

## 1. The Proposal – General Comments

Submitter	Submission and/or Issue	Response to comment	Change to ESD
<b>Joint Environment NGO; Footprints for Peace; P16; Robin Chapple MLC</b>	<p>ESD is deficient as it lacks the necessary detail, fails to address cumulative impacts and avoids critical strategic project design considerations. The Minister should request a strategic plan for the total project area.</p> <p>The current segmented and modular assessment approach is inadequate and unlikely to lead to the best environmental outcomes.</p> <p>The ESD indicates that the process of piecemeal assessment will continue with draft management plans and the omission of other management plans – this process undermines the good faith of the public to engage in the process of public review.</p>	<p>As explained on p.5- 6 of the ESD, the content of the ESD has been prepared in compliance with EPA Environmental Assessment Guideline (EAG) 10 – <i>Scoping a proposal</i>. The ESD (p.38-39) states: ‘Impacts associated with proposals are to be considered and quantified at a local and regional scale, including evaluation of cumulative impacts (direct and indirect) for all environmental factors and details provided of proposed management/mitigation measures, including the implications of this proposal for existing requirements and management of already approved activities at Centipede and Lake Way.’ It appears the submitters have overlooked this requirement. To make it clearer, Toro proposes to add words to the sentence quoted above.</p>	<p>p.38-39 add words to the sentence beginning ‘Impacts associated with.....’ so that the full sentence reads: <i>‘Impacts associated with proposals are to be considered and quantified at a local and regional scale, including evaluation of cumulative impacts (direct and indirect) for all environmental factors and details provided of proposed management/mitigation measures, including the implications of this proposal for existing requirements and management of already approved activities at Centipede and Lake Way so that any cumulative impacts of mining at Centipede, Lake Way, Millipede and Lake Maitland are addressed in the PER document for the extension of the Wiluna Project.’</i></p>
<b>Robin Chapple MLC</b>	<p>The proposal with separate Mines for Lake Way, Centipede, Millipede and Lake Maitland must be re-assessed both separately and cumulatively. The projects are located 100km from each other and occupy completely</p>	<p>As explained above, the components of the expanded project will be assessed both cumulatively and separately. Toro considers it unlikely that each of the deposits ‘occupy completely different and distinct environments’.</p> <p>The similarities and differences between the various parts of the project will be described in the PER on the basis of evidence collected during baseline studies.</p>	<p>No change proposed.</p>

	<p>different and distinct environments.</p> <p>The project cannot be considered an extension of the original when we consider the spread of the mine sites, the increased quantity of ore proposed to be mined, processed and transported for export and the significantly longer life of the mine when compared with the original proposal.</p>	<p>Mining at Millipede would be immediately adjacent to the already assessed mining at Centipede. Mining at all four locations would occur within flat-lying and thin deposits and adopt the same open pit method, occurring adjacent to lakes which are predominantly dry with a shallow groundwater table. The incorporation of Lake Maitland into the Wiluna Project would reduce the regional footprint and environmental impacts by reducing a duplication of operations and infrastructure.</p>	
<p><b>Joint Environment NGO</b></p>	<p>Disappointed by the lack of project data and baseline studies. Information in previous PERs have not been accessible to the public and has not included baseline studies that provide important information with which to measure changes in the environment that the public should have access to.</p>	<p>As explained on p. 6 of the ESD, the content of the ESD has been prepared in compliance with EPA Environmental Assessment Guideline (EAG) 10 – <i>Scoping a proposal</i>. p.24-36 of the ESD lists all of the existing reports and investigations relating to Millipede and Lake Maitland and many of them already have been made public during the assessment of proposed mining at Centipede and Lake Way undertaken by Toro and the assessment of proposed mining at Lake Maitland by the former owner.</p>	<p>p. 23 of the ESD – after the sentence ending <i>Environmental factors and objectives.</i>’ add the sentence – ‘Toro will include these reports and investigations as an attachment to the PER as well as the further reports and investigations identified in this ESD.’</p>
<p><b>Joint Environment NGO; Footprints for Peace</b></p>	<p>The proponent should complete management plans and comprehensive baseline studies that incorporate studies on residential areas in the region and on flora and fauna outside the project areas.</p>	<p>All management plans will be included as an appendix to the PER. The PER will discuss the outcomes of baseline studies and impact assessments conducted for areas which the project has the potential to impact either directly or indirectly and some regional information will be collected for comparison purposes.</p>	<p>No change proposed.</p>

<p><b>Joint Environment NGO; People for Nuclear Disarmament (WA); Footprints for Peace; Robin Chapple MLC</b></p>	<p>The proponent should undertake a full assessment of the entire project including the Lake Way, Centipede, Millipede and Lake Maitland mines and that some cumulative assessment includes any future intentions of mining in the region.</p>	<p>Toro has no current proposals for mining beyond those identified at Centipede, Lake Way, Millipede and Lake Maitland. The EPA assessment process requires Toro to provide an assessment of the project as currently defined in the ESD.</p>	<p>No change proposed.</p>
<p><b>Joint Environment NGO; Petition; P2, 4, 5, 6, 7, 8, 9, 10, 11, 12, 14, 15, 16</b></p>	<p>Clear opposition to uranium mining and the nuclear industry for many reasons, including:</p> <ul style="list-style-type: none"> <li>• risks to the environment and public health;</li> <li>• the failure for the industry to operate safely;</li> <li>• social / psychological issues;</li> <li>• the risk of nuclear accidents, weapons proliferation;</li> <li>• unresolved concerns over radioactive waste management;</li> <li>• costs outweigh the benefits in the longer term;</li> <li>• think long term and care for our environment and benefit the future generations;</li> <li>• irreversible pollution;</li> <li>• invest in renewables;</li> </ul>	<p>The opposition of the submitter and the petitioners to uranium mining and the nuclear industry is noted. The impacts of the nuclear industry beyond uranium mining are outside the scope of this assessment. Those issues listed which are specific to uranium mining will be addressed in the PER as required by this ESD.</p>	<p>No change proposed.</p>

	<ul style="list-style-type: none"> <li>• radiation has affected many Aboriginal people and their communities;</li> <li>• long term and inimical to life and the environment; and</li> <li>• uranium and its by-products are too dangerous.</li> </ul>		
<b>Joint Environment NGO</b>	There is no evidence that the proponent has considered least-impact scenarios.	The incorporation of Lake Maitland into the Wiluna Project would reduce the regional footprint and environmental impacts by reducing a duplication of operations and infrastructure. The ESD (p.39-57) has identified nine preliminary key environmental factors relevant to the proposed extension of the Wiluna Project and the studies and other work Toro must undertake to enable an environmental assessment of its proposal. An important purpose of the PER is for Toro to document the outcomes of its studies and other work and explain project design and other measures it would take to minimise and mitigate impacts.	No change proposed.
<b>Joint Environment NGO</b>	Where is the best and safest location in the region to store the radioactive mine waste and what evidence and modelling is this based upon?	During EPA Assessment 1819 (EPA Report 1437) the proposed tailings storage at Centipede was assessed. The assessment concluded that <i>“the proposed TSF can be operated and constructed in a manner that would ensure the potential risk to groundwater quality is environmentally acceptable”</i> The EPA report also stated that, <i>“the proposed monitoring, maintenance and contingency response in relation to the management and operation of the TSF is environmentally acceptable”</i> . There would be no significant difference in the mineralogical composition, particle size, distribution or chemical composition of the tailings proposed to be stored within the immediately adjacent Millipede	No change proposed.

		tenements. The void planned to be mined at Centipede and Millipede would be sufficient to impound all of the tailings processed from ore recovered from Centipede, Millipede, Lake Maitland and Lake Way.	
<b>Joint Environment NGO</b>	The elements of Table 7 should be made more concise and clear.	Table 7 has been prepared in accordance with EPA requirements as set out in EPA Environmental Assessment Guideline 10 – <i>Scoping a proposal</i> .	No change proposed
<b>People for Nuclear Disarmament (WA), P16</b>	The DMP's Uranium Advisory Group state that WA's regulations fail to meet world's best practice, deficiencies include lack of cumulative impacts studies, lack of transparency and public engagement and operating under an outdated set of regulations on tailings management.  This, and the remote location of the mine, does not provide confidence that the uranium mining and export industry would be adequately regulated.	The regulation of uranium mining is a matter for government, not Toro Energy. Toro will continue to comply with all government legislative and regulatory requirements.	No change proposed
<b>Joint Environment NGO</b>	Irrespective of whether or not tailings are discussed in other management plans, a dedicated, detailed and comprehensive tailings management plan should be provided with the PER document.	The ESD (p.51) requires Toro to prepare a Radioactive Waste Management Plan which outlines the outcomes/objectives, management, monitoring, trigger and contingency actions to ensure that impacts (direct and indirect) are not greater than predicted. This Plan will include tailings management. Tailings management will also be addressed in the Mine Closure and Rehabilitation Plan. As recorded in the ESD (p.52) Toro's tailings management would comply with the Code of Practice for	No change proposed.

