacts with other past, current and future activities that may not be related to mining.	
An assessment of cumulative environmental impacts should be undertaken that considers the potential impact of a proposal in the context of existing developments and reasonably foreseeable future developments to ensure that any potential environmental impacts are not considered in isolation. The extent of cumulative impacts to be considered depends upon the nature of the environmental issue. The risk assessment should consider and discuss cumulative assessment where relevant and account for impacts on an appropriate scale such that:	
Landscape change originates not only from single projects and management actions, but also from complex and dynamic interactions of multiple past, present and future management actions.	Chapter 5, section 5.4.5 Chapter 13, section 13.4.2

Guideline Description	Cross reference
Biophysical, social and economic change accumulates through additive or interactive (or synergistic) processes. The aggregate impact of multiple actions on the environment can be complex and may result in impacts that are more significant because of interactive processes.	Chapter 6, sections 6.4.5; 6.5.8; 6.6.5; 6.7.5 Chapter 7, section 7.3 Chapter 8, section 8.5.2 Chapter 9, sections 9.2.3 Chapter 11, sections 11.3.6 Chapter 12, sections 12.5.1; 12.5.2; 12.5.3; 12.5.6 Chapter 13, section 13.4.2 Appendices 5; 6; 14; 15; 16
Any given action does not operate in isolation. The most significant changes are often not the result of the direct effects of an individual action, but from the combination of multiple effects over the accumulation of time.	Where relevant, the chapter sections above have considered the combination of multiple effects.
4.3: Human Health and Safety	
4.3.1: Key Risks	
The risk assessment should consider all aspects associated with the construction, operation, maintenance and decommissioning of the proposal that may potentially result in impacts to human health and safety.	
4.3.2: Objectives	
The EIS should include a detailed assessment of risks to demonstrate that:	
The Proponent is fully aware of any risks to human health and safety associated with all aspects of the proposal.	Chapter 5, sections 5.2; 5.4 Chapter 6, sections 6.4.4; 6.4.5; 6.6.4; 6.6.5 Chapter 7, sections 7.3 Chapter 8, section 8.5 Chapter 12, sections 12.5.3; 12.5.4; 12.7 Chapter 13, section 13.4 Chapter 14, sections 14.9.5; 14.11 Appendices 5; 6; 7; 8; 9; 10; 11; 16
The prevention and mitigation of risks to human health and safety are properly addressed in the design specifications.	Chapter 6, sections 6.4.6; 6.6.6 Chapter 7, section 7.4 Chapter 15, section 15.4 Appendices: 5; 6; 7; 8; 9; 10; 11; 16; 17
The risks can and will be managed effectively during the construction, commissioning, operation, and decommissioning and post closure phase of the development.	Chapter 6, sections 6.4.6; 6.6.6 Chapter 7, section 7.1 Appendices: 6, 8, 9, 10 and 15
4.3.3: Information Requirements	
Identify all hazards, including physical hazards, noise emissions and radiation, as a consequence of the action.	Chapter 5, sections 5.2; 5.4 Chapter 6, sections 6.4.4; 6.4.5; 6.6.4; 6.6.5 Chapter 7, sections 7.3 Chapter 8, section 8.5 Chapter 12, sections 12.5; 12.7 Chapter 13, section 13.4 Appendices: 5; 6; 7; 8; 9; 10; 11; 16

Guideline Description	Cross reference
Identify workers and any members of the general public, including their location and patterns of activity and occupation; with the potential for exposure to these hazards as a consequence of the action.	Chapter 5, sections 5.2; 5.4 Chapter 6, sections 6.4.4; 6.4.5; 6.6.4; 6.6.5 Chapter 7, sections 7.3 Chapter 12, sections 12.5; 12.7 Appendices: 5; 6; 7; 8; 16
4.3.4: Assessment of Risks	
Aspects to be discussed include:	
Health and safety risks for the workforce and the general public for the duration of the proposal including post closure.	Chapter 5, sections 5.2; 5.4 Chapter 6, sections 6.4.4; 6.4.5; 6.6.4; 6.6.5 Chapter 7, sections 7.3; 7.4 Chapter 12, sections 12.5.2; 12.5.3; 12.5.4 Appendices: 5; 6; 8; 9; 10;15
Radiation risks for the workforce and the general public including an assessment of potential dose delivered via the consumption of bush foods.	Chapter 7, sections 7.3.4; 7.3.5 Appendix 8
Potential risks relating to the environment and public safety from the transportation of uranium, explosives (bulk emulsion) and consumables, including dangerous goods, on public roads.	Chapter 7, section 7.3.5.2 Chapter 12, sections 12.5; 12.7 Appendices: 8; 16
General health and safety risks associated with the proposal including, but not limited to:	
Fire.	Chapter 7, section 7.3.3.6 Appendices: 5
Underground collapse.	Chapter 7, section 7.3.3.4
Hazardous materials exposure.	Chapter 7, section 7.3.3.8 Chapter 12, sections 12.5.2; 12.5.3; 12.5.4 Appendices: 16
Safety risks to road users associated with increased traffic and use of the existing road networks.	Chapter 7, section 7.3.5.2 Chapter 12, sections 12.5.2; 12.5.3; 12.5.4 Appendix 16
4.3.5: Mitigation and Monitoring	
Detail preventative, management, treatment and monitoring strategies used to minimise the impacts of the proposal on human health and safety. Outline environmental (including health and safety) management strategies necessary for human health and safety, and describe how these strategies will be incorporated into existing operational management plans.	Chapter 6, sections 6.4.6; 6.6.6 Chapter 7, section 7.4 Chapter 12, section 12.8 Chapter 15 Appendices: 5; 8; 16; 17
4.4: Water	
4.4.1: Key Risks	
The risk assessment should consider all potential impacts to water resources associated with the construction, operation and closure of the Ranger 3 Deeps underground mine that may cause adverse changes to the quantity and quality of surface and/or groundwater, or potentially impact regional hydrology and dependant ecosystems.	

