

**Supplementary submission by the Australian Government
Department of the Environment and Heritage to:**

**Standing Committee on Industry and Resources
Inquiry Into Developing Australia's Non-Fossil Fuel Energy
Industry**

**Case Study - STRATEGIC IMPORTANCE
OF AUSTRALIA'S URANIUM RESOURCES**

The following submission comprises comments on issues raised by the
Gundjeihmi Aboriginal Corporation in its Submission 44.

Issue raised by Gundjeihmi Aboriginal Corporation in submission 44	Department of the Environment and Heritage comment
Current Structure and regulatory environment	
<p>The Gundjeihmi Aboriginal Corporation reiterates that the Commonwealth Parliament urgently needs to overhaul and consolidate the regulation of uranium mining in the Alligator Rivers Region of the Northern Territory consistent with the aims of the Commonwealth <i>Environment Protection and Biodiversity Conservation Act 1999</i> in relation to impact on World Heritage properties. The consolidated regulatory requirements would:</p>	
<ul style="list-style-type: none"> • set out the responsibilities of the Commonwealth in relation to uranium mining in the Alligator Rivers Region. 	<p>The roles and responsibilities of the Australian Government are already set out under various pieces of legislation relevant to the actions being undertaken (for example, <i>Customs (Prohibited Exports) Regulations</i> for the export of Uranium). They are also determined through the <i>17 November 2000 Agreement</i> between the Australian Government and the Northern Territory in relation to the working arrangements for the regulation of uranium mining in the Northern Territory. This effectively consolidates the regulatory requirements in relation to uranium mining in the Alligator Rivers Region. These arrangements are considered appropriate.</p>
<ul style="list-style-type: none"> • set out the responsibilities of the Northern Territory in relation to uranium mining in the Alligator Rivers Region. 	<p>The roles and responsibilities of the Northern Territory in relation to uranium mining in the Alligator Rivers Region are already set out in the <i>NT Mining Management Act 2001</i> and through the <i>17 November 2000 Agreement</i> between the Australian Government and the Northern Territory in relation to the working arrangements for the regulation of uranium mining in the Northern Territory.</p>
<ul style="list-style-type: none"> • clearly set out appropriate Environmental Requirements and the associated enforcement mechanisms for uranium mining in the Alligator Rivers Region. 	<p>The current Environmental Requirements are considered appropriate. The Northern Territory, in consultation with the Supervising Scientist, is currently progressing the development of an enforcement policy for uranium mining in the Alligator Rivers Region.</p>

<ul style="list-style-type: none"> • set out the responsibilities of the Supervising Scientist and the Environmental Research Institute of the Supervising Scientist, including the co-operative relationship with the Northern Territory Supervising Authority. 	<p>The roles and responsibilities of the Supervising Scientist and the Environmental Research Institute of the Supervising Scientist are already described in Sections 5 and 24 of the <i>Environment Protection (Alligator Rivers Region) Act 1978</i>. The cooperative relationship with the NT is detailed in the <i>Working Arrangements</i> and the <i>17 November 2000 agreement</i>.</p>
<ul style="list-style-type: none"> • set out the functions of ARRAC, ARRTC and the Minesite Technical Committees OR create a single entity with the consolidated functions of these committees. 	<p>The functions of ARRAC and ARRTC are already described in Sections 11 and 16 of the <i>Environment Protection (Alligator Rivers Region) Act 1978</i>. The functions of Minesite Technical Committees are described in the 30 May 2005 <i>Working Arrangements</i> between the Australian Government and the Northern Territory. ARRAC, ARRTC and the Minesite Technical Committees perform three very different roles, and no advantage would be gained by merging them. ARRAC provides a forum for stakeholders to exchange information, whilst ARRTC provides high-level peer assessment of the science related to research and monitoring activities. The Minesite Technical Committees have a consultative role that contributes to the Northern Territory Government's approval processes under the <i>Mining Management Act 2001</i>.</p>
<ul style="list-style-type: none"> • reform the system of Authorisation for uranium mining in the Alligator Rivers Region. 	<p>The GAC has not provided enough information here on the nature of possible reforms for the Authorisations process for any comment to be provided. The Authorisations for uranium mining activities in the ARR are frequently reviewed and amended as required by changes in operational practices.</p>