		Tailings Storage Facilities in Western Australia (Department of Mines and Petroleum, 2013)	
<b>Joint Environment NGO</b>	There is no chemical or hazardous material management plan that would typically cover fuel and chemical storage, risk assessment and management strategies.	The ESD (p.59) notes that Toro is already committed to the development of a Waste Management Plan. Toro would include management of chemical and hazardous materials in this Plan.	Words added to p.59 of the ESD under 'Waste Management Plan'
<b>DoW</b>	The ESD is an inadequate document as it contains limited information on the proposal itself, does not contain an index or references, and does not contain sufficient information on water sources, investigations required and potential impacts associated with water management.	The ESD has been prepared in accordance with EPA Environmental Assessment Guideline 10 – <i>Scoping a proposal</i> . The sufficiency of information on water sources, investigations and impacts associated with water management is addressed elsewhere in this response. The details will be discussed in the PER.	No change proposed
<b>DoTE</b>	The Department's recent name change from the Department of Sustainability, Environment, Water, Population and Communities to the Department of the Environment should be reflected throughout the ESD.	Agreed.	This change has been made at p.44, 46 and 56 of the ESD.
<b>DoTE</b>	Remove from the Terrestrial Fauna' section of Table 7 the sentence reading 'Department of Sustainability, Environment, Water, Population and	Agreed.	This change has been made at p.44 of the ESD.

	Communities (2011) Survey guidelines for relevant species, Canberra, Australian Capital Territory'. Replace with 'Department of the Environment (various years) Survey Guidelines and Recovery Plans for relevant species, Canberra, Australian Capital Territory.'		
<b>P1</b>	Some of the best Australian scientific bodies and minds have made several comments on how WA's regulations fail to meet world's best practice. These deficiencies include: lack of cumulative impacts; lack of transparency and engagement; and operating under an outdated set of regulations on tailings management.	The regulation of uranium mining is a matter for government, not Toro Energy. Toro will continue to comply with all government legislative and regulatory requirements.	No change proposed.
<b>Joint Environment NGO</b>	An analysis of the broader global implications of uranium exports from Wiluna should be undertaken, or if outside the current assessment mechanisms, then uranium mine proposals should be assessed by a way of public inquiry.	The 'broader global implications of uranium exports' are outside the scope of this assessment. Toro notes that the level of assessment is a matter for the EPA and the level determined for this proposal, PER, is 'the highest level of assessment: allows for extensive public consultation and ensures the key environmental factors can be addressed appropriately.' (EPA Weekly record of determinations for S38 Referrals, S16 and/or S46 Advice – recorded 2 April 2014)	No change proposed.

<b>Petition</b>	Uranium mining projects should not be assessed based on conditions and regulations applicable for conventional mining practices.	The assessment of proposals, is a matter for government and not Toro Energy. Toro will continue to comply with all government legislative and regulatory requirements.	No change proposed
<b>Petition</b>	The public should be able to scrutinise the complete Environmental Management Report and the Department of Mines and Petroleum should make it available before final approval is given.	Toro understands this submission relates to the Mine Closure and Rehabilitation Plan. Toro's Mine Closure and Rehabilitation Plan would be included as an attachment to the PER making it available for public scrutiny before the Plan is considered for approval. Outside the PER process, further consultation is required for the Mine Closure and Rehabilitation Plan.	No change proposed.
<b>Petition</b>	We ask for revocation of the compulsory fee applied to the appeals process as this is a deterrent for effective public scrutiny.	This is a matter for government, not Toro Energy.	No change proposed.
<b>Petition; P8, 12</b>	Independent environmental reviews should be undertaken. The whole project should be reassessed.	The environmental assessment of the proposal is undertaken independently of Toro. The level of assessment is a matter for government. Toro notes that in determining this proposal be assessed as a PER, the EPA recorded: 'Highest level of assessment; allows for extensive public consultation and ensures the key environmental factors can be addressed appropriately.' (EPA Weekly record of determinations for S38 Referrals, S16 and/or S46 Advice – signed 2 April 2014)	No change proposed
<b>P1</b>	Recently methods have been developed to reprocess the nuclear waste material that will allow the present stores of nuclear waste material to supply energy for the next couple of hundreds of years.	This matter is outside the scope of the assessment.	No change proposed



<p><b>P2</b></p>	<p>Waste is stored for tens of thousands of years, and there is no consideration of catastrophic events occurring resulting in the storage being compromised.</p>	<p>The ESD (p.51) requires Toro to 'outline the outcomes/objectives, management, monitoring, trigger and contingency actions' that would ensure the impacts of its tailings management 'are not greater than predicted.' This would include demonstrating how the environment would be protected from 'catastrophic' events such as flooding. The ESD (p.59) identifies that Toro is committed to developing a Radiation Management Plan and a Radioactive Waste Management Plan to include management measures such as appropriate storage, handling and transport of material; monitoring programmes for levels of radioactive material around sensitive sources (human and environmental); and appropriate waste storage. The ESD (p.55) also states that rehabilitation and closure management and mitigation measures would be described by Toro in its Mine Closure and Rehabilitation Plan.</p>	<p>No change proposed.</p>
<p><b>Barwidgee Aboriginal Corporation</b></p>	<p>Concern regarding recent and unapproved partial filling of old wells and a small open cut mine and incline shaft with contaminated and inappropriate materials. Concern regarding contamination of the Pastoral lease with improper rubbish disposal, which should cease and be cleaned up. Environmentally appropriate procedures for future disposal of rubbish and waste should be implemented.</p>	<p>Toro discussed these issues with the Barwidgee People during a two day visit to the Barwidgee Pastoral Lease with Traditional Owners on 25-26 October 2014. These issues relate to management of the Lease and not Toro's proposal for mining at Lake Maitland.</p>	<p>No change proposed.</p>

<p><b>People for Nuclear Disarmament (WA)</b></p>	<p>Concern regarding the time scale that preventative and monitoring measures to ensure that the proponent will comply with international standards and Codes of Practice will be applied.</p>	<p>It is assumed the submitter is referring to tailings management and mine closure and rehabilitation. The uranium industry applies world's leading practice in designing and building tailings storage facilities and continually improves its knowledge and practices. As stated in the ESD (p.55) the proposal would comply with EPA/DMP (2011) Guidelines for Preparing Mine Closure Plans and DMP (2013) Tailings Storage Facilities in Western Australia – Code of Practice. The Guidelines and Code of Practice take account of international standards and practices elsewhere. The project will be fully compliant with State, National and International Standards.</p>	<p>No change proposed</p>
<p><b>People for Nuclear Disarmament (WA)</b></p>	<p>Concern regarding the proposal being the first calcrete uranium mine in Australia due to lack of expertise in engineering for that particular geological formation, known to be difficult to process. It requires alkaline chemicals to dissolve and extract the uranium. Experience in Namibia suggest this process requires a larger processing plant, more energy and water, and emits more pollution.</p>	<p>Toro's Project Team and consultants represent well over 200 years of collective experience in uranium mine project development and operations. As part of its due diligence process, Toro has drawn on other individuals with experience and technical expertise in uranium and calcrete-style uranium mineralisation. This includes engineering, mining and processing professionals. The extraction process for uranium in calcrete uses alkaline agitated leaching as the primary means of dissolving the uranium, which is then recovered following a solid/liquid separation phase, ion exchange precipitation and calcining. Toro has undertaken a pilot scale alkaline agitated leaching trial which confirmed the parameters and processes proposed for the Wiluna Project. In its Definitive Feasibility Study for mining at Centipede and Lake Way, Toro engaged a company with extensive expertise and experience in uranium mining and alkaline leaching processes, including experience at Trekkopje (a calcrete style deposit) in Namibia.</p>	<p>No change proposed</p>
<p><b>Footprints for Peace</b></p>	<p>The proponent has changed the layout of the project</p>	<p>Toro has not changed the layout of the project 'dramatically since it first applied for approval.' The ESD</p>	<p>No change proposed</p>