Guideline Description	Cross reference
4.4.2: Objectives	
The EIS should include a detailed assessment of risks to demonstrate that for all stages of the proposal:	
The Proponent is fully aware of any risks to surface and/or groundwater resources and interruption of water flows associated with all aspects of the proposal.	Chapter 8, section 8.5 Chapter 12, sections 12.5 Chapter 13, section 13.4 Appendices: 5; 9; 10; 11
The prevention and mitigation of risks to surface and/or groundwater quality and surface water flows are adequately addressed.	Chapter 8, sections 8.4 ; 8.5 Chapter 12, section 12.8 Chapter 13, section 13.3 Chapter 15, section 15.4 Appendices: 5; 9; 10; 11
Surface water and groundwater resources and environmental values are protected both now and in the future, such that:	
Ecological health, land uses and the health and welfare of people are maintained.	Chapter 8; section 8.5 Chapter 12, sections 12.5.1; 12.8 Chapter 13, section 13.4 Appendices: 8; 9; 10; 11; 16
The values for which KNP was inscribed on the World Heritage list are maintained.	Chapter 2, sections 2.5.2; 2.5.3 Chapter 8, section 8.5 Chapter 12, sections 12.5.1; 12.8 Chapter 13, section 13.2.1 Chapter 14, section 14.7 Appendices: 8; 9; 10; 11; 16
The ecological character of the KNP Ramsar site is maintained.	Chapter 2, sections 2.5.2; 2.5.3 Chapter 8, section 8.5 Chapter 12, sections 12.5.1; 12.8 Chapter 14, section 14.9 Appendices: 8; 9; 10; 11; 16
The natural biological diversity of aquatic and terrestrial ecosystems of the Alligator Rivers Region, including ecological processes, is maintained.	Chapter 2, sections 2.5.2; 2.5.3 Chapter 8, section 8.5 Chapter 12, 12.5.1; 12.8 Chapter 13, section 13.2.1 Chapter 14, sections 14.5; 14.6; 14.7; 14.9 Appendices: 8; 9; 10; 11; 16
4.4.3: Information requirements	
In order to address assessment of potential impacts to regional water resources, details relating to existing water resource conditions and monitoring should be included. This should include discussion and data relating to:	
Aquifer properties.	Chapter 2, section 2.4.7 Chapter 8, section 8.3.1
Results from baseline and operational water quality and hydrology monitoring programs.	Chapter 2, sections 2.4.6; 2.4.7 Chapter 8, sections 8.2.3; 8.3.1.3; 8.3.2.1; 8.3.2.2; 8.3.2.3
Changes to surface and groundwater systems as a result of previous mining and mining related activities.	Chapter 2, sections 2.4.6; 2.4.7 Chapter 8, sections 8.2.3; 8.3.1.4; 8.3.2.4

Guideline Description	Cross reference
Provide a detailed description of site and regional surface water catchments, waterways, springs, wetlands and regional groundwater resources.	Chapter 2, sections 2.4.6; 2.4.7 Chapter 8, section 8.3
Describe the environmental values of the surface waterways and groundwater of the area potentially affected.	Chapter 2, sections 2.4.6; 2.4.7 Chapter 8, section 8.2.2
Describe water quality and flows, and any existing water users potentially impacted by the proposal.	Chapter 8, sections 8.2.1; 8.3.2; 8.5 Appendices: 9; 10; 11
Discuss how the proposal will impact on the current water management practices.	Chapter 3, section 3.5.4 Chapter 3, section 3.7 Chapter 8, section 8.4.2 ; 8.5.2.3 Chapter 15
Indicate the location of groundwater extraction, processes and/or monitoring bores for the proposal with respect to any groundwater dependant natural features.	Chapter 8, sections 8.2.3.1; 8.5.2.1
Details of extracted groundwater, including treatment, storage, re-use and disposal options and impacts to the overall Ranger uranium mine water balance.	Chapter 3, section 3.5.4 Chapter 8, section 8.4.2 ; 8.5.2.3 Chapter 15
Describe the geochemical characterisation of mined rock and tailings to allow an assessment of the likely quality and quantity of seepage water.	Chapter 3, section 3.8.1 Chapter 8, sections 8.3.1.3; 8.5.2.5
Describe site and, if relevant, regional hydrogeology to enable the prediction of potential impacts of the proposal on water resources and their features adjacent to mining areas, including drawdown cones and pollution pathways.	Chapter 2, sections 2.4.6; 2.4.7 Chapter 8, section 8.3.1
4.4.4: Assessment of Risks	
Provide an assessment of any risk to relevant surface and/or groundwater resources at an appropriate scale as a result of proposal activities. In particular, discuss:	
Potential to contaminate surface and/or groundwater resources as a result of any proposal components.	Chapter 8, section 8.5 Chapter 12, section 12.5.1; 12.5.4; 12.7 Chapter 13, section 13.4.1 Appendices: 8; 9; 10; 11; 16
Potential loss of containment resulting in an uncontrolled release of contaminants to surface and/or groundwater.	Chapter 8, section 8.5.2 Chapter 12, section 12.5.1; 12.5.4;12.7 Appendix 16
The potential impacts to regional water resources, and dependant ecosystems, from the development, operation and closure of the Ranger 3 Deeps underground mine, and mine components (Section 3.3.).	Chapter 8, section 8.5.2 Chapter 12, section 12.5.1; 12.5.4; 12.7 Chapter 13, section 13.4.1 Chapter 14, section 14.9 Appendices: 8; 9; 10; 11; 16
Potential impacts to adjacent areas and vegetation, including surface water bodies, from the drawdown of groundwater, including the volume of groundwater expected to be intercepted and/or extracted during the proposal.	Chapter 8, section 8.5.2 Appendix 10
Potential impacts to surface and/or groundwater quality from the backfill of stopes with cemented tailings.	Chapter 8, section 8.5.2 Chapter 13, section 13.4.1 Appendices: 9; 10; 11

Guideline Description	Cross reference
Any additional impacts to surface and/or groundwater resulting from changes to Ranger uranium mine tailings storage and ore stockpiling strategy as a result of the proposal.	Chapter 8, section 8.5.2 Chapter 13, section 13.4.1 Appendices: 9; 10; 11
The impact of extreme weather events; and.	Chapter 3, section 3.5 Chapter 8, section 8.5.2
The influence of seasonality, such as wet season influences, should be discussed, where relevant. The risk assessment should give consideration to the short (whilst operational), medium (post closure and under institutional control) and long term (post institutional control) timeframes of the proposal.	Chapter 8, sections 8.4.1; 8.5.2
4.4.5: Mitigation	
Detail preventative, management, treatment and monitoring strategies used to minimise the potential impacts of the proposal on regional water resources and hydrological features. In particular, provide details of the following for all stages of the proposal:	
Measures to safeguard surface and groundwater resources and their environmental values, including dependant ecological communities. Measures should include options for minimising water use, management and treatment of clean and contaminated water, including site stormwater, erosion and sediment control measures, and appropriate management of any acid sulfate soils excavated or exposed through mining.	Chapter 3, section 3.11 Chapter 8, sections 8.4.2; 8.5.2.3 Chapter 12, section 12.8 Chapter 13, section 13.4.1 Chapter 15 Appendix 17
Demonstrate that the tailings placed in backfilled stopes will be physically isolated from the environment such that any contaminants arising from the tailings will not result in any short (whilst operational), medium (post closure and under institutional control) or long term (post-institutional control) detrimental environmental impacts.	Chapter 8, section 8.5.2 Chapter 13, section 13.4.1 Appendices: 9; 11
Measures to reduce risks associated with underground mine and/or surface soil stability issues, if identified.	Chapter 8, section 8.5.2
Measures to manage groundwater in the event that inflow is of greater quantity and/or poorer quality than expected.	Chapter 3, sections 3.5.4, 3.7 Chapter 8, sections 8.4; 8.5.2.3
Management of water during times of high/extreme rainfall events; and	Chapter 3, section 3.5 Chapter 8, section 8.5.2
Proposed domestic wastewater (sewage) treatment processes.	Chapter 3, section 3.7.5
Outline any environmental management strategies necessary for regional water resources, and describe how these strategies necessary for regional water resources, and describe how these strategies will be incorporated into existing operational management plans. Strategies should be adequately detailed to demonstrate best practice management and that environmental values of receiving waters will be maintained.	Chapter 8, section 8.4 Chapter 15 Appendix 17
4.4.6: Monitoring	
Detail surface and groundwater quantity and quality reporting requirements and monitoring programs used to evaluate and report on the effectiveness of the mitigation measures (Section 4.4.5).	Chapter 8, section 8.2.3 Appendix 17

