

ENVIRONMENTAL SCOPING DOCUMENT

PROPOSAL NAME: YEELIRRIE URANIUM PROJECT

ASSESSMENT NUMBER: 2032

LOCATION: APPROXIMATELY 70 KILOMETRES SOUTH-WEST OF WILUNA

LOCAL GOVERNMENT AREA: SHIRE OF WILUNA

PROPONENT: CAMECO AUSTRALIA PTY LTD

PUBLIC REVIEW PERIOD: 12 WEEKS

EPBC REFERENCE NO.: 2009/4906

1. Introduction

The above proposal is being assessed by the Environmental Protection Authority (EPA) under Part IV of the *Environmental Protection Act 1986* (EP Act) at the level of Public Environmental Review (PER). This Environmental Scoping Document (ESD) sets out the requirements for the environmental review of the proposal. The purpose of an ESD is to:

- provide proposal-specific guidelines to direct the proponent on the preliminary key environmental factors or issues that are to be addressed during the environmental review and preparation of the environmental review report;
- identify the required work that needs to be carried out; and
- outline the timing of the environmental review.

The proponent must conduct the environmental review in accordance with this ESD and then report to the EPA in an environmental review report (PER document). As well as the proposal-specific requirements for the environmental review identified in this ESD, the PER document must also address the generic information requirements listed in section 10.2.4 of the EPA's *Environmental Impact Assessment (Part IV Divisions 1 and 2) Administrative Procedures 2012* (Administrative Procedures). When the EPA is satisfied that the PER document adequately addresses both of these requirements, the proponent will be required to release the document for a public review period of 12 weeks.

This ESD has been prepared by the EPA in consultation with the proponent, decision-making authorities and interested agencies consistent with EPA Environmental Assessment Guideline (EAG) 10 – *Scoping a proposal*. ESDs prepared by the EPA are not subject to public review. However, during the preparation of this ESD, the submissions received in 2010 for BHP Billiton's Yeelirrie

Uranium Project draft ESD were reviewed and considered, along with the investigations outlined in two other, recently approved, ESDs for uranium proposals. The ESD will be available on the EPA website (www.epa.wa.gov.au) upon endorsement and must be appended to the PER document.

Accredited Assessment

The proposal has been referred and determined to be a controlled action under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) and is being assessed as an accredited assessment under Section 87 of the EPBC Act. The relevant matters of national environmental significance (MNES) for this proposal are:

- Listed threatened species and communities (section 18 & 18A);
- Listed migratory species (section 20 & 20A); and
- Nuclear actions (section 21 & 22A).

This ESD is inclusive of work required to be carried out and reported on in the PER document in relation to MNES. The PER document will include a section identifying MNES and a discussion on how those matters have been addressed, including any offsets that would be appropriate.

2. The proposal

The subject of this ESD is Cameco Australia Pty Ltd's (Cameco) Yeelirrie Uranium Project to mine and process uranium ore at Yeelirrie, in the Northern Goldfields region of Western Australia, approximately 70 kilometres (km) south-west of Wiluna. The regional location of the proposal is shown in Figure 1.

The proposal would produce up to 7,500 tonnes per annum (tpa) of uranium oxide concentrate (UOC) through the development and operation of two open pits and on-site metallurgical plant. The ore would be processed via an alkali tank leaching process and followed by direct precipitation. All tailings generated will be returned to the tailings storage facility (TSF) in the open pit.

The construction and operation of infrastructure is required to support mining and processing, including the supply of electricity, the abstraction and reinjection of water, workforce accommodation, and transport infrastructure. The main components of the infrastructure are shown of Figures 2 and 3 and include:

- an on-site quarry to provide raw construction materials;
- a pit dewatering system consisting of trenches, sump drains and pumps;
- a water supply borefield and associated infrastructure;
- a water reinjection borefield and associated infrastructure;
- a surface water diversion system to exclude water from the mining area, the tailings and stockpiled ore;
- an electricity supply network powered by a series of on-site diesel (or gas fired) generators. A new gas pipeline extension of approximately 50 km would be required for the gas fired generator option with a connection to the Wiluna to Kalgoorlie pipeline and if this option were to be developed it would be the subject of a separate approval;

- buildings, including workshops, offices and warehouses;
- an accommodation village; and
- associated infrastructure including potable water and sewerage treatment plants.

UOC would be trucked to the Port of Adelaide for export.

The proposal is subject to the provisions of the *Uranium (Yeelirrie) Agreement Act 1978* (State Agreement). The State Agreement was ratified by the Western Australian Parliament in 1978 to facilitate the exploration, mining and treatment of certain uranium ores and associated minerals from mining areas which form the subject of the Agreement and to allow for associated infrastructure to mine and process such ores.

The key characteristics of the proposal are set out in Table 1, in accordance with EAG 1 – *Defining the key characteristics of a proposal*. The development envelope encompassing the physical elements of the proposal is delineated in Figures 2 and 3.

It should be noted that the key proposal characteristics may change as a result of implementation of the mitigation hierarchy by the proponent on account of the findings of studies and investigations conducted as part of the environmental review.

Table 1 Key Proposal Characteristics

Summary of the proposal	
Proposal Title	Yeelirrie Uranium Project
Proponent Name	Cameco Australia Pty Ltd
Short Description	The proposal is to mine uranium ore from the Yeelirrie deposit, 70 km south-west of Wiluna, and the construction of associated mine infrastructure, including ore processing facilities, water abstraction and reinjection infrastructure, roads, accommodation, offices and workshops, stockpile and laydown areas and evaporation pond. Tailings will be discharged back into the mine open pit.

Physical Elements		
Element	Location	Proposed Extent
Open Pit Mine	Figure 3	Clearing of no more than 726 ha within a 4818 ha development envelope and no deeper than 15 m below ground level.
Associated infrastructure	Figures 2 and 3	Clearing of no more than 1775 ha within a 4818 ha development envelope.

Operational Elements		
Element	Location	Proposed Extent
Ore processing (waste)	All tailings deposited in open pit shown in Figure 3	Deposition of no more than 2.4 Mtpa.
Water Abstraction	Dewatering open pits and borefield Figure 2	Extraction of no more than 4.9 GL/a.
Water Reinjection	Figure 3	Reinjection of no more than 1.3 GL/a.

GL/a – Gigalitres per annum

ha - hectares

m - metres

Mtpa – million tonnes per annum

3. Preliminary key environmental factors and scope of work

The key proposal characteristics in Table 1 have informed the identification of the preliminary key environmental factors for the proposal, in accordance with EAG 8 – *Environmental principles, factors and objectives*. The preliminary key environmental factors for this proposal and the EPA’s objective for each of those factors are identified in Table 2.

To provide context to the preliminary key environmental factors, Table 2 also identifies the aspects of the proposal that cause the factors to be key factors, and the potential impacts and risks likely to be relevant to the assessment. All of this in turn has informed the work required to be conducted in the environmental review.

Finally, Table 2 identifies the policy documents that establish how the EPA expects the environmental factors to be addressed in the environmental review and the PER document that follows. Impacts associated with proposals are to be considered at a local and regional scale, including evaluation of cumulative impacts, and provide details of proposed management/mitigation measures. This includes whether environmental offsets are required by application of the mitigation hierarchy, consistent with the Government of Western Australia (2014) *WA Environmental Offsets Guidelines*.