	<p>dramatically since it first applied for approval and the ESD does not express the nature of the project in its entirety.</p>	<p>describes proposed mining at Millipede and Lake Maitland. Toro began the process for seeking approval of mining at these locations with a referral to government submitted in February 2014. The proposal has not changed in any significant way since then. As the ESD explains (p.7) this proposal does NOT include:</p> <ul style="list-style-type: none"> <li>- any change to the composition or volume of tailings to be stored under already assessed (EPA Assessment 1819 and EPBC 2009/5174) arrangements in mined out voids at the Centipede deposit; it remains Toro's intention as detailed during that assessment to store tailings from ore mined at Centipede and Lake Way in mined out voids at Centipede; the composition and volume of those tailings as assessed is also unchanged;</li> <li>- any change to the already assessed (EPA Assessment 1819 and EPBC 2009/5174) annual maximum production capacity for the processing plant;</li> <li>- any change to the configuration of the processing plant; or</li> <li>- any additional drawdown of groundwater at West Creek beyond the level already assessed (EPA Assessment 1819 and EPBC 2009/5174) for mining and processing of the Centipede and Lake Way deposits. Dewatering at Millipede would comply with the approved drawdown as determined in Assessment 1819 and EPBC 2009/5174. The implementation of groundwater barriers would ensure that flows were restricted and dewatering limited to that already approved.</li> </ul> <p>The incorporation of Lake Maitland into the Wiluna Project would reduce the regional footprint and</p>	
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		environmental impacts by reducing a duplication of operations and infrastructure.	
<b>P5, 8</b>	Incentives should be provided for large scale renewable energy generation with the huge resources this state has available including solar, wind, geothermal and tidal.	This issue is beyond the scope of this assessment and a matter for government, not Toro Energy.	No change proposed
<b>DMP</b>	DMP considers there may be some existing reports and investigations missing from Table 6 of the ESD. During the assessment of Toro's Wiluna Uranium Project (Assessment No 1819) reports were provided on the chemical characteristics of the tailings, potential for contaminant leaching from the tailings and contaminant fate modelling (including radionuclides). Toro has also previously undertaken modelling of the potential for radiation to impact on non-human biota via the use of the 'ERICA tool.' This has not been listed in Table 6. DMP considers that both of these are highly relevant to the Wiluna extension proposal.	<p>These reports are:</p> <ul style="list-style-type: none"> <li>- Mine Closure and Tailings – report by Knight Piesold Consulting, 28 November 2011</li> <li>- Radiological Effects on Non-Human Biota arising from the Wiluna Uranium Project – a report prepared for Toro Energy Limited by Philip Crouch, June 2012.</li> </ul>	Both reports are now listed in Table 6 of the ESD.

## 2. Flora and Vegetation

Submitter	Submission and/or Issue	Response to comment	Change to ESD
P1, 16	Baseline studies on flora must be completed for inclusion in the PER.	Agreed. The ESD (p.39-41) sets out the relevant baseline studies on flora required to assess this proposal. The outcomes of these studies will be discussed in the PER.	No change proposed.

## 3. Hydrological Processes / Inland Waters Environmental Quality

Submitter	Submission and/or Issue	Response to comment	Change to ESD
Joint Environment NGO	If there is to be a central processing facility for a uranium precinct with multiple mines, is the Centipede site (given its proximity to Lake Way) the best location?	Yes. Moreover, the incorporation of Lake Maitland into the Wiluna Project would reduce the regional footprint and environmental impacts by reducing a duplication of operations and infrastructure. This would include enabling a central processing facility rather than two such facilities at different locations. The proposed location of the processing plant has been assessed (EPA Assessment 1819 and EPA Report 1437).	No change proposed
Joint Environment NGO; Robin Chapple MLC	Are the Centipede and Millipede pits (within and on the edge of a lake bed) the safest location to store upwards of 50 million tonnes of tails that must be isolated for no less than 10,000 years? Why has this location been chosen? Is it better to have one or multiple tailings storage facilities?	The tailings need to be stored in proximity to the processing plant. The PER will include a discussion of the safety of the chosen location. The incorporation of Lake Maitland into the Wiluna Project would reduce the regional footprint and environmental impacts by reducing a duplication of operations and infrastructure. This would include enabling a central processing facility rather than two such facilities at different locations. During EPA Assessment 1819 (EPA Report 1437) the proposed tailings storage at Centipede was assessed. There would be no significant difference in the mineralogical composition, particle size, distribution or chemical composition of the tailings proposed to be stored within	No change proposed

		<p>the immediately adjacent Millipede tenements. The void planned to be mined at Centipede and Millipede would be sufficient to impound all of the tailings processed from ore recovered from Centipede, Millipede, Lake Maitland and Lake Way. As the ESD explains (p.14-15): ‘the tailings from Lake Maitland deposit are expected to be of a very similar composition due to the nature of the two deposits (Millipede and Lake Maitland) and also the similarities in the processing technology’. As also stated in the ESD (p.14-15) Toro will include in the PER, ‘a discussion of ore composition and its implications for tailings management’ and ‘a discussion of mine planning and management and how this will facilitate progressive rehabilitation and tailings storage.’ The amount of processed tailings would be significantly less than 50 million tonnes.</p>	
<p><b>Joint Environment NGO; People for Nuclear Disarmament (WA)</b></p>	<p>What are the cumulative impacts of at least two tailings storage facilities in close proximity to each other? What is the combined impact to Lake Way in the event of tailings flooding involving 50 million tonnes of radioactive waste?</p>	<p>The Cumulative impacts, if any, will be assessed in the PER. The cumulative impact assessment will consider, among other matters, the potential impacts of tailings storage. The amount of processed tailings would be significantly less than 50 million tonnes.</p>	<p>No change proposed</p>
<p><b>Joint Environment NGO; Robin Chapple MLC</b></p>	<p>What are the:</p> <ul style="list-style-type: none"> <li>• cumulative impacts of water consumption; what is the regional water resource;</li> <li>• environmental water needs and allocations from each aquifer; and</li> <li>• potential impacts and management strategies?</li> </ul>	<p>The aspects and potential impacts identified by the submitters are all included under the key factor “Inland waters environmental quality and hydrological processes”. The potential impacts of the expanded Wiluna project on water quality and water availability – and how impacts on these factors will be managed – will be discussed in the PER.</p>	<p>No change proposed.</p>

	<p>What is the:</p> <ul style="list-style-type: none"> <li>• total proposed volume of water to be taken from aquifer;</li> <li>• recharge rate from each aquifer;</li> <li>• total volume of water from dewatering;</li> <li>• total volume proposed to be reinjected and into which aquifers;</li> <li>• water quality of the different sources of water;</li> <li>• volume of water used for processing;</li> <li>• volume of water used for dust;</li> <li>• environmental needs for water in the environment of each aquifer? and</li> <li>• regional extraction of water by other users e.g. Magellan Mine, Wiluna Mine, Mt Keith Mine, Gidgee Mine, proposed Yeelirrie Mine, Wiluna town, Bondini Reserve, Lake Way Station, Barwidgee Station, Jundee mine?</li> </ul> <p>Is there an existing over allocation of water?</p>		
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<b>Joint Environment NGO</b>	Commitment to identifying all the aquifers that will be impacted in the region and associated recharge rates; and conducting assessments of groundwater dependent ecosystems and the level of environmental water allocations needed to maintain ecosystem function, should be included in the ESD.	The information requested by the submitter will be provided in the PER in compliance with the requirements of the ESD in relation to the assessment of impacts of the proposal on subterranean fauna (ESD p.44-46) and groundwater (ESD – p.46-49).	No change proposed.
<b>Joint Environment NGO</b>	Cumulative impacts from dewatering at Millipede and Centipede; cumulative impacts, migration pathway modelling, and analysis of the risk of seepage from tailings into groundwater, should be undertaken and included in the PER document.	The ESD (p.38-39 and p.46 – 49) requires Toro to assess these impacts and risks. A discussion of them will be included in the PER.	No change proposed.
<b>Joint Environment NGO</b>	A comprehensive study on the risks and potential impact of acid metalliferous drainage should be undertaken and included in the PER document.	The ESD (p.57 – point 8 under 'Required Work') requires Toro to model contaminant pathways to assess potential leaching of contaminants from waste dumps/stockpiles. Toro proposes to add the following words to point 8 – 'and risks and potential impact of acidic metalliferous drainage assessed.'	ESD p.57, under 'Required work' add the following words to the end of point 8 – 'and risks and potential impact of acidic metalliferous drainage assessed.'
<b>Joint Environment NGO</b>	A commitment to investigating the surface water flows / impacts during flooding of the two lake systems should be included in the ESD.	The ESD (p.48, point 4 under 'Further Work') requires Toro to complete surface water, hydrological and flood studies.	No change proposed.