Guideline Description	Cross reference
4.5: Flora and Fauna	
4.5.1: Key risks	
The risk assessment should consider all environmental aspects associated with the construction, operation and closure of Ranger 3 Deeps underground mine that may result in adverse impacts to listed flora and fauna in the region of the proposal and includes listed threatened species and communities and listed migratory species that are protected under Part 3 of the EPBC Act and the NT *Territory Parks and Wildlife Conservation Act.*	
The EIS must include a description of all relevant potential impacts of the proposed action on flora and fauna species. Relevant potential impacts are impacts that the action will have or is likely to have on a matter protected by a controlling provision (as listed above).	
4.5.2: Objectives	
The aim of the assessment is to demonstrate that:	
The Proponent is fully aware of any risks to flora and fauna (including species protected under Part 3 of the EPBC Act) associated with all aspects of the proposal.	Chapter 5, sections 5.2; 5.4.2 Chapter 6, sections 6.3; 6.4.4; 6.6.4; 6.6.5 Chapter 9, sections 9.2; 9.3; 9.4 Chapter 12, section 12.5.1; 12.5.4; 12.7 Chapter 14, sections 14.3; 14.4.2; 14.5; 14.6 Appendices: 5; 12; 16
The prevention and mitigation of risks to flora and fauna (including species protected under Part 3 of the EPBC Act) are properly addressed in the design specifications.	Chapter 5, sections 5.2; 5.4.2 Chapter 6, sections 6.4.6; 6.6.6 Chapter 9, section 9.5 Chapter 12, section 12.8 Chapter 14, sections 14.5.3; 14.6.3 Appendices: 5; 12; 16
The risks can and will be managed effectively during the construction, commissioning, operation, and decommissioning and post-closure phase of the development.	Chapter 5, sections 5.2; 5.4.2 Chapter 6, sections 6.4.6; 6.6.6 Chapter 9, section 9.5 Chapter 12, section 12.8 Chapter 14, sections 14.5.3; 14.6.3 Appendices: 5; 12; 16
The values for which KNP was inscribed on the World Heritage list are maintained.	Chapter 5, sections 5.2; 5.4.2 Chapter 6, sections 6.1.13; 6.3.9 Chapter 9, sections 9.5 Chapter 12, section 12.8 Chapter 14, section 14.7 Appendices: 5; 12; 16
The ecological character of the KNP Ramsar site is maintained; and	Chapter 5, sections 5.2; 5.4.2 Chapter 6, sections 6.1.13; 6.3.9 Chapter 9, section 9.5 Chapter 12, section 12.8 Chapter 14, section 14.9 Appendices: 5; 12; 16

Guideline Description	Cross reference
The natural biological diversity of aquatic and terrestrial ecosystems of the Alligator Rivers Region, including ecological processes, is maintained.	Chapter 5, sections 5.2; 5.4.2 Chapter 9, section 9.5 Chapter 12, section 12.5.1; 12.8 Chapter 14, sections 14.7.5 ; 14.9.5 Appendices: 5; 12; 16
4.5.3: General Information Requirements	
Details of vegetation community types occurring on an adjacent to the proposal location, particularly including any species of flora or fauna of conservation significance.	Chapter 2, section 2.5.4 Chapter 9, section 9.2
Details of soil and topography on and adjacent to the proposal location.	Chapter 2, sections 2.4.4; 2.4.5
Details of flora and fauna studies/data and monitoring conducted on and adjacent to the proposal area.	Chapter 9, section 9.2 Appendix 12
Details of the area and location of any land to be cleared as a result of the proposal, including, but not limited to, descriptions of:	Chapter 2, sections 2.5.4; 2.5.5 Chapter 3, section 3.2.1
All vegetation communities to be cleared of native vegetation.	Chapter 3, section 3.2.1 Chapter 9, sections 9.2.2; 9.5.1
Drainage lines, watercourses, wetlands, and sensitive or significant vegetation communities that have the potential to be impacted by the proposed action.	Chapter 9, section 9.2 Chapter 12, section 12.5.1
4.5.4: Listed Threatened Species and Communities Information Requirements	
4.5.4.1: Description of the Environment	
The EIS must describe the environment of the proposal site and the surrounding areas that may be significantly impacted by the action. The following information should be included:	
Details of listed threatened species and communities that are likely to be present in the vicinity of the site, including detail of the scope, timing (survey season/s) and methodology for studies and surveys used to provide information on the listed threatened species and their habitat at the site (and in areas that may be impacted by the proposal). Show consideration of relevant recovery plans and/or general survey guidelines, including, but not limited to:	
Yellow Chat (Alligator Rivers) (*Epthianura crocea tunneyi*) - Commonwealth conservation advice on *Epthianura crocea tunneyi* and Survey guidelines for Australia's threatened birds. EPBC Act survey guidelines 6.2.	Chapter 9, sections 9.2; 9.5 Appendix 12
Partridge Pigeon (eastern) (*Geophaps smithii smithii*) - National Multi-species Recovery Plan for the Partridge Pigeon *Geophaps smithii smithii,* Crested Shrike-tit *Falcunculus frontaus whitei,* Masked Owl *Tyto novaehollandiae kimberli* and Masked Owl Tiwi Islands *Tyto novaehollandiae melvillensis* 2004-2009 and Survey guidelines for Australia's threatened birds. EPBC Act survey guidelines 6.2.	Chapter 9, sections 9.2; 9.5 Appendix 12
Northern Quoll (*Dasyrurus hallucatus*) - National Recovery Plan for the Northern Quoll *Dasyrurus hallucatus* and Survey Guidelines for Australia's Threatened Mammals. EPBC Act Survey Guidelines 6.5.	Chapter 9, sections 9.2; 9.5 Appendix 12
Plains Death Adder (*Acanthophis hawkei*) - Commonwealth Conservation Advice on *Acanthophis hawkei*.	Chapter 9, sections 9.2; 9.5 Appendix 12