Table 2 Preliminary key environmental factors and required work

FLORA AND VEGETATION	
EPA objective	To maintain the representation, diversity, viability and ecological function at the species, population and community level.
Relevant aspects	<ul style="list-style-type: none"> • Clearing of vegetation and site works; • Water abstraction and reinjection; • Alterations to surface water flows; • Excavation, haulage and stockpiling of ore and overburden;

	<ul style="list-style-type: none"> • Crushing and milling; • Flooding and overtopping of water storage facilities; and • Vehicle movements.
<p>Potential impacts and risks</p>	<ul style="list-style-type: none"> • Clearing of up to 2501 ha of native vegetation; • Indirect impacts on groundwater dependent vegetation due to groundwater abstraction and reinjection; • Indirect impacts to vegetation dependent of surface water due to alterations and disruptions to surface water flows; • Indirect impacts on flora and vegetation from dust; • Introduction of weeds and spread of weeds into mining areas and adjacent native vegetation through movement of vehicles and materials; • Impacts from feral animals; • Uptake of radionuclides or other contaminants; • Altered fire patterns; and • Introduction of plants from outside the local area.
<p>Required work</p>	<ol style="list-style-type: none"> 1. Undertake a Level 2 flora and vegetation survey for the entire development envelope and any additional areas where vegetation may be indirectly impacted as a result of the proposal, or where local population information is required for conservation significant species. Surveys are to be undertaken in accordance with Guidance Statement No. 51, and, where available species-specific survey guidelines for relevant species listed under the EPBC Act. Should the proponent rely on results from previous surveys a literature review and justification will be required to ensure those surveys are relevant, representative of the development envelope, and were carried out using methods consistent with current best practice. 2. Identify and map vegetation units and conservation significant flora species. 3. Undertake the following investigations to increase the understanding of <i>Atriplex sp.</i> Yeelirrie Station: <ol style="list-style-type: none"> a. Genetic analyses of the populations/subpopulations; b. Life cycle, population dynamics (sex ratios, age structure, seedling recruitment) and viability analysis; c. soil type, structure, moisture and chemistry; hydrological requirements; surrounding vegetation; scale (area of occupancy); slope, aspect and altitude; and d. seed biology and propagation requirements. 4. Identification of potential optimal and sub-optimal <i>Atriplex sp.</i> Yeelirrie Station translocation sites outside the two known locations with adequate access rights and protection from potential threats. Evaluate the potential short and long term impacts on the ecology of the potential recipient sites, including the presence of closely related species, and the potential timeframe and likelihood of success in establishing a self-sustaining population (i.e. natural recruitment of second and subsequent generations without additional intervention or plantings). 5. Discuss the potential impacts on genetic diversity as a result of loss of populations / subpopulations of the <i>Atriplex sp.</i> Yeelirrie Station. 6. Conduct a detailed analysis of vegetation units to establish local and regional conservation significance of each vegetation unit, and identify those which are likely to be dependent upon groundwater. 7. Conduct a detailed (quantitative) analysis of the extent, in a 'worst case'

	<p>scenario, of the direct, indirect and cumulative impacts to flora and vegetation, including the conservation status, and impacts to local and regional extent/populations, to assist in the determination of the significance of impacts.</p> <ol style="list-style-type: none"> 8. Provide figure(s) showing the extent of clearing or predicted extent of loss of vegetation from both direct and indirect impacts (including, but not limited to, altered hydrology and dust). 9. Assessment of potential radiation impacts on flora and vegetation using the Environmental Risk from Ionising Contaminants: Assessment and Management (ERICA) tool. Australian specific data should be used where available. 10. Discussion of the proposed management, monitoring and mitigation methods to be implemented demonstrating that the design of the proposal has addressed the mitigation hierarchy in relation to impacts (direct and indirect) on flora and vegetation. 11. Outline the outcomes/objectives, management, monitoring, trigger and contingency actions, within environmental management plan(s), to ensure impacts (direct and indirect) are not greater than predicted. 12. Completion of checklist for documents submitted for Environmental Impact Assessment (EIA) on terrestrial biodiversity. 13. Prepare a conservation species management plan, outlining the outcomes/objectives, management actions, monitoring, success criteria, trigger and contingency actions, to demonstrate that impacts are not greater than predicted, and that the EPA's objective is likely to be met.
<p>Relevant policy</p>	<p>Department of Sustainability, Environment, Water, Population and Communities (2012) <i>Environment Protection and Biodiversity Conservation Act 1999 Environmental Offsets Policy</i>. Canberra, Australian Capital Territory.</p> <p>EPA Checklist for documents submitted for EIA on marine and terrestrial biodiversity.</p> <p>EPA 2000. <i>Environmental Protection of Native Vegetation in Western Australia. Position Statement No. 2</i>. December 2000. EPA, Perth, Western Australia.</p> <p>EPA 2002. <i>Terrestrial Biological Surveys as an Element of Biodiversity Protection. Position Statement No. 3</i>. March 2002. EPA, Perth, Western Australia.</p> <p>EPA 2004. <i>Guidance for the Assessment of Environmental Factors. Terrestrial Flora and Vegetation Surveys for Environmental Impact Assessment in Western Australia, No. 51</i>. June 2004. EPA, Perth, Western Australia.</p> <p>EPA 2006. <i>Guidance for the Assessment of Environmental Factors. Rehabilitation of Terrestrial Ecosystems. No. 6</i>. June 2006. EPA, Perth, Western Australia.</p> <p>EPA 2014. <i>Environmental Protection Bulletin No. 1. Environmental offsets</i>. August 2014. EPA, Perth, Western Australia.</p> <p>Government of WA 2011. <i>WA Environmental Offsets Policy</i>. September 2011. Perth, Western Australia.</p> <p>Government of WA 2014. <i>WA Environmental Offsets Guidelines</i>. August 2014. Perth Western Australia.</p>
HUMAN HEALTH	
<p>EPA objective</p>	<p>To ensure that human health is not adversely affected.</p>
<p>Relevant aspects</p>	<ul style="list-style-type: none"> • Excavation, haulage and stockpiling of ore and overburden; • Product storage and transport;

	<ul style="list-style-type: none"> • Deposition and storage of tailings and other waste products; and • Processing, crushing and milling.
Potential impacts and risks	<p>There are three pathways where radioactive material can adversely impact human health:</p> <ul style="list-style-type: none"> • Inhalation of airborne particulate matter containing radioactive material; • Ingestion of radioactive material; and • Absorption through exposure to radioactive material. <p>Potential impacts/risks include:</p> <ul style="list-style-type: none"> • Dust emissions from areas where mineralisation is near the surface; • Radon gas emanation from disturbed areas where mineralisation is near the surface; • Contamination of air, soils, sediments, surface or groundwater by radionuclides; • Gamma radiation exposure from potential build-up of salts; • Radiation exposure to members of the public on the rehabilitated landform; • Radiation exposure during transport; and • Noise and dust impacts.
Required work	<ol style="list-style-type: none"> 1. Collection and analysis of radiological baseline data. 2. Characterise the expected levels of radioactivity associated with each stage of the process including transportation of the final product. 3. Define and model the radiation exposure pathways; provide exposure estimates of the workforce and any other identified critical groups, during operation and post closure. 4. Assessment of risks to human health from bush tucker consumption in the region from radiological sources and other contaminants, based on local diet. Where a local community is not present a hypothetical model should be used, taking into account a 'worst-case' scenario. 5. Engineering design of TSF, waste rock dumps and open pits to minimise risk of human radiation exposure to as low as reasonably achievable. 6. Detail the design to minimise radon emanation potential and minimise impacts on surface water, groundwater and bush tucker. 7. Discussion of the proposed management, monitoring and mitigation methods to be implemented demonstrating that the design of the proposal has addressed the mitigation hierarchy in relation to impacts on human health. 8. Outline the outcomes/objectives, management, monitoring, trigger and contingency actions, within environmental management plan(s), such as a draft Radiation Management Plan, to ensure impacts (direct and indirect) are not greater than predicted.
Relevant policy	<p>Department of Mines and Petroleum, 2010. Managing Naturally-Occurring Radioactive Material (NORM) in Mining and Mineral Processing – Guidelines:</p> <p>NORM- 1 Applying the system of radiation protection to mining operations;</p> <p>NORM-2.1 Preparation of a radiation management plan – exploration;</p> <p>NORM-2.2 Preparation of a radiation management plan – mining and processing;</p> <p>NORM-3.1 Monitoring – pre-operational monitoring requirements;</p> <p>NORM-3.2 Monitoring – operational monitoring requirements;</p> <p>NORM- 3.3 Monitoring – air monitoring strategies;</p>

NORM-3.4 Monitoring – airborne radioactivity sampling;
NORM-3.5 Monitoring – measurement of particle size;
NORM-4.1 Controlling – dust control strategies;
NORM-4.2 Controlling – management of radioactive waste;
NORM-4.3 Controlling – transport;
NORM-5 Dose assessment;
NORM-6 Reporting requirements; and
NORM-7 Boswell – assessment and reporting database.