<p><b>Joint Environment NGO</b></p>	<p>A commitment to undertaking an analysis of surface water flows and potential flooding of tailings – explicitly addressing the impact of 50 million tonnes of radioactive mine waste on the Lake Way playa system and groundwater, should be included in the ESD.</p>	<p>The ESD (p.48, point 4 under ‘Further Work’) requires Toro to complete surface water, hydrological and flood studies. The outcomes will be discussed in the PER. The amount of processed tailings would be significantly less than 50 million tonnes.</p>	<p>No change proposed.</p>
<p><b>DoW; P1</b></p>	<p>DoW has serious concerns regarding the proposed sources of water for processing as Toro has not yet secured a water supply from the West Creek borefield for the already approved Wiluna Uranium Project. DoW is not confident that the water requirements can be supplied from the West Creek borefield.</p>	<p>Toro is not relying on the West Creek borefield to supply the entire water requirements of the proposal. As explained in the ESD (p.16) Toro is continuing to investigate options to augment water supply and will provide further information about a continuing operation of West Creek borefield and other options (including numerical modelling and their impacts) in the PER document. (The ESD (p.48) requires Toro to undertake drilling to assess water supply options in addition to West Creek borefield. Toro will discuss the results of this work in the PER to demonstrate that the proposal does have a sustainable water supply.</p> <p>As noted in the ESD (p.17), if necessary to meet the water demand of the proposal, Toro would connect the borefield at Lake Maitland to the processing plant via an above ground pipeline laid within the corridor for the proposed haul road. This option will be further discussed in the PER.</p> <p>The proposed Lake Maitland borefield has an alluvial aquifer where higher yielding bores with good quality</p>	<p>No change proposed.</p>

		water can be located. Based on pumping tests, a notional borefield layout for modelling purposes has been designed comprising 10 pumping bores able to provide 1.4 GL/a.	
<b>DoW</b>	Toro has not proposed sufficient investigations for the PER to give the DoW assurance that the appropriate volume and quantity of water is available for the proposed operations.	Toro will explain in the PER a strategy to ensure a sustainable water supply for the life of its proposed operations, including the investigations it is undertaking to support the strategy.	Addition of words to point 5, p.48 of the ESD, under 'Further Work'.
<b>DoW</b>	<p>Toro should undertake the following investigations:</p> <ul style="list-style-type: none"> <li>the mine dewatering, managed aquifer recharge (MAR), and mine water supply studies be upgraded to a H3 Hydrogeological Assessment level for the entire project and be produced according to <i>DoW Operational Policy no 5.12 – Hydrogeological reporting associated with a groundwater well licence (2009)</i>;</li> <li>the Hydrological Assessment needs to cover the entire project life and mine closure and include all the mine planning options for dewatering, grout cut-offs / drains, MAR, water supply with contingencies</li> </ul>	<p>Agreed.</p> <p>Agreed.</p>	<p>ESD p.48 – changes to point 13 under 'Further Work'</p> <p>ESD p.48 – changes to point 13 under 'Further Work'</p>

	<p>and water disposal. It will need to take account of impacts on other users, the environment, and the maintenance of aquifer integrity;</p> <ul style="list-style-type: none"> <li>• surface water hydrological and flood studies need to be extended to cover the entire project.</li> </ul> <p>The proposal to extend the life of West Creek Water Supply source requires additional studies.</p> <p>All Hydrological Assessment studies will also need to be externally reviewed</p>	<p>Agreed.</p> <p>Agreed as already noted in the ESD (p.48, point 6 under 'Further Work')</p> <p>Agreed as already noted in the ESD (p.49, point 21 under 'Further Work')</p> <p>All hydrological studies will be independently reviewed.</p>	<p>ESD p.48 – words added to point 4 under 'Further Work'</p> <p>No change</p> <p>No change</p>
<b>DoW</b>	<p>Additional investigations that Toro should clearly commit to include:</p> <ul style="list-style-type: none"> <li>• evaluation of the impacts of abstracting water from all potential water supply option sites;</li> <li>• an H3 Hydrogeological Assessment for all potential water supply option sites; and</li> </ul>	<p>Agreed.</p> <p>Agreed.</p>	<p>ESD p.48 – words added to point 5 under 'Further Work'</p> <p>ESD p.48 – words added to point 13 under 'Further Work'</p>

	<ul style="list-style-type: none"> <li>contingency plan for water supply should a viable source of water not be identified.</li> </ul>	Agreed.	ESD p.48 – words added to point 5 under 'Further Work'
<b>DoW</b>	All investigations should be undertaken for inclusion in the PER and in accordance with the DoW's Water licensing delivery series Report no. 12 <i>Western Australian water in mining guidelines, May 2013.</i>	Agreed.	ESD p.48-49 – words added to point 5 under 'Further Work' and under 'Relevant Policy'
<b>P1, 16; People for Nuclear Disarmament (WA)</b>	Baseline studies on the interaction between groundwater and surface water must be completed for inclusion in the PER.	The ESD (p.49) requires Toro to undertake hydrological studies and laboratory testing to characterise existing flow regimes in and near the project area, including the relationship between surface water and groundwater flow systems. The outcomes will be discussed in the PER.	No change proposed.
<b>P8, 9</b>	Concern that radioactive isotopes, tailings and radon gases will contaminate waterways.	The ESD (p.47-48) notes that investigations to characterise hydrogeological systems in the area have included modelling of fate and transport of radioactive and non-radioactive contaminants associated with ore treatment and process waste disposal facilities. The outcomes of this modelling will be discussed in the PER. Toro has taken into account major storm or flood events in its project planning. Records from the Bureau of Meteorology monitoring station at Wiluna do not show any pattern towards increasing rainfall in the past three decades.	No change proposed.
<b>People for Nuclear Disarmament (WA); P9, 10, 16</b>	Concern regarding the quantity of water required for the proposal, and that the proposal will exhaust groundwater resources within 7 years.	The ESD (p.48-49) identifies the further work Toro is required to undertake to demonstrate a sustainable water supply for the life of the project. The outcomes of this work will be reported in the PER. The proposal will not exhaust groundwater resources within 7 years.	No change proposed.

<b>People for Nuclear Disarmament (WA)</b>	Concern regarding Toro's ability to continually monitor and address problems with contaminated water that may arise due to their mines into the future.	The ESD (p.55) requires Toro to prepare a comprehensive Mine Closure and Rehabilitation Plan. This Plan will be an appendix to the PER and will address water monitoring and any mitigation measures required.	No change proposed.
<b>People for Nuclear Disarmament (WA)</b>	Concern regarding impacts to Wiluna's town water supply needs to be considered including availability and contamination. Lake Way is only 7km from the bore field that supplies the town. Concern regarding plans to incrementally dispose of waste below the water table and impacts to aquatic ecosystems.	The ESD (p.48) requires Toro to undertake an H 3 hydrogeological assessment to take into account, amongst other things, 'impacts on other water users.' The outcomes of this assessment will be discussed in the PER. The Wiluna town water supply is 12 km up gradient of Toro's mining and processing areas and there is no hydraulic connection between them. Sensitivity modelling has shown categorically that neither the quality nor the availability of groundwater within the Wiluna Water Reserve would be compromised by Toro's operations. There is no plausible scenario under which groundwater from the vicinity of Toro's operations could flow towards the town's water supply.  In relation to any impacts on aquatic ecosystems from the disposal of waste below the water table, the ESD (p.48-49) requires modelling of fate and transport of contaminants which will be discussed in the PER	No change proposed
<b>Robin Chapple MLC</b>	The company and/or the DoW should complete an audit of water users in the East Murchinson / Northern Goldfields and quantify the impacts on consumption combined with the water consumption for the proposal.	Toro is not in a position to conduct such an audit because it would be unable to obtain the necessary information from all water users. As noted in the ESD (p.16) the total maximum water demand for the life of the Wiluna Uranium Project, including during mining at Millipede and Lake Maitland as well as at Centipede and Lake Way, is estimated at up to 2.5 GL/a. Toro is aware of a 1999 Water and Rivers Commission study of <i>Groundwater Resources of the Northern Goldfields, Western Australia</i> . Based on this study, the Department of Water advised the EPA during its assessment of	No change proposed.

		<p>Toro's proposed mining at Centipede and Lake Way (EPA Assessment 1819, EPA Report 1437) that:</p> <ul style="list-style-type: none"> <li>i) the investigation involved a comprehensive review of borefield and exploration data contained in some 440 consultant and company reports, followed by a programme of groundwater exploration including ground-based geophysics, exploration drilling and the installation of monitoring reports;</li> <li>ii) since the completion of this study, the DoW has undertaken further desk top studies and assessed numerous hydrogeological reports and monitoring reports as part of the water licensing process;</li> <li>iii) the Northern Goldfields study identified four calcrete sources within 25 km of Toro's proposed mining areas with total calculated storage of about 75 GL and salinity ranging from 1000 to 14,000 mg/L total dissolved solids (TDS);</li> <li>iv) palaeochannel sands within about 25 km of the mining areas were calculated to have a total of 122 GL of groundwater in storage in the palaeochannel sands with salinities ranging up to 260,000 mg/l TDS;</li> <li>v) palaeochannel sand aquifer monitoring reviews show that borefields in palaeochannel sands also draw water from surrounding rocks and sediments; and</li> <li>vi) the hypersaline water found in the trunk palaeovalleys are generally poorly connected to the water table with little risk of environmental impact caused by abstraction.</li> </ul> <p>As the ESD advises (p.16) the total maximum water demand for the life of the Wiluna Uranium Project, including its extension, is estimated at up to 2.5 GL/a. Most of this is required for operation of the processing plant, not mining and other activities.</p>	
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		<p>To support mining at Lake Maitland, an area to the north of the proposed operations is the preferred option for location of a borefield. This area has an alluvial aquifer where higher yielding bores with good quality water can be located. Based on pumping tests, a notional borefield layout for modelling purposes has been designed comprising 10 pumping bores able to provide 1.4 GL/a. As the ESD notes (p.17), if necessary to meet water demand at the processing plant, Toro would connect the Lake Maitland borefield to the processing plant via an above ground pipeline laid within the corridor for the proposed haul road.</p>	
<p><b>People for Nuclear Disarmament (WA)</b></p>	<p>Concern regarding the implications of climate change and extreme weather events on Toro's capacity to contain affected water in its mine site.</p>	<p>The ESD (p.48) requires Toro to complete surface water, hydrological and flood studies. The outcomes of this work will be discussed in the PER. Records from the Bureau of Meteorology monitoring station at Wiluna do not show any pattern towards increasing rainfall in the past three decades. Since rainfall records were established in Wiluna in 1893 there have been two &gt;1:100 year rainfall events as a result of Cyclone Trixie in February 1975 and Cyclone Bobby in February 1995. The probability of increasing frequency of extreme weather events due to climate change has been assessed by the Bureau of Meteorology. (Climate Data Online. Monthly Statistics. Bureau of Meteorology, 2013) Based on the best case predictions the climate at Wiluna continues to dry as climate change progresses. In the year 2070 annual rainfall is predicted to have dropped by 10-20% from current levels. Increased intensity and frequency of cyclonic activity is predicted for the eastern seaboard of Australia, but in the Wiluna region changes to these events are not predicted over the current period of prediction, which is the next 50 years.</p>	<p>No change proposed.</p>