Guideline Description	Cross reference
4.5.4.2: Relevant Potential Impacts	
The EIS must include a description of relevant potential impacts during the construction, operational and decommissioning phases of the proposal. The following information must be provided for listed threatened species:	
A detailed assessment of the potential impacts upon native fauna including consideration, where relevant, of vegetation clearance, habitat fragmentation, altered hydrology, water quality impacts, erosion and sedimentation impacting on creeks and wetlands, soil compaction, inappropriate/ineffective rehabilitation, groundwater contamination, impacts on surface and groundwater systems, waste material, risks associated with the transport of storage of hazardous chemicals, weed and pest invasion, noise and dust impacts. Species assessed must include, but are not limited to:	
Yellow Chat (Alligator Rivers) (*Epthianura crocea tunneyi*).	Chapter 9, sections 9.2; 9.4; 9.5 Chapter 12, section 12.5.1 Chapter 14, section 14.3.3 Appendices: 12; 16
Partridge Pigeon (eastern) (*Geophaps smithii smithii*).	Chapter 9, sections 9.2; 9.4; 9.6 Chapter 12, section 12.5.1 Chapter 14, section 14.3.3 Appendices: 12; 16
Northern Quoll (*Dasyrurus hallucatus*).	Chapter 9, sections 9.2; 9.4; 9.7 Chapter 12, section 12.5.1 Chapter 14, section 14.3.3 Appendices: 12; 16
Plains Death Adder (*Acanthophis hawkei*).	Chapter 9, sections 9.2; 9.4; 9.8 Chapter 12, section 12.5.1 Chapter 14, section 14.3.3 Appendices: 12; 16
A detailed assessment of any likely impact that the proposal may facilitate on listed threatened species at the local, regional, state, and national scale.	Chapter 9, sections 9.2.3 ; 9.5 Chapter 12, sections 12.5 ; 12.7 Appendices 12 ; 16
A detailed assessment of the potential of the project to increase the presence of introduced and invasive species (both flora and fauna) in the region, and the potential impacts of such species. Show consideration of relevant Threat Abatement Plans, such as:	
Threat abatement Plan for Predation by Feral Cats.	Chapter 9, section 9.5.3
Threat abatement Plan for Predation, habitat Degradation, Competition and Disease Transmission by Feral Pigs.	Chapter 9, section 9.5.4
Threat abatement Plan for biological effects, including Lethal Toxic Ingestion, caused by Cane Toads.	Chapter 9, section 9.5.5
Threat abatement Plan to reduce the Impacts on Northern Australia's Biodiversity by the Five Listed Grasses.	Chapter 9, section 9.5.6
A statement whether any relevant impacts are likely to be unknown, unpredictable or irreversible.	Chapter 5, section 5.4.3
Analysis of the significance of the relevant impacts.	Chapter 9, sections 9.2; 9.4 Chapter 14, section 14.5
Any technical data and other information used.	Chapter 9, sections 9.2; 9.5

Guideline Description	Cross reference
4.5.5: Listed Migratory Species Information Requirements	
4.5.5.1: Description of the Environment	
The EIS must describe the environment of the proposal site and the surrounding areas that may be significantly impacted by the action. The following information should be included:	
Details of listed migratory species that are likely to be present in the vicinity of the site, including detail of the scope, timing (survey season/s) and methodology for studies or surveys used to provide information on the listed migratory species and their habitat at the site (and in areas that may be impacted by the project). Show consideration of any relevant recovery plans and/or general survey guidelines.	Chapter 9, section 9.2 Chapter 12, section 12.5.1 Chapter 14, section 14.6 Appendices: 12; 16
4.5.5.2: Relevant Potential Impacts	
The EIS must include a description of any relevant impacts during both the construction, operational and decommissioning phases of the project. The following information must be provided for listed migratory species:	
A detailed assessment of the presence and potential impacts upon migratory species including consideration, where relevant, of vegetation clearance, habitat fragmentation, altered hydrology, water quality impacts, erosion and sedimentation impacting on creeks and wetlands, soil compaction, inappropriate/ineffective rehabilitation, groundwater contamination, impacts on surface and groundwater systems, waste material, risks associated with the transport or storage of hazardous chemicals, weed and pest invasion, and noise impacts. Species assessed must include, but are not limited to:	
Common Sandpiper (*Actitis hypoleucos*).	Chapter 9, sections 9.2; 9.5 Chapter 12, section 12.5.1 Chapter 14, section 14.6 Appendices: 12; 16
Whimbrel (*Numenius phaeopus*).	Chapter 9, section 9.2 Chapter 12, section 12.5.1 Chapter 14, section 14.6 Appendices: 12; 16
Grey Plover (*Pluvialis squatarola*).	Chapter 9, section 9.2 Chapter 12, section 12.5.1 Chapter 14, section 14.6 Appendices: 12; 16
Marsh Sandpiper (*Tringa stagnatilis*).	Chapter 9, section 9.2 Chapter 12, section 12.5.1 Chapter 14, section 14.6 Appendices: 12; 16
Terek Sandpiper (*Xenus cinereus*).	Chapter 9, section 9.2 Chapter 12, section 12.5.1 Chapter 14, section 14.6 Appendices: 12; 16
A detailed assessment of any likely impact that the proposal may facilitate on listed migratory species at the local, regional, state, national and international scale;.	Chapter 9, section 9.2 Chapter 12, sections 12.5.1; 12.5.4; 12.7 Chapter 14, section 14.6 Appendices: 12; 16
A statement whether any relevant impacts are likely to be unknown, unpredictable or irreversible.	Chapter 5, section 5.4.3 Chapter 12, section 12.8.2