Department of Mines and Petroleum, 2013. Tailings Storage Facilities in Western Australia – Code of Practice;

Australian Radiation Protection and Nuclear Safety Agency (ARPANSA) Radiation Protection Series (RPS) 1-16 – Code of Practice and Safety Guide for Radiation Protection and Radioactive Waste Management in Mining and Mineral Processing (2005), specifically including RPS 1 (Recommendations for limiting exposure to ionizing radiation (1995) and National Standard for Limiting Occupational Exposure to Ionizing Radiation); RPS 2 (Safe Transport of Radioactive Material); and RPS 9 (Radiation Protection and Radioactive Waste Management in Mining and Mineral Processing);

Code of Practice for the Safe Transport of Radioactive Material (ARPANSA 2008);

ARPANSA Safety Guide – Methods for Monitoring, Assessing and Recording Occupational Radiation Doses in Mining and Mineral Processing (Draft 2010);

Handbook of parameter values for the prediction of radionuclide transfer in terrestrial and freshwater environments, Technical Report Series 472: (International Atomic Energy Agency, 2010);

Classification of radioactive waste, general safety guide No CSG-1: (International Atomic Energy Agency, 2009);

Security in the transport of radioactive material, IAEA nuclear security series No. 9: (International Atomic Energy Agency, 2008);

Predisposal management of radioactive waste, general safety requirement (GSR) part 5: (International Atomic Energy Agency, 2009);

Management system for the safe transport of radioactive materials, safety standard series number TS-G-1.4: (International Atomic Energy Agency, 2009);

Regulations for the safe transport of radioactive materials, TS-R-1: (International Atomic Energy Agency, 2009);

International Atomic Energy Agency Safety Series: 26 – Radiation Protection of Workers in the Mining and Milling of Radioactive Ores; 90 – The Application of the Principles for Limiting Releases of Radioactive Effluents in the case of the Mining and Milling of Radioactive Ores; 95- Radiation Monitoring in the Mining and Milling of Radioactive Ores (jointly sponsored with the International Labor Organisation and the World Health Organisation); 100 – Evaluating the reliability of predictions made using environmental transfer models; 111 – Principles of Radioactive Waste Management Safety Fundamentals; 112 – Compliance Assurance for the Safe Transport of Radioactive Material; 115 – International Basic Safety Standards for Protection Against Ionizing Radiation and for the Safety of Radiation Sources;

International Commission on Radiological Protection (ICRP) 108 – Environmental Protection: the Concept and Use of Reference Animals and Plants, Ann. ICRP 38 (4-6);

	<p>ICRP 107 – Nuclear Decay Data for Dosimetric Calculations, Ann. ICRP 38 (3);</p> <p>ICRP 103 – The 2007 Recommendations of the International Commission on Radiological Protection, Ann. ICRP 37 (2-4);</p> <p>ICRP 101 – The Optimisation of Radiological Protection: Broadening the Process, Ann. ICRP 36 (3);</p> <p>ICRP 100 – Human Alimentary Tract Model for Radiological Protection;</p> <p>ICRP 99 – Low Dose Extrapolation of Radiation Related Cancer Risk;</p> <p>ICRP 91 – A Framework for Assessing the Impact of Ionising Radiation on Non-Human Species;</p> <p>ICRP 89 – Basic Anatomical and Physiological Data for Use in Radiological Protection: Reference Values;</p> <p>ICRP 83 – Risk Estimation for Multifactorial Diseases;</p> <p>ICRP 82 – Protection of the Public in Situations of Prolonged Radiation Exposure;</p> <p>ICRP 78 – Individual Monitoring for Internal Exposure of Workers;</p> <p>ICRP 77 – Radiological Protection Policy for the Disposal of Radioactive Waste;</p> <p>ICRP 76 – Protection from Exposures: Application to Selected Radiation Sources;</p> <p>ICRP 75 – General Principles for Radiation Protection of Workers;</p> <p>ICRP 74 – Conversion of Coefficients for Use in Radiological Protection against External Radiation;</p> <p>ICRP 72 – Age-dependent Doses to the Members of the Public from Intake of Radionuclides: Part 5 – Compilation of Ingestion and Inhalation Coefficients;</p> <p>ICRP 71 – Age-dependent Doses to Members of the Public from Intake of Radionuclides; Part 4 – Inhalation Dose Coefficients;</p> <p>ICRP 70 – Basic Anatomical & Physiological Data for use in Radiological Protection;</p> <p>ICRP 69 – Age-dependent Doses to Members of the Public from Intake of Radionuclides;</p> <p>ICRP 68 – Dose coefficients for Intakes of Radionuclides by Workers;</p> <p>ICRP 67 – Age-dependent doses to Members of the Public from the Intake of Radionuclides: Part 2 – Ingestion Dose Coefficients;</p> <p>ICRP 66 – Human Respiratory Tract Model for Radiological Protection;</p> <p>ICRP 65 – Protection Against Radon-222 at Home and at Work;</p> <p>ICRP 64 – Protection from Potential Exposure: A Conceptual Framework; and</p> <p>ICRP 60 – 1990 Recommendations of the ICRP.</p>
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HYDROLOGICAL PROCESSES / INLAND WATERS ENVIRONMENTAL QUALITY

EPA objective	<p>To maintain the hydrological regimes of groundwater and surface water so that existing and potential uses, including ecosystem maintenance, are protected.</p> <p>To maintain the quality of groundwater and surface water, sediment and biota so that the environmental values, both ecological and social, are protected.</p>
Relevant aspects	<ul style="list-style-type: none"> • Water abstraction and reinjection; • Clearing of vegetation and site works; • Excavation, haulage and stockpiling of ore and overburden;