<b>Joint Environment NGO</b>	<p>During flooding the presence of biological blooms and the more regular thin salt crusts on Lake Maitland suggests that the lake is biologically productive. Toro has not shown any data on aquatic macro invertebrates' high endemicity, or geological cross sections or indicated they will. This must be addressed and there needs to be both a clear commitment and a demonstrated capacity to restore the Lake to its current level of biological diversity and health.</p>	<p>As noted in the ESD (p.47-48) studies have been undertaken at Lake Maitland on potential impacts on surface water related sensitive receptors. The outcomes will be discussed in the PER.</p>	<p>No change proposed.</p>
<b>DER</b>	<p>Characterise wastes, including intermediate processing wastes, tailings and decontamination waste, according to contaminant and leachable concentrations.</p>	<p>Agreed.</p>	<p>p.47. – Existing Work – point 1.</p>
<b>DER</b>	<p>Include contaminants in leachate seepage from the TSF in the proposed contaminate fate-transport modelling.</p>	<p>Agreed.</p>	<p>p.47 – Existing Work – point 1.</p>
<b>DER</b>	<p>Address the requirements listed in the Australian National Report (Australian Radiation Protection and Nuclear Safety Agency, 2011) Joint</p>	<p>Agreed.</p>	<p>p.23 – last paragraph prior to 'Closure and Rehabilitation'</p>



	Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management, for each environmental factor.		
<b>DER</b>	Include Centipede and Lake Way in the proposed project water balance.	Agreed.	p.48 – point 11

## 1. Terrestrial Fauna

<b>Submitter</b>	<b>Submission and/or Issue</b>	<b>Response to comment</b>	<b>Change to ESD</b>
<b>Joint Environment NGO</b>	Fauna studies undertaken within the project area should be replicated in the surrounding areas – in particular the area between Lake Maitland and Lake Way – noting that some fauna migrate and are regularly on the move and that many of these animals may be hunted for food, possibly posing a risk to public health.	As the ESD notes (p.42) Toro is undertaking a fauna assessment, including bush tucker, along the route of the proposed haul road development envelope between Lake Maitland and Lake Way and the results will be discussed in the PER.	No change proposed.
<b>P1, 16</b>	Baseline studies for fauna should be undertaken.	Agreed. The ESD (p.42-44) lists the studies Toro is undertaking.	No change proposed.
<b>P8, 9</b>	There is concern that radioactive isotopes will bio-accumulate in the food chain.	The ESD (p.51) notes a bush tucker assessment has been undertaken in the vicinity of proposed mining activities at Millipede and a similar assessment at Lake Maitland is to be undertaken. The outcomes will be discussed in the PER.	No change proposed.

## 2. Rehabilitation and Closure

Submitter	Submission and/or Issue	Response to comment	Change to ESD
<p><b>Joint Environment NGO</b></p>	<p>All modelling for closure must look at how best to isolate radioactive mine tailings from the environment for a time period of no less than 10,000 years – the period required at Energy Resources of Australia's Ranger uranium mine and a standard adopted by the WA Legislative Council in May 2012. Consideration must be demonstrated to climate and weather impact modelling and mitigation strategies to realise this best practice standard.</p>	<p>As noted in the ESD (p.55) rehabilitation and closure management and mitigation measures would be described in a comprehensive Mine Closure and Rehabilitation Plan. This Plan will be an attachment to the PER. Toro has undertaken 1,000 and 10,000 year contaminant fate and transport modelling which predicts that no discernible changes to groundwater quality would occur outside Toro's proposed operational area even in an unlikely catastrophic event such as a failure of the tailings cover. In relation to climate and weather impact modelling, the ESD (p.48) requires Toro to complete surface water, hydrological and flood studies. The outcomes of this work will be discussed in the PER. Records from the Bureau of Meteorology monitoring station at Wiluna do not show any pattern towards increasing rainfall in the past three decades. Since rainfall records were established in Wiluna in 1893 there have been two &gt;1:100 year rainfall events as a result of Cyclone Trixie in February 1975 and Cyclone Bobby in February 1995. The probability of increasing frequency of extreme weather events due to climate change has been assessed by the Bureau of Meteorology. (Climate Data Online. Monthly Statistics. Bureau of Meteorology, 2013) Based on the best case predictions the climate at Wiluna continues to dry as climate change progresses. In the year 2070 annual rainfall is predicted to have dropped by 10-20% from current levels. Increased intensity and frequency of cyclonic activity is predicted for the eastern seaboard of Australia, but in the Wiluna region changes to these events are not predicted over the current period of prediction, which is the next 50 years.</p>	<p>No change proposed.</p>

<p><b>Joint Environment NGO; P 16</b></p>	<p>Full mine closure plans should be made available to public for comment as it is of significant public interest and risks both public health and funds.</p>	<p>Toro's Mine Closure and Rehabilitation Plan would be included as an attachment to the PER making it available for public scrutiny before the Plan is considered for approval. Outside the PER process, further consultation is required for the Mine Closure and Rehabilitation Plan.</p>	<p>No change proposed.</p>
<p><b>Joint Environment NGO</b></p>	<p>We expect that the lake structure planned to be reconstructed post closure and the wider land ecosystem remain functional. To do this requires a complete survey of the aquatic biota; the filling return frequency, salt saturation, sediment profile, groundwater profile and hydroperiods; comparative biochemistry including changes through the hydroperiod; ecological relationships between the macro-invertebrates fauna and hydroperiod, resting stage periods, salinity, biochemistry and the pre-mining radiological environment; other fauna intermittently dependent on the aquatic production (e.g. nomadic waterbirds); and stygofauna associated with the lake. The ecosystems environmental values and the</p>	<p>As discussed in the ESD (p.14) Toro proposes to progressively rehabilitate the mining areas and return the surface topography to a form similar to the pre-mining landscape. During and post-mining the structure of Lake Way and Lake Maitland would be maintained and the ecosystem associated with them would remain functional. The issues raised by the submitter extend across most of the key environmental factors Toro is required to address in the PER and will be addressed in the extensive studies undertaken to assess impacts on those factors.</p>	<p>No change proposed.</p>

	areas cultural landscape must be restored.		
<b>Joint Environment NGO</b>	Studies on Lake function and biodiversity during flooding should be undertaken to ensure an effective rehabilitation strategy is developed.	The ESD (p.47–49) requires extensive studies of the impacts of the proposal on surface and groundwater. Toro’s baseline surface hydrology studies have specifically examined the risk of major flood events and the outcomes will be discussed in the PER. In the PER Toro would commit to further studies during the operational phase following large rainfall events.	No change proposed.
<b>Joint Environment NGO; P1</b>	Concerns regarding rehabilitation are exacerbated by the lack of financial stability, given the low price of uranium and industry uncertainty overseas. Toro has not yet submitted a mine closure plan or costings – such an approach increases the likelihood of WA taxpayers being left to foot a future clean-up bill.	Mine rehabilitation and Closure is primarily regulated under the <i>Mining Act WA (1978)</i> . The Mining Act requires all mining proposals to include a costed closure plan. Toro would comply with all legislative and regulatory requirements in relation to mine closure and rehabilitation, including those associated with funding of closure and rehabilitation. As noted in the ESD (p.55) Toro would prepare a comprehensive Mine Closure and Rehabilitation Plan which would include funding arrangements to support closure and rehabilitation of operations as required by the joint DMP-EPA Guidelines for Preparing Mine Closure Plans.	No change proposed.
<b>P9</b>	Concern regarding, Toro's experience in, and lack of detail around rehabilitation of the land. There is no example of a uranium mine in Australia that has been rehabilitated to the point where radiological conditions are stable and ongoing monitoring is not required.	Toro’s Project Team and consultants represent well over 200 years of collective experience in uranium mine project development and operations. As part of its due diligence process, Toro has drawn on other individuals with experience and technical expertise in uranium. This includes engineering, mining and processing professionals. An example of uranium mine rehabilitation in the Northern Territory is directly comparable with Toro’s proposal for in-pit tailings management with the Wiluna Project. The Nabarlek mine operated in the Alligator Rivers Region between 1979 and 1989 and was de-commissioned in 1994-95. A significant feature of the	No change proposed.