<p>Waste Management - Tailings</p>	
<p>The management of radioactive uranium mill tailings is a major challenge and needs to be undertaken with full transparency. To enhance both short and long-term management of tailings, the following should be adopted:</p>	
<ul style="list-style-type: none"> the incorporation of a deadline for removing the tailings from the above ground dam into Authorisation 82/3 and the Environmental Requirements (i.e. by the end of 2007). 	<p>Authorisation 82/3 is now out of date and was superseded on 17 February 2003 by Authorisation 0140-01 under the <i>Mining Management Act 2001</i> and subsequent amended versions. The current amendment of this authorisation is 0140-03. Under the Australian Government's Environmental Requirements, the mining company is required to return all tailings to mined-out pits by the end of operations (Environmental Requirement 11.2). This is also reflected in the current Authorisation 0140-03 under part 5.4.4. The Supervising Scientist believes that to set a deadline prior to the end of operations is an unnecessary imposition, and is likely to have adverse environmental effects through the reduction in the ability of the mining company to appropriately manage tailings and process water on site to achieve the best practicable environmental outcome.</p>
<ul style="list-style-type: none"> detailed studies on the suitability of Pit 3 as a long term tailings repository to be commenced immediately. 	<p>Detailed studies are currently being undertaken by ERA prior to submission of an application for deposition of tailings in Pit 3. The Supervising Scientist will not recommend to the Supervising Authority the deposition of tailings in Pit 3 unless satisfied that it is a suitable long term repository as required under Environmental Requirement 11.3 and the current part 5.4 of Authorisation.</p>

<ul style="list-style-type: none"> detailed analysis and reporting of the existing contamination of groundwater by seepage from tailings storage facilities (above ground dam and Pit #1), especially with regards to the use of contaminant plume maps. 	<p>ERA currently monitors and reports regularly on seepage from Pit 1 and the above ground tailings dam. The Supervising Authority conducts a separate independent groundwater monitoring program of the Ranger minesite. ERA has also undertaken and continues to undertake studies and investigations into the hydrogeology of Pit 1 and surrounding the tailings dam. Approval to temporarily deposit tailings above RL0 in Pit 1 was given on the basis that if studies indicated seepage from the Pit had the potential to impact adversely on the environment then tailings would be removed to a level required by the Supervising Authority under advice from the Supervising Scientist. These studies are ongoing.</p>
<ul style="list-style-type: none"> the SSD need to undertake specialist research on groundwater flowpaths, such as fracture zones and faults zones, to allow more detailed quantification of contaminant migration rates. This will allow more realistic design and implementation of tailings storage within Pit #3 as well as long-term groundwater monitoring needs after rehabilitation approximately 2016. 	<p>This research is currently being undertaken by ERA. The Supervising Scientist and ARRTC review this work periodically and to date have supported the research being undertaken. The Supervising Scientist has also sought independent advice on the integrity of the research. The Supervising Scientist is satisfied with the current progress in this area and does not currently see the need to commission additional research independent to that already being undertaken. The Supervising Scientist is currently seeking to employ a suitably qualified hydrogeologist to strengthen the Division's review and research capabilities in this area.</p>
<ul style="list-style-type: none"> the incorporation of the current RL 0 m limit for Pit #1 into Authorisation 82/3 and the Environmental Requirements and should also be legally binding with no escape or modification clause, other than the current proposal to allow temporary storage above RL 0m. A similarly appropriate limit should also be introduced for tailings Pit #3 (when this proceeds). 	<p>The Supervising Scientist believes the limit of RL0 is arbitrary and not based on proven research. The final approved limit for tailings will be determined by the Supervising Authority on the advice of the Supervising Scientist after due consideration of the studies currently underway. Under the current approval, at any stage the Supervising Authority on the advice of the Supervising Scientist can request tailings be removed to a proven safe level (this may or may not be above RL0). A scientifically justifiable upper level for tailings deposition in Pit#3 will also be determined at an appropriate time.</p>
<ul style="list-style-type: none"> all detailed studies and reports that already exist within ERA, DBIRD and SSD should be made publicly available. 	<p>There are no impediments to the Gundjeihmi Aboriginal Corporation being given access to studies and reports. ERA, DPIFM (formerly DBIRD) and the Supervising Scientist have indicated that relevant material will be provided upon request.</p>