	<ul style="list-style-type: none"> • Crushing and milling; • Disturbance to water courses and bodies; • Erosion from ground disturbance; • Flooding or overtopping of TSF/water storage facilities; • Waste generation, storage, treatment and disposal; and • Mine closure and facility decommissioning.
<p>Potential impacts and risks</p>	<ul style="list-style-type: none"> • Alteration of the natural water balance and surface water drainage patterns due to diversion of surface water flows around, and collection of surface water within the development envelope; • Alteration of surface water flows which may result in changes to natural erosion and deposition patterns; • Alteration of hydrology of creeks from groundwater abstraction and reinjection if there is a connection with the groundwater; • Alteration of groundwater flows and volumes, due to abstractions for pit dewatering, water supply bores, and reinjection; • Alteration to groundwater availability to other users; • Risk of overtopping TSF or evaporation pond following extreme rainfall events; • Seepage from mine pit, TSF, waste dumps and stockpiles; • Precipitation of solids due to mixing of groundwater chemistry during the reinjection process; • Increased erosion and sediment transport may increase turbidity of surface water; and • Contamination of surface water as a result of loss of containment of ore or pregnant liquor solution.
<p>Required work</p>	<ol style="list-style-type: none"> 1. Characterise the baseline hydrological and hydrogeological regime, including, but not limited to, water levels, water chemistry, stream flows, flood patterns, and water quantity and quality. 2. Drilling to assess water supply options, including an assessment of mine dewatering, an evaluation of the impacts of abstracting water from any other options proposed, and an explanation in the PER of a strategy to ensure a sustainable water supply for the life of the proposal. Undertake investigations to support the strategy and a contingency plan, should the supply options proposed not prove viable. All investigations should be undertaken in accordance with DoW's Water Licensing Delivery Series Report no. 12 – <i>Western Australian Water in Mining Guidelines, May 2013</i>. 3. Undertake an H3 hydrogeological assessment produced according to <i>DoW Operational Policy no. 5.12 – Hydrogeological reporting associated with a groundwater well licence (2009)</i> for the proposed mine dewatering, managed aquifer discharge (MAR) and water supply over the life of the project, including post closure. The hydrological assessment should include all mine planning options for dewatering, MAR, water supply and contingencies and water disposal. It should take into account impacts on other users, the environment and the maintenance of groundwater aquifer integrity. 4. Prepare a water balance for the entire proposal. 5. Model to predict the extent and magnitude of groundwater drawdown in the mining areas and in the proposed water supply borefields. Prepare cross-sections to demonstrate the extent and magnitude. 6. Model fate and transport contaminants associated with ore treatment and process waste facilities, including contaminants in leachate seepage from tailings storage facilities. 7. Characterise wastes, including intermediate processing wastes, tailings and decontamination waste. 8. Analyse rainfall data to inform project design elements necessary to manage

	<p>storm rainfall events.</p> <ol style="list-style-type: none"> 9. Describe and assess the changes to the hydrological, and hydrogeological regimes including, but not limited to, water levels, water chemistry, stream flows, flood patterns, and water quantity and quality, as a result of implementation of the proposal, under a range of climatic scenarios including probable maximum precipitation. 10. Determine the duration of flooding within the development envelope under pre-construction, mining and post closure conditions. 11. Assessment of the overall site water balance, and management of impacted surface water to ensure onsite containment. 12. Assessment of potential erosion and sediment transport within the project envelope before disturbance, during operation and post closure. 13. External independent review of all hydrogeological studies. 14. Discussion of the proposed management, monitoring and mitigation methods to be implemented demonstrating that the design of the proposal has addressed the mitigation hierarchy in relation to impacts on hydrological processes and inland water environmental quality. 15. Outline the outcomes/objectives, management, monitoring, trigger and contingency actions, within environmental management plan(s), to ensure impacts (direct and indirect) are not greater than predicted.
<p>Relevant policy</p>	<p>EPA (2004) Position Statement No. 4: Environmental Protection of Wetlands, Perth, Western Australia.</p> <p>EPA (2000) Position Statement No. 2: Environmental Protection of Native Vegetation, Perth, Western Australia</p> <p>Department of Water (2009) Operational Policy No. 1.0\1 – Policy on water conservation/efficiency plans, Perth, Western Australia.</p> <p>Department of Water (2009) Operational Policy No. 1.02 – Managed Aquifer Recharge in Western Australia, Perth, Western Australia.</p> <p>Department of Water (2010) Operational Policy No 5.08 – Use of operating strategies in the water licensing process, Perth, Western Australia.</p> <p>Department of Water (2009) Operational Policy No. 5.12 – Hydrogeological Reporting Associated with a Groundwater Licence.</p> <p>Department of Water (2011) Water Resource Allocation and Planning Series Report No. 45 - Groundwater risk-based allocation of planning process, January 2011, Perth, Western Australia.</p> <p>Department of Water (2013) Water Licensing Delivery Series Report No. 12 – Western Australian Water in Mining Guidelines.</p> <p>ANZECC/ARMCANZ (2000) Australian and New Zealand guidelines for fresh and marine water quality, Australian and New Zealand Environment and Conservation Council/Agriculture and Resource Management Council of Australia and New Zealand, Canberra, Australian Capital Territory.</p>
<p>SUBTERRANEAN FAUNA</p>	
<p>EPA objective</p>	<p>To maintain the representation, diversity, viability and ecological function at the species, population and assemblage level.</p>
<p>Relevant aspects</p>	<ul style="list-style-type: none"> • Clearing and excavation; • Water abstraction and reinjection; • Waste generation, storage, treatment and disposal; • Crushing and milling;

	<ul style="list-style-type: none"> • Flooding and overtopping of TSF/water storage facilities; • Vibration; and • Haulage and stockpiling of ore and overburden.
Potential impacts and risks	<ul style="list-style-type: none"> • Removal of habitat from excavation; • Habitat loss / alteration of areas within groundwater drawdown contours and reinjection areas; and • Impacts to habitat from ground disturbance, stockpiling and surface contamination and backfilling with tailings.
Required work	<ol style="list-style-type: none"> 1. Characterisation (distribution and extent) of the subterranean fauna within the proposal project area including a desktop study, incorporating existing regional subterranean fauna surveys, to determine its relevance within a wider regional context. 2. Undertake Level 2 comprehensive survey with adequate sampling in accordance with the requirements of EPA <i>Environmental Assessment Guideline No. 12 for Consideration for subterranean fauna in Western Australia</i> and draft Guidance Statement No. 54a to determine representation of habitat, diversity and spatial distribution of subterranean fauna in the development envelope and potential zones of impact. 3. Provide comprehensive mapping of subterranean fauna habitats in relation to the proposed disturbance including the extent outside the development envelope and, where possible and/or required, demonstrate habitat connectivity. 4. Assessment of impacts (direct, indirect and cumulative) to subterranean fauna taxa and assemblages, including Priority ecological communities, resulting from implementation of the proposal from a local and regional context. 5. Discussion of the proposed management, monitoring and mitigation methods to be implemented demonstrating that the design of the proposal has addressed the mitigation hierarchy in relation to impacts on subterranean fauna. 6. Outline the outcomes/objectives, management, monitoring, trigger and contingency actions, within environmental management plan(s), to ensure impacts (direct and indirect) are not greater than predicted. 7. Completion of checklist for documents submitted for EIA on terrestrial biodiversity.
Relevant policy	<p>WA Environmental Offsets Policy, September 2011, Perth, Western Australia.</p> <p>WA Environmental Offsets Guidelines, August 2014, Perth Western Australia.</p> <p>EPA (2007) Draft Guidance Statement No. 54a: Sampling Methods and Survey Considerations for Subterranean Fauna in Western Australia (2007);</p> <p>EPA (2013) Environmental Assessment Guideline No 12 Consideration of subterranean fauna in environmental impact assessment in Western Australia, Perth, Western Australia.</p> <p>Department of the Environment (2012): EPBC Act Environmental Offsets Policy, Canberra, Australian Capital Territory.</p> <p>EPA Checklist for documents submitted for EIA on marine and terrestrial biodiversity.</p> <p>Guzik, M.T., Austin, A.D., Cooper, S.J.B., Harvey, M.S., Humphreys, W.F., Bradford, T., Eberhard, S.M., Leys, R., Muirhead, K. & Tomlinson, M. (2001). Is the Australian subterranean fauna uniquely diverse? <i>Invertebrate Systematics</i> 24: 407-418.</p>