		<p>operation was the return of tailings directly to the mined out pit. The rehabilitation objective was to establish a landscape that matched as closely as possible the surrounding areas and would permit traditional hunting and gathering activities to be pursued. It is important to note the geographic and environmental condition differences between Nabarlek and Wiluna, including the tropical (i.e. monsoonal) nature of the seasons at Nabarlek and the arid desert conditions at Wiluna. There have been many cases internationally where mine and mill sites have been remediated to a satisfactory standard, with monitoring continuing to demonstrate closure success. For example, uranium was previously mined at over 210 sites in France. These sites are now part of a reclamation project between the French Government and AREVA. Each site involves about 20 national and international scientific expert organisations in various environmental, geological and radiological studies. In Germany, uranium mining operations were discontinued after unification. Some mines were located in densely populated regions. WISMUT GmbH was formed in 1991 to decommission uranium mining and processing facilities and rehabilitate sites in the world's largest single mining rehabilitation project. It is due for completion in 2015. After being underway for 20 years, the remediation of mine sites is reaching a successful conclusion. Each site has its own set of characteristics and environmental variables.</p>	
<p><b>People for Nuclear Disarmament (WA) P16</b></p>	<p>Concern regarding plans to divert creek systems away from mining deposits during mining and re-divert them post closure, and the resulting risk to integrity of plans to contain and isolate</p>	<p>This comment relates to proposed mining of the Centipede deposit which has already been subject to assessment (EPA Assessment 1819 and EPA Report 1437).</p>	<p>No change proposed.</p>

	the long lived radioactive mine wastes.		
<b>People for Nuclear Disarmament</b>	The tailings and radioactive waste management regime for any proposed mining should ensure physical, chemical, biological and radiological isolation from the surrounding ecosystems for no less than 10,000 years.	Such a condition is a matter for government, not Toro. As noted in the ESD (p.55) Toro is required to develop a comprehensive Mine Closure and Rehabilitation Plan to incorporate design features and management measures for the safety and effective closure of the mining areas the subject of this proposal. The Plan will be an attachment to the PER. Toro has undertaken 1,000 and 10,000 year contaminant fate and transport modelling which predicted no discernible changes to groundwater quality would occur outside Toro's proposed operational area, even in an unlikely catastrophic event such as failure of the tailings cover.	No change proposed.

### 3. Human Health

Submitter	Submission and/or Issue	Response to comment	Change to ESD
<b>Joint Environment NGO</b>	A broader scope of consideration on the health of Aboriginal people beyond the limits of the Native Title negotiation process should be applied.	The ESD (p.60) explains that through Central Desert Native Title Services, Toro has participated in regular meetings of the Wiluna Traditional Owners. This system of representation is not for Toro to determine, but Aboriginal people themselves. Toro does not pick and choose with whom it consults. It relies on Aboriginal people, through their own processes, to nominate who should be consulted. In relation to mining at Lake Maitland, the Barwidgee People claim an interest. As the ESD explains (p.60) Toro has continued consultation with the Barwidgee People initiated by the former owner of Lake Maitland and is also consulting other Aboriginal people claiming an interest in Lake Maitland. The ESD (p.54) requires Toro to undertake regular consultation and liaison with Traditional Owners about project impacts	No change proposed.

		during the construction and operational phases and to maintain land access which is compatible with mine safety. During its consultation so far, Toro has provided funding to enable Aboriginal people to obtain their own independent advice about project impacts, including radiation.	
<b>Joint Environment NGO</b>	Further studies should be done and made publicly available into the radionuclide uptake in fauna with particular attention to fauna that is hunted for food in the area.	The ESD (p.51) notes a bush tucker assessment has been undertaken in the vicinity of proposed mining activities at Millipede and a similar assessment at Lake Maitland is to be undertaken. The outcomes will be discussed in the PER.	No change proposed.
<b>Joint Environment NGO; Robin Chapple MLC; P.9</b>	<p>Baseline studies on all aspects of the proposal (bush tucker plants and game; incidences of cancer; dust monitoring and baseline studies on radiological environment in residential and cattle grazing areas neighbouring the mine e.g. Wiluna and Bondini, Barwidgee and Lake Way Station, Albion Downs Station, Ullula Station) that could affect human health should be undertaken.</p> <p>Toro has alluded that these baseline studies have occurred, however we note that we have not seen such studies in the previous ERMP for the Wiluna Uranium Project.</p>	<p>Baseline studies already undertaken relevant to an assessment of regional and local radiological impacts of the proposal are listed in the ESD at p.29 and 34. As a result of this work, Toro has:</p> <ul style="list-style-type: none"> <li>- Determined Member of Public Critical Groups and assessed current and future radiation exposures; and</li> <li>- Assessed the potential radiological impacts on workers, members of the public and non-human biota during operation and following closure.</li> </ul> <p>The ESD (p.50-51) identifies further work to be undertaken in relation to radiation protection including:</p> <ul style="list-style-type: none"> <li>- Risk based design criteria for radiation protection controls;</li> <li>- Detailing the dust suppression and control mechanisms designed to meet Best Practicable Technology standards;</li> <li>- Detailed design to minimise radon emanation potential;</li> </ul>	No change proposed.

		<ul style="list-style-type: none"> <li>- Confirmation through an approved monitoring programme that worker and public doses meet the As Low As Reasonably Achievable (ALARA) principle;</li> <li>- Demonstration that waste facilities are all designed to Best Practicable Technology and the standards of the Australian Radiation Protection and Nuclear Safety Agency (ARPANSA);</li> <li>- Outlining the outcomes/objectives, management, monitoring, trigger and contingency actions within environmental management plans to ensure that impacts (direct and indirect) are not greater than predicted, including: <ul style="list-style-type: none"> <li>(i) Radiation Management Plan</li> <li>(ii) Radioactive Waste Management Plan</li> <li>(iii) Mine Closure and Rehabilitation Plan</li> <li>(iv) Transport Management Plan to include monitoring, emergency response and security procedures</li> </ul> </li> <li>- Bush tucker assessment at Lake Maitland (bush tucker assessment already undertaken in vicinity of proposed mining activities at Millipede).</li> </ul> <p>The outcomes of this work will be documented and discussed in the PER.</p>	
<b>Joint Environment NGO; People for Nuclear Disarmament (WA)</b>	Radiation dose limits need to be reassessed in light of recent scientific research on the risks associated with radon progeny including polonium. The allowable average exposure for industry works is 10 times the permitted dose for members of the public. The	The ESD (p.51) requires Toro to: ‘Outline the outcomes/objectives, management, monitoring, trigger and contingency actions within environmental management plans to ensure that impacts (direct and indirect) are not greater than predicted including: <ul style="list-style-type: none"> <li>- Radiation Management Plan;</li> <li>- Radioactive Waste Management Plan;</li> <li>- Mine Closure and Rehabilitation Plan.</li> </ul>	No change proposed.



	<p>overwhelming weight of scientific opinion is that there is no threshold below which radiation is harmless or beneficial.</p> <p>The International Agency for Research on Cancer has publicly stated that 'radon gas delivers twice the absorbed dose to humans as originally thought'. Nuclear practitioners and expert bodies including the Medical Association for the Prevention of War have indicated that previous dose estimates to miners need to be approximately doubled to better reflect the lung cancer hazard.</p>	<p>Internationally recommended radiation exposure limits have been stable. There has been only one reduction in the limits in the past 50 years – from 50 millisieverts per year (mSv/y) to 20 mSv/y in 1990 for the annual occupational dose.</p> <p>As noted in the ESD (p.19) Toro adheres to the recommendations of the International Commission on Radiological Protection (ICRP) and the International Atomic Energy Agency (IAEA) which have been adopted in Australia through state and territory legislation or through the stipulations of ARPANSA and would implement systems to limit project dose with a focus on ensuring those doses comply with the ALARA principle.</p>	
<b>Petition</b>	<p>Radioactive poisons particularly target the young and the unborn, causing miscarriages and deformities and child thyroid cancer and many other afflictions.</p>	<p>The concern of the submitter is noted by Toro. Toro's radiation management will seek to minimise radiation doses to people of all ages to avoid impacts on human health. As noted in the ESD (p.19) potential radiation exposures to the public as a result of implementing an extended Wiluna Uranium Project would be assessed and described in the PER document.</p>	No change proposed.
<b>P1, 16</b>	<p>Toro's representation of natural background levels of radiation in the Wiluna region has been inadequate and inaccurate and therefore may be a danger to people.</p>	<p>As noted in the ESD (p.19) Toro adheres to the recommendations of the ICRP and the IAEA which have been adopted in Australia through state and territory legislation or through the stipulations of ARPANSA and would implement systems to limit project dose with a focus on ensuring those doses comply with the ALARA principle.</p>	No change proposed.