Guideline Description	Cross reference
Analysis of the significance of the relevant impacts.	Chapter 9, sections 9.2; 9.5 Chapter 12, section 12.5.1; 12.5.4; 12.7 Appendices: 12; 16
Any technical data and other information used or needed to make a detailed assessment of the relevant impacts.	Chapter 9, sections 9.2; 9.5 Chapter 12, section 12.5.1; 12.5.2; 12.8 Appendices: 12; 16
4.5.6: Assessment of Risks	
Provide an assessment of risk to flora and fauna species likely to occur from the proposed action. In particular discuss:	
Potential impacts to native flora and fauna as a result of land clearing.	Chapter 9, sections 9.2; 9.5
The radiation risk to the environment as a result of the proposal.	Chapter 9, sections 9.2; 9.3; 9.4 Appendix 8
Any impacts to native flora and fauna due to noise and vibration.	Chapter 6, sections 6.6.4; 6.6.5 Chapter 9, section 9.5.1 Appendix 7
Potential impacts to native flora and fauna from exposure to dust and particulates resulting from the project.	Chapter 6, sections 6.4.4; 6.4.5 Chapter 9, section 9.5.1 Appendix 6
Potential impacts to native flora and fauna from the introduction of weeds and feral animals.	Chapter 9, section 9.5.3
4.5.7: Mitigation	
Detail preventative, management and treatment strategies used to minimise the impacts of the project on native flora and fauna including, but not limited to, the risks identified above.	Chapter 6, sections 6.4.6; 6.6.6 Chapter 9, section 9.5 Chapter 12, section 12.8 Chapter 14, sections 14.5.3 ; 14.6.3 Chapter 15, section 15.4 Appendices: 6; 7; 8; 12; 16; 17
4.5.7.1: Listed Threatened Species and Communities Safeguards and Mitigation	
The EIS must provide information on proposed safeguards and mitigation measures to deal with the relevant potential impacts of the action on listed threatened species. Specific and detailed descriptions of proposed measures must be provided and substantiated, based on best available practices for each threatened species that may be impacted by the proposal and must include the following elements:	
A description of proposed safeguards and mitigation measures to deal with relevant potential impacts of the action, including mitigation measures that are currently or to be taken by State/Territory governments, local governments or the proponent.	Chapter 6, sections 6.4.6; 6.6.6 Chapter 9, section 9.5 Chapter 12, section 12.8 Chapter 15, section 15.4 Appendices: 6; 7; 8; 12; 16; 17
Assessment of the expected or predicted effectiveness of the mitigation measures.	Chapter 5, section 5.4.3 Chapter 9, section 9.5 Chapter 12, section 12.8 Chapter 14, sections 14.5.3; 14.5.4 Chapter 15, section 15.4 Appendices: 6; 7; 8; 12; 16; 17

Guideline Description	Cross reference
Any statutory or policy basis for the mitigation measures.	Chapter 9, section 9.5 Chapter 12, section 12.8 Chapter 15, section 15.2 Appendices: 6; 7; 8; 12; 16; 17
Proposed mitigation measures must be incorporated in the Environmental Management Plan (EMP) (see Section 5).	Chapter 15, section 15.4 Appendix 17
4.5.7.2: Listed Migratory Species Safeguards and Mitigation	
The EIS must provide information on proposed safeguards and mitigation measures to deal with the relevant impacts of the action on listed migratory species. Specific and detailed descriptions of proposed measures must be provided and substantiated, based on best available practices for each migratory species that may be impacted by the proposal and must include the following elements:	
A description of proposed safeguards and mitigation measures to deal with relevant impacts of the action, including mitigation measures to be taken by State/Territory governments, local governments or the proponent.	Chapter 6, sections 6.4.6; 6.6.6 Chapter 9, section 9.5 Chapter 12, section 12.8 Chapter 14, section 14.6 Chapter 15, section 15.4 Appendices: 6; 7; 8; 12; 16; 17
Assessment of the expected or predicted effectiveness of the mitigation measures.	Chapter 6, sections 6.4.6; 6.6.6 Chapter 9, section 9.5 Chapter 12, section 12.8 Chapter 14; sections 14.11; 14.12 Chapter 15, section 15.4
Any statutory or policy basis for the mitigation measures.	Chapter 6, sections 6.4.6; 6.6.6 Chapter 9, section 9.5 Chapter 12, section 12.8 Chapter 15, section 15.2
Proposed mitigation measures must be incorporated in the EMP (see Section 5).	Chapter 15, section 15.4 Appendix 17
4.5.8: Monitoring	
Detail reporting and monitoring programs of flora and fauna that will be used to evaluate and report on the effectiveness of the mitigation measures (Section 4.5.7).	Chapter 15, section 15.4 Appendix 17
4.6: Rehabilitation and Mine Closure	
4.6.1: Key Risks	
The proposal states that development, operation and closure of the Ranger 3 Deeps Underground Mine would not alter the current operating or closure and rehabilitation timeline for the Ranger Uranium Mine. Mining and ore processing at the Ranger Uranium Mine would be completed by January 2021 with site rehabilitation activities occurring within the period 2021 to 2026. The risk assessment should consider all potential environmental impacts associated with the closure and rehabilitation of the proposed activity in the context of the closure and rehabilitation of the Ranger Project Area.	
4.6.2: Environmental Objective	
The EIS should include a detailed assessment of any risks to demonstrate that:	

Guideline Description	Cross reference
The Proponent is fully aware of any risks associated with closure and rehabilitation of the Ranger 3 Deeps Underground Mine and not meeting closure objectives;.	Chapter 13, section 13.4 Appendix 5
The prevention and mitigation of risks associated with closure and rehabilitation of the Ranger 3 Deeps Underground Mine and the potential impacts on the closure of the existing operation are adequately addressed.	Chapter 13, sections 13.3; section 13.4 Appendix 5
The proposed project can be successfully integrated into the existing Ranger Uranium Mine rehabilitation requirements.	Chapter 13, section 13.3
4.6.3: Information requirements	
Provide the results of investigation into the physical, geo-mechanical and chemical properties of the ore body and host rock with respect to rehabilitation outcomes.	Chapter 13, sections 13.3.3; 13.3.4; 13.4.1 Appendix 9
Describe proposed post-mining land uses which have been identified and agreed upon through consultation with stakeholders.	Chapter 11 Chapter 13, section 13.2
Provide a plan of rehabilitation for the proposed project including:	Chapter 3, section 3.11 Chapter 13, section 13.3
The methods to be used for rehabilitation, revegetation and mine closure.	Chapter 3, section 3.10 Chapter 13, section 13.3
Availability and volumes of key materials required for rehabilitation, revegetation and mine closure.	Chapter 13, sections 13.3.2; 13.3.6
Details of proposed surface cover types for the rehabilitated surface, including information on the proposed thickness of the surface materials and their particle sizes, and the methodology that will be employed to ensure that these specifications are met.	Chapter 13, section 13.3.6
4.6.4: Assessment of Risks	
Identify risks to the successful closure of the existing operation as a result of the proposal, including risks to prescribed closure timeframes.	Chapter 13, section 13.4
Provide an assessment of risk over the long term associated with the placement of tailings underground and the classification of radionuclides in the waste streams.	Chapter 13, sections 13.3.3; 13.3.4; 13.4.1
Identify risks related to the long term alteration of surface and groundwater flows and hydrogeological systems as a result of the proposal.	Chapter 8, section 8.5.2
Identify risks related to closure timeframes and objectives and the proposal not realising its projected outcomes (i.e. delays).	Chapter 13, section 13.4.2
Identify and discuss risks associated with waste rock produced or not processed due to being replaced by ore from the Ranger 3 Deeps Underground Mine.	Chapter 13, sections 13.3.4; 13.4.1 Appendix 9
Identify and discuss environmental risks associated with potentially acid forming materials and alkaline materials.	Chapter 13, sections 13.3.4; 13.4.1
The post-closure risk assessment should include a discussion of the effects of:	
Changes in the assumptions used as a basis for the assessment.	Chapter 13, section 13.4.1.1
Natural events, including earthquake, cyclone, fire and flood.	Chapter 13, section 13.4.1.1