	<p>Humphreys, W.F. (2008). Rising from Down Under: developments in subterranean biodiversity in Australia from a groundwater fauna perspective. <i>Invertebrate Systematics</i> 22, 85-101.</p> <p>Humphreys, W.F. (2009) Hydrogeology and groundwater ecology: Does each inform the other? <i>Hydrology Journal</i> 17: 5-21.</p> <p>Humphreys, W.F., Watts, C.H.S, Cooper, and S.J.B. & Leijls, R. (2009) Groundwater estuaries of salt lakes: buried pools of endemic biodiversity on the western plateau, Australia. <i>Hydrobiologia</i> 626: 79- 85.</p> <p>Karanovic T, Eberhard S, Cooper S.J.B, & Guzik, M.T (2014) Morphological and molecular study of the genus <i>Nitokra</i> (Crustacea, Copepoda, Harpacticoida) in a small paleochannel in Western Australia. <i>Organisms Diversity & Evolution</i> 2015 15(1). P. 65</p> <p>Leys, R., Watts, C.H.S., Cooper, S.J.B., & Humphreys, W.F. (2003). Evolution of subterranean diving beetles (Coleoptera: Dytiscidae: Hydroporini, Bidessini) in the arid zone of Australia. <i>Evolution</i> 57: 2819-2834.</p> <p>Watts, C.H.S. & Humphreys, W.F. (2003). Twenty-five new Dytiscidae (Coleoptera) of the genera <i>Tjirtudessus</i>, from underground waters in Australia. <i>Records of the South Australian Museum</i> 36(2). 135-187.</p> <p>Watts, C.H.S. & Humphreys, W.F. (2006). Twenty-six new Dytiscidae (Coleoptera) of the genera <i>Limbodessus</i> Guignot and <i>Nirripiriti</i> Watts and Humphreys, from underground waters in Australia. <i>Transactions of the Royal Society of South Australia</i>, 130 (1). 123-185.</p>
TERRESTRIAL FAUNA	
EPA objective	To maintain the representation, diversity, viability and ecological function at the species, population and assemblage level.
Relevant aspects	<ul style="list-style-type: none"> • Clearing of fauna habitat; • Water abstraction and reinjection; • Excavation, haulage and stockpiling of ore and overburden • Crushing and milling (dust deposition); • Dust suppression; • Flooding and overtopping of TSF/water storage facilities; • Lighting; • Vehicle movements; and • Noise and vibration.
Potential impacts and risks	<ul style="list-style-type: none"> • Radiation impacts on terrestrial fauna; • Loss and/or fragmentation of habitat from vegetation clearing, changes to surface water patterns, abstraction and reinjection of water; • Exposure of fauna to radioactive materials or other contaminants, including access by birds to process water ponds in evaporation ponds; • Attraction of fauna to areas used for storage of water or food wastes; • Entrapment of fauna in open excavations; • Increased risk of collisions with vehicles; • Dust, noise and vibration impacts; • Light impacts on nocturnal species; and • Loss of habitat from frequent and intense fires.
Required work	1. Characterisation of terrestrial fauna and habitat within the development envelope including a desktop study incorporating existing regional fauna surveys to determine its relevance within a wider regional context.

2. Undertake Level 2 fauna surveys within the development envelope and any other areas that may be indirectly impacted as a result of implementation of the proposal. Surveys are to be in accordance with Guidance Statements 20 and 56, EPA/DEC Technical Guide – *Terrestrial Vertebrate Fauna Surveys for Environmental Impact Assessment*, and, where available, species-specific survey guidelines for relevant species listed under the EPBC Act. Additional targeted surveys for conservation significant fauna, including short-range endemic invertebrate fauna, that are known to or likely to occupy habitats in the project area may be required based on the results of the survey.
3. Provide comprehensive mapping of fauna habitats (including rare or unusual habitat types) in relation to the proposed disturbance and a comprehensive listing of fauna likely to occur in habitats within the areas to be cleared or indirectly impacted, in accordance with Guidance Statement 56 and the EPA/DEC Technical Guide – *Terrestrial Vertebrate Fauna Surveys for Environmental Impact Assessment*. Figures showing the likely extent of loss of the habitat types from both direct and indirect impacts.
4. Undertake a quantitative analysis of the likely extent of loss of habitat, including areas in hectares and percentages of habitat types to be impacted (directly and indirectly), to assist in the determination of significance of impact to fauna, including short-range endemics. The analysis should include an evaluation of the impact of activities, including assessment of condition, for conservation significant species.
5. For each conservation significant species, provide:
 - Information regarding the conservation value of each habitat type from a local and regional perspective, including the percentage representation of each habitat type within the development envelope in relation to its local and regional extent;
 - If a population of a conservation significant species is present within the development envelope, its size and the importance of that population from a local and regional perspective and potential percentage loss of that species locally due to loss of habitat; and
 - Mapping illustrating the known recorded locations of conservation significant species in relation to the proposed disturbance and areas to be impacted.
6. Undertake a quantitative analysis of the extent of loss (worst-case) of habitat, including areas in hectares and percentages of habitat types to be impacted (directly and indirectly), to assist in the determination of significance of impacts to fauna. The analysis should include identification and mapping of the known regional distribution of conservation significant species and an evaluation of the impact of activities, including assessment of condition, for conservation significant species.
7. Ecotoxicity studies and assessment of deterrents against access by fauna to evaporation ponds containing process water.
8. Assessment of potential radiation impacts on terrestrial fauna and any other non-human biota using the Environmental Risk from Ionising Contaminants: Assessment and Management (ERICA) tool. Australian specific data should be used where available.
9. Description (including figures) of the expected direct and indirect impacts to vertebrate and SRE invertebrate fauna and their associated habitat from all aspects of the proposal.
10. Description of impacts resulting from fauna, both native and feral, that may be attracted to the evaporation ponds.
11. Discussion of potential impacts to terrestrial fauna, as a result of implementation of the proposal, with particular regard to State listed

	<p>threatened fauna and EPBC Act listed threatened and/or migratory species, and provision of quantitative data on impacts of the proposal to species of conservation significance.</p> <p>12. Discussion of the proposed management, monitoring and mitigation methods to be implemented demonstrating that the design of the proposal has addressed the mitigation hierarchy in relation to impacts on terrestrial fauna.</p> <p>13. Outline the outcomes/objectives, management, monitoring, trigger and contingency actions, within environmental management plan(s), to ensure impacts (direct and indirect) are not greater than predicted.</p> <p>14. Completion of checklist for documents submitted for EIA on terrestrial biodiversity.</p>
<p>Relevant policy</p>	<p>ARPANSA Technical Report 167 – A review of existing Australian radionuclide activity concentration data in non-human biota inhabiting uranium mining environments.</p> <p>WA Environmental Offsets Policy, September 2011, Perth, Western Australia.</p> <p>WA Environmental Offsets Guidelines, August 2014, Perth, Western Australia.</p> <p>EPA (2002) Position Statement No. 3: Terrestrial Biological Surveys as an Element of Biodiversity Protection, Perth, Western Australia.</p> <p>EPA 2006. <i>Guidance for the Assessment of Environmental Factors</i>. Rehabilitation of Terrestrial Ecosystems. No. 6. June 2006. EPA, Perth, Western Australia.</p> <p>EPA (2009) Guidance Statement No. 20: Sampling of Short Range Endemic Invertebrate Fauna for Environmental Impact Assessment in Western Australia, Perth, Western Australia.</p> <p>EPA (2004) Guidance Statement No. 56: Terrestrial Fauna Surveys for Environmental Impact Assessment in Western Australia, Perth, Western Australia.</p> <p>EPA and DEC (2010) Technical Guide – Terrestrial Vertebrate Fauna Surveys for Environmental Impact Assessment, Perth, Western Australia.</p> <p>Department of the Environment (2012): EPBC Act Environmental Offsets Policy, Canberra, Australian Capital Territory.</p> <p>Department of the Environment (various years): Survey Guidelines, Recovery Plans and Threat Abatement Plans for relevant species, Canberra, Australian Capital Territory.</p> <p>EPA Checklist for documents submitted for EIA on marine and terrestrial biodiversity.</p>
<p>AIR QUALITY AND ATMOSPHERIC GASES</p>	
<p>EPA objective</p>	<p>To maintain air quality for the protection of the environment and human health and amenity, and to minimise the emission of greenhouse and other atmospheric gases through the application of best practice.</p>
<p>Relevant aspects</p>	<ul style="list-style-type: none"> • Clearing and excavation; • Processing, crushing and milling; • Power generation; and • Haulage and stockpiling of ore and overburden.
<p>Potential impacts and risks</p>	<ul style="list-style-type: none"> • Production of dust (including dust containing radioactive material) resulting from mining, stockpiling, transporting, processing, crushing and milling; • Greenhouse gas emissions; and • SO₂ and NO₂ and CO emissions.