<b>Rad Council</b>	The risks associated with radiation are expected to be addressed in the Radiation Management Plan which demonstrates that the risks can be adequately monitored and managed.	Agreed.	No change proposed.
<b>People for Nuclear Disarmament (WA)</b>	Concern regarding alpha radiation being inhaled via dust in contaminated areas. Radioactive dust is carcinogenic and presents a serious hazard to mine workers and local inhabitants. Strict dust suppression practices over the entire footprint of mine-related activities must be activated, including during transport/export.	The ESD (p.51) requires Toro to detail in the PER 'the dust suppression and control mechanisms designed to meet Best Practicable Technology standards. The ESD also refers (p.58) to Toro's commitment to a Dust Management Plan to include monitoring and management procedures.	No change proposed.

#### 4. Subterranean Fauna

<b>Submitter</b>	<b>Submission and/or Issue</b>	<b>Response to comment</b>	<b>Change to ESD</b>
<b>Joint Environment NGO</b>	The Yilgarn region is an area where some studies have occurred but more research needs to be done to understand the impacts of uranium mining on their habitat, their adaptability and	The ESD (p.28, 32, 33 and 34) lists subterranean fauna studies already undertaken by Toro relating to the proposal. The ESD (p.45-46) identifies further work to be undertaken which will include habitat assessment and an assessment of any impacts of mining.	No change proposed.

	survival rates and the threat of extinction.		
<b>Parks &amp; Wildlife</b>	It is noted that the requirements and level of investigations are focussed towards stygofauna, however, troglofauna are also known to occur in the proposal area and in nearby calcretes.	Agreed.	References to troglofauna added at p.44-46 – ‘Existing Work’ – points 2 and 4, and ‘Further work’ – points 5,9 and 13
<b>People for Nuclear Disarmament (WA)</b>	Concerns regarding impacts to two new species of Brine Shrimp, a unique genus of Ostracod which are endemic to the system, and the unique stygofauna that exists in the subterranean aquifers and lakes in the vicinity of the proposed mines. The water demands of the mine could lower the water table resulting in the drying of these habitats and the possible extinction of stygofauna species.	The ESD (p.44-46) requires Toro to complete extensive work on subterranean fauna and their habitats. The outcomes will be discussed in the PER document. The Brine Shrimp ( <i>Parartemia</i> ) and Ostracods found during Toro’s baseline studies are endemic to Western Australia, not to Lake Way or Lake Maitland.	No change proposed.

## 5. Consultation

Submitter	Submission and/or Issue	Response to comment	Change to ESD
<b>Joint Environment NGO; P3; People</b>	It is important to understand that many Aboriginal people have been disappointed in	Toro has not sought to exclude any Aboriginal person from consultation. The ESD (p.60) explains that through Central Desert Native Title Services, Toro has	No change proposed.

<p><b>for Nuclear Disarmament (WA)</b></p>	<p>Native Title and no longer engage in these processes given their limitations and the lack of desired outcomes. These people who are still stakeholders and may have significant relationships to those areas, should not be excluded from consultation.</p>	<p>participated in regular meetings of the Wiluna Traditional Owners. This system of representation is not for Toro to determine, but Aboriginal people themselves. Toro does not pick and choose with whom it consults. It relies on Aboriginal people, through their own processes, to nominate who should be consulted. In relation to mining at Lake Maitland, The Barwidgee People claim an interest. As the ESD explains (p.60) Toro has continued consultation with the Barwidgee People initiated by the former owner of Lake Maitland and is also consulting other Aboriginal people claiming an interest in Lake Maitland. The ESD (p.54) requires Toro to undertake regular consultation and liaison with Traditional Owners about project impacts during the construction and operational phases and maintaining land access which is compatible with mine safety.</p>	
<p><b>Joint Environment NGO</b></p>	<p>It's considered that the proponent has failed to meet principles of Free Prior and Informed Consent. Legislation that restricts the subject of conversation and the people that can take part in the conversation also limits the capacity to meet both the pre-conditions and spirit of Free Prior and Informed Consent, a foundation principle of the United Nations Declaration on the Rights of Indigenous People. With that in mind we submit that we need a full open public inquiry that allows for local Aboriginal people who</p>	<p>Toro's stakeholder consultation, including with Aboriginal people, is discussed in the ESD (p.60-62) and will be discussed further in the PER. As the ESD notes, 'Toro will document the stakeholder consultation undertaken and the outcomes, including any adjustments to the proposal and any future plans for consultation. This will be addressed in a specific section of the PER document and, in addition, key outcomes of consultation will be reported against the preliminary key environmental factors as relevant.'</p>	<p>No change proposed.</p>

	may not be engaged in the formal Native Title process to have input and consideration in the Toro project assessment process.		
<b>P7, 16</b>	Concern regarding lack of transparency and public engagement, it is considered that further consultation is required.	Toro's stakeholder consultation is discussed in the ESD (p.60-62) and will be discussed further in the PER. As the ESD notes, 'Toro will document the stakeholder consultation undertaken and the outcomes, including any adjustments to the proposal and any future plans for consultation. This will be addressed in a specific section of the PER document and, in addition, key outcomes of consultation will be reported against the preliminary key environmental factors as relevant.'	No change proposed.

## 6. Heritage

<b>Submitter</b>	<b>Submission and/or Issue</b>	<b>Response to comment</b>	<b>Change to ESD</b>
<b>Joint Environment NGO</b>	Impacts on and access to culturally significant sites within the project area should be assessed.	Agreed. As the ESD records (p.54) in consultation with Aboriginal people Toro is developing a Cultural Heritage Management Plan which will establish arrangements for protecting and managing Aboriginal Heritage, regular consultation and liaison with Traditional Owners about project impacts during the construction and operational phases and maintaining land access which is compatible with mine safety. The Cultural Heritage Management Plan will be an attachment to the PER.	No change proposed.
<b>DAA</b>	DAA understands that Toro will seek relevant approval under the <i>Aboriginal Heritage</i>	Agreed. This matter will be addressed in the Cultural Heritage Management Plan which will be an attachment to the PER.	No change proposed.

	Act 1972 (AHA) should there be an unavoidable requirement to impact upon a place to which section 5 of the AHA applies.		
<b>Barwidgee Aboriginal Corporation</b>	<p>Previous Anthropological Studies (as referenced p.35 of the ESD) undertaken by Mega are considered grossly inadequate and inaccurate. The Barwidgee Aboriginal Corporation does not accept them as valid studies and objects to their use/or reliance in any jurisdiction.</p> <p>A number of reports prepared by CDNTS (as listed p.30, 31 &amp; 35 of the ESD) concern matters relevant to the Barwidgee people and have not been seen by the Barwidgee Aboriginal Corporation, and these reports and any others should be made available them without delay.</p>	As noted in the ESD (p.60) Toro has continued the consultation with the Barwidgee People initiated by the previous owner of Lake Maitland and is discussing with them further heritage studies to be undertaken prior to land disturbance for construction of the project. In doing so, Toro has provided the Barwidgee People with the reports referred to prepared by CDNTS. This matter will be further addressed in the PER.	No change proposed.
<b>Barwidgee Aboriginal Corporation</b>	No further development, drilling or interference with Lake Maitland Mining Tenement or Barwidgee Pastoral Lease should occur until adequate Anthropological and Archaeological studies have	The ESD (p.54) commits Toro to assessment of impacts of any Aboriginal sites of significance in accordance with EPA Guideline 41. Toro is discussing with the Barwidgee People further heritage studies and this matter will be further addressed in the PER. Toro has also advised the Barwidgee People that it will honour a commitment the company inherited from the previous owner of the Lake	No change proposed.

	<p>been carried out with the full input and cooperation of the Barwidgee Aboriginal Corporation.</p> <p>These studies should include detailed identification and mapping of all sacred and significant aboriginal sites on Barwidgee Pastoral lease to the satisfaction of the Barwidgee Aboriginal Elders. To proceed without this information risks irreparable damage to those significant and sacred sites located on traditional Barwidgee land.</p>	<p>Maitland tenements to assist them with the lodgement of a native title claim.</p>	
<p><b>Barwidgee Aboriginal Corporation</b></p>	<p>While there is currently no Native Title Claim over the Barwidgee Pastoral Lease that encompasses Mining Lease M53/1089, it is the intention of the Barwidgee Aboriginal Corporation to lodge a Native Title Application over the area including Lake Maitland.</p> <p>The previous owner of the Pastoral and Mining Lease had committed to assist the Barwidgee Aboriginal Corporation with the Native Title Claim and it is understood that as part of the terms of transfer of the</p>	<p>Toro notes the intention of the Barwidgee People to lodge a Native Title claim and has advised them it will honour any commitment Toro has in this respect. As noted in the ESD (p.60) Toro has continued the consultation with the Barwidgee People initiated by the previous owner of Lake Maitland.</p>	<p>No change proposed.</p>

	leases to Toro undertook to honour this commitment. No assistance has been received.		
<b>People for Nuclear Disarmament (WA)</b>	Concern that impacts to indigenous people around Wiluna and their outstation water supply, health, culture and future will be regarded as a poor, second to the short term gains of the mining companies.	The ESD (p.54) requires continuing consultation with Aboriginal people. As noted in the ESD (p.60) Toro has participated in regular meetings of the Wiluna People who are Native Title Holders. During these meetings issues including water supply, health, culture and future community development have been discussed. The outcomes of this continuing consultation will be discussed in the PER.	No change proposed.