Guideline Description	Cross reference
4.6.5: Mitigation	
Provide a draft Mine Closure Plan (MCP) including the issues that require management at closure and demonstrate that all relevant issues and appropriate management measures have been identified. The MCP should highlight any changes to the existing Ranger MCP, should it be updated to include the Ranger 3 Deeps Underground Mine.	Chapter 13, section 13.3
Demonstrate that the proposed project can be successfully integrated into the existing Ranger Uranium Mine rehabilitation requirements, including:	Chapter 13, section 13.3
That tailings placed in backfilled stopes will be physically isolated from the environment and that any contaminants arising from the tailings will not result in any short (whilst operational), medium (post closure and under institutional control) or long term (post-institutional control) detrimental environmental impacts.	Chapter 8, section 8.2.3.2; 8.5.2.2; 8.5.2.5 Chapter 13, section 13.4.1
Revegetation of the areas disturbed by the project using local native plant species similar in density and abundance to those existing in adjacent areas of KNP, to form an ecosystem, the long term viability of which would not require a maintenance regime significantly different from that appropriate to adjacent areas of the park.	Chapter 13, section 13.3.6
Measures required to prevent contamination of groundwater, including cross contamination of aquifers, if required.	Chapter 8, section 8.5.2 Chapter 13, section 13.3.2; 13.4.1
Contingencies to make landforms secure and non-polluting in the event of unexpected or temporary closure.	Chapter 13; section 13.4.4
Protocol for measuring site rehabilitation success.	Chapter 13; section 13.2.2, 13.3.8
Discussion of weed management.	Chapter 13; section 13.2.2, 13.3.8
Discussion of fire management.	Chapter 13; section 13.2.2, 13.3.8
4.6.6: Monitoring	
Describe the post-mining monitoring and reporting to be used to evaluate and report on the effectiveness and performance of the mitigation measures (Section 4.6.5).	Chapter 13, section 13.2.2, 13.3.8
Describe the contingency measures to be implemented in the event that monitoring demonstrates that management measures have not been effective.	Chapter 13, section 13.2.2 13.3.8
4.7: Historic and Cultural Heritage	
4.7.1: Key Risks	
The risk assessment should consider any risks associated with the construction, operation and closure of the Ranger 3 Deeps Underground Mine that may result in the potential disturbance or damage to areas of historic and/or cultural heritage.	Chapter 10, section 10.4
4.7.2: Objectives	
The EIS should include a detailed assessment of the risks to demonstrate that:	
The Proponent is fully aware of the risks to historic and cultural heritage associated with all aspects of the proposal.	Chapter 10, section 10.4
The prevention and mitigation of risks to historic and cultural heritage are properly addressed in the design specifications.	Chapter 10, sections 10.3; 10.4 Appendix 15

Guideline Description	Cross reference
The risks can and will be managed effectively during the construction, commissioning, operation, decommissioning and post-closure phases of the development.	Chapter 10, sections 10.3; 10.4 Appendix 15
The values pertaining to cultural heritage for which KNP was inscribed on the World Heritage list are maintained.	Chapter 10, section 10.2 Chapter 14, sections 14.4; 14.7 Appendix 14 Appendix 15
4.7.3: Information Requirements	
Baseline information should be provided regarding cultural heritage sites in the region, including:	
A description and location of Indigenous and non-Indigenous sites, places or objects of historic or contemporary cultural heritage significance, including:	Chapter 10, section 10.2 Chapter 14, section 14.7.2.2 Appendix 14
Areas included within the world heritage listed Kakadu National Park that have cultural (Indigenous) World Heritage values.	Chapter 10, section 10.2 Chapter 14, section 14.7.2.2 Appendix 14
Areas nominated for listing or listed on Commonwealth and Northern Territory Heritage registers and Commonwealth and Northern Territory registers of Indigenous cultural heritage.	Chapter 10, section 10.2 Chapter 14, section 14.8 Appendix 14
Sacred sites- provision of evidence of an Aboriginal Areas Protection Authority (AAPA) Authority Certificate under the Northern Territory Aboriginal Sacred Sites Act.	Chapter 10, section 10.2 Chapter 14, section 14.7.2.2 Appendix 14
Traditional and historic Aboriginal, Torres Strait Islander and Macassan archaeological objects protected under relevant Territory and/or Commonwealth legislation.	Chapter 10, section 10.2 Appendix 14
European historic sites.	Chapter 10, section 10.2 Chapter 14, section 14.7.2.2 Appendix 14
A description of areas with particular values to Indigenous and non-Indigenous people (e.g. traditional land use).	Chapter 10, section 10.2 Chapter 14, sections 14.7.2 ; 14.7.5 Appendix 14
4.7.4: Assessment of Risks	
The identification of risks to Indigenous cultural heritage is to take place in consultation with relevant Indigenous groups, provide:	
An assessment of the project's potential effects on sacred sites, heritage places, cultural sites and any potential impacts on Indigenous culture generally.	Chapter 6, section 6.4.5; 6.6.5 ; 6.7.5 Chapter 10, section 10.4 Chapter 14, sections 14.4.1; 14.7.5
Details of the Project's requirements to apply to, or applications already made to, the NT Minister for Lands, Planning and the Environment to disturb or destroy a prescribed archaeological place and/or object under the *Heritage Act*.	Chapter 10, section 10.4
An assessment of risk to significant cultural sites from vibration and dust.	Chapter 6, sections 6.4.5; 6.7.5 Chapter 10, section 10.4 Chapter 14, section 14.7.5

Guideline Description	Cross reference
4.7.5: Mitigation	
The Proponent should describe the prevention and mitigation of potential risks to existing areas of historic and cultural heritage. A management plan should be developed, if required, to address matters including:	Chapter 10, sections 10.3; 10.4 Appendix 15
Procedures to avoid significant areas.	Chapter 10, section 10.3
Protection of key sites during construction, operation and decommissioning work.	Chapter 10, sections 10.3; 10.4
Procedures for the discovery of surface or sub-surface items during the course of the project.	Chapter 10, sections 10.3; 10.4
4.8: Socio-economic	
4.8.1: Key Risks	
The proposal has the potential to cause positive and/or negative impacts on the regional, Territory and national economies, and the social well-being of the population.	
4.8.2: Objectives	
The EIS should include a detailed assessment of the risks to demonstrate that for all stages of the proposal:	
The Proponent is fully aware of the economic and social impacts of all aspects of the project.	Chapter 11, section 11.3 Appendix 14
The prevention and mitigation of negative risks to economic and social impacts are adequately addressed.	Chapter 11, section 11.3 Appendix 14 Appendix 15
4.8.3: Information requirements	
The EIS should include a balanced summary of the project's economic value (positive and negative) to the regional, Territory and national economies, in terms of direct and indirect effects on employment, income and production. The following are suggestions that may assist with highlighting the economic value of the project and are not intended to result in the inappropriate disclosure of confidential information. It should be noted in the EIS if data are not available or unsuitable.	
Discuss the project's contribution to the NT and Australian economy, including:	
A summary of project feasibility.	Chapter 11, section 11.3.1.1
Estimated total project revenue for the duration of the project (to provide the economic scale of the project).	Confidential, unable to be disclosed
Total contribution to Gross State Product (GSP) and Gross Domestic Product (GDP) over the economic life of the project.	Chapter 11, section 11.3.1.2
Opportunities available to regional centres based on the activity generated by the project (construction, rehabilitation and operation).	Chapter 11, sections 11.3.2; 11.3.3 Appendix 14
Estimated overall tax.	Confidential, unable to be disclosed
Estimated capital expenditure for the whole project.	Confidential, unable to be disclosed
Expected annual operational expenditure.	Confidential, unable to be disclosed
Estimated workforce and contractor numbers by occupational classification.	Chapter 3, section 3.9.2 Chapter 11, section 11.3.2 Appendix 14