Required work	<ol style="list-style-type: none"> 1. Characterise baseline air quality in the development envelope. 2. Describe expected impacts upon air quality from the implementation of the proposal including direct and indirect impacts. 3. Modelling of dust emission sources, particularly in relation to near surface mineralisation and dispersion modelling to predict radionuclide activities in airborne and deposited dust. 4. Modelling of potential emissions from power generation and processing, and the impacts upon sensitive receptors. 5. Estimation of potential greenhouse gas emissions associated with the construction and operation of the mine and associated infrastructure. 6. Discussion of the proposed management, monitoring and mitigation methods to be implemented demonstrating that the design of the proposal has addressed the mitigation hierarchy in relation to impacts on air quality. 7. Outline the outcomes/objectives, management, monitoring, trigger and contingency actions, within environmental management plans, to ensure impacts (direct and indirect) are not greater than predicted.
Relevant policy	<p>DEC (2006) Guidance Notes: Air Quality and Air Pollution Modelling, Perth, Western Australia.</p> <p>DEC (2010) A guideline for managing the impacts of dust and associated contaminants from land development sites, contaminated sites remediation and other related activities, Perth, Western Australia.</p> <p>DEC Western Australia State Greenhouse Strategy – Western Australia Greenhouse Task Force (2004b), Perth, Western Australia.</p> <p>EPA (2002) Guidance Statement No. 12: Minimising Greenhouse Gas Emissions, Perth, Western Australia.</p> <p>National Environmental Protection (Assessment of Site Contamination) Measure (NEPM) 2013, Canberra, ACT.</p>
TERRESTRIAL ENVIRONMENTAL QUALITY	
EPA objective	To maintain the quality of land and soils so that the environment values, both ecological and social, are protected.
Relevant aspects	<ul style="list-style-type: none"> • Clearing and excavation; • Processing, crushing and milling (dust deposition); • Haulage and stockpiling of ore and overburden; and • Water abstraction and reinjection.
Potential impacts and risks	<ul style="list-style-type: none"> • Spreading of mineralised material outside the mining areas during hauling process; • Seepage from TSF and waste storage; • Erosion; • Dust deposition; • Flooding and overtopping of water storage facilities; and • Accidental spills.
Required work	<ol style="list-style-type: none"> 1. Characterisation of wastes, including intermediate wastes, tailings and decontamination waste, according to contaminant and leachable concentrations. 2. Physical and geochemical characterisation of process residues, waste rock and overburden including an assessment of the 'dustiness' of bulk materials to the relevant standards, in consultation with the Department of Environment

	<p>Regulation.</p> <ol style="list-style-type: none"> 3. Contaminant pathways modelled to assess potential leaching of contaminants from waste dumps/stockpiles and risks of acid metalliferous and neutral drainage. 4. Discussion of the proposed management, monitoring and mitigation methods to be implemented demonstrating that the design of the proposal has addressed the mitigation hierarchy in relation to impacts on terrestrial environmental quality. 5. Outline the outcomes/objectives, management, monitoring, trigger and contingency actions, within environmental management plan(s), to ensure impacts (direct and indirect) are not greater than predicted.
Relevant policy	Department of Industry Tourism and Resources (2007) Managing Acid and Metalliferous Drainage, Leading Practice Sustainable Development Program for the Mining Industry, Canberra, Australian Capital Territory.
HERITAGE	
EPA objective	To ensure that historical and cultural associations, and natural heritage, are not adversely affected.
Relevant aspects	<ul style="list-style-type: none"> • Clearing of vegetation and site works; • Water abstraction and reinjection; • Alterations to surface water flows; • Excavation, haulage and stockpiling of ore and overburden; • Overtopping of water storage facilities; and • Vehicle movements.
Potential impacts and risks	<ul style="list-style-type: none"> • Disturbance to Aboriginal heritage sites and/or cultural associations within the area; and • Temporary and/or permanent constraint on traditional cultural activities.
Required work	<ol style="list-style-type: none"> 1. Completion of cultural mapping of the development envelope and any other areas that may be indirectly impacted to identify sites of significance to Aboriginal people, including its relevance within a wider regional context. 2. Assessment of impacts on any Aboriginal sites of significance in accordance with EPA Guidance Statement 41, including a description on heritage sites and/or cultural associations associated with the implementation of the proposal. 3. Consultation with Traditional Owners. 4. Discussion of the proposed management, monitoring and mitigation methods to be implemented demonstrating that the design of the proposal has addressed the mitigation hierarchy in relation to impacts on heritage. 5. Outline the outcomes/objectives, management, monitoring, trigger and contingency actions, within environmental management plan(s), to ensure impacts (direct and indirect) are not greater than predicted, including a Cultural Heritage Management Plan.
Relevant policy	<p>Department of Aboriginal Affairs and Department of Premier and Cabinet (DAA & DPC) (2013) <i>Aboriginal Heritage - Due Diligence Guidelines, Version 3.0</i>, Perth, Western Australia.</p> <p>EPA (2004) Guidance Statement No.41: <i>Assessment of Aboriginal Heritage</i>, Perth, Western Australia.</p>

REHABILITATION AND DECOMMISSIONING	
EPA objective	To ensure that premises are decommissioned and rehabilitated in an ecologically sustainable manner.
Relevant aspects	<ul style="list-style-type: none"> • Clearing of vegetation and site works; • Water abstraction and reinjection; • Pits; • Tailings Storage Facility; • Alterations/ diversion to surface water flows; • Waste dumps; and • Quarry.
Potential impacts and risks	<ul style="list-style-type: none"> • Residual soil or groundwater contamination; • Altered surface levels or drainage patterns; • Alteration to hydrological processes, quality and quantity association with surface and/or groundwater that may sustain subterranean or terrestrial biota; • Increased erosion; • Removal and disposal of plant/infrastructure; • Loss of land / soil productivity; • Increased weed occurrence; • Reduced visual amenity; • Constrained access to the land; • Residual human health risks; and • Long term financial liabilities.
Required work	<ol style="list-style-type: none"> 1. Waste quantities estimated, including concrete, steel, pipelines and other materials to be salvaged or removed from site, and timing of land disturbance, waste generation and progressive land rehabilitation documented. 2. Assessment of hydrogeological characteristics of the post-closure voids. 3. Long term (10,000 years) behaviour and performance of landforms and associated containment systems, including tailings storage facility capping systems, modelled under a range of climatic events, including Landform Evolution Modelling. 4. Conceptual diagram of pits post-closure. 5. Assessment of the radon exhalation performance of the cap and its significance. 6. Assessment of potential radiation impacts on non-human biota post closure using the Environmental Risk from Ionising Contaminants: Assessment and Management (ERICA) tool. Australian specific data should be used where available. 7. Surface and groundwater pathways modelled to assess potential for human and/or ecological contaminant exposures. 8. Long term behaviour of built landforms and associated containment systems modelled under a range of climatic events. 9. Sequencing of mining, tailings deposition/backfilling, and progressive rehabilitation. 10. Rehabilitation and closure management and mitigation measures should be described in a comprehensive Mine Closure and Rehabilitation Plan. A final conceptual closure plan should be provided as an appendix to the PER and prepared in accordance with the Guidelines for Preparing Mine Closure Plans jointly prepared by the DMP and the EPA. The closure plan should incorporate design features and management measures for the safety and