## 7. Air Quality

<b>Submitter</b>	<b>Submission and/or Issue</b>	<b>Response to comment</b>	<b>Change to ESD</b>
<b>Joint Environment NGO</b>	It appears that there is no expectation that there will be an assessment on power consumption and source and greenhouse gases. We request that Toro includes a per annum analysis of greenhouse gas emissions from the mining processes, milling and transportation.	The Project would adopt natural gas as its primary fuel source. Overall, the Project is not predicted to result in significant emissions of greenhouse gases. Rather, the Project would provide opportunity for significant savings of greenhouse gas emissions through replacement of greenhouse intensive fuels such as coal.	No change proposed.



## 8. Transport

Submitter	Submission and/or Issue	Response to comment	Change to ESD
<b>Joint Environment NGO</b>	Toro should provide detailed risk assessments of transporting radioactive materials based on projections of increased traffic in the region. This modelling should include the impacts of other proposed mines becoming operational.	The ESD (p.51) requires Toro to prepare a Transport Management Plan to include monitoring, emergency response and security procedures. The Plan must outline the outcomes/objectives, management, monitoring, trigger and contingency actions to ensure that impacts (direct and indirect) are not greater than predicted. The Plan will include a discussion of current traffic flows in the region and any impact implementation of the proposal would have on them. The Plan will be included as an attachment in the PER. However, Toro is not in a position to take into account the impacts of projects of other proponents which have not reached the stage in their planning where predictions of traffic impacts can be provided and assessed.	No change proposed.
<b>Joint Environment NGO</b>	The State Government has already conceded that the transportation of yellow cake through Kalgoorlie is too dangerous. If it is too dangerous for Kalgoorlie then it's too dangerous for Ninga Mia, a community already experiencing poverty and health issues associated with poor living conditions.	Toro is not aware that the State Government has 'conceded that the transportation of yellowcake through Kalgoorlie is too dangerous.' The ESD (p.51) requires Toro to prepare a Transport Management Plan to include monitoring, emergency response and security procedures. The Plan must outline the outcomes/objectives, management, monitoring, trigger and contingency actions to ensure that impacts (direct and indirect) are not greater than predicted. The Plan will be included as an attachment in the PER.	No change proposed.
<b>Joint Environment NGO</b>	A 'per kilometre' risk assessment should be undertaken.	Toro's Project risk assessment work has included product transport and the outcomes will be discussed in the PER which will include, as an attachment, a Transport Management Plan as required by the ESD (ESD - p.51)	No change proposed.

<b>P16</b>	Concern regarding lack of a complete transport management plan. This needs to be addressed early, directly and in detail.	Toro is required to prepare a Transport Management Plan (ESD – p.51) and the Plan will be an attachment to the PER.	No change proposed.
<b>People for Nuclear Disarmament (WA)</b>	Concern regarding the need for a new haul road and impacts from the two potential transport routes with significantly different fuel, with community concern regarding uranium ore near their homes and work, the route should be choose as each has significantly different fuel, pollution, social, health and safety implications.	The ESD (p.51) requires Toro to prepare a Transport Management Plan to include monitoring, emergency response and security procedures. The Plan will be provided as an attachment to the PER	No change proposed.
<b>P16</b>	There is no safe waste storage or transport of uranium by-products in the nuclear industries.	Toro does not propose to transport uranium by-products. Tailings storage and management has been discussed above.	No change proposed.
<b>People for Nuclear Disarmament (WA)</b>	Concern that the two extra mines would significantly increase the distance radioactive material would be transported and increase the statistical chance of accidents.	Toro's Project risk assessment work has included product transport and the outcomes will be discussed in the PER. As noted in the ESD (p.18) this proposal would not increase the rate of product transport or change the method from that already assessed (EPA Assessment 1819 and EPBC 2009/5174). The ESD (p.51) requires Toro to prepare a Transport Management Plan to include monitoring, emergency response and security procedures. The Plan will be provided as an attachment to the PER.	No change proposed.

## 9. General

Issue Number	Matters to be addressed	Response to comment	Change to ESD
1	It should be made clear that the monitoring/management plans are to be final and provided attached to the PER document.	Toro's final monitoring/management plans will be provided as an attachment to the PER. These plans will however, be live documents, and will be subject to periodical review and revision in response to further regulator and stakeholder comment as the project proceeds.	Sentence added at end of Section 3, p.59. Words 'drafts of' omitted from sentence 'The PER document will include drafts of all management plans to enable further consultation' on p.61.

## 10. Flora and Vegetation

Issue Number	Matters to be addressed	Response to comment	Change to ESD
2	The wording of points 6 and 7 of the flora and vegetation section of Table 7 of the ESD are ambiguous – it is difficult to determine which surveys should apply to which areas.	Wording has been changed in accordance with issues 3 and 4 below.	p.39-40 – revised points 6 and 7.
3	Revise point 6 to state: Undertake Level 2 flora and vegetation surveys of Millipede and Haul Road development envelopes and any areas where flora and vegetation has the potential to be indirectly impacted in accordance with EPA Guidance Statement 51.	Point 6 revised.	p.39-40
4	Revise point 7 to state: Flora and vegetation survey of the	Point 7 revised.	p.40

	<p>Millipede development envelope to incorporate sampling design recommendations by Actis (2012) (transects from the playa edge to terrestrial vegetation assemblages). This survey to have two survey periods: October / November and January / February.</p>		
5	<p>Insert additional point after point 7: Conduct additional flora and vegetation surveys within the Lake Maitland development envelope. Including:</p> <ul style="list-style-type: none"> <li>– transects from playa edge to terrestrial vegetation assemblages according to the design recommendations by Actis (2012). This survey to have two survey periods: October / November and January / February.</li> <li>– targeted survey to positively identify the absence/presence of <i>Maireana prosthochaeta</i> (P3).</li> <li>– survey to ground truth the interpolated communities and ensure that all of the vegetation communities are represented by a minimum of two quadrats per vegetation community (for statistically valid analysis). It is recommended that this survey be undertaken four to six weeks following a high rainfall month, to enable adequate census of flora to be undertaken.</li> <li>– survey to refine the Fire Regeneration Eucalypt vegetation community further</li> </ul>	New point 8 inserted.	p.40

	survey and determine the potential occurrence of restricted emergent species after fire.		
<b>6</b>	Delete current Point 8: This is already addressed in Point 6.	Point deleted.	p.40
<b>7</b>	Insert an additional point before Point 9: Conduct a detailed analysis of plant community data across all development envelopes to establish local and regional conservation significance of each community.	New point inserted	p.40

## 11. Terrestrial Fauna

<b>Issue Number</b>	<b>Matters to be addressed</b>	<b>Response to comment</b>	<b>Change to ESD</b>
<b>8</b>	The ESD should state how the quality of fauna habitat will be defined.	The quality of fauna habitat will be defined on the basis of location, landform, substrate, vegetation community and the vertebrate fauna which the habitat offers.	Additional words have been included in point 1 under 'Existing work' – p.42)
<b>9</b>	The reference to subterranean fauna under this factor should be removed.	Reference removed. p.42	p.42
<b>10</b>	Of particular importance are the targeted surveys for reptiles in samphire habitats. This needs to be undertaken during appropriate weather conditions and conducted by practitioners with experience of these habitats and familiarity with species that morphologically might look similar. The	Agree.	Additional words have been included in point 8 under 'Further Work' – p.43.

	WA Museum should be consulted before the survey is undertaken to determine if there is a recommendation to provide specimens for their collections.		
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## 12. Subterranean Fauna

Issue Number	Matters to be addressed	Response to comment	Change to ESD
11	To support the statement that 'there will be no impacts to stygofauna' along the haul road, the draft ESD should give reason for this conclusion and refer to relevant studies or surveys that have been conducted.	The construction of the haul road and any impacts to stygofauna and troglofauna will be covered in the haul road studies and discussed in the PER.	The last dot point omitted in section 'Potential impacts and risks', p.44.
12	Troglofauna appears to be missed and therefore appropriate surveys will need to be undertaken.	Agreed	References to troglofauna added at p.44-46 – 'Existing Work' – points 2 and 4, and 'Further work' – points 5, 9 and 13.
13	Undertake a Level 2 (targeted) survey through additional sampling within and outside all impact areas for stygofauna and troglofauna.	Agreed	p.45 – point 5 under 'Further Work'