Guideline Description	Cross reference
Overall employment training proposed during commencement, construction and operations.	Chapter 11, section 11.3.2 Appendix 14
Planned Indigenous employment, training and other project participation.	Chapter 11, section 11.3.2 Appendix 14
Expected level of overseas recruitment.	Chapter 11, section 11.3.2
Availability of goods and services.	Chapter 11, sections 11.3.3; 11.3.4 Appendix 14
Community and economic value of any residual infrastructure, such as roads, following the life of the project.	Chapter 11, section 11.3.4 Appendix 14
Other contributions to local communities, including traditional owners.	Chapter 11, sections 11.3.1.3; 11.3.1.4 Appendix 14
The EIS should include a balanced summary of the project's social value (positive and negative) on a regional, Territory, national and international scale. A brief description of the current population, demography and social aspects of the region affected by the proposal should be provided in the EIS. This should be done through community consultation, historic research and field survey. No information of a confidential nature, particularly related to anthropological matters relevant to Indigenous people or groups is to be disclosed in the EIS.	
Existing social aspects, and their components, to be discussed must include:	
Key stakeholders.	Chapter 1, section 1.3.6 Chapter 11, section 11.2 Appendix 14
Regional community structures and vitality (e.g. demography, health, education and social well-being, access to services, housing).	Chapter 2, sections 2.2; 2.3 Chapter 11, section 11.3.4; 11.3.5; 11.3.6; 11.2.7 Appendix 14
Social amenity.	Chapter 2, section 2.2.2 Chapter 11, section 11.3.4.2 Appendix 14
The number and capacity of existing human services to support the construction work force.	Chapter 2, section 2.2.4 Chapter 11, section 11.3.3 Appendix 14
Skills audit of affected communities.	Chapter 11 Appendix 14
Workforce characteristics; and	Chapter 3, section 3.9.2 Chapter 11, section 11.3.2 Appendix 14
Accommodation type and quantity.	Chapter 2, section 2.2.4 Chapter 3, section 3.9.3
4.8.4: Assessment of Risks	
An Economic and Social Impact Assessment (ESIA) should be conducted. The ESIA should:	
Document the economic and social impacts of the proposed development on the region and more broadly, where relevant.	Chapter 11, section 11.3 Appendix 14

Guideline Description	Cross reference
Encourage development of new and/or expansion of existing businesses in the locality.	Chapter 11, section 11.3.3 Appendix 14
Foster sustainable development and community wellbeing.	Chapter 11, sections 11.3.1; 11.3.5; 11.3.6 Appendix 14
Estimates of the quantity and value of production/exports relating to the proposed project, including expected reduction in revenue should the proposal not proceed.	Chapter 11, section 11.3.1 Appendix 14
An estimate of the value to the local economy associated with expenditure during the construction phase and the annual expenditure on regional goods and services as it relates to the Ranger 3 Deeps Underground Mine and associated infrastructure.	Chapter 11, sections 11.3.1; 11.3.2; 11.3.3; 11.3.4; 11.3.5 Appendix 14
Benefits to the local community, during and beyond the life of the mine, such as development of new skills and facilities, economic development and opportunities for local and regional business and employment opportunities.	Chapter 11, section 11.3.1; 11.3.2; 11.3.4 Appendix 14
The risks of the Ranger 3 Deeps Underground Mine, related infrastructure and associated workforce negatively impacting on identified social issues in the region.	Chapter 11, section 11.3.6 Appendix 14
4.8.5: Mitigation and Monitoring	
A Social Impact Management Plan (SIMP) should be prepared to address any identified risks associated with the ESIA. The SIMP should:	Chapter 11, section 11.2.2; 11.2.4 Appendices: 14; 15
Describe how the Proponent proposes to manage any identified economic, social, cultural or tourism risks from the proposal, or its associated workforce.	Chapter 11, section 11.3 Appendices: 14; 15
Describe how potential local and regional business and employment opportunities related to the proposed project will be identified and managed.	Chapter 11, section 11.3.2 Appendices: 14; 15
Include a mechanism for monitoring and reporting any identified potential socio-economic and cultural impacts.	Chapter 10, section 10.3 Chapter 11, section 11.2.4 Appendices: 14; 15
Include measures to mitigate negative economic and social impacts on the locality and region.	Chapter 11, section 11.3 Appendices: 14; 15
Provide outcome and assessment criteria that will give early warning that management and mitigation measures are not achieving the outcomes and benefits expected and identified by the Proponent.	Chapter 11, section 11.3 Appendices: 14; 15
Provide a stakeholder communications strategy including identification of, and ongoing consultation and negotiations with, all relevant stakeholders, ensuring the full range of community viewpoints are sought and included in the EIS.	Chapter 11, section 11.2 Appendices: 14; 15
4.9: Additional Matters of National Environmental Significance	
4.9.1: Key Risks	
The proposed action has the potential to have a significant impact on the following additional matters of NES that are protected under Part 3 of the EPBC Act:	
World Heritage properties (sections 12 & 15A).	Chapter 14, section 14.7
National Heritage places (sections 15B & 15C).	Chapter 14, section 14.8
Wetlands of international importance (sections 16 & 17B).	Chapter 14, section 14.9