	effective closure of uranium mining and processing facilities (whether planned or unplanned).
Relevant policy	<p>EPA/DMP (2011) Guidelines for Preparing Mine Closure Plans, Perth, Western Australia.</p> <p>EPA 2006. <i>Guidance for the Assessment of Environmental Factors</i>. Rehabilitation of Terrestrial Ecosystems. No. 6. June 2006. EPA, Perth, Western Australia.</p> <p>Department of Minerals and Energy (1999) Guidelines for the Safe Design and Operating Standards for Tailings storage, Perth, Western Australia.</p> <p>Department of Mines and Petroleum (2013). Tailings Storage Facilities in Western Australia – Code of Practice</p> <p>Government of Western Australia (2003) Western Australian State Sustainability Strategy, Perth, Western Australia.</p> <p>Department of Industry, C'th (2006) Leading Practice Sustainable Development Programme for the Mining Industry.</p>
OFFSETS	
EPA objective	To counterbalance any significant residual environmental impacts or uncertainty through the application of offsets.
Relevant aspects	<ul style="list-style-type: none"> • Clearing of vegetation and site works; • Water abstraction and reinjection; • Alterations to surface water flows; • Excavation, haulage and stockpiling of ore and overburden; • Flooding and overtopping of TSF/water storage facilities; and • Vehicle movements.
Potential impacts and risks	<ul style="list-style-type: none"> • Disturbance to native vegetation (direct and indirectly); • Impacts to significant species or communities; • Loss or alteration of terrestrial and subterranean fauna habitat; • Changes in fauna movements as a result of changes in habitat connectivity; • Groundwater quality affected by tailings seepage or accidental spills; • Alterations to hydrological processes, quality and quantity associated with surface and/or groundwater that may sustain conservation significant terrestrial or subterranean biota; • Changes to flows from localised drawdown due to mining and dewatering; and • Contamination of air, soils, sediments, surface or groundwater by radionuclides.
Required work	<ol style="list-style-type: none"> 1. Discussion on the outcomes of the studies and investigations outlined above in the context of the EPA's requirement for proponents to demonstrate effective mitigation of impacts through avoidance, minimisation and rehabilitation. 2. Application of the residual impact significance model to show whether there are significant residual impacts. Should significant residual impacts be determined, include an offset package in the PER document.
Relevant policy	<p>WA Environmental Offsets Policy, September 2011, Perth, Western Australia.</p> <p>WA Environmental Offsets Guidelines, August 2014, Perth Western Australia.</p> <p>EPA (2014) Environmental Protection Bulletin No 1: Environmental Offsets, Perth, Western Australia.</p> <p>Department of the Environment (2011): EPBC Act Environmental Offsets Guide,</p>

In some circumstances an investigation that has been identified under a specific preliminary key environmental factor may also be required for other preliminary key environmental factors. In these circumstances, the investigations have not been repeated under each of the relevant factors, however it is expected that the proponent will apply the investigations across the factors, where required, when preparing its environmental review document.

4. Stakeholder consultation

The EPA expects that the proponent will consult with stakeholders who are interested in, or affected by, the proposal. This includes decision-making authorities (DMAs), other relevant State government departments and local government authorities, environmental non-government organisations and the local community.

The proponent must document the stakeholder consultation undertaken and the outcomes, including any adjustments to the proposal and any future plans for consultation. This is to be addressed in a specific section of the PER document and, in addition, key outcomes of consultation are to be reported against the preliminary key environmental factors as relevant.

It is expected that as a part of the consultation with DMA's there will be discussion around each agency's specific regulatory approvals, and a demonstration that other factors can be managed by another regulatory body.

5. Other factors or matters

During assessment of proposals, other factors or matters will be identified as relevant to the proposal, but not of significance to warrant further assessment by the EPA, or impacts can be regulated by other statutory processes to meet the EPA's objectives.

These factors do not require further work as part of the environmental review, or detailed discussion and evaluation in the PER document, although they must be included in the PER document in a summarised, tabular format noting that the PER document will be subject to public review.

In some circumstances other factors, while not being considered as preliminary key environmental factors, may require greater emphasis in the PER document. This may be due to high public interest or at the request of another stakeholder, so that the potential impacts and management measures associated with the other factor are sufficiently articulated for the public review. For this assessment, the other factor of Amenity, in relation to noise and access to roads, needs to be concisely described and discussed in the PER document.

It is also important that the proponent be aware that other factors or matters may be identified during the course of the environmental review that were not apparent at the time that this ESD was prepared. If this situation arises, the proponent must consult

with the EPA to determine whether these factors and/or matters are to be addressed in the PER document, and if so, to what extent.

6. Agreed assessment timeline

Table 3 sets out the timeline for the assessment of the proposal agreed between the EPA and the proponent. Proponents are expected to meet the agreed timeline, and in doing so, provide adequate, quality information to inform the assessment.

Table 3 Assessment Timeline

Key Stages of Assessment	Agreed Completion Date
EPA approval of ESD	April 2015
Proponent submits first adequate draft PER document	19 June 2015
Office of the Environmental Protection Authority (OEPA) provides comment on first adequate draft PER document	31 July 2015
Proponent submits adequate revised draft PER document	21 August 2015
EPA authorises release of PER document for public review	4 September 2015
Proponent releases authorised PER document for public review	21 September 2015
Public review of PER document	11 December 2015
EPA provides Summary of Submissions	15 January 2016
Proponent provides Response to Submissions	12 February 2016
OEPA reviews the Response to Submissions	11 March 2016
OEPA assesses proposal for consideration by EPA	6 May 2016
Preparation and finalisation of EPA assessment report (including two weeks consultation on draft conditions with proponent and key Government agencies)	10 June 2016

If any stage in the agreed timeline is not met or inadequate information is submitted by the proponent, the timing for the completion of subsequent stages of the process will be revised. Equally, where the EPA is unable to meet an agreed completion date in the timeline, the proponent will be advised and the timeline revised.

The proponent should refer to EPA's EAG 6 – *Timelines for environmental assessment of proposals* for information regarding the responsibilities of proponents and the EPA for achieving timely and effective assessment of proposals.

7. Decision-making authorities

At this stage, the EPA has identified the authorities listed in Table 4 as DMAs for the proposal. Additional DMAs may be identified during the course of the assessment.

Table 4 Decision-making authorities

Decision-making authority	Relevant legislation
Department of Mines and Petroleum	<i>Mining Act 1978; Mines Safety and Inspection Act 1994; Dangerous Goods Safety Act 2004</i>
Department of Environment Regulation	<i>Environment Protection Act 1986 (Part V Works approval and Licence)</i>
Minister for Water	<i>Rights In Water Irrigation Act 1914</i>
Radiological Council of Western Australia	<i>Radiation Safety Act 1975</i>
Minister for Aboriginal Affairs	<i>Aboriginal Heritage Act 1972</i>
Minister for State Development	<i>Uranium (Yeelirrie) Agreement Act 1978</i>
Main Roads Western Australia	<i>Main Roads Act 1930</i>
Minister for Environment	<i>Wildlife Conservation Act 1950</i>
Shire of Wiluna	Development Approval

8. Parallel processing

The EP Act constrains DMAs from making any decision that could have the effect of causing or allowing the proposal to be implemented. However, the proponent is encouraged to pursue other approvals in parallel with the EPA's assessment noting that the constraint only relates to making an approval decision.

9. PER document

When the EPA is satisfied with the standard of the PER document (refer to section 4.4 of EAG 6) it will provide written authorisation for the release of the document for public review. The proponent must not release the PER document for public review until this authorisation is provided.

The proponent is responsible for advertising the release and availability of the PER document in accordance with instructions that will be issued to the proponent by the EPA. The EPA must be consulted on the timing and details for advertising.