<ul style="list-style-type: none"> • detailed field studies should be undertaken by the SSD to quantify radon flux, microbiological behaviour and the physical properties of tailings (especially permeability). 	<p>The behaviour and physical properties of tailings have been, and continue to be, the subject of investigations by ERA and other parties. The Ranger tailings were also the subject of a recent PhD thesis. Further studies are currently being undertaken by ERA and consultants on the properties of the current tailings mass and the future possible/potential characteristics of tailings as part of a pending application to deposit tailings in Pit 3, and as part of the closure planning currently being undertaken by the company.</p>
<ul style="list-style-type: none"> • more rigorous horizontal and vertical monitoring and reporting of all groundwater units around tailings facilities (dam and Pit #1). 	<p>The current monitoring and reporting regime is considered adequate and further studies are in progress. It is reviewed by the Supervising Scientist on a regular basis (at least annually).</p>
<ul style="list-style-type: none"> • a more suitable technique be developed and applied to measure tailings density in Pit #1, incorporating known mill data (such as tonnes ore milled and tonnes reagents used). 	<p>The Supervising Scientist believes the current technique used by ERA incorporating a recent accurate survey of the surface of the consolidating tailings mass in Pit 1, and known deposition rates and densities is satisfactory.</p>
<ul style="list-style-type: none"> • correct terminology is ensured by ERA, DBIRD and SSD at all times (eg. do not refer to the above ground dam as an 'evaporation pond'). 	<p>In addition to being a temporary tailings impoundment or dam this piece of infrastructure is also used for evaporation of process water and its description as such is also functionally correct and would be an appropriate description in certain situations. Its naming has no significance in environmental protection or its management regime.</p>

Waste Management - Water	
<p>The treatment of contaminated minesite waters and monitoring of the areas used for this at Ranger needs to be significantly improved. The Mirarr believe this can best be achieved through use of the following:</p>	
<ul style="list-style-type: none"> the incorporation of maximum cumulative load limits into specific areas for disposal, specific to the use of irrigation (land application) or wetlands. 	<p>The areas which are referred to will be subject to appropriate rehabilitation practices at the conclusion of mining and processing operations in accordance with the Ranger Environmental Requirements.</p> <p>Ongoing research and monitoring is currently employed to confirm the effectiveness of both the wetland filters and the land application areas for the disposal of pond water. The Supervising Scientist believes that this is a more appropriate means of ensuring the required environmental protection than the setting a maximum cumulative load for which there is currently no scientific basis.</p>
<ul style="list-style-type: none"> release of all reports and data on known environmental problems at treatment areas (wetlands, irrigation). 	<p>There are no impediments to the GAC (or other stakeholders) being given access to studies and reports. ERA, DPIFM (formerly DBIRD) and the Supervising Scientist have indicated that relevant material will be provided upon request.</p>
<ul style="list-style-type: none"> detailed studies on the long-term future of existing sites to continue to be able to perform effectively, including all contaminants (Mg, SO₄, Mn, U, 226Ra, etc.). 	<p>Detailed studies into the long term effectiveness of the wetland filters and the land application areas have been undertaken by ERA and their performance is monitored during operation.</p>
<ul style="list-style-type: none"> incorporation of more rigorous sampling (more sites and frequency) of wetland and irrigation areas in Authorisation 82/3 and the Environmental Requirements. 	<p>The current monitoring regime is considered adequate. It is reviewed by the Supervising Scientist on a regular basis (at least annually). The current monitoring regime is incorporated in the annual Water Management System Operation Manual which is a requirement under the current Authorisation 0140-03.</p>