Guideline Description	Cross reference
Protection of the environment from nuclear actions (sections 21 and 22A).	Chapter 14, section 14.11
Commonwealth land (sections 26 & 27A).	Chapter 14, section 14.10
The EIS must include a description of all of the environmental aspects of the proposal where there is potential for an impact on matters of NES. Potential impacts are impacts that the action will have or is likely to have on a matter protected by a controlling provision (as listed above).	
4.9.2: Description of the Environment	
The EIS must include a description of the:	
World and National Heritage values of the KNP World Heritage Property and National Heritage Place and a description of the areas of the KNP World Heritage Property and National Heritage Place that may be impacted by the proposal. The EIS must show consideration of the Kakadu National Park Management Plan 2007 – 2014 and the world heritage values as set out in http://www.environment.gov.au/heritage/places/world/kakadu/values.html	Chapter 14, sections 14.7; 14.8
Ecological character of the KNP Ramsar site and a description of the areas of the KNP Ramsar site that may be impacted by the proposal. The EIS must show consideration of the Kakadu National Park Management Plan 2007 – 2014 and the Kakadu National Park Ramsar site Ecological Character Description.	Chapter 14, section 14.9
Commonwealth land environment relevant to the proposal.	Chapter 14, section 14.10
4.9.3: Relevant Impacts	
The EIS must include a description of the relevant impacts during both the construction, operational and (if relevant) the decommissioning phases of the project. The following information must be provided for KNP World Heritage Property and National Heritage Place, Ramsar wetland, and Commonwealth land:	
A detailed assessment of potential impacts upon the values of the KNP World Heritage Property and National Heritage Place;.	Chapter 14, sections 14.7.5; 14.8
A detailed assessment of potential impacts upon the ecological character of the KNP Ramsar Wetland.	Chapter 14, section 14.9.5
A detailed assessment of potential impacts upon Commonwealth land of KNP.	Chapter 14, sections 14.7.5; 14.10
Consideration, where relevant, of:	
Vegetation clearance.	Chapter 14, sections 14.3.2; 14.5.4; 14.6.4; 14.7.5
Altered hydrology and ground water flow.	Chapter 14, sections 14.7.5; 14.9.5
Water quality impacts.	Chapter 14, sections 14.9.3; 14.9.5
Erosion and sedimentation impacting on creeks and wetlands.	Chapter 14, section 14.10
Soil compaction.	As the infrastructure is predominantly located in an already disturbed location, Project related soil compaction cannot be considered in isolation. The matter relates to the Ranger uranium mine as a whole, and is not considered specific, or relevant to the Project.

Guideline Description	Cross reference
Inappropriate/ineffective rehabilitation.	The effectiveness of Project related rehabilitation cannot be considered in isolation since it relates to the Ranger uranium mine as a whole.
Contamination of the surrounding surface environment.	Chapter 14, section 14.9.3
Groundwater contamination.	Chapter 14, section 14.9.3
Impacts on surface and ground water systems.	Chapter 14, section 14.9.3
Risks associated with the transport or storage of hazardous chemicals.	Chapter 12 Chapter 14, sections 14.4; 14.5.2; 14.6.4; 14.7.5; 14.9.5
Weed and pest invasion.	Chapter 14, sections 14.5.4; 14.7.5
Noise impacts.	Chapter 14, sections 14.5.4; 14.7.3; 14.11
4.9.4: Proposed Safeguards and Mitigation Measures	
The EIS must provide information on proposed safeguards and mitigation measures to deal with the relevant impacts of the action on matters of NES that are protected under Part 3 of the EPBC Act. Specific and detailed descriptions of proposed measures must be provided and substantiated and must include the following elements:	
A description of proposed safeguards and mitigation measures to deal with relevant impacts of the action, including mitigation measures to be taken by State/Territory governments, local governments or the proponent.	Chapter 14, sections 14.5.3; 14.6.3; 14.7.4; 14.9.4
Assessment of the expected or predicted effectiveness of the mitigation measures.	Chapter 14, section 14.12
Any statutory or policy basis for the mitigation measures.	Chapter 9, section 9.5 Chapter 12, section 12.9 Chapter 15, section 15.2 Appendices: 6; 7; 8; 12; 16; 17
Proposed mitigation measures must be incorporated in the EMP (see Section 5).	Chapter 15, section 15.4 Appendix 17
5: Environmental Management	
Specific safeguards and controls proposed to be employed to minimise or remedy environmental impacts identified in previous sections are to be included in an Environmental Management Plan (EMP), which would become part of the Mining Management Plan.	Chapter 15, section 15.5 Appendix 17
The EMP should be strategic, describing a framework for continuing management, mitigation and monitoring programs for the relevant impacts of the action, including any provisions for independent environmental auditing of the project. As much detail as is practicable should be provided to enable adequate assessment of the proposal during the public exhibition phase. Specific management practices and procedures should be included in the EMP, where possible.	Chapter 15, sections 15.4.4; 15.4.5; 15.5; 15.6.1 Appendix 17
The EMP should include:	
The proposed management structure of the operation and its relationship to the environmental management of the site.	Chapter 15, section 15.3 Appendix 17

Guideline Description	Cross reference
Management targets and objectives for relevant environmental factors.	Chapter 15, section 15.4 Appendix 17
The proposed measures to minimise adverse impacts and maximise opportunities, including environmental protection outcomes.	Chapter 15, section 15.4 Appendix 17
Performance indicators by which all anticipated and potential impacts can be measured.	Chapter 15, section 15.4.4 Appendix 17
Proposed monitoring programs to allow early detection of adverse impacts.	Chapter 15, section 15.4.4 Appendix 17
Proposed reporting protocols consistent with Commonwealth and Territory legislative requirements.	Chapter 15, section 15.4.5 Appendix 17
Contingencies for events such as hydrocarbon and other hazardous chemical spills or natural disasters.	Chapter 15, section 15.4.2 Appendix 17
The EMP needs to address the proposal phases (construction, operation, decommissioning) separately. It must state the environmental objectives, performance criteria, monitoring, reporting, corrective action, responsibility and timing for each environmental issue.	Chapter 15, sections 15.4; 15.6 Appendix 17
The name of the agency responsible for endorsing or approving each mitigation measure or monitoring program.	Chapter 15, section 15.6.2 Appendix 17
A summary table listing the commitments made in the EIS, including clear timelines for key commitments and performance indicators, with cross-references to the text of the EIS.	Chapter 15, section 15.4
Provision for the periodic review of the EMP.	Chapter 15, section 15.6.1
Reference should be made to relevant legislation, guidelines and standards, and proposed arrangements for necessary approvals and permits should be noted. Proposed reporting procedures on the implementation of the plan, independent auditing or self- auditing and reporting of accidents and incidents should be included. The agencies responsible for overseeing implementation of the EMP should be identified.	Chapter 15, sections 15.6.1; 15.6.2; 15.6.3 Appendix 17
The EMP needs to include details of how the environmental management strategies outlined in the EMP will be incorporated into the existing operational management plans for Ranger Uranium Mine. Appropriate reference to aspects of the current operations that would be influenced or would form part of the Ranger 3 Deeps Underground Mine where relevant should be indicated.	Chapter 15, section 15.3.1 Appendix 17
The EMP would continue to be developed and refined following the conclusion of the assessment process, taking into consideration the proposed timing of development activities, comments on the EIS and incorporating the Assessment Report recommendations and conclusions.	Chapter 15, section 15.6.1 Appendix 17