Figure 1: Regional Location

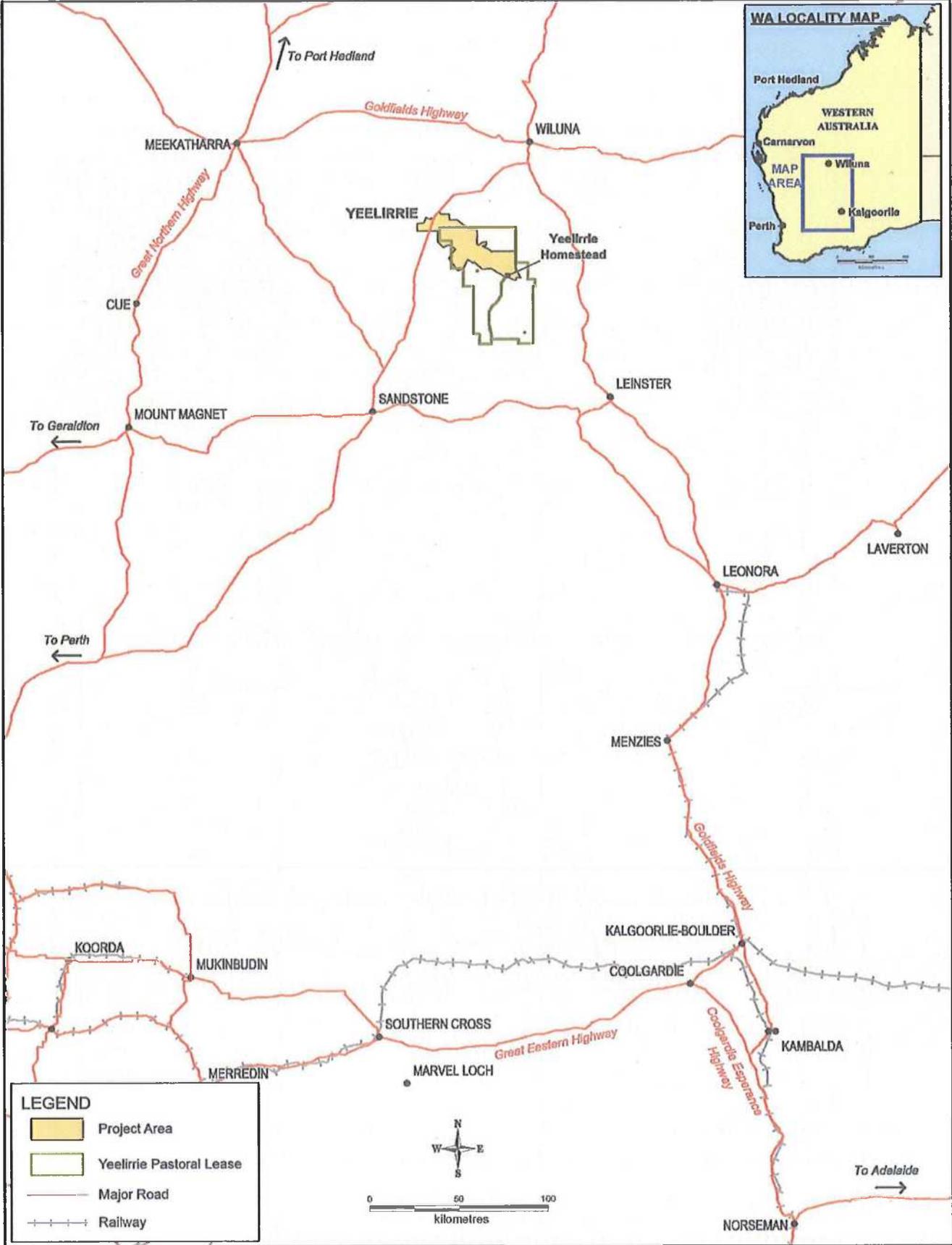


Figure 2 – Development Envelope

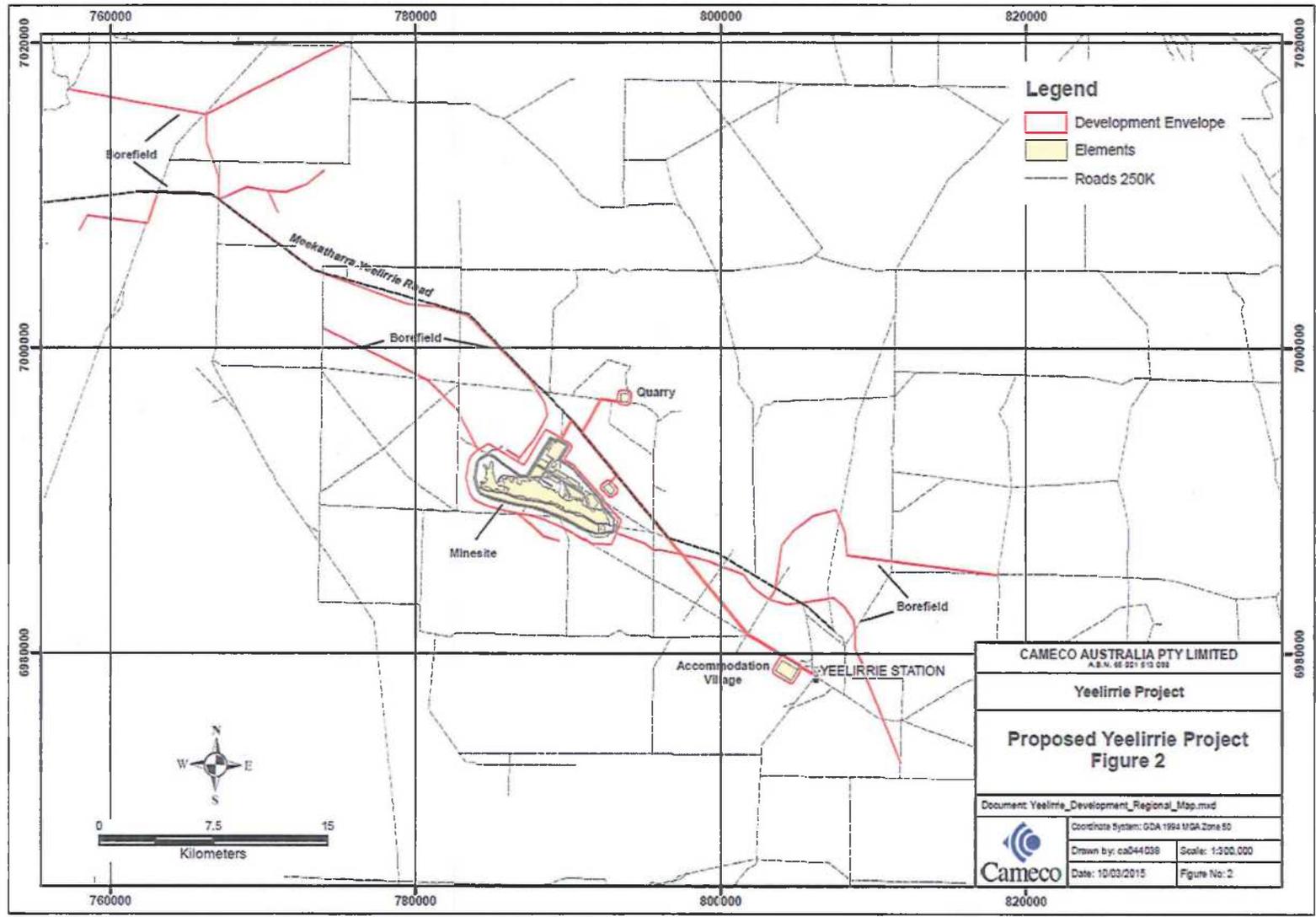


Figure 3 – Conceptual layout