<ul style="list-style-type: none"> • need to reduce reliance of SSD and DBIRD on company data and assertions in managing these contaminated areas. 	<p>The Supervising Scientist believes it is appropriate that the company undertakes monitoring of operational activities and does not believe there is any benefit in replicating monitoring in these areas. This data is made available by ERA to all stakeholders on request. The Supervising Scientist undertakes his own assurance monitoring program focussing on impact of the mine on the external environment and DPIFM undertakes a separate check monitoring program.</p>
<ul style="list-style-type: none"> • SSD and DBIRD should undertake check monitoring and analysis of wetlands and irrigation sites. 	<p>As above.</p>
<ul style="list-style-type: none"> • Regular workshops between Mirarr and SSD to discuss water management issues. 	<p>The Supervising Scientist would welcome any request by Mirarr to discuss water management issues. The GAC is currently an observer at Minesite Technical Committee meetings where water management issues are frequently discussed.</p>
<ul style="list-style-type: none"> • the Corridor Creek wetlands need to be investigated as to whether they have any capacity to continue to perform as wetland filters in the future. 	<p>ERA is currently undertaking investigations into the performance of the Corridor Creek wetlands as part of an approval given in 2005. A report is expected after the 2005-06 wet season.</p>
<ul style="list-style-type: none"> • Studies to address the permeability issues of Pit 3 to commence immediately. 	<p>These studies have commenced.</p>

<p>Waste Management – Rehabilitation</p>	
<p>The long term health of the Mirarr depends on a rehabilitation program that will contain radioactive wastes for more than 10,000 years. Consequently the following matter must be addressed immediately:</p>	
<ul style="list-style-type: none"> • that Mirarr and the Gundjeihmi Aboriginal Corporation be given legal status to participate in the development and implementation of the Ranger rehabilitation plan. 	<p>This is a matter for the Supervising Authority rather than DEH; however, it is understood that GAC has been approached by ERA to be directly involved in closure planning, and that GAC requirements for closure have been sought and provided. The approvals function for closure activities will remain with the Supervising Authority through the Minesite Technical Committee of which the Northern Land Council is a member and the GAC currently hold observer status.</p>
<ul style="list-style-type: none"> • that the Gundjeihmi Aboriginal Corporation be given full access to all material relevant to the rehabilitation of the Ranger Project Area. 	<p>There are no impediments to the GAC (or other stakeholders) being given access to material relevant to the rehabilitation of the Ranger Project Area. ERA and the Supervising Scientist have indicated that relevant material will be provided upon request.</p>
<ul style="list-style-type: none"> • that ERA is required to establish a fund in perpetuity that can be used to maintain and monitor the rehabilitated area and if necessary repair any of the rehabilitation works that fail. 	<p>The current arrangements, under which ERA is required to maintain funds in the Ranger Rehabilitation Trust Account, are considered appropriate. The focus on working towards a satisfactory level of close-out involving all stakeholders should see rehabilitation completed to a standard acceptable to stakeholders.</p>
<ul style="list-style-type: none"> • that the Mirarr have full rights with respect to the management of the rehabilitated area, including the right of veto over future proposed management actions. 	<p>Both the Australian Government and the Northern Territory have legal obligations in this area and subsequently cannot hand over full rights to the Mirarr until their obligations are concluded. If the mining lease is to be incorporated back into Kakadu National Park then proposed management of the area will be a matter for the Kakadu Board of Management of which Mirarr are members.</p>

<p>Social Impact Assessment</p>	
<p>If social impact assessment is to be effective and result in actions that improve the physical and cultural well being of Aboriginal people in the Alligator Rivers Region then the development and implementation must be done with the full knowledge and cooperation of the Indigenous inhabitants. Consequently there is a need for:</p>	
<ul style="list-style-type: none"> • a plain English summary of the 1984 Consolidated Report on the <i>Social Impact of Uranium Mining on the Aborigines of the Northern Territory</i>; 	<p>It should be noted that this report is now over twenty years old and some of the material in the report has now been superseded by work conducted in the last twenty years. We note that the GAC website http://www.mirarr.net/jabiluka.html contains a list of the summary of the recommendations of the Consolidated Report.</p>
<ul style="list-style-type: none"> • a plain English review and analysis of the current status of the implementation of the <i>KRSIS Community Action Plan</i>; 	<p>KRSIS has not existed in a formal sense for some four years. The November 2000 report from the Chair of the KRSIS Implementation Team listed achievements from this initiative. Many KRSIS-related activities have subsequently been picked up by other government programs.</p>
<ul style="list-style-type: none"> • the Mirarr to be appointed to the Ranger and Jabiluka Minesite Technical Committees 	<p>The GAC currently hold observer status at both the Ranger and Jabiluka Minesite Technical Committees. They contribute actively and their input is welcome.</p>